

palm + AV-ICN

EXPO MAGAZINE

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

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25 - 27.05.2023 : BEC, MUMBAI

SHOW PREVIEW: PALM EXPO 2023

A SNEAK-PEEK AT THE PRODUCT DISPLAY OF LATEST INNOVATION IN PRO AUDIO AND LIGHTING TECHNOLOGY

STUDIO FOCUS:

RAAG SETHI ON DESIGNING THE FIRST DOLBY-COMPLIANT STUDIO IN GUJARAT



ARE ESTABLISHED GLOBAL AV INTEGRATORS IMPACTING THE **INDIAN AV INDUSTRY**? PALM + AV-ICN ANALYSES THE LARGER PICTURE IN CONVERSATION WITH INDUSTRY EXPERTS RHYTHM ARORA, DEEPAK SREENIVAS, AND OTHERS

FEATURED STORIES:

- **REVIEW:** CAVS, AHMEDABAD
- **11 QUESTIONS:** DAVE HAYDON, TiMax
- **AUDIO INSTALL:** PATNA WOMEN'S COLLEGE
- **LIGHTING TECHNOLOGY:**
 - MARTIN ELP PAR/ELP PAR IP & ERA 150
 - CANARA LED JAGLE PANEL

MAR - APR ISSUE 2023

By  Hyve

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Features

Studio Focus – Recording Studio Design

10 Compass Box Studio's Raag Sethi, in a conversation with PALM + AV-ICN, shares the inspiration, innovation, and insight that went into creating his flagship studio in Gujarat, India

Cover Story: Integration

24 Are top global integrators reshaping the Indian AV industry? Ritika Pandey, Editorial Assistant, AV-ICN, unravels the layered state of the Indian AV industry to reveal the answer

Studio Focus: Acoustics

32 Ganesh Gurpur, Founder and MD, G-Acoustics, talks to PALM + AV-ICN about delivering state-of-the-art acoustic treatment for a room-within-a-room recording studio at Adam Khoo Learning Technologies Group

Stage Sound: VH1 Supersonic

40 JBL by HARMAN powers the stage at VH1 Supersonic in India – Yogesh Nambiar, Director, Integrated Marketing, India, HARMAN International India Pvt Ltd and Sudarshan Srinivas, Co-founder and Technical Director, Lewminadio talks to PALM + AV-ICN about the on-ground process

Show Preview: PALM Expo 2023

44 India's largest expo on pro audio and lighting is set to introduce the nation to innovate, ground-breaking technology. The PALM Expo 2023 Show Preview offers a glimpse into what the trade show floor has in store for the visitors

CAVS Review

50 CAVS (Certified AV Specialist) Course, held in Ahmedabad, India, took its third reformative step to transform the scenario of Indian AV education – PALM + AV-ICN reports on the course's highlights

PALM AV-ICN CONFERENCE SERIES: Dolby Atmos for Music

55 In PALM + AV-ICN's conference session titled, 'Dolby Atmos for Music', famed sound engineer Sreejesh Nair dives deep into the techniques of using Dolby Atmos for mixing music in the studio

Show Preview: AV-ICN Expo 2023

58 The AV-ICN Expo 2023 is set to deliver a microscopic insight into the Indian pro audiovisual landscape. The AV-ICN Expo 2023 Show Preview pulls back the curtains on the avant-garde AV technology at display on the trade show floor

Lighting Technology

66 Mark Mercer-Buss expounds on the intricate technology behind creating two standout Martin Lighting products - Martin ELP PAR/ELP PAR IP and Martin ERA 150 Wash Lights

Lighting Technology

69 Ajeet Khare, MD, Canara Lighting Industries Private Limited, explains why LED Jagle Panel is the need of the hour for the broadcast lighting landscape

Audio Install: Auditorium

76 SOUNDXPRTS installs end-to-end audio system at the newly-opened Veronica Auditorium in Patna Women's College, India. PALM + AV-ICN explores the audio install in greater detail

11 QUESTIONS

89 With Dave Haydon, Director and Co-Founder, TiMax Spatial Audio

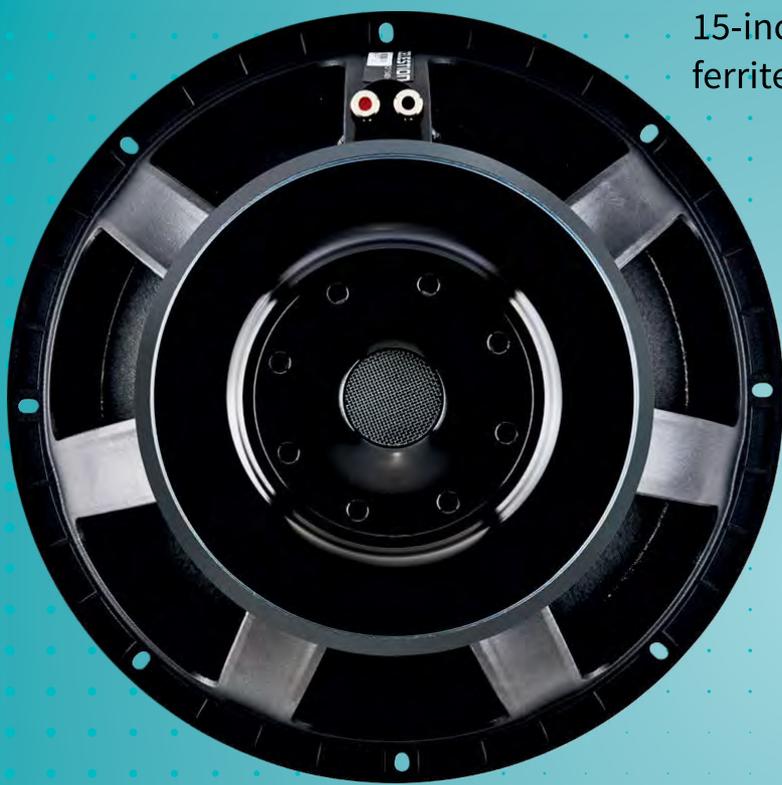
CONTENTS

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CONTENTS

News

06 Stage & Sound

DAS Audio Introduces SARA; TASCAM Introduces Dante Stage Box; Audio-Technica Launches BP3600; Pure Resonance Audio Unveils S6.1 AND S8.1 Surface Mount Loudspeakers; DPA Unveils Cardioid Microphones; AUDAC Announces VIRO5.

14 AV Tech News

Audio-Technica's ATND1061DAN Ceiling Array Certified for Microsoft Teams Rooms; Dynacord Launches V600:4; Sennheiser Introduces New Ceiling Microphone; Nureva Announces HDL310 system; Jabra Announces Speak2 Range; Absen Unveils Brands at the Spring Launch 2023; LG Launches ProBeam 4K UHD; Samsung Unveils Interactive Display At Bett 2023; Comcon Technologies to Display FIBERFOX at PALM EXPO 2023; Panasonic Connect Develops 4K PTZ Camera.

28 Audio & Music Production

Sennheiser Launches Profile USB Microphone; Audient Launches iD24; RØDE Announces The NT1 5th Generation; Royer Labs Introduces New Microphone.

34 Audio Install

Ishaara Relies on British Acoustics and OSL; APEX CloudPower Powers Luxury Hybrid Bar AURA; Mezzo Ensures the Perfect Soundtrack for Fig at Malcha; LD Systems Elevates The Dining Experience at Prasad Food Divine; Beta3 Provides End-To-End Audio Solution at Paro, Jaipur.

42 Residential AV

Sonos Unveils Era 300 and Era 100; Zebtronics Launches ZEB-PIXAPLAY 18

62 Lighting

ADJ Launches Encore Profile Mini Color and Encore Profile Mini WW; PROLIGHTS Launches Astra Profile600IP; Chauvet Acquires LynTec; Cameo Releases OTOS SP6 and OTOS B5

74 Industry News

AMG Events Acquires DAS Audio Loudspeakers; PIFA Comes to S.E. Asia in 2023.

85 DJ Technology

Pioneer DJ Introduces the DJM-A9, OPUS-QUAD, and DDJ-FLX10.

86 Appointments

d&b audiotechnik Announces VP, Global Marketing; Lightware Appoints Christopher Chandler as VP, Global Partnerships; Meyer Sound Promotes Amy Luley to Director of Global Sales Operations; Alan Chang Joins QSC; NEC Corporation Promotes Aalok Kumar to New Global Role; ARRI Appoints Lars Weyer as the New Executive Board Member and CFO.



51 The third edition of CAVS took place in Ahmedabad, India. PALM + AV-ICN reviews in highlights of the intensive three-day training.



76 11 Questions with Dave Haydon, Co-Founder, TiMax Spatial Audio

Column

60 Location Sound Recording

Infusing Best Sound Experiences in the Deserts: Cheerag Cama shares expert tips and techniques for sound engineers to capture clean, uninterrupted sound in a desert

65 The Bright Spark

Dhandha Khul Gaya: Viraf Pocha shares his thoughts why post-Covid, the pro lighting industry is growing by leaps and bounds and what does it mean for touring/rental businesses

80 Guest Column: IoT Integration

Infusing Best Sound Experiences in the Deserts: Keshav Kumar, General Manager Pre Sales, Data Centre, Rahi Systems, goes into the finer details about the various ways IoT will affect data centres in 2023

84 Guest Column: Security Trends

Top 7 trends for the security industry in 2023: Ashish P. Dhakan, MD and CEO, Prama Hikvision, predicts seven key trends that will dominate the security industry in 2023

Products

72 PRODUCT FOCUS – STUDIO SUBWOOFERS

PALM + AV-ICN features a list of six new studio subwoofers released in 2022-2023

82 PRODUCT FOCUS – VIDEOBARS

AV-ICN enlists six well-renowned videobars launched in 2022-2023.



40 At the VH1 Supersonic in India, JBL deployed an impeccable sound system. Inside, the entire story, in detail.



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DAS AUDIO INTRODUCES SARA – A COMPACT LINE ARRAY

DAS Audio has expanded its flagship ARA series with the addition of **SARA**, an ultra-compact line array system. SARA delivers a linear performance of 138 dB SPL MAX and wide dynamic range, making it ideal for medium-sized installations and events where sound quality and uniformity are a priority. Member of the ARA series, SARA features cutting-edge technology and exceptional sound quality.

SARA's symmetrical design features two custom-designed 8" loudspeakers for mid and low frequencies and a compression driver for high frequencies, with a 100° horizontal dispersion waveguide. Its Class D amplifier provides 3000Wrms of power, divided into 4 channels, two of which are used in bridge mode to power the compression driver, and the remaining two are used to power the 8" front speakers. The three-point rigging system can be used for both SARA and SARA-SUB, allowing arrays of up to 24 SARA and 16 SARA-SUB units

to be flown. The FSS (Fast Set Splay) system allows angles to be adjusted in 1° steps from the stacked position, significantly reducing assembly time.

SARA is the smaller version of the LARA line array system, which is the largest system in the ARA series. Along with SARA's features, the ARA series also includes 4-band HOS, atmospheric correction, 1024 taps for DASaim (FIR filters), and a delay of 280 m or 823 ms per cabinet. The NFC technology is used for self-positioning the systems within an array, in ALMA. Additionally, an internal microphone checks the status of all the components to facilitate user operation.

The ARA series along with the ALMA software represent a significant leap forward in line array technology. The combination of ARA's advanced hardware features and ALMA's powerful software tools allows for unprecedented control and customization of sound reinforcement systems. With IP communication, users can easily monitor and adjust global EQ in real time, without using any external processors enabling them

to achieve optimal performance.

SARA's introduction to the ARA series enhances the flexibility of the system, as it shares the same tonal balance, coverage, phase, and frequency response as LARA. This makes SARA the perfect companion for delays, side fills, and front fills, allowing for seamless integration and expanded possibilities in sound reinforcement systems. The compact size of SARA also provides greater versatility in installations where space is limited, without sacrificing performance or sound quality.

The series was designed with a focus on providing the best possible sound



experience for users in a wide range of applications, from large-scale concerts and festivals to medium-sized installations and events.

TASCAM INTRODUCES THE SB-16D 16-IN/16-OUT DANTE STAGE BOX

TASCAM announced the debut of the **SB-16D 16-in/16-out Dante Enabled Stage Box**. The TASCAM SB-16D stage box offers all the advantages of Dante networking, combined with seamless integration with the new TASCAM Sonicview Digital Recording and Mixing Consoles. Controllable by means of the TASCAM IO Control app or via the new TASCAM Sonicview consoles, the SB-16D can be used as a floor stage box or rack mounted, and multiple stage boxes can be used simultaneously in a Dante network.

The new SB-16D offers a full complement of I/O with the features audio professionals demand. The SB-16D can easily accommodate large ensembles and extensive installed Dante systems using the SB-16D's 16 XLR mic/line inputs and 16 XLR line outputs. If more I/O capacity is required, multiple SB-16D stage boxes can be networked. Each input channel has +48V phantom power and an SIG OL LED for input-level monitoring. Additionally, each line output is equipped with SIG OL LEDs.

Two Dante ports equipped with eth-

erCON-compatible Dante connectors enable redundant streams with robust connections. For additional system reliability, a DC power input is provided that allows a redundant power supply (not included).

As available in the TASCAM Sonicview recording mixers, each SB-16D

tics in the first stage, Class 1 HDIA microphone preamps are extremely quiet, achieving a -128 dBu EIN, a high signal-to-noise and distortion ratio, and excellent frequency response. The mic inputs can accept up to +32 dBu signals—providing plenty of headroom for sudden level increases.



microphone input feeds a TASCAM Class 1 HDIA (High-Definition Instrumentation Architecture) mic preamp. Thanks to an instrumentation amplifier with exceptional noise characteris-

As with TASCAM Sonicview recording mixers, the SB-16D uses 32-bit analog-to-digital converters and a 96 kHz sampling frequency. During the SB-16D's development, repeated

internal and external evaluations were conducted to fine-tune the stage box, ensuring best-in-class sound that will never disappoint.

The new TASCAM SB-16D stage box offers seamless integration with TASCAM Sonicview recording mixers. When a SB-16D stage box is connected to a TASCAM Sonicview 16XP or 24XP recording mixer, microphone gain can be remotely controlled from the mixing console, and all SB-16D I/O comes up on the TASCAM Sonicview VIEW touch screens for hassle-free ease of use. In addition, the SB-16D is equipped with 8-in/8-out GPIOs, which expand to 16-in/16-out GPIOs when connected to a TASCAM Sonicview recording mixer, facilitating parallel control.

In addition to its tight system integration with the TASCAM Sonicview consoles, the new SB-16D can also be controlled via the TASCAM IO Control Remote Control App. Available for macOS, Windows, and iPadOS, users have complete

(Continued on page 07)

AUDIO-TECHNICA LAUNCHES BP3600 IMMERSIVE AUDIO MICROPHONE

Audio-Technica launched the **BP3600 Immersive Audio Microphone**, a premium broadcast audio tool capable of capturing stable, three-dimensional sound beds at sporting events, concerts, festivals, movie sets, and more. The microphone has eight compact capsule assemblies with excellent high-frequency characteristics integrated into the body while remaining compact and lightweight enough for single-operator usability and easy setup. Direct routing is also possible, with no need for additional decoding or latency processing with 5.1.4-channel speaker layouts. This practical, state-of-the-art broadcasting solution captures realistic sound that will bring the recording location directly to listeners without the need for extensive equipment.

The BP3600's eight microphone modules extend from the body to form a cube with 15 cm (5.9 inches) between each

microphone assembly. Each microphone assembly in the eight-channel near-coincident array is equipped with a 12-mm (0.47-inch) hypercardioid capsule to produce ideally separated, discrete signals and deliver immersive audio experiences with ample spaciousness.



When used in typical a 5.1.4 immersive scenario, the four upper microphone channels can be assigned to the upper speaker channels, and the four lower channels can be assigned to the lower speaker channels. This eliminates the need for additional decoding or latency processing during routing.

User-friendliness is enhanced with the main unit's highly visible color-coded and numbered channel indicator rings that allow for easy identification of channels. To ensure that on-site setup is simple when time is limited, each microphone assembly features a lock that guarantees precise, repeatable positioning and prevents accidental removal. These connector locks additionally protect the microphone terminals from the elements, including rain, and make disconnecting an assembly quick and reliable. Also included is a safety strap that can be connected to drop-prevention wires when used above spectators in stadiums, auditoriums, or other venues. The end of the microphone's grip

includes a LEMO 2B multi-pin output connector for attaching the included LEMO-to-XLRM (x8) breakout cable for routing the eight channels to a mixing console or audio interface. LEMO-to-LEMO 2B multi-pin connector extension cables are available separately for use between the microphone and the breakout cable to increase the cable run length. Phantom power (48 VDC) is required for each channel.

The BP3600 comes standard with eight dedicated windscreens and a microphone stand clamp with a 5/8"-27 to 3/8"-16 threaded adapter. The microphone can be quickly disassembled and placed in the included case for easy protection during storage or transportation. Additional accessories, including Rycote BBG Windshields for increased noise protection and Rycote BBG Windjammer synthetic fur covers to attenuate extreme wind noise, are sold separately.

PURE RESONANCE AUDIO UNVEILS S6.1 AND S8.1 PREMIUM 70 VOLT OUTDOOR SURFACE MOUNT LOUDSPEAKERS

Pure Resonance Audio unveiled the modern **S6.1** and the **S8.1**, two 70-volt surface mount loudspeakers in the Pure Resonance Audio lineup that are changing the game for commercial outdoor speakers. These unique 3-way loudspeakers prove that elegance, quality, and weather-resistant durability are three adjectives that can coexist.

The S6.1 and the S8.1 offer streamlined appearances and high-fidelity audio with exclusive Optimal Bass Enhancement radiator technology that delivers an enhanced low-end for a richer and more robust full-range sound while maintaining an IP65 rating for indoor and outdoor applications.



Additionally, both dust-tight and UV-protected 70V outdoor surface mount speakers are easy to mount

vertically or horizontally on walls, under awnings, overhangs, press boxes, and



more. These all-weather speakers, with a built-in 70-volt/100-volt tap transformer and an 8-ohm bypass, are

perfect for foreground and background music, paging, announcements, and general-purpose audio.

The two models differ by size and power. The S6.1 is more compact, encompassing a 6.5-inch graphite woofer and 1-inch silk tweeter while boasting an 80Hz - 20kHz full-range frequency response, with 20 watts and an 86 dB SPL sensitivity.

On the other hand, the larger S8.1 encompasses an 8-inch graphite woofer and 1.1-inch silk tweeter while boasting a 55Hz - 20kHz full-range frequency response, with 25 watts and an 87 dB SPL sensitivity.

TASCAM INTRODUCES THE SB-16D...

(Continued from page 06)

control—regardless of whether the SB-16D is onstage, backstage, in a control room, or in an equipment closet. With TASCAM IO Control, users are always in full control.

With its ability to be deployed for either floor or rack applications,

the SB-16D offers superior versatility. Whether a networked floor box for stage use is preferred, or rack-mounted inputs for recording and broadcast studios as well as commercial installations, the SB-16D provides exceptional flexibility.

It can be 3U rack-mounted with the included brackets, which offer two angle options. Mount the jack panel on the front of the rack and take advantage of the SB-16D's cable hole to conveniently and safely route connected cables in the back.

Large rubber feet maintain stability, even with cables connected, when the SB-16D is used as a floor box. Multiple stage boxes can be stacked for ease of transportation and stability during installation. A handle makes the SB-16D easy to carry.

DPA UNVEILS THE ALL-NEW COMPACT 2012 CARDIOID AND 2015 WIDE CARDIOID MICROPHONES

DPA Microphones, one of the leading manufacturers of high-quality microphone solutions, unveils its new compact 2012 Cardioid and 2015 Wide Cardioid Microphones. Featuring a durable, reinforced construction to withstand the rigors of touring, the new mics join the brand's esteemed line of pencil mics and offer DPA's renowned natural and precise sound reproduction. Ideal for a variety of instruments, from loud and booming audio to gentle and elusive tones, the 2012 and 2015 mics stand to become trusted solutions for live sound professionals. DPA will showcase these new solutions at the **2023 NAMM Show** (Booth 14504).

"We are so pleased to share these new solutions for sound professionals in the music industry," says **Helga Volha Somava**, Product Management Director, DPA Microphones. "The 2012 Cardioid and 2015 Wide Cardioid continue to build upon our other live microphone solutions, offering the same natural sound quality that people know, love and trust, with sonic and physical properties specifically

designed to meet the needs of the live stage. Thanks to the superior SPL handling and excellent transient response, these microphones will serve as versatile and durable solutions for audio professionals everywhere."

The **2012 Compact Cardioid Microphone** acts as a reliable, all-around, generalist pencil mic that performs well on any instrument. This mic combines a robust design with intricate sound pickup for accurate close miking on any stage setup. From horns and percussion to acoustic or electric guitars, bass cabinets and more, the 2012 can capture crystal clear, single instrument pickup with ease. Unlike the dynamic mics frequently used for close miking applications, the 2012 features an extended frequency range and flat frequency response in a small-form factor. The 2012's unmatched transient response also allows it to cope with high SPLs while being able to capture the most delicate of sounds.

While the 2012 excels at single instrument pickup, the 2015 Compact Wide Cardioid Microphone performs



The 2012 Cardioid and 2015 Wide Cardioid offer the same natural sound quality that is built upon other live microphone solutions.

best as a stereo pair on drum kits and instrument groups. Featuring uniform, wide cardioid directionality and a linear frequency response, a selected pair of 2015 mics offers spacious sound for horn groups, vibraphones, xylophones and other large instruments. When closely positioned, the mics are also ideal for large grand pianos or for use

as overheads for drum kits. This stereo pair can capture balanced sound of the entire instrument with less bleed from the stage. Additionally, the compact design of the 2015 allows for unobtrusive placement at venues of any size, while its durable, reinforced construction means it will last from stage to stage.

AUDAC ANNOUNCES TWO-WAY COAXIAL LOUDSPEAKER SERIES - VIRO5

Belgian pro audio manufacturer **AUDAC** announced the new **VIRO5** series - a 2-way coaxial loudspeaker with 8 Ohm and 16 Ohm variants and optional toroidal transformer modules. Available in black & white, this loudspeaker is designed to

deliver more in a compact package.

The VIRO5 combines a soft, silk-domed tweeter for smooth tonality with a 5" 2-way coaxial speaker driver to achieve an impressive coverage range and high excursion. This unique acoustical composition delivers an

uncompromised clarity and surprisingly low-frequency response.

Using the optional 70V / 100V line transformer enables the VIRO series to be used in low-impedance installations and in 70V or 100V systems. The transformer can be easily inserted by simply removing the back plate, ensuring the coaxial loudspeaker is ready to rock.

Crafted in high-grade aluminium with attention to detail, the VIRO5 goes beyond aesthetics. It also provides superior acoustic properties thanks to its material stiffness and seamless surfaces that eliminate any sound distortion.

The complete aluminium construction and stainless fasteners passed a 720-hour salt spray test to ensure it

stands up in the most demanding environments. To further comply with the IP55 certification, AUDAC ensured that the front grill is water repellent and that VIRO is standard equipped with rubber cable grommets for fixed installation and optional Speakon connect. The VIRO5 stands up to humidity, rain, snow, limited dust, UV rays, and extreme heat or cold.

The multifunctional mounting bracket that comes included allows for the VIRO5 to be mounted on any wall or ceiling. In addition, there are several optional mounting adapters for poles, stands & ground pins to achieve maximum flexibility in positioning the loudspeakers.



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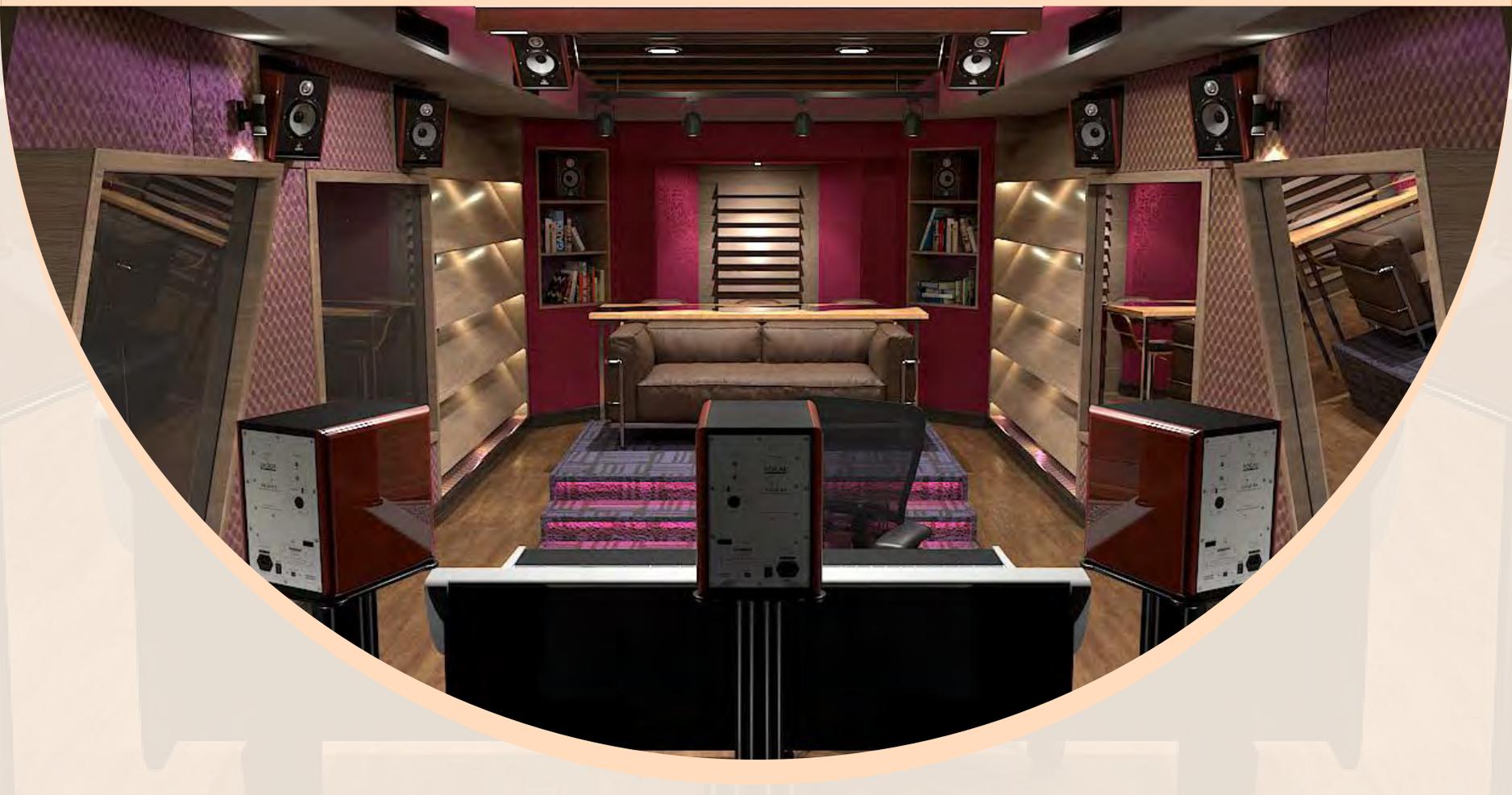
**2-WAY ARRAY
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Compass Box Studio's Raag Sethi On Creating His Flagship Studio In Gujarat

*The award-winning music producer, composer, and founder of the Compass Box Studio, in a conversation with **PALM + AV-ICN**, talks about designing an exclusive Neumann Experience Zone in Gujarat*

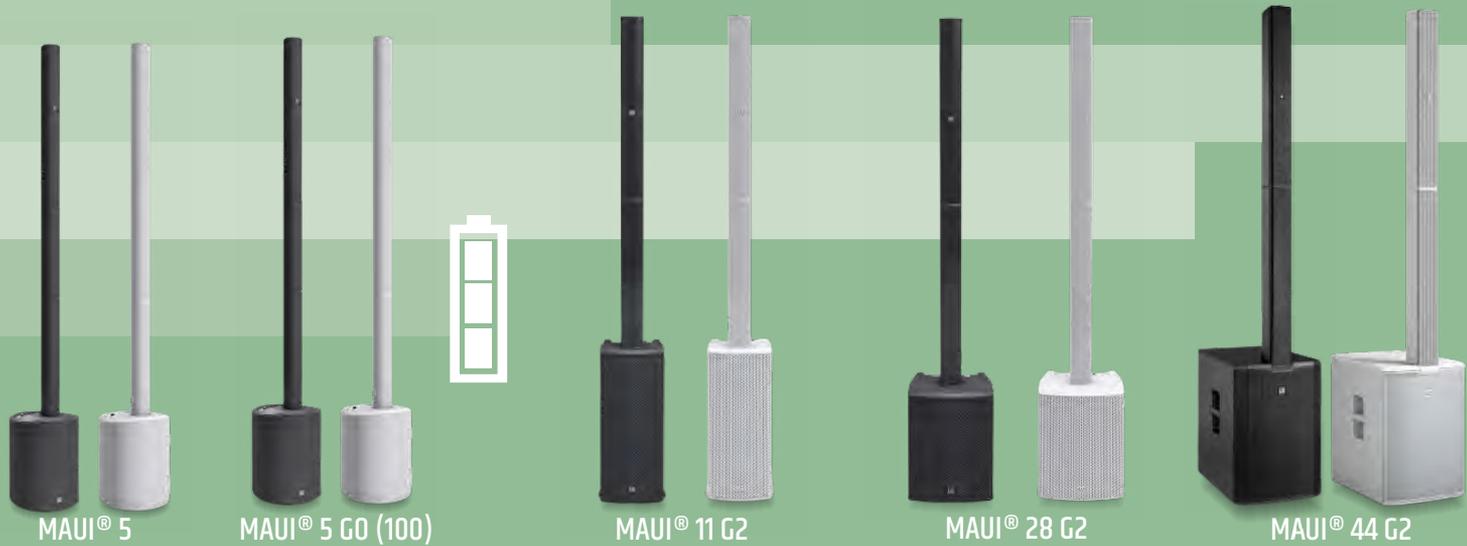
in his upcoming studio, turning his new studio in one of the first full Dolby Atmos compliant space, and his hope for delivering avant-garde, immersive music-making technology in the state.



A proponent of indie music talent, not only in Gujarat, but also in India, **Raag Sethi** is well-known for composing and producing one-take live music sessions in Compass Box Studios, located in Ahmedabad, Gujarat. Having worked with renowned indie music artists such as Meera Desai, Sanjeeta Bhattacharya, Hanita Bhambri, Ramya Pothuri, Aditi Ramesh, Chirag Todi, and more, Sethi knows that indie music is on an explosive rise in the country. To facilitate better audio production and more acoustically-enhanced music composition

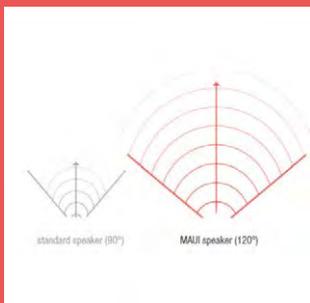
quality in Gujarat, Raag Sethi is on a mission to design his flagship studio, the namesake of Compass Box Studio – which will not only be an addition to his existing studio, but also be one of the first studios in Gujarat to be fully calibrated with Dolby Atmos, and the first studio in the state to have an exclusive Neumann Experience Zone.

Raag Sethi, in a conversation with **PALM + AV-ICN**, explains the idea, inspiration, and innovation that went behind creating his first flagship studio in Gujarat.



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Pictured here, the new Compass Box Studio in making, which will be equipped by the crème de la crème pro audio products from brands such as ATC, Neumann, Sennheiser, Shure, Audio-Technica, and more

How It All Began:

Raag Sethi's flagship studio – the namesake of his existing studio – being designed from square one with the latest pro audio technology for an immersive recording experience

For Raag Sethi, designing a studio from scratch, albeit in the same complex as his new studio, was a lifelong dream. Talking about the idea and the inspiration behind creating another studio to cater better to the Indian music industry, Sethi shared, "I have always wanted to produce and record bands with acoustic instruments. Nowadays, most musicians and producers add a lot of MIDI tracks for instruments that are especially difficult and even expensive to record, like drums, or tracking a



I have been working closely with Dolby to make sure that the room works in an Atmos HE setup, and I am super excited to announce that we will be collaborating with Neumann to power the Atmos setup with their monitors; in doing so, we will be the first and only Neumann Experience Zone in Gujarat!

live band. I wanted to be able to continue the same idea with the new space, but size-up the production value in our work. In addition to that, I also wanted to be able to explore and provide one of the first fully calibrated Dolby Atmos experiences in Gujarat, which has been vetted by the team at Dolby."

He further added, "In order to make that a reality, I have been working closely with Dolby to make sure that the room works in an Atmos HE setup (7.1.4), and I am super excited to announce that we will be collaborating with Neumann to power the Atmos setup with their monitors; in doing so, we will be the first and only Neumann Experience Zone in Gujarat! I have also been working with the amazing people at SoundWizard from Auroville who are designing all the acoustic needs of the space."

A new studio usually gets a new name. But Sethi is in favour of retaining the existing studio's name for his new studio as well. Delving deep behind the reason for this decision, Sethi explained, "I set up Compass Box Studio in 2019 as a space to promote and produce independent music. Over the last 4 years, we have recorded over 60 live recordings as part of the Compass Box Live Sessions, which allows us to showcase the talent of indie musicians in a one-take live recording format while highlighting the facilities of the studio. With this new space, which is in the same complex as the old studio, we will definitely keep the same name, as it is now recognized as one of the top studios in the country for indie musicians."

Elaborating more on the same, Sethi added, "The new space will be the flagship studio (Studio A), while the current space will serve an alternate studio (Studio B), which, I believe, will make us the only studio in Gujarat to have two studio spaces large enough to host the live tracking of a band."

The X Factor:

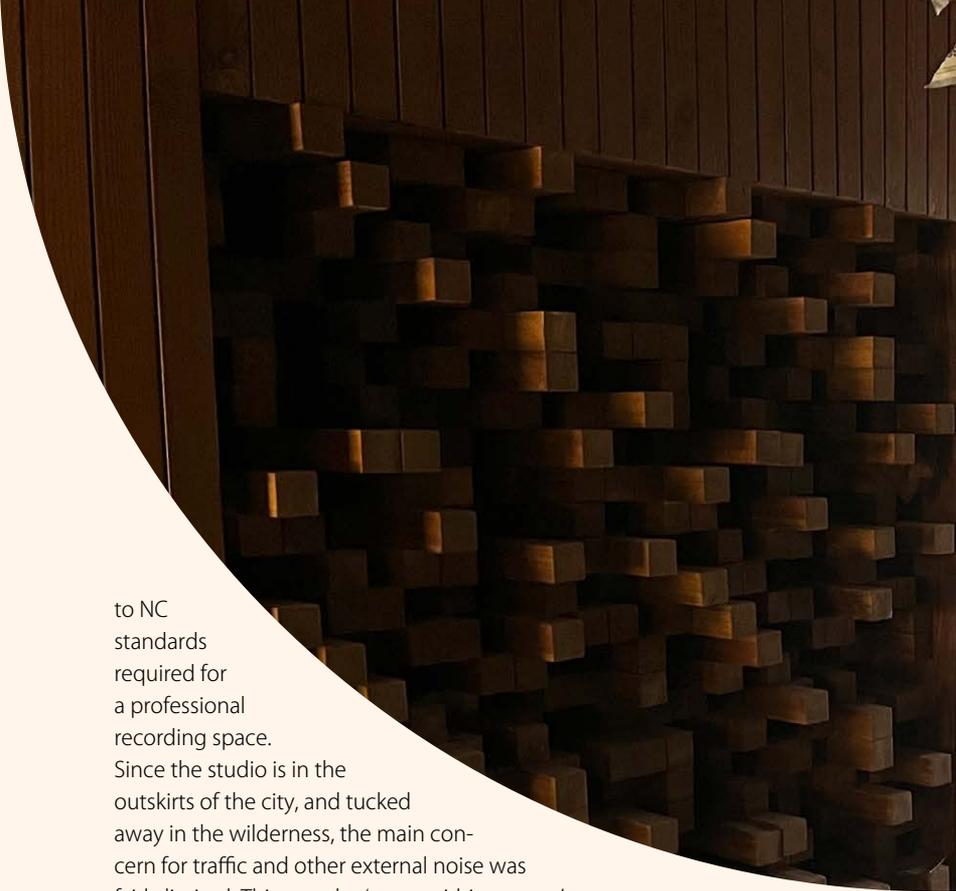
What makes Raag Sethi's upcoming flagship studio in Gujarat par excellence? Sethi elucidates more about the differentiating factors that can make his new studio a preferred choice for the people involved in Indian music industry, "There are a few key features that makes our studio quite different from most other facilities. Firstly, we are one of the very few studios that can handle and record a full live band tracking with regards to the space as well as the equipment—with up to 24 inputs multichannel recording in the new studio. In addition to that, we are one of the only studios in Gujarat that has a boutique selection of outboard mic pres., including some of the best in the world like the Neve 1073, API, SSL, Manley and more; it indicates to our clients that we take the recording process very seriously, and that our main goal is to capture the source as authentically as possible."

He continues, "Another key difference is that we will be one of the first studios in Gujarat that has worked directly with Dolby to make sure that the control room is Atmos compliant, so that even for the local Gujarati film industry, we can now provide that immersive output without them needing to send it to Mumbai or Chennai for the post-production work. Additionally, being the first Neumann Experience Zone for the state is also a service we will provide, that I hope clients would be interested in. Last but not the least, our studio is also equipped with ATC far-field monitors, which I believe is a first in Gujarat."

The proximity of the airport to the studio is another factor that makes the new space accessible for music artists and labels to visit the studio without any hassle. Sethi affirms, "The studio is based in Ahmedabad, about 5 minutes from the airport—so a lot of artists that I work with, come directly to the studio for the day and then head back out; that's the convenience of being so close to the airport! Also, there are plenty of great Airbnbs, hotels and motels close by, for artists and labels that come to record here, they end up spending anywhere between a week to 10 days finishing up an EP or an album."

The Challenges of Designing a New Studio:

Commenting on the layout of the new studio, Raag Sethi said, "We have built a full floating shell, including a floating floor, and fully de-coupled live and control room. This includes completely independent duct able HVAC systems to conform



to NC standards required for a professional recording space. Since the studio is in the outskirts of the city, and tucked away in the wilderness, the main concern for traffic and other external noise was fairly limited. This way the 'room within a room' was optimized to make sure we get as much space possible. For the recording room, I wanted a space that had a live character when tracking acoustic instruments, and not a space that was too dry and dead, we have an iso-booth that is drier for ADR/dubbing."

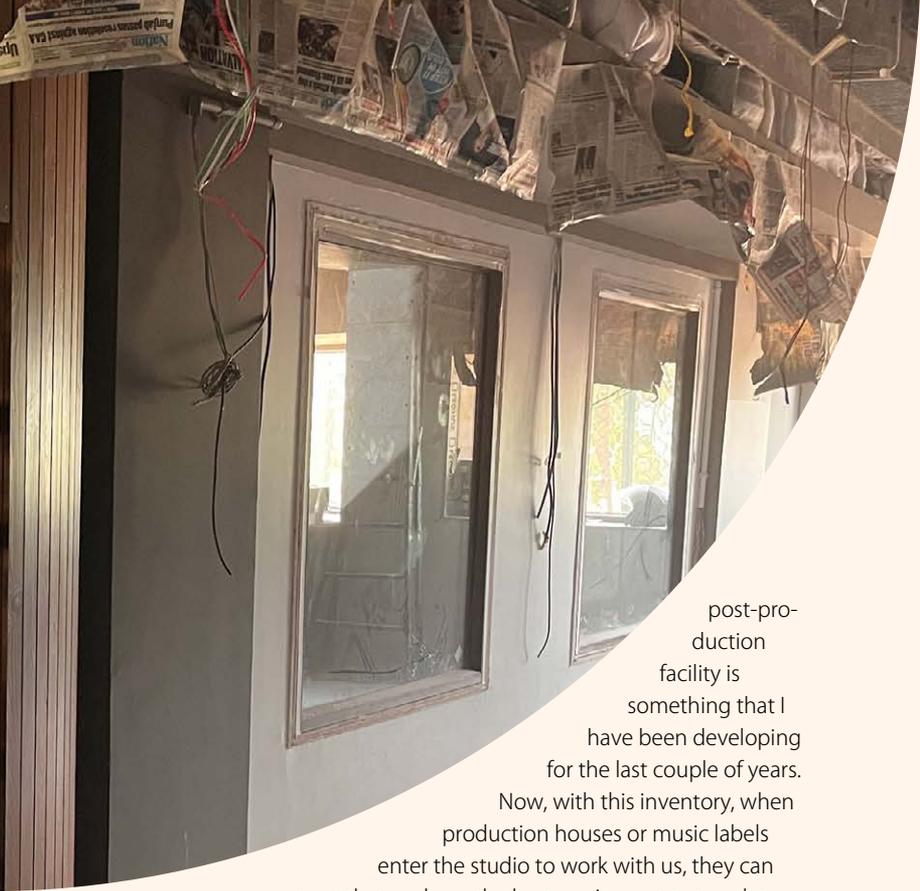
Designing a new studio from scratch come with its own set of benefits and challenges. Raag Sethi spelled out the process of creating a new studio from ground zero and the best part about doing so, "The beauty about building a space from scratch is that it allowed us to prioritise the acoustics; therefore, when working with SoundWizard, we didn't have to worry about traditional issues that would plague a construction in a corporate or residential building."

Talking about the key factors that he had to take into consideration in the process of creating his new studio, Sethi shared, "The key aspect I wanted for the live space is a large enough live room to track a full 10–12-piece band comfortably, with enough isolation between the sources. The other consideration was for the space to be designed for the far-field monitors from ATC and the Atmos setup from Neumann. The minimum height, the shape of the rooms, and more such considerations were tested in 3D simulations for acoustic properties. The SoundWizard team also made multiple site visits to ensure we are adhering to all the acoustic requirements for a professional studio to build something truly bespoke."

New Inventory For The New Studio:

Good pro audio equipment is quintessential to create a truly good studio space for recording, mixing, and producing good music. Raag Sethi, keenly aware of the fact, spoke at length about the pro audio equipment that will soon find a place in his upcoming flagship studio, "We have partnered with Neumann to create Gujarat's first Neumann Experience Zone as our monitoring solution for immersive audio in the studio, featuring a full suite of Neumann monitors for a 7.1.4 setup, including the KH 150, KH 80DSP and the KH870G. In addition to that, we are working with Dolby directly to make sure the studio exhibits the best of the surround format. We have a wonderful selection of outboard mic pres, such as the venerable Neve 1073, API 312, Manley DVC, SSL VHD, Rupert Neve Designs 511 and many more. We also have an SSL style analogue bus compressor and some mastering processor units. Our mic locker is pretty much full at this point, with brands such as Neumann, Sennheiser, Blue, Shure, Lewitt, Rode, Sontronics, Avantone, sE Electronics, Audix, Audio-Technica, Warm Audio and more. In essence, we have all the tools and technology required for anyone to come to the studio to record without worrying about equipment. We also have a DW drum kit, along with a selection of tube amps, guitars and basses."

Disclosing the reason behind choosing the above-mentioned pro audio technology and products for his studio-in-making, Sethi shared, "I wanted to build a flagship studio, featuring some of the best audio technology the world has to offer, accessible to people in Gujarat. Since we have such high-end gear for production, mixing/mastering and recording, I hope we can drive more music making to Gujarat instead of always going to the tier 1 cities. I am a producer and musician myself, and since I work with labels, the idea of offering a state-of-the-art recording and



post-production facility is something that I have been developing for the last couple of years. Now, with this inventory, when production houses or music labels enter the studio to work with us, they can trust that we have the best equipment to translate their vision into reality."

How Indian Recording Studios Are Evolving:

The pro audio landscape in India is constantly evolving. Recording studios are no exception. Raag Sethi offers an insight into the how the Indian recording studios are evolving, shifting the focus from being spatial-centric to being purpose-centric, "Realistically speaking, large studio complexes aren't for everyone. It really depends on what the purpose of the studio is. Since a lot of music today has so many programmed and MIDI instruments, it is easy to justify a small space to maybe just track vocals and that's about it. There is something about a purpose-built studio that can not only provide a cleaner and better recording experience, but a creative space for musicians and producers to experiment and develop a musical idea into something more."

He further added, "There are some great studios all around India that have this in mind, where the focus is to get a team together to make something special. I think India – especially in tier 1 cities – have multiple such facilities where people are making some amazing spaces and running some incredible studios. When you start going to tier 2 and 3 cities is when it's far rarer to see something like this. That being said, there are studios constantly shutting down and opening up as well."

Keeping in line with the Indian recording studios are evolving in recent times, Raag Sethi shared some words of advice for pro audio enthusiasts seeking to starting a recording studio, "If there is anyone out there thinking of starting a studio, I would always begin by figuring out if you need a large live room or not. There are plenty of ways to have a fully functioning studio that is just one room. Also, while it's great to have a Neve 1073, you most definitely don't need it to make some amazing music. When I started the studio, I had a small Focusrite Saffire Interface, and made some award-winning records with that equipment. A good song in a good space with a good musician is far more important in the signal chain than which microphone or which converters you will use."

”
Another key difference is that we will be one of the first studios in Gujarat that has worked directly with Dolby to make sure that the control room is Atmos compliant, so that even for the local Gujarati film industry, we can now provide that immersive output without them needing to send it to Mumbai or Chennai for the post-production work.

AUDIO-TECHNICA'S ATND1061DAN CEILING ARRAY COMBINED WITH Q-SYS SYSTEM NOW CERTIFIED FOR MICROSOFT TEAMS ROOMS

Audio-Technica announced that the **Audio-Technica ATND1061DAN Ceiling Array** is now certified for **Microsoft Teams Rooms** as part of a **Q-SYS** system. A-T partnering with Q-SYS unifies and streamlines network configuration and control, resulting in a simplified integration and setup process for installers and end users as well as remote monitoring and management and more. With this new certified offering, users can take advantage of the flexible and scalable Q-SYS audio, video and control Platform and have confidence in clear and articulate audio quality, rejection of unwanted sounds and the option to trigger camera position presets using the real-time positioning data from the A-T microphone.

When deployed in high-impact spaces from executive boardrooms to lecture halls, the ATND1061DAN

ceiling array microphone delivers clear voices to the far end, even with multiple talkers via digital Dante audio outputs. Delivering an enhanced integration with Q-SYS, A-T also announced the Q-SYS control plugin for the ATND-1061DAN which enables control of an Audio-Technica ATND1061DAN microphone, including the ability to mute, trigger the LED, load presets stored in the main unit, and monitor connection status from a Q-SYS network touch screen controller.

"We're thrilled to collaborate with Audio-Technica to deliver more options for users installing Teams Rooms certified solutions in any type of high-impact space," says **Geno Zaharie**, Principal, Alliances and Ecosystem, Q-SYS. "Furthermore, we are pleased to have Audio-Technica part of the Q-SYS Technology Partner Program, which demonstrates the company's commitment to producing plugins to allow A-T



Audio-Technica's ATND1061DAN Ceiling Array With Q-SYS System Is Now Microsoft Teams Rooms Certified

solutions to integrate seamlessly with the Q-SYS Platform to offer enhanced experiences for our mutual customers."

Kurt Van Scoy, Executive Director of Product Management, Audio-Technica U.S. remarked, "The Audio-Technica ATND1061DAN provides high-quality room audio and accurate speaker position data for dependable camera

positioning. When deployed with Q-SYS, this Teams Rooms certified integration allows installers and end users to have a turnkey, scalable solution at their fingertips assuring professional, next-level audio in a conferencing environment – simplifying and streamlining the conferencing AV experience."

DYNACORD LAUNCHES V600:4

With the **V600:4**, **Dynacord** presents the first member of a new amplifier line for small to mid-sized installation scenarios such as education, hospitality, retail, houses of worship and more. The four-channel power amplifier with a total power of 600 watts is ideal for consultants, specifiers and installers who are looking for a robust, extremely versatile amplifier that is quick to install and runs trouble-free – even under demanding power conditions.

With a compact 1RU form factor requiring minimal rack space, the V600:4 is fully equipped with best-in-class features and innovative new Dynacord technologies. It offers building owners an optimal combination of real professional performance and resource-efficient power consumption, all at a very attractive price point. All the amplifier technologies were developed by Dynacord engineering, one of the most experienced research teams in the audio industry.

Installation Versatility

The V600:4 offers the user high flexibility for many applications. This is enabled by multiple power drive options utilizing Dynacord's patented VLD (Variable Load Drive) technology. It allows the amplifier channels to be

driven in 4 ohms, 8 ohms, 70 V or 100 V without compromising the available output power.

The newly developed Dynacord powerTANK technology adds even more installation flexibility, working like a power reservoir for the amplifier. With direct access to the total power of 600 watts, the V600:4 can deliver asymmetric power across all channels (up to 300W per single channel) as needed. There is no waste of energy, which allows great flexibility – especially when driving multiple audio zones with different power requirements. A single V600:4 can simultaneously serve as system drive for the compact loudspeakers in a small zone such as a kitchen area as well as for larger loudspeakers with up to 300 watts such as in an auditorium. Contributing to the ease of installation, this feature does not require any special configuration skills – powerTANK engages automatically.

Low Cost of Ownership

More and more companies are required to reduce their carbon footprints and overall building energy costs to meet strict environmental regulations. Dynacord amplifiers have a proven track record when it comes



to supporting energy savings without sacrificing any performance. Overall power consumption can be significantly reduced thanks to ecoRAIL. This technology delivers almost a standby level of power consumption, whilst simultaneously delivering high quality background music ensuring performance and power saving. Both protecting the environment and significantly lowering the total cost of ownership, ecoRAIL always maintains high-quality audio and operational safety.

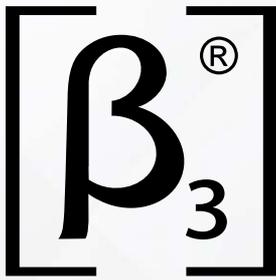
APD (Auto Power Down) contributes to further optimize efficiency, reducing energy consumption by automatically powering down the amplifier when no audio signal is present. As soon as a signal is detected, auto wake-up will immediately enable the amplifier to be fully operational.

Highest Reliability

Dynacord power amplifiers enjoy an excellent reputation in the market for

outstanding audio performance and extreme robustness. Like all Dynacord amplifiers, the V600:4 is built to last, offering high-quality components and professional performance characteristics. Bullet-proof protection circuitry with sophisticated limiters, originating from Dynacord's high-end amplifier lines, gives the user peace of mind by protecting the amplifier – as well as the connected loudspeakers – from damage.

The V600:4 incorporates Dynacord's new dualCOOL technology. Designed as a convection-cooled power amplifier, the device operates silently, making the V600:4 also suitable for installations in quiet environments. Thanks to dualCOOL, a built-in multi-stage fan is activated under extreme thermal conditions, preventing the device from limiting while maintaining full operation – even at temperatures of up to 45°C. Proven Power Factor Correction (PFC) for the power supply also contributes towards a flawless performance – under unstable power conditions with large voltage swings.



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SENNHEISER INTRODUCES NEW CEILING MICROPHONE

Sennheiser, one of the first choices for advanced audio technology that makes collaboration and learning easier, announced a new ceiling microphone for mid-sized meeting rooms and lecture or collaboration spaces.

TCC M delivers all the innovation and features of the award-winning **TeamConnect Ceiling 2 (TCC 2)** to a new segment of the meeting space market. With a coverage area of up to 40 m², customers can now bring the power of TCC 2 to their mid-sized meeting space, with a sleek design and at an attractive price-point.

“With the worldwide success of our TCC 2 for large meeting spaces, we wanted to provide that same experience to mid-size conference rooms and educational spaces,” said **Anshuman Dubey**, National Product Manager, **Sennheiser Electronics India Pvt. Ltd.** “Now with TCC M, a whole new meeting category can realize TeamConnect Ceiling Solutions benefits like Trusted Sennheiser Audio Quality, efficient setup, brand agnostic integration and simple management and control. Also,

when considering a new design, it was important to us to make a sustainable impact with smaller housing.”

Unlike the TCC 2, TCC M is round, but does offer the same ceiling installation choices - surface mounted, suspended, or flush mounted. These options allow for cable-free tables and flexible furniture arrangement.

TeamConnect Ceiling Solutions employ patented automatic dynamic beamforming technology and the TruVoicelift function. These offer perfect speech intelligibility while allowing the speaker great flexibility in movement and position. The high-quality built-in electret condenser capsules, which are made in Germany, have already proven themselves in numerous Sennheiser microphones. They ensure perfect speech intelligibility and offer outstanding audio quality by capturing the entire meeting room. These features enable the microphone to constantly determine the position of the person speaking, without manually needing to configure speaker zones ahead of time.



Built on over 75 years of German engineering, it redefines expectations for unified communications and meeting and lecture solutions.

If additional control is needed, priority and exclusion zones can be set in our industry leading Sennheiser Control Cockpit. This means that no spoken word is lost between the people in the meeting room and the external meeting participants.

Choosing a TeamConnect Ceiling Solution also comes with the added comfort of knowing that you are partnering with a truly customer-centric solution. By owning the manufacturing, Sennheiser has managed to navigate the supply chain crisis significantly better than others and was able to provide customers with full transparency and on-time delivery dates. In addition, starting with all TeamConnect Ceiling Solutions manufactured in 2023, Sennheiser is extending the warranty period from two

to five years with product registration.

The TeamConnect Ceiling Solutions are part of the industry-leading TeamConnect Family – Sennheiser’s agnostic collaboration portfolio with state-of-the-art technology that suits the size and setup of any conference room. Built on over 75 years of German engineering, it redefines expectations for unified communications and meeting and lecture solutions through problem-solving, user friendly and sustainable products with modern look and design as well as the Trusted Sennheiser Audio Quality. To help customers find the most suitable TeamConnect Family solution for their specific meeting room environment, Sennheiser has just announced the first iteration of a new, browser-based room planner tool.



Sennheiser reveals its latest ceiling microphone for mid-sized meeting rooms and lecture or collaboration spaces.

NUREVA ANNOUNCES THE HDL310 SYSTEM

Powered by next-generation Microphone Mist technology, new system delivers pro AV performance in an IT-friendly solution

Nureva Inc., one of the leading innovators of advanced audio-conferencing solutions, announced the **HDL310 system**, the newest addition to Nureva’s next-generation audio conferencing systems. The HDL310 simplifies the task of getting great audio in spaces up to 30’ x 30’ (9.1 x 9.1 m) and offers 44 percent more coverage area than its flagship HDL300 system. This is made possible by the next generation of Nureva’s patented Microphone Mist technology, which was first implemented in the multiple award-winning HDL410 system introduced earlier this year.

Combining a single Nureva

microphone and speaker bar with a new connect module, the HDL310 system delivers pro AV performance in a plug-and-play, IT-friendly solution that is easy to install, set up and manage at scale. Like the HDL410, the HDL310 system comes with Console Direct, providing a secure and continuous connection between the HDL310 and Nureva Console that allows IT staff to manage their systems remotely without having to rely on an in-room computer running client software. Like all Nureva systems, the HDL310 includes a two-year subscription to **Nureva Pro**, a value-added service to keep meeting rooms and classrooms functioning smoothly. It includes expanded support

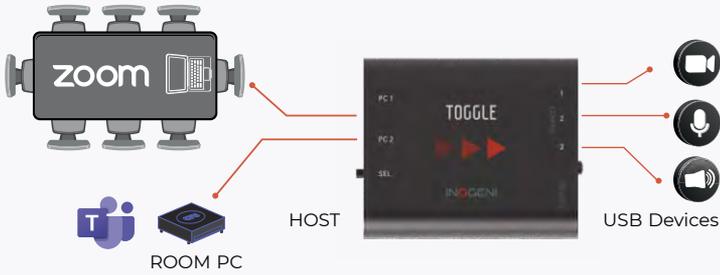


hours, advance hardware replacement and additional features in Nureva Console, such as device status monitoring with email alerts and enhanced room analytics with historical data. Third-par-

ty companies that want to integrate their products with Nureva audio systems can also access and lever-

(Continued on page 18)

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JABRA ANNOUNCES SPEAK2 RANGE - PROFESSIONAL SPEAKERPHONES FOR HYBRID WORK

Jabra, one of the leaders in personal sound and office solutions, launched the **Speak2 range**, the newest products in Jabra's Speak line-up of professional speakerphones which include the **Speak2 75**, **Speak2 55** and the **Speak2 40**.

Hybrid work has shifted the way we meet, with 80% of all meetings now being either fully remote or hybrid. The new Speak2 range is engineered specifically to meet the need for an intelligent speaker that is built to handle anything a busy hybrid working day throws at the user – whether it be conference meetings, direct calls, streaming media, presentation or other.

The Speak2 range is like widescreen audio for the ears, offering mobile and futureproof professional quality sound so all voices can be heard, wherever they may come from.

Next generation engineering for each and every voice

For all meeting participants to not only feel heard, but also listened to, the Speak2 range is engineered to go beyond standard speakerphone performance, and a full duplex audio. This speakerphone allows users who are talking simultaneously to conduct much more natural two-way dialogues, as though each speaker was there in person, without disrupting conversation flow.

42% say they can't hear what is being said in meetings. With the Speak2 75, Speak2 55, and Speak2 40, gone are the days of raised voices straining to be picked up by poor quality speakerphones. Every speaker in this



new range features cutting-edge Voice Level Normalisation technology and state-of-the-art beamforming microphones that eliminate background noise for superb voice pick up.

Built with versatility in mind, the Speak2 range ultimately offers, professional, pocketable, and portable devices packed with the latest technology. All packaged up in a stylish, contemporary design with premium materials including 100% sustainable fabric for the speaker. When in call mode, the subtle user-interface ring lights up and brings use functions with relevant icons to life.

Advanced professional speakerphone with superior audio

Jabra Speak2 75 is like a boardroom in your pocket, being the only speakerphone in this range to feature a custom-designed Microphone Quality Indicator. The 360-degree light ring shows users how well their voice is being picked up by the microphones, giving users the reassurance of true professionalism from wherever they may be working.

In addition, this speakerphone includes an advanced full range 65mm speaker, offering a dramatically more powerful audio experience and ultimately resulting in much more efficient and productive meetings.

Compact speakerphones full of productivity-boosting tech

With the Jabra Speak2 range, users

can be sure to rely on seamless plug-and-play connectivity, so users can focus on what matters most; hosting professional and reliably brilliant meetings. For those who like choice, use the USB cable for a direct line with the Speak2 40 or go wireless with the Speak2 75 or Speak2 55.

Finally, each Speak2 product is designed to work with all leading virtual meeting platforms, meaning users can participate confidently in calls and meetings from any location, without the worry of poor audio quality or connectivity issues. There's even no need to be concerned about durability, since all of Jabra's Speak2 products feature IP64-rated protection from dust and water.

Aurangzeb Khan, SVP for Collaboration Solutions at Jabra says, "Sound clarity is fundamental when looking to ensure all employees feel included in hybrid meetings. Therefore, Jabra decided to take on the challenge of re-engineering the world-leading Jabra Speak series for better performance and optimised experiences. Engineered for the hybrid worker who wants to hear and be heard in the most productive way, the new Speak2 range demonstrates to those working flexibly between home and office, that their voice matters too. So, get ready to speak up."

Key shared features of the Speak2

range:

- Four beamforming noise-cancelling microphones with innovative background noise reduction technology
- Advanced full duplex audio
- Voice Level Normalization technology
- Designed to work with all leading virtual meeting platforms, like Microsoft Teams, Google Meet and Zoom
- IP64-rated protection from dust and water

Key features of the Speak2 75:

- Super-wideband audio and full range 65mm speaker
- Microphone Quality Indicator
- Up to 33% sustainable materials (from mechanical parts)
- Easy connection with Microsoft Swift Pair
- Plug-and-play straight out of the box
- Up to 32 hours of wireless battery life
- Microsoft Teams Rooms and Zoom Rooms

Key features of the Speak2 55 and Speak2 40:

- Plug-and-play for ease of use, with Jabra Speak2 55 boasting up to 12 hours of wireless battery life
- Contains more than 50% sustainable materials (from mechanical parts)

NUREVA ANNOUNCES NEXT-LEVEL AUDIO FOR MID-SIZE...

age APIs from the Nureva Developer Toolkit.

Specific to higher education classrooms and corporate training rooms, the HDL310 and HDL410 systems include a feature within Nureva's Voice Amplification Mode that lets users mute their audience to focus microphone pickup on the presenter's or instructor's voice while reducing all other microphone pickup in the space.

Like all Nureva audio systems,

the HDL310 connects easily by USB and can be installed and operational in under an hour with no DSP required. Not



(Continued from page 16)

only does Microphone Mist technology fill a room with thousands of virtual microphones, it also handles continuous autocalibration, echo cancellation, noise reduction, position-based gain control and the challenges of multiple in-room participants speaking at once. This approach is ideally suited to the evolving needs of IT professionals as they reimagine their spaces to address the demand for better remote collaboration experiences. Nureva

audio systems integrate with leading UC&C applications, and the HDL310 is currently in the certification process for Microsoft Teams.

"Response to our HDL410 system has been outstanding, and we're excited to expand our next-generation audio systems into mid-size spaces," said **Nancy Knowlton**, Nureva's CEO. "The HDL310 system delivers the unique combination of IT-friendly simplicity and uncompromised performance that our customers are asking for."

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PROFESSIONAL AUDIO SOLUTIONS

REVEL IN THE THUMPING SOUND OF AN ILLUSTRIOUS SOUND SYSTEM



LF-2000



LF-1850

ABSEN UNVEILS ITS CATEGORY BRANDS AT THE SPRING LAUNCH 2023

Absen, one of the world's leading LED display brands, held its **Spring Launch Event 2023** on March 21st, showcasing the all-new category brands and a range of new LED technologies, solutions, and products. Industry professionals and media representatives worldwide gathered to witness Absen's unveiling of its featured category brands – AbsenLive, Absenicon, and AbsenCP.

AbsenLive state-of-the-art LED for world-class stage

AbsenLive is a dedicated category brand of Absen focused on high - end rental & staging market and virtual production/xR stage. Built upon decades of LED display experiences, AbsenLive constitute a prior choice for global companies that demand high image quality, extremely stable structure and superior colour reproduction. AbsenLive facilitates the fusion of virtual and real, bringing an immense experience to the audience and creating extraordinary customer value. Its latest Jupiter Pro series is designed specifically for outdoor, featuring a high transparency platform, high brightness LED, and precise curving capabilities, yet lightweight and durable. Meanwhile, the modular and hanging-stacking design makes installation fast and easy.

Absenicon intelligent interactive LED all-in-one machine

Absenicon intelligent screen, founded in 2018, is a high-end brand of Absenicon focusing on conference display and consumer display. It aims to promote the digital transformation of enterprises and upgrade the audio-visual experience of high-end consumer market with intelligent interactive LED all-in-one machine. Absenicon intelligent screen is positioned as a large intelligent screen of more than 100 inches. It is an LED intelligent display terminal integrating document display, high-definition projection screen and remote video application. It is used in multiple application scenarios such as university lecture theaters, conference rooms, lecture halls, exhibitions and private theaters. X series, one of the two

new LED display solutions, offers large formats (108"/136"/163") with improved clarity using flip-chip COB technology, easy-to-use controls, and 100% seamless displays. C Ultrawide series provides widescreen displays applicable to 21:9 content and 154"/181"/208" formats at 33% more visible area. They are designed to deliver clear visibility and impact for advertising and other digital signage applications.

AbsenCP ready-to-use LED, to fit your demands

Creativity with simplicity, AbsenCP is a dedicated category brand specially established by Absen for the global LED display channel market based on the development concept of 'Ready-to-use LED to fit your demands.' The new CP series feature high-resolution LED displays, minimal bezels, and advanced control features to meet commercial needs and is widely used in corporate,

retail, theme parks, exhibitions, e-sports, entertainment bars, and other scenarios. The brand focuses on the commercial display market and comprises products combining creativity and simplicity.

New Products Bring Innovations

In addition to the category brands, Absen launched several new products and solutions across multiple categories at the event. Their detailed image quality, brightness, and color accuracy, made them ideal for indoor and outdoor applications.

Innovative products with MicroLED technology

CL V2 is a new MicroLED product for indoor featuring a fine-pitch pixel configuration, high brightness and contrast, and advanced color accuracy. Its black coating, full flip chip, and HDR 10 technologies produce a non-reflective and highly reliable display with stunning

visual results and capabilities.

KLCOB V2 is a MicroLED product that is the wise choice for outdoor. Its display surface is designed with extraordinary deep blacks that create amazing black consistency and exhibit a deep and pure black, improving the visual performance to an unprecedented level and capturing all brilliance. Lightweight and ultra-thin, KLCOB V2 saves time and effort during installation.

The new flagship to Absen's DOOH and Sports

A new flexible LED display product, A27 V3 is lightweight, ultra-thin and bendable. With a 16:9 commercial display aspect ratio and premium color management technology, it offers a wide viewing angle suitable for all types of signage applications.

A new line of DOOH solutions highlights Absen's LED light box displays, providing sensitive picture quality using ultra-high-definition displays with a refresh rate of ≥3840Hz. Stable and reliable, the displays are convenient to install and maintain, and offer integrated solutions, cluster control, and security guarantee.

Finally, a fresh line is devoted to sports and entertainment, the four key components being intelligent centralized multi-system management and control, a multi-functional system adjustable to various scenarios, simple and convenient installation, operation and maintenance, and energy-efficiency.

Channel Recruitment - Welcome to being a part of Absen!

As part of its commitment to expanding its global network, the Absen Channel Recruitment Program was announced at the event. This program aimed to attract new partners and resellers to the Absen network and gave them access to the latest LED display products and solutions.

The Spring Launch Event 2023 concluded in a resounding success. With an array of new category brands and products, Absen is poised for continued excellence in the LED display industry and in serving the customers with the best solutions.

Absen
Trusted LED Supplier

Absenicon
The Center of Everything
Brand Value Proposition:
The All-in-one Display Solution

AbsenLive
Empowering Your Stage
Brand Value Proposition:
State-of-the-art LED for World-class Stage

AbsenCP
Creativity with Simplicity
Brand Value Proposition:
Ready-to-use LED, to Fit Your Demands

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

LG LAUNCHES ITS FIRST-EVER DIGITAL SIGNAGE PROJECTOR, PROBEAM 4K UHD

LG Electronics (LG) announced the launch of its first digital signage projector, the **LG ProBeam 4K UHD (model BU70QGA)**. Suitable for various environments, including art galleries, exhibition spaces, corporate lobbies, retail stores, showrooms, conference halls and auditoriums, the new 4K digital signage projector provides sharp, impressively large images and has a peak brightness of 7,000 ANSI lumens – the highest of any LG projector to date.

LG ProBeam produces 4K UHD (3,840 x 2,160) resolution pictures with a 3,000,000:1 contrast ratio at sizes ranging from 40 inches all the way up to 300 inches. Its 7,000 ANSI lumens peak brightness enables the BU70QGA to deliver clear images, even in bright daylight. Additionally, the projector features a reliable laser light source, lens shift, 1.6x optical zoom, built-in wireless connectivity and an integrated camera that aids in setup and positioning.

Edge blending technology enables the seamless connection of overlapping light from two or more projectors through lumi-

nance adjustment and color correction. Thanks to this advanced tech, up to nine BU70QGA can be used together to create truly panoramic images and an immersive viewing experience. Museums and art galleries, in particular, will find value in the projectors' ability to provide large, eye-catching images.

Convenient and versatile, the LG ProBeam is a professional-quality video system suitable for various business environments. Using the BU70QGA's

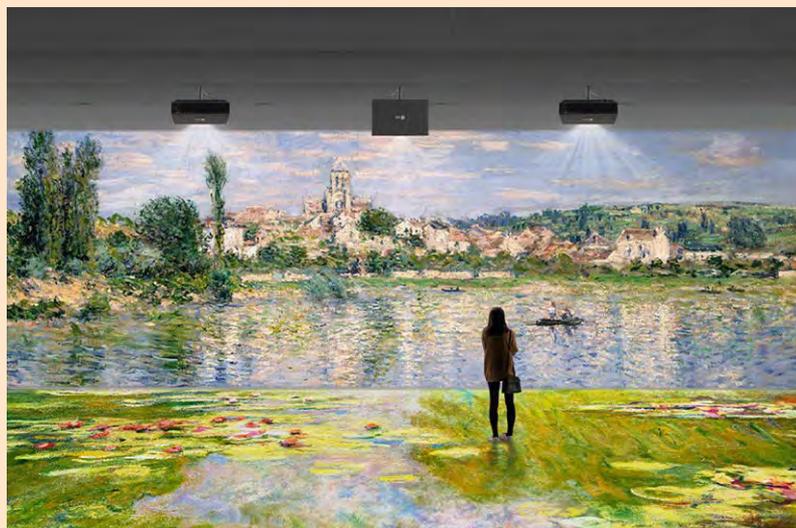
Auto Screen Adjustment¹ feature, users can quickly calibrate the image to the projection screen and correct image distortion with just one click of a button on the included remote controller. When the projection angle does not align with the screen, LG's AI sensing technology evaluates lens shift, zoom, focus as well as warp distortion and automatically adjusts the projected image for an optimized viewing experience.

Leveraging a high performance SoC

(System-on-Chip), the projector can execute several tasks at once, provide smooth content playback and optimize user convenience with an intuitive UI and simple app development tools. The BU70QGA can also connect with LG ConnectedCare; LG's cloud-based device management solution for LG digital signage and display devices.² Equipped with webOS 6.0, the new ProBeam allows third-party providers to add projection capabilities to their offering, expanding the diversity and value of LG's extensive signage ecosystem.

"Our first 4K digital signage projector to feature the LG webOS 6.0 platform, the new LG ProBeam is a powerful and flexible display solution," said **Seo Young-jae**, Senior Vice President and Head of the IT Business Unit of LG Electronics Business Solutions Company. "Designed for the commercial sector, LG's ProBeam projector lineups offer diverse, customized options that can help customers create professional-grade AV systems tailored to their specific needs."

LG ProBeam model BU70QGA will launch globally this month, starting in the U.S.



LG to launch its first digital signage projector, the LG ProBeam 4K UHD (model BU70QGA).

SAMSUNG ELECTRONICS UNVEILS INTERACTIVE DISPLAY AT BETT 2023

Samsung exhibits new interactive display with software solution for the education sector with enhanced usability and connectivity features

Samsung Electronics unveiled a new interactive display with upgraded features and a powerful software solution at **Bett (British Educational Training and Technology) 2023** in London.

The new **Samsung Interactive Display (Model name: WAC)** leverages Android OS to provide intuitive usability. The easy-to-use display helps teachers customize their home screen user interface (UI), activate multiple screens, share up to nine displays at once regardless of OS or device and utilize intelligent education apps to enrich student learning. Users can also take advantage of the integrated Wi-Fi and Bluetooth connectivity.

Unveiled in 65-, 75- and 86-inch models,¹ the WAC series is built to integrate into any classroom setting. Its connectivity is enhanced with a 3-in-1 USB-C port, which enables hassle-free screen connection, touch control and external device charging (max. 65W).

In addition, the HDMI output function allows teachers to share content on a bigger screen, particularly useful in a lecture theatre.

Featuring a slim and user-friendly design, the WAC model takes into consideration the importance of both convenience and interactivity. With IR

touch, users can enjoy a natural writing experience, 20 multi-touch drawing and a dual-sided pen to write with a different color on each end without changing the settings. The front stereo speaker, penholder and handle on the display boost convenience for a seamless education environment.

The Device Management Solution (DMS) for WAC series allows users to monitor and control the display in the classroom remotely at the same time. The DMS also provides an alert function that sends warning messages to the screen collectively in case of an emergency.

Originally available on the Samsung Flip (Model name: WMB, WMA, WMR), the Samsung Whiteboard App will also be compatible with the WAC model. The software solution helps educators connect to Windows OS devices, so that even after connecting a PC to the display, seamless writing on top of the content on the PC can be experienced in real-time, creating a dynamic classroom experience. In addition, it is easy to store and share content and documents, as well as annotate on top of whatever is being displayed in real-time, even during a video conference.



COMCON TO DISPLAY NEUTRIK FIBERFOX OPTICAL TRANSPORT SOLUTION AT PALM EXPO 2023

Comcon Technoloiges will showcase the state-of-the-art **FIBERFOX Expanded Beam Connector** from NEUTRIX at the **PALM Expo 2023** from 25th - 27th May, 2023.

Large amounts of data can be transmitted outstandingly with fiber-optic systems, and the **FIBERFOX Expanded Beam Connector** makes the connection easy and unmistakably proficient. Any weaknesses in relation to cables or connectors are eliminated by using the FIBERFOX system. **FIBERFOX EBC** lens connectors always ensure the system's functionality, even in harsh environmental conditions like rain, cold, heat, and dust, in mud or under water. In contrast to conventional fibre optic systems, they achieve much more mating cycles (> 15000 without change of insertion loss). They do not wear out at all, they are maintenance-free and have a theoretically unlimited lifetime. FIBERFOX EBC connectors comply with IP68 (connected or disconnected) and can be cleaned easily and quickly by using clear water and a lint-free cloth.

FIBERFOX Expanded **Beam Fiber**

Optic Connectors are designed to meet the requirements of MILDTL-83526 Military Specifications. Expanded Beam fiber optic connectors are designed to operate in harsh environments, they use non-physical contact fiber optic terminations that are IP68 sealed behind an anti-reflective coated ball lens. This lens expands the beam to many times its original size, aiding optical alignment and minimizing the effects of dust, debris and other environmental conditions. Because there is no wear on the optical surfaces / end faces of the termini during use, the FIBERFOX connector has excellent durability, in excess of 5,000 mating cycles, providing a long service life interconnect solution. FIBERFOX is a hermaphroditic connector allowing multiple plug-to-plug cable assemblies to be combined to extend the length of the system. These connectors are available with two or four channels multimode lenses and the patch cables, pre-assembled in various length are flame retardant and halogen free.

Expanded beam fiber optic connectors utilize a lens to expand and



FIBERFOX uses fiber-optic systems to ensure high-end system functionality.

collimate the light emitting from an optical fiber. This collimated light beam is transmitted through an air gap to a mating connector, where the light is collected and focussed by a second lens into a second optical fiber to complete the connection. With 50/125 multimode fiber, the expanded and collimated light beam has an active area of around 3,600 times larger than the original 50 μ m multimode fiber core.

The effect of collimating and greatly increasing the beam diameter, means that the connector is less sensitive to

small particles of dust or other contamination which could completely obscure transmission in physical contact type connectors.

FIBERFOX Connectors are used in Lighting, Network, PA, Video, Broadcast, Defence & Government, Railway and Oil & Gas for Communications, Audio / Video, and Sensing Applications. With trained engineers, the team at Comcon Technologies looks forward to working with the industry leaders to solve signal transport problems with this latest & proven innovation.

PANASONIC CONNECT DEVELOPS RUGGED OUTDOOR-READY 4K PTZ CAMERA

Panasonic Connect Co., Ltd. announced that it will release an outdoor-ready **PTZ camera**, the **AW-UR100** in the third quarter of calendar 2023. The new model will combine 4K/60FPS capability and a

dynamic image stabilizing system (DISS) for high-precision videography, even in stadiums and other large venues, as well as cropping to reduce the risk of missing fast-developing highlights. The camera's rugged design makes it

ideal for harsh outdoor environments, such as airports, warehouses and large ocean-going vessels, or for live broadcasting during blizzards, typhoons and other weather event. The AW-UR100 supports many protocols and interfaces for flexible system configuration to expand the possibilities of outdoor video production. It also offers extra functionality to help avoid missed shots and shooting errors for worry-free camerawork in the field, where risks are ever present.

Demands for live streaming and other video production have sharply increased in recent years. The live entertainment industry, which was greatly curtailed by the Covid disaster, has seen a surge in hybrid online/offline events. Also, the proliferation of high-capacity, high-speed 5G and ubiquitous video have created demands for new video experiences, expressions and productions, but typically within limited budgets.

The applications and uses of PTZ cameras have also expanded, requiring rugged housings and added function-

ality for precision shooting and broadcasting in environments where camerawork can be especially challenging, such as outdoor locations exposed to extreme temperatures or other harsh climatic conditions. Changing workstyles are further accelerating the shift to IP-based remote video production, increasing the need to ensure both video quality and production efficiency in the field.

In response, Panasonic Connect has developed the new AW-UR100, which combines rugged reliability and high-precision shooting capabilities along with a host of other key features to overcome the challenges of working outdoors.

Key Features:

High-precision Video Specifications and Functionality

Rugged Design for Reliable Performance Virtually Anywhere

Flexible System Adaptability and Multiple Interfaces



Panasonic Connect develops Outdoor-Ready 4K PTZ Camera that withstands the harshest weathers and stay stable in the roughest environments



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Are Global Integrators Reshaping the INDIAN AV INDUSTRY?



Ritika Pandey, Editorial Assistant, AV-ICN

Global integrators establishing in India are sourcing highly experienced AV professionals from Indian system integrators and AV consultancy companies. Executing large projects worldwide from India, the Indian AV industry is being reshaped to compete for international projects. AV-ICN's Ritika Pandey analyses the churn impacting Indian AV industry.

Global Integrators have equipped the audio-visual market with the best-in-class technologies and experts from all over the world, unplugging exceptional AV experiences. The industry has outgrown networking in terms of collaborative solutions, reliability, and unified communication. Major global AV integrators have also entered the Indian market to hunt talent from our country and provide better opportunities to the performing Indian AV experts. With the positioned network and acoustic technologies, global integrators hire and invest on the experienced Indian engineers who have been trained by the Indian professionals for more than a decade. Announcing the accomplishment of Indian AV professionals who work to meet the global stage, **John Masters**, India Country Director, Diversified, states, "Diversified has modified its plan for India, at least for 2023, and we have focused on building our 'Global Capability Centre', in Bangalore which exports many different types of services to Diversified subsidiaries worldwide, after a very successful pilot in 2022". However, does it run the risk to the coming-of-age opportunities for our Indian AV market?

"Diversified has modified its plan for India, at least for 2023, and we have focused on building our 'Global Capability Centre', in Bangalore which exports many different types of services to Diversified subsidiaries worldwide, after a very successful pilot in 2022," says John Masters, India Country Director, Diversified.



John Masters, India Country Director, Diversified

India has no plans to wait for better opportunities to knock. We need faster. We need spectacular. We need to be exclusive. Many humongous projects covering the projections, sound shows, or AV charging stations for Government-catered places like the Statue of Unity, Buddha Statue in Hyderabad, monument of Saint Thiruvalluvar, or the Statue of Prosperity have raised the bar of the country. Projects in IoT industry and telecommunications have also left no gaps so far. Internet of Things brought many startups to grow with consolidation activities and technological advancements. Technologies like 5G, VR, AR, and many others are also bridging the Indian market with the world. Moreover, with plans set to advance the AV market in the coming five years, we have many Indian AV integrators working to clench on to the new standards.

Adding to the competitive AV advancement, AVI-SPL, Diversified, Kinly, and many other businesses have achieved prestigious projects and are now expanding with new offices to cater to the billion-dollar industry in India. With new waves to catch, Indian integrators are investing into world-class networking and latest solutions to compete globally. To reflect on the current state of the Indian AV industry, we bring an interesting conversation by the AV elite **Rhythm Arora**, Chief Technology Officer, Qubix Technologies, which is a large-scale integrator for Indian and multinational corporates, high budget celebrity homes, and hotels across the sub-continent. It is currently serving India, Sri Lanka, Maldives, and starting operations soon in Singapore, Cambodia, and Bangladesh. Some other AV integrators also connect with us to recognize the lucrative needs of the customers in the Indian AV industry with world-class opportunities.

Equipping state-of-the-art AV design and integration solutions, Indian integrators step-up their game with world-class projects

“Indian integrators are very well equipped to deliver large scale projects, in fact, in the recent years on working around global integrators, we have found that good Indian integrators are more innovative and updated on implementing newer solutions,” says Arora.

“With the scale of jobs being implemented in India, area wise – the integrators here are more capable on delivering better outcomes, than the other counterparts, globally,” marks Rhythm. “It’s more common to see projects like half-a-million sq. ft. with 3000-4000 employees in India than in other parts of the world currently.”

He further adds, “The other important factor is cost, the services are much cheaper in India, and it’s easier for companies to have a large headcount of people on their rolls. For example, a company of our size in a country like USA would Hire 1 or 2 CAD Technicians – whereas we can employ 8 or 10 at same or lesser cost. This makes us much faster, and we can create more detailed drawings, manage more iterations at a lower cost, than a counterpart elsewhere.”



Deepak Sreenivas, Director, Sigma AVIT Technology Solution



Rhythm Arora, Chief Technology Officer, Qubix Technologies

“Agreed the capability and skill level of Indian manpower is lesser, but it’s very rapidly growing with ample trainings, publications and trade-shows now being available in the country,” says Rhythm Arora.

Deepak Sreenivas, Director, Sigma AVIT Technology Solution, puts his thoughts ahead on the Indian integrators’ achievements. He says, “As someone who has been in the audio-visual (AV) industry for more than 25 years and an entrepreneur for the past 15 years, we have witnessed first-hand growth and evolution of the industry in terms of technology and project size.

“The expertise of Indian integrators has also matured over the past two and a half decades, enabling us to deliver international-quality installations and adapt standards that are comparable to or superior to those of most global integrators,” says Deepak Sreenivas.

“The market for AV integration in India has developed rapidly, empowering integrators to invest in new advancements and build their knowledge base through collaboration and training,” He claims, “We have observed that some of our customers have faith in Indian integrators and provide us with the opportunity to explore new technology acquisition and implementation strategies. This has occasionally helped us develop our own expertise or, in some instances, bring in know-how to India through collaboration with international integrators.”

Abdul Waheed, CTS, Managing Director, Eyte Technologies Pvt. Ltd. joins our conversation emphasizing on the integration solutions, “With the growing tech advancements, Indian integrators are serving the AV industry for the last 2-3 decades, many of them have the size of teams which is among the top in the global industry, they are serving not only Indian clients but the global clients too.”

“One should know that serving global clients is challenging and different than the local clients. For instance, following the global equipment standards along with the installation standards is a must. One must admit that the integrators in India are delivering world-class projects for state-of-the-art facilities,” states Waheed. “Lately the large Indian corporates and government segments market have also increased in terms of technological advancement and implementation.”



Abdul Waheed, CTS, Managing Director, Eyte Technologies Pvt. Ltd.

Having understood the Indian AV market, Waheed highlights, “The market ensures world-class standards, and this is one of the reasons that international companies are also looking at India as a huge AV market.” He believes that AV design standards in terms of consultancy are still to go a long way beating the international paradigm. He adds, “It may be due to price competition that clients are still not convinced paying high design fees for the man hours spent on the project.”

Indian integrators secure international projects with the speeding competition globally. The industry continues to challenge the AV projects executed by Indian integrators meeting the international standards.

Rhythm Arora, begins to emphasize on the speeding competition by the Indian integrators, stating, “There is hardly any differentiation factor between a project implemented by a global integrator or an Indian integrator. It’s mostly about comfort and relationship based on which the decision is taken by the end client. There is also no discovery of Indian integrators to the global customers before they enter the country. Indian integrators are not securing too many global jobs, as there are not too many Indian end clients going out and setting up shops elsewhere, and whenever they do – they usually prefer an Indian integrator – if they can support a particular region.”

He further points, “Indian market drilled over the global integrators have a good scope in India presently, as when a US company comes and sets up an office in India – they prefer getting someone known to execute the project for them. However, after operating in the Indian market for a couple of years, we have hardly seen them use global integrators for their next projects as Indian firms always offer much higher value of every rupee or dollar spent with a far better support offering.”

“Once we have more Indian corporates expanding globally surely the AV integrators will follow them there,” says Arora.

“Indian integrators can secure large international projects by being competitive and experienced in project execution with good technology knowledge and financial backing. The Integrators Award and Inavate provide a platform for Indian integrators to showcase their work on an international forum,” mentions Sreenivas. “Sigma AVIT has won awards for the best design and installation in Experience Centre and office spaces thanks to our regular participation in these competitions.

Indian integrators have been able to participate and be recognized in international forums thanks to these platforms.”

He adds, “Reliance Industries is an excellent example of a company that has adapted new technologies and given integrators the opportunity to implement them in their facilities. They have pushed for the latest and most effective technology available, providing our team with the necessary exposure and expertise to carry out large-scale projects. We collaborated with SweeLee from Singapore on the Jio World Center project, a large-scale, cutting-edge construction project. This will undoubtedly be a world-class installation that will gain worldwide recognition.”

Waheed continues to highlight, “Lately the Indian AV market is growing rapidly. The number of meeting spaces in offices have been increasing tremendously, not to mention that the number of offices supporting international business also increased. Indian AV industry has been managing considerable number of global accounts and delivering the projects as per the global standards for quite a long time. They have not only been managing these accounts in India but in GCC and other continents too.”

The post-Covid era makes international AVSI enter the Indian market successfully. Waheed states, “There is a huge increment in number of international AV certified people in design and installation domains. The AV engineers are no less than any internationals in AV skills and experience. Many AVSIs based in India and the technical team of Indian engineers are supporting large projects in GCC and IMEA and Europe. Indeed, many of the international brands have their R&D and technical support offices set up in India.”

India is the powerhouse of AV talent

Indian audio visual market holds the potential to chart new territories. With the country ready to push towards the competitive advancements globally, Indian integrators deliver cutting-edge global projects. Giving decades into transformation, our AV industry has made its way into delivering world-class installations. With the ever-changing landscape of the industry, growth-game is hitting the benchmarks in India. Being one of the largest exporters of audio-visual projects, India certainly knows how to turn the tables with its experienced manpower and professional engineers.

Indian integrators have been catering to the AV market for quite a while in full swing, offering the best delivery of the latest solutions. Our fully-grown Indian AV industry is cherishing new opportunities globally. The quality of Indian AV industry has improved exceptionally with big projects landing from around the globe. In fact, global integrators who won the prestigious global contracts are being exhibited from India. With our strengths in IT, ICT, communication, and other industries, India is succeeding to bring the best AV-integrated solutions, fulfilling all client demands. With continued investment in upskilling, knowledge sharing, and collaboration, Indian AV integrators can secure more large international projects and showcase their work on the global stage.

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MI-58 Series
5 GHz Digital Wireless IEM System



SENNHEISER LAUNCHES PROFILE USB MICROPHONE

Sennheiser launched the **Profile USB microphone**, a cardioid condenser microphone that presents an easy and stylish solution for streaming and podcasting. It combines professional sound with direct accessibility of all functions, allowing streamers, podcasters, and gamers to fully focus on their content. The side-address microphone is available as a table stand version and the Profile Streaming Set with a 3-point self-locking boom arm is available as well.

Putting audio quality and ease of use first

At the heart of the Profile USB microphone is an award-winning Sennheiser condenser capsule, the KE 10. Its cardioid pick-up pattern provides the typical attenuation of sound coming from the rear, making sure that the streamer's voice is in focus.

In designing the Profile, Global product managers **Benny Franke** and **Dennis Stegemerten** also put an emphasis on ease of use. "When you are recording your podcast or doing a live stream, you already have to worry about the content, perhaps room treatment, the camera set-up, interaction with your audience – the last thing you need in this situation is a complex audio set-up", explains Franke. "So, we

tried to create tech that gets out of the way of your creative process."

Stegemerten continues, "The design is simple and efficient and does not overwhelm you. Profile is simply plugged into the USB-C port of your computer or tablet – your device will automatically recognize the microphone, and it's ready to capture your voice. There is no need for an interface or any software, no additional window to keep open so that you can control the mic settings. One intuitive touch of a control directly on the mic – that's all that is needed."

Sharing his excitement around the launch of the Profile USB Microphone, **Vipin Pungalia**, Country Manager and Director- Sales Pro Audio at Sennheiser India said, "At Sennheiser, we understand the evolving needs of content creators in the digital age. Our Profile USB Microphones are a testament to our commitment to providing reliable and high-quality audio equipment to podcasters, gamers, and streamers. We have invested in the latest technology and materials to deliver exceptional sound quality, durability, and design, ensuring that our users stand out with ease."

At its front, the Profile USB Mic features a soft-touch, no-noise mute button, a gain control for the microphone volume, a mix control to set the balance between your voice and the computer/

tablet audio, plus a volume control for headphone monitoring. Headphones or earphones can be connected via a 3.5 mm socket at the back of the Profile USB microphone.

LED rings on the profile conveniently signal the operating status. When the LED

rings around the mute button and the gain control light up red.

Mic placement made easy

"Right out of the box, the Profile delivers a natural, warm sound that accentuates the body and presence of your voice. Interestingly enough, you can even hear this difference



The Profile USB Mic features a soft-touch, no-noise mute button, a gain control for the microphone volume, a mix control to set the balance between your voice and the computer/tablet audio.

ring around the gain control is green, the mic is ready to go. When the same light ring turns yellow at times or all the time, the mic is clipping, and you need to reduce the mic volume. When the microphone has been muted, light

on platforms that compress the audio," explains Franke. "Having a great capsule is essential for this – but placing the microphone

(Continued on page 30)

AUDIENT LAUNCHES NEW AUDIO INTERFACE - ID24

British audio specialist **Audient** introduced the new 10in / 14out audio interface, **iD24**. Designed to make your recordings better, it slots neatly between the iD14 and the more recently launched iD44 in terms of functionality, and boasts the much coveted audio performance and feature set associated with the iD range.

Andy Allen from Audient says, "iD24 is made with producers and engineers in mind. We've combined astonishing audio performance with ease of use whilst providing more features aimed at professionals such as balanced inserts, ADAT expandability and customizable monitor control."

iD24 features two Audient Console Mic Preamps, which – as with every iD interface – are the same discrete circuit design as those found in the flagship ASP8024-HE console. The class leading converters utilise 32-bit DAC converter

technology which deliver a massive 126dB of dynamic range. "We want to ensure our customers can hear their audio with incredible clarity. Being able to hear those subtle details is really important as it helps users to feel more confident when making recording and mix decisions," explains Andy.

"We know the modern engineer often needs to be ready to handle bigger sessions like recording drums or a live band, and iD24's optical input and output connections give you the ability to scale up your rig quickly and cost effectively," he continues. Supporting both ADAT and SPDIF, iD24 gives the option to boost input capabilities by adding up to eight channels of external mic preamps.

Describing the advantages of iD24's balanced inserts, Andy says, "For those customers who love their outboard, iD24 gives them the ability to integrate



their favourite outboard FX into their signal chains when recording. Additionally, utilising the insert returns gives direct access to the A/D converters providing the cleanest signal path possible, which gives users the ability to process stems using outboard." This also gives Audient customers the option of bypassing the Audient mic preamp altogether if necessary and utilising external mic preamps instead.

Maintaining a focus on workflow, any of the advanced monitoring features, including Speaker Select, Talkback, Polarity Invert and Mono can be assigned to any of the three programmable

Audient iD24 Audio Interface

function buttons. This gives users the ability to customise their setup and take advantage of pro features like quickly alternating between speakers, referencing a mix in mono or communicating with the artist – all directly from the hardware.

iD24 is fully bus powered via a USB-C connection and benefits from the addition of dual headphones outputs, four line outputs and a dedicated low latency software mixer.

Wireless Conference System CS-W4C / CS-W4T

JTS®
Professional Microphones

Go wireless with the JTS CS-W4T and CS-W4C portable wireless conference system with charger

CS-W4T

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CS-W4C

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RØDE ANNOUNCES THE NT1 5TH GENERATION - A STUDIO CONDENSER MICROPHONE

RØDE announced the **NT1 5th Generation**, a studio condenser microphone that fuses the classic sound of the RØDE NT1 with new, cutting-edge technology. Since its release more than 30 years ago, the microphone has gone through multiple transformations, including the legendary **NT1-A** and innovative fourth generation NT1, both of which are used by countless creators today.

The NT1 5th Generation is the most significant evolution yet, harnessing the iconic sound quality and world-class performance that made the previous generations so successful while introducing state-of-the-art technology, including patent-pending Dual Connect output offering both XLR and USB connectivity, a world-first “unclippable” 32-bit float digital output, advanced digital signal processing, and so much more.

Key Features of the NT1 5th Generation

- HF6 large-diaphragm (1-inch) gold-sputtered capsule, precision engineered to sub-micron tolerances
- Smooth frequency response, high sensitivity and high SPL handling for incredible perfor-

mance in a wide range of studio applications

- Exceptionally low noise (4dBA) – the world’s quietest studio condenser microphone
- Patent-pending Dual Connect output with both XLR and USB-C connectivity for use with audio interfaces, mixers and consoles, or direct plug-and-play recording with a computer
- World-first 32-bit float digital output
- Ultra-high-resolution (up to 192kHz) analog-to-digital conversion
- On-board DSP for advanced APHEX® audio processing, including a

compressor, noise gate, two-step high-pass filter, and legendary Aural Exciter™ and Big Bottom™ effects

- Studio-grade shock mount and pop filter, XLR and USB cables included
- Available in black or silver with a rugged aluminium body and high-grade finishes – highly resistant to scuffs and scratches
- Designed and made in our state-of-the-art manufacturing facilities in Sydney, Australia

“The NT1 is not only our flagship microphone, it’s an icon for today’s creative generation,” says RØDE CEO **Damien Wilson**. “Countless musicians, podcast-

ers, streamers, broadcasters and content creators consider it their go-to microphone, and for good reason – it sounds incredible, is extremely flexible, and is built like a tank – a true studio workhorse. With this new generation, we wanted to preserve all of these qualities while incorporating innovations that have never been seen before in a microphone like this. The NT1 5th Generation is unlike any studio mic out there, but it hasn’t lost its charm and is sure to continue inspiring creators for decades to come.”

The NT1 5th Generation is a large-diaphragm condenser microphone that delivers exceptional performance in a wide range of studio applications. It features our stunning HF6 capsule – first introduced in the fourth generation NT1 – which delivers sparkling top end, detailed midrange and rich bass that makes every sound source shine. It has a tight cardioid polar pattern, smooth frequency response, and high sensitivity for incredible versatility – ideal for recording everything from vocals and speech to acoustic and electric guitar, drums and percussion, piano, and more.



RØDE NT1 5th Generation - A Studio Condenser Microphone

ROYER LABS CELEBRATES 25TH ANNIVERSARY, INTRODUCES NEW MICROPHONE

Microphone reflects a quarter-century of excellence

To kick off its 25th anniversary celebration, **Royer Labs** announced the **R-10 “Hot Rod” 25th Anniversary microphone**—a passive mono ribbon microphone designed for use both in the studio and on live stages. The limited-edition R-10 “Hot Rod” is fitted with a custom Anniversary Edition transformer, has 5dB hotter output than the standard R-10 with a punchier, more open sound characteristic, and comes with a 25th Anniversary trim package that sets it apart from the standard R-10.

Like the original R-10, the R-10 Hot

Rod handles extremely high SPLs (160dB @ 1kHz), has an internally shock-mounted ribbon transducer and 3-layer wind screen system that combine to give the ribbon element excellent protection (making it their best choice for live work), features lowered proximity effect that makes it excellent for close miking instruments and singers and carries a 5-year warranty with the first re-ribbon free. Like all Royer microphones, the R-10 Hot Rod is hand-built in Royer’s Burbank, CA facility.

John Jennings, Royer Labs’ Vice President of Sales and Marketing, commented on the new 25th Anniversary microphone, “Royer Labs is thrilled to be in our 25th year, and kicking it off with the R-10 Hot Rod is just pure fun. The guys in our shop cooked this version of the R-10 up and we’re all into it, with its cool-looking trim package and its different sonic personality. It expands on the R-10 in interesting ways, creating a different flavor of R-10 that we think recording engineers and FOH engineers will really like.”



SENNHEISER LAUNCHES PROFILE USB MICROPHONE...

(Continued from page 28)

correctly is just as important. It should be positioned within 15 cm (6 in) from your mouth or the sound source to ensure both clarity and warmth.”

The Profile can be tilted for optimum positioning, the self-locking joint will

ensure that the mic stays in position. 3/8” and 5/8” connectors at the bottom allow the mic to be used with third-party table stands. Users who are looking for more sophisticated placement possibilities should opt for the Profile

Streaming Set, which comes with a 3-point self-locking boom arm. With its sleek and modern design, including integrated cable management, the boom arm is ideal for any on-camera applications.

Stegemerten concludes: “To round things off, Profile is made from metal, so it will be a rugged audio companion throughout – no matter whether you’re just getting started or are a seasoned pro and looking to simplify your set-up.”



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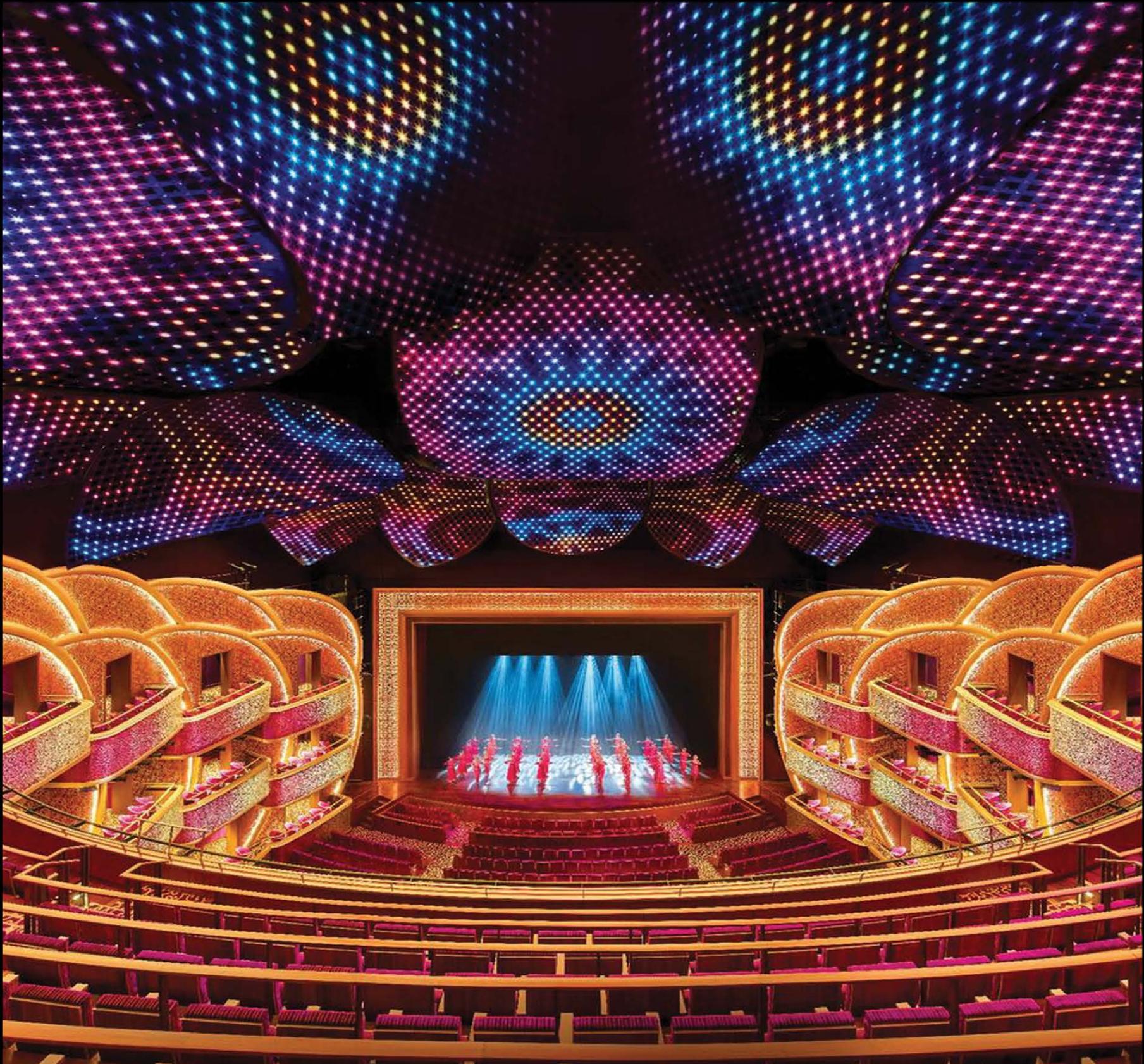
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PERFECTING THE ART OF UNIQUE ACOUSTICS

How G-Acoustics Created A Room-Within-A-Room Recording Studio For Adam Khoo Learning Technologies Group



Ganesh Gurpur,
Founder and
Managing Director,
G-Acoustics

Founded and led by founder Adam Khoo, the **Adam Khoo Learning Technologies Group**, located in Singapore, is a 16-year-old community for learners seeking personal, professional, and financial development from all walks of life.

From a small child to a retired person, there is no age bar when it comes to pursuing knowledge – Adam Khoo Learning Technologies Group channelizes this statement in its mission and vision – thereby offering high-impact training courses to deliver an immersive learning experience. To elevate its offering to newer, better heights, Adam Khoo Learning Technologies Group decided to convert a few of its meeting rooms into a single room-within-a-room recording studio. **G-Acoustics**, a part of **Gencom Asia**, provided a complete acoustics solution for the project. **PALM + AV-ICN** spoke to **Ganesh Gurpur**, Founder and Managing Director, G-Acoustics, about how the unique concept of a room-within-a-room recording studio was crystallized with the help of extensive acoustical experience and equipment at Adam Khoo Learning Technologies Group.

To New Beginnings:

They are right when they say your actions speak louder than words. Talking about how G-Acoustics was approached by Adam Khoo Learning Technologies Group for their meeting rooms-into-recording studio project, Ganesh Gurpur shares, “Adam Khoo Learning Technologies Group (AKLTG), approached G-Acoustics based on one of our social media advertisements on acoustic products. They contacted us, asking if we do acoustic design consultancy and installation, which we confirmed to them by sending our company profile and our various project profiles.”

Being approached for a unique project such as a room-within-a-room recording studio was an exciting opportunity for G-Acoustics to exhibit their expertise in pro acoustics. Gurpur talks about the brief handed over to G-Acoustics by Adam Khoo Learning Technologies Group for the project, “The initial brief that was given was to convert a few meeting rooms into a single recording studio. As their office cabins shared the common partition wall of these meeting rooms, the noise from each area crossed over to adjacent rooms, causing disturbances. In terms of recording studios, the client did not have any idea of the acoustic parameters that are considered for a proper recording studio. So, that part was left to G-Acoustics to accomplish.”

However, given the fact that the client did not have an advanced understanding of the acoustic parameters that are required to design a good quality recording studio, the team at G-Acoustics decided that an on-site recce was on the cards.

Gurpur comments on the team’s recce experience, “We did the recce to understand the client’s actual requirements. Our initial site visit gives us an overview of the exact site conditions based on the acoustic needs. Most of the time, clients mention only their basic practical needs, which we then translate into technical requirements and actual installation design in order to meet their final objectives. In Adam Khoo Learning Technology Group’s case, there were two meeting rooms, a small meeting room being used as a studio, and a common hallway for these three rooms. They wanted to demolish all these three meeting rooms’ partitions and convert it into a single recording studio.”

With the recce done right, it was time to translate the distinct acoustical concept into a reality. But first...

Let's Talk Indoor Acoustics:



The acoustics for the room-within-a-room recording studio at the Adam Khoo Learning Technologies Group were accomplished by Jocavi Basmel Twist Acoustic Panels

Acoustics in a closed environment is a lot more complex than most people imagine. Delving deep into the components involved in indoor acoustics, Ganesh Gурpur explains, "A site's acoustic features play a very significant role for any recording studio or any closed environment that houses any pro-audio equipment. When it comes to acoustics in a closed environment, there are two key components: Sound-proofing and Room Acoustics."

He further shares, "Sound-proofing is required when the room is sensitive to outside noise or if the room's privacy needs to be maintained. For this, usually the entire wall, ceiling, and floor areas are treated in order to achieve sound isolation. The type of treatment varies based on the technical specifications to be achieved."

Talking about room acoustics, Gурpur comments, "Room acoustics is an acoustic objective of creating a suitable interior acoustics. This depends on the room's interior design and the type of wall finish, floor finish, and furniture within the room. These variable factors determine the interior acoustics, which usually don't meet the acoustic requirements for specific applications like recording studios, cinema halls, auditoriums, etc. For this, the parameter used to measure room acoustics is called reverberation time (RT60). To achieve the right RT60 for a specific room, we use a combination of absorption panels, diffusor panels, and bass traps, depending on the application. Acoustic simulation studies are done in order to design the right room acoustics."

Applying The Right Acoustical Treatment For A Room-Within-A-Room Recording Studio:

As he explains that various complex aspects are involved in delivering closed-room acoustics, Gурpur also goes a step further in breaking down the concept of a room-within-a-room recording studio, which the team at G-Acoustics was tasked with designing for Adam Khoo Learning Technologies Group, "The room-within-a-room (RIR) concept simply means building a room inside an existing room, where the inside room is suspended on all six surfaces (four walls, a floor, and a ceiling) using springs (anti-vibration components). This is an art and technology by itself, which is perfected by using the right combination of internationally acclaimed components."

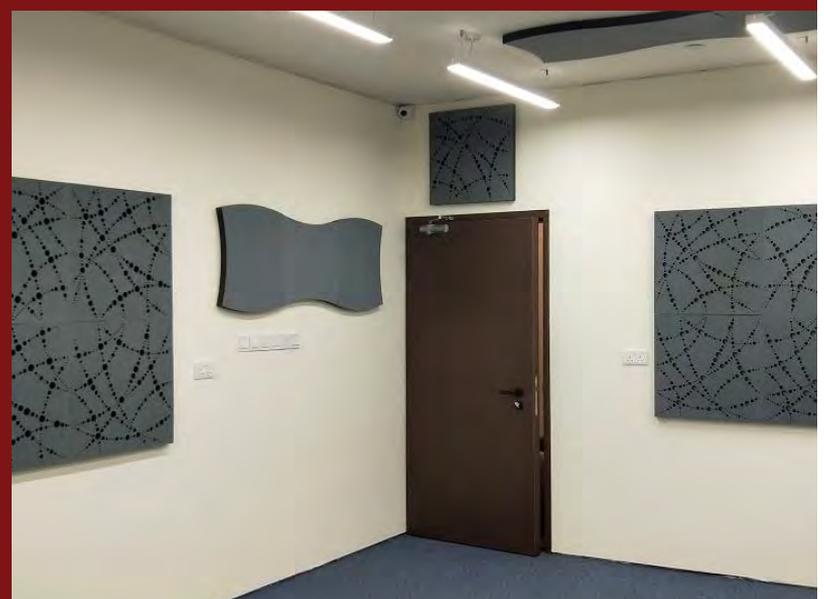
To design an acoustically-sturdy room-within-a-room recording studio, however, was not an easy task. The site presented multiple challenges. Gурpur acknowledges the same, "Each project site is different and poses different types of challenges. In this project, the challenge we faced was a very high ceiling of 7 m H, but the sound-proof ceiling had to be built at about 2.8 m."

The solution? Gурpur answers, "The existing false ceiling had to be converted into sound-proof by adding additional layers of composite materials and adding anti-vibration ceiling mounts at specific places. In the end, it took us three weeks to complete the project in its entirety."

G-Acoustics deployed Jocavi BASMEL Twist Acoustic Panels and Jocavi Multi-Layer Sound-Proof Materials at the site. Also installed at the site were AMC anti-vibration pads and MLV multi-layer composite materials for the floating floor and anti-vibration walls, AMC anti-vibration mounts, and Jocavi solid-core 8 multi-layer composite materials with Raven perimeter and automatic bottom seals for the acoustic door.

Future Projects:

After completing a niche project for Adam Khoo Learning Technologies Group in Singapore, G-Acoustics has a multitude of projects in the pipeline. Shares Gурpur, "We cater to a reasonably wide market that faces acoustic challenges. The acoustic projects we are currently working on includes a basement entertainment room built using the RIR concept, meeting rooms for commercial offices, a residential music room in an apartment using a few acoustic drums, and many more."



To create soundproof, vibration proof walls, the team at G-Acoustics deployed AMC anti-vibration pads and MLV multi-layer composite materials

ISHAARA, AHMEDABAD ELEVATES AMBIENCE WITH BRITISH ACOUSTICS & OSL

Started with a purpose to serve humanity better and uplift specially abled people, **Ishaara**, located in Phoenix Palladium Mall, Ahmedabad, is a restaurant that envelops every visitor in warmth and positivity by employing a differently-abled

the sound system, and recommended British Acoustics Products as the ideal solution for our space. The installation process was seamless and efficient, with minimal disruption to our daily operations."

Jeff Mandot, National Sales Manager,

into any environment. The speaker's high-quality construction and components ensure that it delivers top-notch performance for years to come.

VMT also installed the **OSL M7 BT-4-Channel Professional DJ Mixer** with wireless and USB inputs. The mixer pro-

system we installed truly complements its ambience and enhances the overall customer experience."

Mayuri Chavan, Sales Engineer, VMT Central cemented Koli's point with a detailed commentary on the sound system installed at Ishaara,



OHM BRT-6 Single 6" Premium Install Speaker and British Acoustics Delta 36, 3-in 6-out Loudspeaker Processor, Matrix, and Controller were fitted at Ishaara

staff. Offering a variety of delectable cuisine within a fine dining atmosphere, the restaurant leaves no stone unturned in delivering an unforgettable dining experience to its guests. To reflect its mantra of excellence and inclusivity in all that it offers, Ishaara was equipped with a superior quality sound system that left visitors mesmerized.

Prashant Issar, Chief Operating Officer, **Bellona Hospitality Services Limited** (of which Ishaara is a part), shared that when it came to installing Ishaara with a sophisticated sound system, he decided to go ahead with **VMT**, "The team at VMT worked closely with us to understand our needs and preferences for

VMT, spoke about how the company was approached by Ishaara, and what deciding on the right pro audio equipment for the restaurant entailed, "At VMT, we understand that every business is unique, and we strive to provide custom solutions that meet the specific needs of the clients. When we were approached by the team at Ishaara, we knew that we had to take a holistic approach to the project. This involved working closely with the restaurant to understand their business, their customers, and their sonic goals."

To ensure excellent sound quality, the team at VMT chose the **OHM BRT-6 Single 6" Premium Install Speaker**. The speaker delivers crystal clear sound and has been designed to fit seamlessly



The OSL M7 BT-4-Channel Professional DJ Mixer and British Acoustics 2XL-Channel High-Performance Amplifier Systems ensured sound clarity

vides a versatile solution for controlling the sound system and playing music. It allows DJs to mix music from multiple sources and provides wireless connectivity for seamless music streaming.

For the amplifier systems, Ishaara was equipped with **British Acoustics 2XL-Channel High-Performance Amplifier Systems**. The amplifiers are designed to deliver the best sound quality possible, with high power and efficiency. They are built to withstand the rigors of constant use and provide reliable performance.

Dharam Koli, Pre-Design & Sales Engineer, VMT Enterprise, commented on the efficacy of the British Acoustics and OSL's sound system, "Ishaara is a beautiful and unique venue, and the sound

"The system provides just the right amount of ambience and energy without detracting from the dining experience. The speakers we installed were strategically placed to ensure even coverage throughout the restaurant, with no dead zones or hot spots."

To complete the system, **British Acoustics Delta 36, 3-in 6-out Loudspeaker Processor, Matrix, and Controller** were added by VMT. The advanced system controller is designed to optimize the performance of the speakers and amplifiers. It provides precise control over the sound output and helps to ensure that the entire system is functioning at peak performance.

APEX CLOUDPOWER POWERS LUXURY HYBRID BAR AURA WITH NEW SOUND SYSTEM

Forming part of New Delhi's iconic **The Claridges hotel**, **AURA** is a high-energy luxury hybrid bar, offering live entertainment, cocktails and hors d'oeuvres. **White Eagle Entertainment** won the contract to supply and install a completely new audio system to reflect the quality and prestige of the venue.

White Eagle Entertainment selected **APEX CloudPower** amplifiers for



AURA leans on end-to-end audio solution by APEX CloudPower

the project, including a pair of 4 x 350W CP354 amplifiers, plus a 4 x 700W CP704 and a single 4 x 3000W CP3004. The amplifiers power AURA's loudspeaker system, chosen from the distinctive Pequod Acoustics range and including two Kona Storm monitor speakers, a pair of Ovoid subs, eight Zephyrus 5" coaxial speakers, and four Borea 12" subs. A

rackmount Soundcraft UI24R mixer provides compact, wireless control of the system.

"The APEX CloudPower amplifiers are a perfect fit for a high quality, cutting-edge venue like AURA," comments White Eagle Entertainment Director, **Arun Kalra**. "I am very proud of the audio quality we have achieved in the venue. CloudPower has all the processing tools needed to optimize the system and the ability to control and monitor the amplifiers remotely has been a big time-saver for the team."

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MEZZO ENSURES THE PERFECT SOUNDTRACK FOR FIG AT MALCHA

Mezzo, Powersoft's small but powerful half-size install amplifier, is driving the multi-zone background music system providing the perfect soundtrack for Fig at Malcha, a new high-end dining experience in the heart of the Indian capital.

Fig at Malcha is an 'eco-contemporary' café, bakery, and bar offering

specialty coffee.

According to **Gunbir Singh**, founder, and co-owner of BBW Distributors, for their second café, the Fig team desired "warm, comforting, lush" audio – "more hi-fi than pro sound" – which would aesthetically complement the lighting, climate control, and ventilation systems to offer patrons "a plea-

sure control panel. Designed to offer the same reliability, build quality, and acoustic character of larger Powersoft amplifier platforms but in a half-size form factor, the flexibility and discretion offered by Mezzo means the amplifier has been the company's "default choice for these applications for a while now", explains Singh.

Using DMD, which takes advantage of the convenient dynamic routing capabilities embedded in Powersoft amplifiers, users can drive up to four independent zones using a single four-channel Mezzo amplifier. At Fig, the six audio zones are controlled using a single wall-mounted 4.3" Powersoft WM Touch screen, which offers "a level of convenience and usability which makes this the Mezzo solution a no-brainer", says Singh.

For the installation at Malcha Marg, two Mezzo 604 A amplifier platforms, offering advanced DSP functionalities, remote control, and monitoring, were paired with 12 Amphion Argon0 and two Apart Kubo 3T loudspeakers, as well as a Silent Angel Rhein Z1 V2 Room server, a Matrix Audio X-SABRE 3 DAC, Gladen Audio speaker cables and Furu-tech interconnect. Though the Mezzo 604 A also incorporates an integrated, state-of-the-art DSP, BBW designed the system around the physical attributes of the space, choosing to apply acoustic treatment to the ceiling rather than rely solely on signal processing – while the use of a room server, which uses machine learning to automatically play music based on Fig's preferences, is

believed to be a first in the region.

Across Fig at Malcha's two floors, BBW split the Powersoft amplifiers into four zones each, for a total of eight audio zones – six dedicated to the ten Amphion speakers installed in the public areas, one catering to the washrooms and common space, and one left for future expansion.

The compact, easy-to-mount Mezzo is installed out of sight in an equipment rack on the café's ground floor, with the understated Amphion speakers also contributing to keeping the visibility of the sound system to a minimum. Singh reports that the local Powersoft team, represented by distributor Acoustic Arts, provided valuable assistance through the install phase, "saving us some time" by helping to set up the amplifiers.

Manish Yadav, from Fig, says the new sound system "has completely exceeded our expectations, which were already high, to begin with. The sound quality is fantastic – we find ourselves listening to the system after hours a lot. It is also super easy to use; we have never had to call them for anything major, since it seems to run on autopilot."

Yadav is also full of praise for the multi-zone DMD system specifically, noting that restaurant staff "now have the capability to control amplitude levels for zones individually. So, if, for some reason, we have to reduce or increase the levels for a particular zone, it is simply a few taps on a very accessible touchscreen."



Fig at Malcha restores the power of sound with the best-in-class music. The café fulfils the desire to have 'a more hi-fi that pro sound'.

all-day dining at Malcha Marg, near Chanakyapuri, New Delhi's historic diplomatic quarter. The second Fig restaurant, after the original destination in Gurgaon, Fig at Malcha combines Japanese design with a Nordic lifestyle, featuring a curated menu based on high-quality, local, and seasonal produce from local farms, GMO-free meat, and cage-free eggs. It is also home to a Parisian-style bakehouse that offers fresh bread, pastries, and 'farm-to-cup'

surable aural experience while in the space. Based on our experience within the food & beverage domain, we consulted with them and came up with a wish list of sorts. While they needed a multi-zone system with audio in all the public areas, they wanted equipment visibility to be minimal."

For BBW, the natural solution was a Powersoft Dynamic Music Distribution (DMD) system comprising two Mezzo amplifiers coupled with a WM Touch

LD SYSTEMS ELEVATES THE DINING EXPERIENCE AT PRASAD FOOD DIVINE

Started in 1998, **Prasad Food Divine** by **Nilesh Suryavanshi** is a product of his passion and vision to provide customers with an awesome dining experience. The company's tagline reflects its commitment to maintaining the highest standards in every aspect, from preparing food in a hygienic environment to ensuring customers feel comfortable and have a memorable dining experience at Prasad.

Nilesh Suryavanshi reached out to the Design Architect **Nitin Hankare** of **Nitin Designs** and **Pradeep Chaubey** of **TRX Audio**, with a mission to craft a one-of-a-kind dining experience that would leave his customers spellbound. Fast

forward to today, LD Systems' audio has breathed new life into the dining experience with its exquisite music mix that engulfs patrons in an immersive and unforgettable ambience at the exquisite Prasad Food Divine, Dombivli.

At the venue, **TRX Audio** installed **LD Systems SAT82G2, SAT42G2, SUB10, Dynatech ZETA15A, and Dynatech CS3001**.

The **LD Systems SAT 82 G2 & SAT 42 G2** is a compact 2-way passive speaker that is designed for versatile use in a variety of sound reinforcement applications in venues such as bars, cafes, food courts, restaurants, banquet halls and conference rooms. SAT 82 G2 features an 8-inch woofer and a 1-inch tweeter & SAT 42 G2 features a 4-inch woofer



and a 1-inch tweeter, that deliver clear and dynamic sound with exceptional versatility, with a sleek and robust design, making it ideal to be used as a standalone speaker, monitor, or as part of a larger sound system when paired with a subwoofer.

To further enhance the ambience of a restaurant, TRX Audio installed two



subwoofers – **LD Systems SUB10** and **Dynatech ZETA15A**.

Nilesh Suryavanshi is impressed with the incredible audio setup, and he is absolutely determined to bring the same level of excitement and immersion to all of the other six Prasad Food Divine locations across Maharashtra.

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Beta3's comprehensive sound system at Paro in Jaipur offers a flawless acoustic experience to the visitors

Paro is well known for its heritage view and an exciting dining concept that combines traditional Indian cuisine with chic, modern ambience and atmosphere in Paanch Batti, Jaipur. By blending heritage and modernism, Paro's establishment aims to create a memorable and innovative dining and drinking experience for its customers. The bar at Paro offers spirits and cocktails that incorporate premium Indian spices and house infusions, which can add a depth of flavor and complexity to the drinks. Additionally, the delicacies selected from around the Indian subcontinent and prepared using authentic techniques suggest a commitment to quality and tradition at every step. Overall, Paro is focused on providing a unique dining experience that blends the best of both worlds.

In order to deliver world-class sound throughout the entire venue while elevating its heritage status, Paro wanted to upgrade to an audio system that can offer pristine sound and complete control.

The Beta3 Sound System At Paro, Jaipur

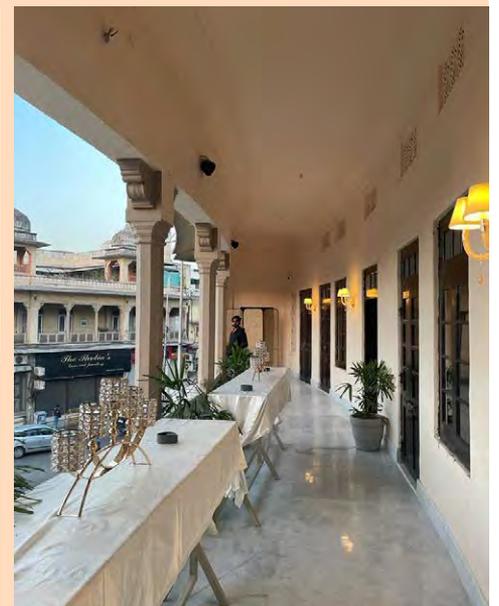
To meet the heritage property's requirements, the audio integrator equipped Paro with cutting-edge Beta3's professional audio solution. Imbibing the lounge with crystal-clear sound, the integrator installed **Beta3 X15i 15" High Power Two-Way Full Range Speakers**. To leave the visitors with a mesmerizing experience, the integrator deployed **Beta3 X8i Two-Way Full**

Beta3's end-to-end sound solution, comprising of the brand's two-way full range speakers, active subwoofers, and Class D Amplifiers take the regal atmosphere at Paro, Jaipur to new heights

Range Speaker and Beta3 X10i Two-Way Full Range Speaker in private lounges. Xi series is a series of compact two-way professional speakers housed within a premium birch plywood enclosure. The Xi series is 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.

Adding an accurate authoritative bass, the installed system features **Beta3 Mu12Ba Single 12" Active Subwoofers**. To ensure clear, superlative sound in the corridor, **Beta3 QS400 - 4" Two-Way Full Range Speaker** was installed.

To meet the rooftop bar's acoustic requirements, the audio integrator imple-



mented Beta3 weatherproof **Professional "N Series" speakers** and **TW Series Wood Subwoofer with VX Active Series Plastic Speakers**. The entire system in Paro is powered with **DT Series Class D Amplifiers**.

Overall, the team at Paro found the system to be effective and hassle-free, creating an enjoyable live music experience for all.

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JBL BY HARMAN POWERS THE VH1 SUPERSONIC EVENT IN INDIA

The audio brand delivered exceptional acoustic solutions for three out of five stages for the VH1 event in Pune & Bangalore.

Held from 24th February, 2023 to 26th February, 2023 in Pune and on the 26th February in Bangalore, the **VH1 Supersonic** is a melting pot where the finest international and homegrown talent come together to deliver the best in music genres, cultures, culinary experiences, and more. With exceptional music sensations such as Prateek Kuhad, Nucleya, Pentagonam, Soulmate, and several others, coupled with foot-tapping international acts such as Jackal, Ablin Myers, and more, the event sets the stage for people from all walks of life to gather under a single roof and enjoy a wide range of music, food, and fashion. Since VH1 Supersonic is primarily a music festival enveloped in a host of other fun activities for the audience to indulge in, it was imperative that the Pune edition of the fest be equipped with the most avant-garde, futuristic, yet highly reliable and sturdy pro audio system. That's where **JBL by HARMAN** enters the picture.

The brand provided pro audio solutions for three out of five stages at the VH1 Supersonic in Pune, India. PALM + AV-ICN spoke to **Yogesh Nambiar**, Director, Integrated Marketing, India, HARMAN International India Pvt. Ltd. and **Sudarshan Srinivas**, Co-Founder & Technical Director, Lewminadio to find out more about the sound design of the event, the challenges faced by the installation team, and the pro audio equipment used to power the event.

The VH1 Supersonic Brief:

Speaking about how JBL was approached for the VH1 Supersonic, Yogesh Nambiar commented, "JBL sponsored this festival as an official audio partner. This was an event where we were approached from two perspectives – One being the pro audio side and the other being the popular consumer brand that JBL is. Both sides of the business had presence in the

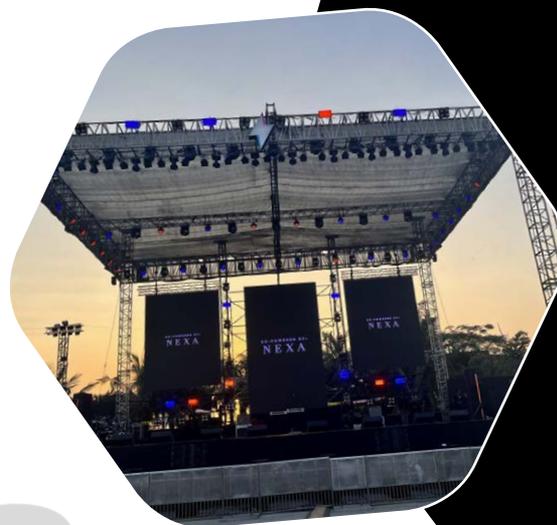
festival."

Lewminadio was tasked with the stage sound design and audio installation by HARMAN. Sharing about how Lewminadio has a long-standing professional relationship with HARMAN Audio, and how their past associations helped the team at HARMAN place their trust in Lewminadio for the stage sound design, Sudarshan Srinivasan said, "Lewminadio has worked with HARMAN for many prestigious events. HARMAN appointed us with the task of deploying and optimising systems for three stages at VH1 Supersonic. They later designated me to take on the role of Festival Engineer."

Sudarshan Srinivasan further elaborated on the brief Lewminadio received from the client for the VH1 Supersonic, "The client had the concept of multiple stages in a single venue and gave us the plan for the venue along with the stage locations and the technical riders for the bands that were going to perform at the festival. We were also provided with venue drawings and plan well in advance. Since we already had prior experience of the venue, a non-occurrence of a recce due to decision at the eleventh hour still didn't simmer the performance as we knew what to expect."

Major Challenges:

Deploying a sound system for an open-air event is easier said than done. Powering the stages at the VH1 Supersonic posed its own set of challenges. One of them was to ensure that the external air traffic noise doesn't drown the sound emanating from the JBL sound system. Sudarshan Srinivasan shared, "The open-air venue was located on a large piece of land, which was then divided into multiple stages. The close proximity of the venue to the Pune Airport also meant that the system had to be loud enough to drown out the noise from the jet engines. The main



”

The NEXA Stage was equipped with 12 units of the **VTX A8 Full Range Line Array elements** on each side, while the PA was enriched with 16 units of **VT4880A subwoofers** placed in an **End-Fire configuration**.

acoustical requirement was to have consistent SPL coverage and tonal quality throughout the venue. At the same time, we had to make sure that the sound from one stage does not bleed into the other stages."

But every problem has a solution; and with a superlative quality audio system such as JBL, these challenges were not impossible to overcome. Sudarshan Srinivasan commented, "To overcome this problem, we carefully placed the speakers so that the sound does not carry forward to other nearby stages. We also made sure the system was aimed to hit the back of each venue and not any further. The subwoofers were configured in an End-Fire configuration - this was to reduce the amount of Low Frequency Spill into other areas. These sub arrays were further steered to keep the coverage consistent."





The JBL Sound System:

Since the JBL sound system was deployed on three stages at the VH1 Supersonic, the stage layout and design played an even more crucial role in the entire process. Sudarshan Srinivasan explained the entire stage sound design for the event, "The PA for the Main Stage consisted of **15 x VTX A12 Full Range line array elements per side**, a flown subwoofer array of **6 x VT4800A** rigged right behind the Main PA in an End-Fire configuration. The flown subwoofers made sure that the audience area had consistent coverage everywhere. This was further complimented by an additional **30 x VTX G28** subwoofers which were ground stacked. Front Fills consisted of 4 stacks with **2 x VTX V20** Full Range Line Array elements."

He also talked about the sound design for the NEXA Stage and the BUD-X Stage, "When the bands on the main stage finished performing, everyone turned to the left to watch the performance on the NEXA Stage. The NEXA Stage was a changeover stage for the audience to witness one band play right after the other without waiting for the changeover. The NEXA stage consisted of **12 x VTX A8 Full Range** Line Array elements per side. Although these boxes are small, they packed quite a punch to make sure frequency response across both stages remained consistent. The PA was complemented by **16 x VT4880A** subwoofers in an End-Fire configuration. The End-Fire configuration was used to ensure the sound does not travel from one stage to another, and helps the artist to hear themselves better. The BUD-X Stage which was also referred to as the Techno stage consisted of **9 x VTX V25II** Full Range line array elements per side. This was reinforced with **18 x VTX G28** Subwoofers which were ground stacked

along with **4 x VRX 932LA** as front fills." The main stage at Bangalore was powered by **24 x JBL VTX V25II tops**, **18 x JBL VTX S28**, and **12 x JBL VT4880A**. The systems were driven by **Crown Amplifiers**.

Commenting about the efficacy of the JBL sound system that powered the VH1 Supersonic, and why the brand was just the right choice to be deployed at the event, Yogesh Nambiar shared, "Besides the fact that the JBL pro audio inventory is perhaps the only one that could cater to such a massive requirement, the dynamic range offered by JBL Pro line arrays that were deployed catered to the multitude of artists that were featured at the festival. Since the genres were diverse, our audio systems were a perfect fit because of the adaptability of the products."

Sudarshan Srinivasan affirmed the same while talking about the crowd's response to the JBL sound system, "The overall response from the crowd was very positive, since the SPL coverage throughout the venue was consistent, while audio within each stage was isolated to give a completely seamless experience."

Final Words:

Both Yogesh Nambiar and Sudarshan Srinivasan were pleased at the success and praise JBL sound system received at the VH1 Supersonic. Yogesh Nambiar concluded, "As always, it is a pleasure to hear our systems in action, being tested to the limit in terms of adaptability. We were glad to have been able to power one of the best music festivals in India."

Sudarshan Srinivasan had closing remarks along similar lines, "Every music festival brings its own set of challenges, it's the way we manage it as a team that makes the experience so rewarding. We would like to thank Harman, Soundmindz, Soundeffects – rental sound companies who provided the equipment for the three stages - and the entire crew of Supersonic to be the forces behind the success of this event."

The PA for the Main Stage included **15 units of VTX A12 Full Range Line Array elements** on each side, a flown subwoofer array consisting of six units of **VT4800A** in an End-Fire configuration, in addition to **30 units of ground-stacked VTX G28 Subwoofers**, and 4 stacks featuring two units of **2 x VTX V20** Full Range Line Array elements as front fills.



JBL, the official audio partner for the **VH1 Supersonic** in Pune, India, set the stage for an unforgettable listening experience at the venue.

SONOS UNVEILS ERA 300 AND ERA 100 - SMART SPEAKERS DESIGNED FOR IMMERSIVE LISTENING

The Era 300 is a revolutionary new design that will bring the joy of spatial audio to millions of homes and the Era 100 redefines room-filling sound with next-gen acoustics and a new look

Sonos debuted **Sonos Era 300** and **Sonos Era 100**, the next generation of smart speakers ushering in a whole new chapter in sound and design innovation. Era 300 is a bold, revolutionary new speaker built to deliver the best experience for out loud spatial audio with Dolby Atmos, while Era 100 is a remastering of the best-selling Sonos One. Tuned by award-winning artists and engineers, the Era family powers new levels of immersive listening with expanded connectivity and Trueplay technology. Era 300 and Era 100 are also the first speakers built to Sonos' new responsible design standards, which span long-term serviceability, energy-efficient technologies and use of post-consumer recycled (PCR) materials.

"In an age of constant background noise, quality listening matters more than ever. Our vision is to make listening an experience that is charged with feeling, and help our customers feel joy and vitality through their favourite music and audio content", said **Patrick Spence**, CEO of Sonos. "The Era family is the next generation of smart speakers, epitomising our commitment to sound innovation, responsible design and a deep connection to the creator community."

Era 300: an unmatched spatial audio experience with Dolby Atmos for listeners and creators alike

Unprecedented for a single compact speaker, Era 300 boasts six powerful drivers that direct sound left, right, forward and upward, delivering a breakthrough audio performance featuring Dolby Atmos that places listeners at the very heart of their films and music.

"Dolby Atmos created a new way for music and audio entertainment to be experienced. Sounds and music come alive with unparalleled clarity and depth," said **Kevin Yeaman**, President and CEO of Dolby Laboratories. "Era 300's sound innovation with Dolby Atmos creates a completely immersive music experience."

- **Designed for spatial:** Era 300 wraps its complex acoustic architecture in a cinched hourglass design, with every angle, proportion and perforation enhancing the direction and dispersion of sound to truly surround you.
- **Surreal surround sound:** Era 300 is the brand's first speaker that delivers multi-channel surround sound when used as home cinema rears. Movie fans can pair two speakers with Arc or Beam (Gen 2) to create a super-charged Dolby Atmos experience that draws them deeper into the action.
- **Deep music industry collaboration:** Sonos worked closely with its community of leading artists and creators—including Sonos Soundboard members—to meticulously fine-tune Era 300 so listeners can enjoy sound straight from the studio that's true to the artist's intent.

that delivers against the promise of this thrilling and creative format".

Era 100: reinventing a category-leading icon

Only slightly larger than its predecessor Sonos One, Era 100 features all-new hardware and software, with next-gen acoustics and design that deliver detailed stereo sound and deep bass.

- **Now in stereo:** Two angled tweeters send crisp high frequencies left and right for a rich stereo experience, while a larger midwoofer creates stunning bass that's unexpected from a single compact speaker.
- **Small but mighty:** Packed full of audio and tech enhancements, Era 100's slim, modern design makes it a chic accent piece for any bookshelf, kitchen counter, desk or nightstand.
- **Customise your system:** Level-up movie night by adding two Era 100 speakers as rears with your soundbar

bold new UI and innovations that will help them last longer, use less energy and make use of recycled materials in each product.

"We bring the same forward-thinking mindset to responsible design as we do to creating powerful new listening experiences," said **Kitty Suidman**, Design Director, Product Sustainability. "Our commitment to sustainability is embedded in our design process from the start, with the Era family marking a major step forward in our journey to create products that last beyond expectation, perform more efficiently, and use safer and circular materials".

- **More sustainable sound:** Era 100 and Era 300 are made with post-consumer recycled (PCR) plastic and packaged in 100% sustainably sourced paper, while also engineered to reduce power consumption with under two watts idle power consumption and a new advanced sleep function.
- **Built to last:** Designed to live in the user's home for years, both speakers are built for serviceability by reducing the use of adhesives and transitioning to screws for easy disassembly and repair.
- **Bold, new UI:** Era 100 and Era 300 feature an intuitive new user interface, including a new capacitive volume slider for simple control that complements quick and private control of your music with Sonos Voice Control, the Sonos app, Apple AirPlay 2 and Bluetooth.
- **Upgraded connectivity:** Stream all the audio using WiFi or Bluetooth, and directly connect other audio devices such as a turntable using an auxiliary cable and the Sonos Line-In Adapter.
- **Expanding Trueplay to more listeners:** Using the microphone array in Era 100 and Era 300, Trueplay optimises the sound for the unique acoustics with just a tap in the Sonos app. Available to both Android and iOS users.



Sonos Era 300 and Era 100 - Smart Speakers

"Just like the shift from mono to stereo, spatial audio is the next evolution in listening—creating a sound experience that wraps you in music", said **Giles Martin**, VP, Sound Experience at Sonos. "As both creators and major streaming platforms embrace spatial audio for music, the time is right to create an out loud listening experience

to create a surround sound system, or simply pair two together for room-filling stereo sound.

Premium, responsible design that keeps everyone in mind

Building on Sonos's timeless acoustic-driven design aesthetic, Era 100 and Era 300 are responsive to the challenges facing our environment, featuring a

To feature your Audiovisual solutions in **PALM + AV-ICN** magazine

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ZEBRONICS LAUNCHES ZEB-PIXAPLAY 18 – A SMART LED PROJECTOR WITH DOLBY AUDIO SUPPORT

Zebronics, one of India's leading brands in Home Entertainment & Lifestyle accessories, introduced **ZEB-PixaPlay 18**, Smart LED Projector in a vertical design. The ZEB-PixaPlay 18 promises to redefine home cinema experience and is ideal for consumers who enjoy big-screen entertainment, be it for movies, streaming shows, live sports and even gaming. The projector also comes with powerful built-in speakers to complete the experience.

The ZEB-PixaPlay 18 has the capability to project a screen size of a whopping 508cms, bringing the complete theater experience at home. The projector also comes with in-built feature smart features that supports downloading various apps from the store.

The smart projector comes with a powerful processor with an internal 8GB storage under its hood. The projector features an electronic-fo-



cus using the remote control and has been designed to provide a great viewing experience with 3800 lumens of brightness, delivering crisp contrast, vivid colours, and details. It has a built-in powerful speaker that can be further enhanced with the wide range of Soundbars, converting almost any room of the house/office instantly into a theater/gaming arena within seconds.

The ZEB-PixaPlay 18 also features dual-band wifi and wireless BT so that the user install his/her favourite apps and enjoy the OTT content right on the projector without any additional devices. It also comes with multiple input options like dual HDMI and dual USB. It also has an aux output port for audio. The projector comes with a long-lasting lamp that has a lifespan of 30,000 hours. The user can cast and mirror wirelessly from the devices directly on the projector,

which can be ceiling mounted and comes with a remote control.

Commenting on the launch, **Pradeep Doshi**, Co-Founder & Director said: "Zebronics is on a mission to elevate the Home-Entertainment segment for the populace and the introduction of the new ZEB-PixaPlay 18 fits right into the picture. The range of premium LED Projectors paired with our Soundbars gives a fantastic combination for Home Theatre enthusiasts. The ZEB-PixaPlay 18 is an ideal & holistic gizmo that provides a big-screen entertainment setup at the comfort of your home. We are committed to enrich this spectrum to provide our customers with an astounding experience that won't burn a hole in their pockets, replace their bulky TV setups and also align with our vision to provide 'Premium for Masses'."

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From premium microphones to cutting-edge stage lighting fixtures, from superlative loudspeakers to ever-reliable cables and connectors – the trade show floor at PALM Expo 2023 promises to bring into spotlight the cream-of-the-crop products from the pro audio and lighting industry. PALM + AV-ICN offers a glimpse into what this edition of India’s biggest stage sound, professional lighting, rigging, and trussing trade show has to offer to its visitors.

It speaks volumes when an expo is more than two decades old, and with every passing year, the trade show floor continues to be populated with newer, better, smarter technologies. As PALM Expo enters its 21st year, the

show promises to acquaint its visitors with avant-garde technological innovations from the world of pro audio, lighting, and rigging. The trailblazing show, with new and returning exhibitors en masse, multiplied technolog-

ical marvels, and a massive footfall of visitors, is set to return from 25-27 May, 2023 at Bombay Exhibition Centre (BEC), Mumbai. With 200+ exhibitors highlighting a wide range of products and innovations from 500+ brands at the

expo floor, this article enlists a plethora of product categories from the world of pro audio, lighting, rigging, and trussing that the visitors can expect to witness at the Expo this year.

CABLES AND CONNECTORS

Cables and connectors are crucial to audio networking. The most fundamental components that help create and transmit sound from point A to point B, cables and connectors come in many forms and functions – microphone cables, coaxial cables, optical audio cables, twisted-pair cables, fibre optic cables, ethernet cable connectors, coaxial cable connectors, fibre optic cable connects, and more. At PALM Expo 2023, several companies such as **ORBISfx, Sound Land, Aerons India Exim, Pink Noise Professionals, Furtados Music India, Krystal Cables India, Ansata Computer Systems, Krishna Electronics, Telespace Networks, and Ati Pro Technologies** will be highlighting the latest developments in the category of cables and connectors.



DJ GEAR

In the world of DJing, the end goal is to deliver an adrenaline rush to the listeners and get their feet tapping to the music. To accomplish that, rich, superior quality sound, sophisticated mixing technologies, and sturdy audio equipment is an absolute essential. Products such as DJ players, DJ mixers, DJ controllers, DJ turntables, DJ speakers, DJ headphones, and more are what elevates a DJ’s performance from ground-zero to sky-high. Various DJ-focused companies such as **SoundGlitz, Sound Waves Enterprises, Narain Audio and Lighting, Paras Audio, Furtados Music India, Ati Pro Technologies, Paras Electronics**, and more are set to showcase their DJ equipment at the PALM Expo 2023.



HEADPHONES

Headphones – from live sound to recording sound, from stage to studio, from DJs to professional singers to recording artists – headphones are a must-have pro audio equipment. Be it wired headphones, wireless headphones, noise cancelling headphones, bone-conduction headphones, closed back headphones, open back headphones, semi-open back headphones, in-ear headphones, or over-the-ear headphones – the list for the plethora of headphones available in the pro audio market today is endless. At PALM Expo 2023, the newest range of headphones from the above-mentioned categories are going to be on display from major exhibitors such as **SoundGlitz, Furtados Music India, Numark Audio, and Sun Infonet**.



SUBWOOFERS

No pro sound system is complete without a subwoofer. Be it in live performances or in a recording studio, subwoofers produce low or narrow frequencies to deliver a higher bass and offer superlative quality sound to the listeners. For different applications, different kinds of subwoofers are used – active subwoofers, passive subwoofers, bandpass subwoofers, horn-loaded subwoofers, enclosed subwoofer, down firing subwoofers, ported subwoofers, two separate chambers, and more. AHUJA Radios will bring SWX-1010, a strong and rugged high power subwoofer system at the PALM EXPO 2023. It features a single heart thumping 18" transducer with 2000W program power, housed in an attractive painted plywood cabinet, which is meticulously engineered to deliver superior bass response. Various renowned exhibitors such as **M/s. Kunzar, JD Enterprises, Celto Acoustique, Pinto Electronics, Italian Sound Design, Aerons India Exim, and Sun Infonet** will be displaying subwoofers from the above-mentioned categories at the expo.



STAGE & STUDIO MONITORS

On-stage and studio monitors are quintessential when it comes to good sound systems. A great monitoring system helps the singers on stage hear their own voice with clarity. There are a wide range of stage and studio monitors available in the pro audio segment – passive stage monitors, powered stage monitors, side fill monitors, stand-mounted monitors, studio monitors, and several more. At PALM Expo, discover the newest stage and studio monitors from brands such as **Sun Infonet, Stagemix Technologies, Furtados Music India, and Italian Sound Design.**



WALKIE TALKIES

A walkie talkie can offer certain benefits that a phone cannot – it can offer greater network coverage, allowing users to stay in touch even in the remotest corners of the world. For live events, outdoor events, film shoots, and more applications where remote communication is a necessity, a walkie-talkie is the product of choice in terms of usability and reliability. At PALM Expo 2023, explore a wide range of walkie-talkies from **Micromap Electronic Systems**, which is all set to display **Tokimo Rio + Japan Walkie Talkie and Tokimo Rio Japan Walkie Talkie**, a series of professional FM Transceivers that keeps the users interconnected and allows them to work without any interruption. The Tokimo Walkie Talkie series deliver in terms of range, service, support, audio quality, and performance. Designed to withstand the harshest weather conditions, the Tokimo Walkie Talkie series is an ideal option to carry on rough roads as well. On display is also **Convey C1 Pro Walkie Talkie, Convey C1 Walkie Talkie and Convey C1 Plus Walkie Talkie**, the smallest and the lightest two-way radio with dual PPT feature.



MIXING CONSOLES

Also known as audio mixers, mixing consoles serve a very important function – receive audio signals from the microphones and various musical instruments, allow the user to tweak the same, and transmit it to the speakers. There are two types of mixing consoles based on two types of applications – live mixing console for live sound applications and studio mixing consoles for recording sound applications. But in these two categories, there are three types of mixing consoles – analog mixing consoles, powered analog mixing consoles, and digital mixing consoles. Sonotone, one of the oldest exhibitors at the show, will be displaying the **Onyx 24** from **Mackie**, which is a premium 24-channel USB mixer incredible sound and a powerful digital FX engine for professional multitrack recording and live sound applications. Other exhibitors exhibiting mixing consoles at the expo are **Ansata Computer Systems** and **Ati Pro Technologies.**



LIGHTING CONSOLES

Lighting consoles are pro lighting equipment that control the way the light emanating from a light fixture moves. Coming in different shapes and sizes, the smallest lighting console can fit into a palm while the biggest lighting console can take a sizeable amount of manpower to move it from one point to the other. Usually speaking, lighting consoles that can be divided into two categories – conventional lighting consoles and moving lighting consoles. Explore these lighting consoles at PALM Expo 2023, as reputed brands such as **Canara Lighting Industries, Candescant Lighting, Delhi Light and Music Center, PLS Instrument, Leksa Lighting, Premier Industrial Importers, Devil Truss, LBT Electronics, and Krishna LED Lighting Semiconductors.**



STAGE LIGHTING

The right kind of stage lighting can transform a dull space into a visually breath-taking ambience. In the pro lighting world, there are various kinds of stage lighting fixtures – ellipsoidal reflector spotlight, followspot spotlight, Fresnel lighting fixtures, PAR can lights, floodlight fixtures, Cyc lights, strip lights, and more. At PALM Expo 2023, discover the crème de la crème of stage lighting through exhibitors such as **LBT Electronics, Evershine Stage Lights and Equipments, Candescant Lighting, Delhi Light and Music Center, Ibra Energy India, Big Deeper Industries, Ati Pro Technologies, Anoralux Corp, and Leksa Lighting.**

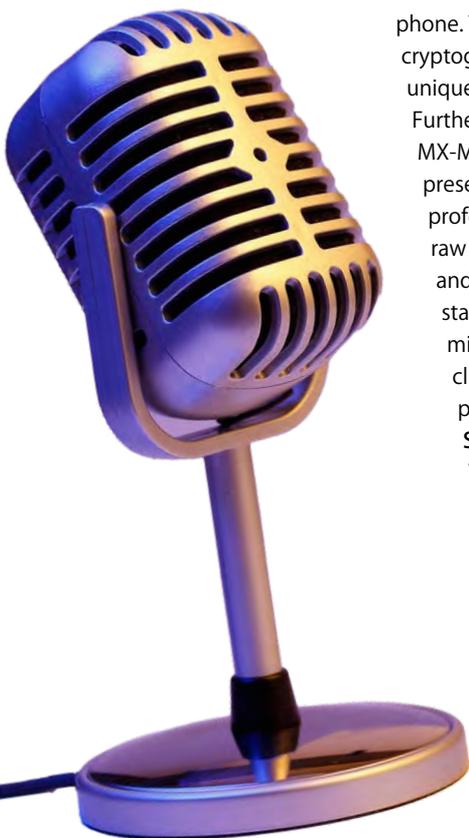


MICROPHONES

Microphones are designed to entertain the listeners with augmented sound waves. With PALM EXPO 2023, exhibitors strive to qualify the tasteful demands with the latest audio series and product features in the annual show. Products like G2 Series, DynaTech

by Sonotone will surely swing the moods with an easy to install wireless microphone. This model adopts intelligent cryptographic hardware to achieve unique sound and RF performance.

Furthermore, wireless microphone by MX-MDR Technologies will also be presented in the EXPO, designed by professionals with supreme quality raw material, advanced technology and equipment, ensuring highest standards of safety and keeping in mind the exact requirements of the clients. Exhibitors featuring this product include **Pro Tech Audio, Sun Infonet Private Limited, Vardhaman Megatech Pvt Ltd, Sonotone Audio LLP, T AudioStar Sound Systems, Ahuja Radios, Capital Radio Company, Paras Audio, Star Audio Systems, Pink Noise Professionals Pvt Ltd, Furtados Music India Pvt Ltd, Numark Audio, Ansata Computer Systems Pvt Ltd, Pinto Electronics, and Italian Sound Design (I) Pvt Ltd.**



SPEAKERS

An artist never compromises with the taste of sound. To set the chords right for the listener, a bass speaker surrounds them with high-quality audio resistance on the go. The EXPO will cover many products including active speakers, passive speakers, loudspeakers, cinema speakers, pro audio speakers, cabinet speakers, line source speakers, portable speakers, DJ speakers, and many more. This EXPO will bring products with an ultimate performance like the boomy speakers Kontrol One/Kontrol One(LMT) by **MX-MDR Technologies**. It is a professional two-way compact high-performance loudspeaker system incorporating monitor-grade. **Beta Three Audio** also steps ahead with its product, N10F, defining a 10" two-way full range plastic waterproof speaker designed for various places with high requirements on durability and portability. With good wear resistance and excellent sound quality, the N10F is a multi-function speaker designed according to the IP56 international waterproof level standard. **AHUJA Radios' SPX-710** is a dual 12" high power and compact 2-way loudspeaker system will also be on display with an attractive painted plywood cabinet that combines with new refreshing design to offer balanced sound reproduction with exceptional efficiency. Exhibitors featuring this product include **Pro Tech Audio, Aeron India Exim Pvt Ltd, Sonotone Audio LLP, Vardhaman Megatech Pvt Ltd, T AudioStar Sound Systems, Mega India, Ahuja Radios, Narain Audio and Lighting LLP, Dass & Company, M/s. Kunzar, Capital Radio Company, Paras Audio, JD Enterprises, Celto Acoustique LLP, Star Audio Systems, Audio Logic, Pink Noise Professionals Pvt Ltd, Furtados Music India Pvt Ltd, Ati Pro Technologies, Numark Audio, Ansata Computer Systems Pvt Ltd, Pinto Electronics, Italian Sound Design (I) Pvt Ltd, and Max Effect Professional Sound Systems and Light.**





25 - 27.05.2023 : BOMBAY EXHIBITION CENTRE, MUMBAI, INDIA

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HALL 3: LIGHTING & EFFECTS

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www.palmexpo.in



LED LIGHTS

The best lighting solutions help the world capture the best joys. LED Lights add a charm to any stage or corporate event with the flash of soothing colours. With the event season down the pike, exhibitors of the PALM EXPO will feature their latest technologies including profile lights, LED bulb series, LED linear lights, downlights, streetlights, zoom lights, track lights, panel lights, string lights, laser lights, LED falling light bars, LED moving head lights, and more for the users' conventional needs. Exhibitors featuring this product include **Leksa Lighting Technologies Pvt Ltd, Krishna LED Lighting Semiconductors, Canara Lighting Industries Pvt Ltd, Leksa Lighting Technologies Pvt Ltd, Ibra Energy India Pvt Ltd, Cine Audio Viso Equipments, Neo-Neon Lighting & Designs Pvt Ltd, Big Deeper Industries LLP, PLS Instrument Pvt Ltd, DI Impex, and Anoralux Corp.**



TRUSS

What's better than having a good vantage point of a riveting event or concert. Trusses are built to ensure a perfect roofing and staging during an event through comprehension and management of the changing tension of the stage structure. Some types of trusses like aluminium truss, lighting truss, stage truss, truss accessories, roof truss, truss architecture, and more provide quality features to decorate the idea of any stage, roof, or tower and intermediate support. Exhibitors featuring this product include **Devil Truss, Shiv Industries, LBT Electronics Pvt Ltd, Aulakh Stage Lighting Truss, Candescent Lighting Pvt Ltd, and Sound Land.**



SWITCHES AND MATRICES

Switches and matrices are an essential component of the systems' programming where all the audio-visual information packets are sent as signals through these switches. Therefore, considering the best switches and matrices is one of the most crucial things to get the best outputs in the audio world. This EXPO holds interest in serving the visitors with the finest providers of switchgear from India. Exhibitors featuring this product include **MX-MDR Technologies Ltd, Newtech Video Systems Pvt Ltd, DI Impex, Comcon Technologies Ltd, and Gigatronics India Pvt Ltd.**



PA SYSTEMS

PA systems or Public Address Systems are installed in an event to break down the tangential possibilities of a musical interference. It means that a PA system qualifies the process of sound into music through its system components like speakers, amplifiers, subwoofers, monitors, effects, and other sound sources. No event can start without a PA system and an engineer to handle the source. Therefore, this EXPO features portable PA systems and more to get the clients expectations higher. Exhibitors featuring this product include **Mega India, Greenfield technologies, Leksa Lighting Technologies Pvt Ltd, and Canara Lighting Industries Pvt Ltd.**



AMPLIFIERS

Amplifying the sound to boost musical interests, an amplifier is capable of setting speaker level signals for a loudspeaker's dynamic performance. Many amplifiers like power amplifiers, mixer amplifiers, and PA amplifiers set the audio power waves to bring out the most amusing show. The EXPO will feature **V Series, DynaTech by Sonotone**, the New Dynatech power amplifiers that deliver 700 Watts to 5720 Watts of power in two to three rack spaces. **MX Conference System by MX-MDR Technologies** will also run the show with its combined elegant aesthetics with clear, highly intelligible sound, while minimizing acoustic feedback. The system is ideal for use in conference rooms as well as convention centers. **DT Series Class D Amplifier by Beta Three Audio** will be available in eight different models, ranging from 2 to 4 channels. It features efficient zero temperature control, which ensures stable operation even in extreme temperature conditions. Exhibitors featuring this product include **Aerons India Exim Pvt Ltd, Vardhaman Megatech Pvt Ltd, Sonotone Audio LLP, T AudioStar Sound Systems, Mega India, Ahuja Radios, Narain Audio and Lighting LLP, Capital Radio Company, Cresurge Pvt Ltd, Paras Audio, JD Enterprises, Celto Acoustique LLP, Pink Noise Professionals Pvt Ltd, Furtados Music India Pvt Ltd, Pinto Electronics, Italian Sound Design (I) Pvt Ltd, Max Effect Professional Sound Systems and Light, and Gigatronics India Pvt Ltd.**



LINE ARRAY SYSTEMS

The EXPO provides the best-in-class products and features for the most pleasant and entertaining events, concerts, or even a lounging day. With emphasis on all its fascinating products, **Beta Three Audio** brings TLA-121 line array systems to showcase a new way of dealing with live sounds. This dual 12" 2-way line array speaker is utilized in applications including sound reinforcement for events, theme parks, multifunctional auditoriums, schools, and more. It is excellent for live show and rental applications. Exhibitors featuring this product include **Aerons India Exim Pvt Ltd, Sun Infonet Private Limited, Sonotone Audio LLP, T Audio-Star Sound Systems, Wave Audio Professional, Beta Three Audio India Private Limited, Star Audio Systems, and Delhi Light & Music Center.**



MIXERS

Boosting the participation of the sound team, an audio-mixer device enhances sound quality by monitoring, combining, and processing audio. With the best recording solutions from 2023, **Sonotone** will bring **Onyx 24, Mackie** as a new centerpiece of studio or live rig. The Mackie Onyx24 is a premium 24-channel USB mixer for professional multitrack recording and live sound applications. With incredible sound and a powerful digital FX engine, one can have the ultimate solution at fingertips. Exhibitors featuring this product include **Aerons India Exim Pvt Ltd, Sun Infonet Private Limited, Vardhaman Megatech Pvt Ltd, Sonotone Audio LLP, Sound Waves Enterprises, Paras Audio, JD Enterprises, Furtados Music India Pvt Ltd, Ati Pro Technologies, Numark Audio, and Ansata Computer Systems Pvt Ltd.**



RIGGING SYSTEMS

Creating a story out of lights, rigging systems are the ideal hosts to the lighting systems. The devices are meant to touch the basic staging and scene integrations like opening and closing of curtains, performing flying stunts, and more. Rigging systems include manual and automated operating systems that assist the sound engineers master the art of fabrication. **D8 Epical 1000kg** by **Liftek**, one of the exhibitors in EXPO 2023 will also be displayed as a rigging and touring product. The D8 Epical 1000kg has a heavy-duty brake with a maintenance-free design, which allows it to be operated in normal or climbing position. Users can choose among two different products as the other one is customized with two brakes. Exhibitors featuring this product include **Leksa Lighting Technologies Pvt Ltd, and Canara Lighting Industries Pvt Ltd.**



The above info is at the time of going to press.



CAVS, Ahmedabad Elevates INDIAN AV EDUCATION Landscape To New Heights

With 50 participants attending the CAVS certification course and passing the final exams with flying colours, the third edition of CAVS proved once again that there is no age for learning, no bar for passion, and when it comes to pursuing potential career prospects and carving a niche in a field such as audiovisual and integration networking, the sky truly is the limit. PALM + AV-ICN reports on the highlights of CAVS, Ahmedabad.

The third edition of Certified AV Specialist (CAVS) Certification Course, held in Ahmedabad from 1st March – 3rd March, 2023, witnessed a staggering number of participants eager to enhance their knowledge on the basics of pro audio, video, and integration networking. Organized by PALM + AV-ICN and supported by *Rhino Engineers Private Limited*, *MNT Info Vision Private Limited*, and *LD College of Engineering*, helmed by professionals and experts from the field of AV and IT, the three-day certification course, held on the premises of Ahmedabad Management Association (AMA), Ahmedabad, India, was aimed at extending a treasure house of information and insights about the fundamentals of audio, video, and integration networking to professionals looking to upskill themselves and students seeking to take their first step in the technology-driven field.



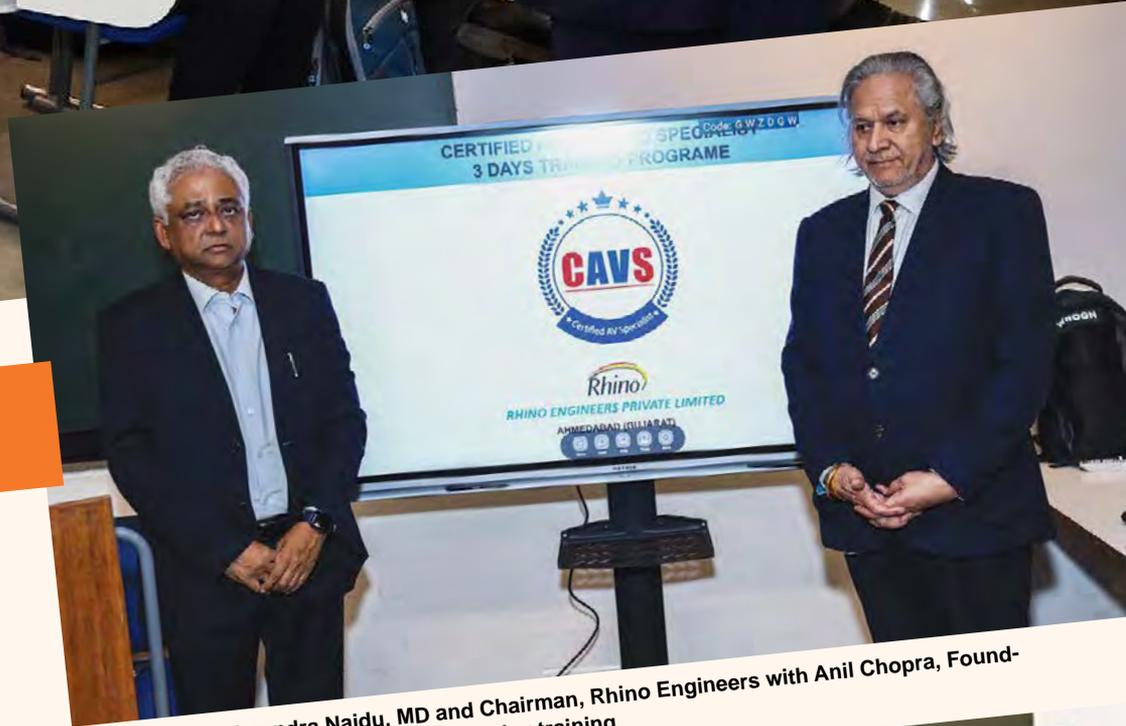
Day One – Off To A Great Start

Day one of CAVS was already off to a great start. **Anil Chopra**, Founder, CAVS, took to the podium to address the participants with his insights about the AV industry, his prediction about the every-rising significance of AV in day-to-day life, and how promising the future of the industry looks like as the three-day certification course commenced with all slots booked.

As **Narendra Naidu**, Chairman & Managing Director, Rhino Engineers Private Limited, presided over the topic of the first day of the training – **Audio**, which covered quintessential sub-topics such as Sensitivity, Sound Waves, Impedance, Frequency Range, Signal-to-Noise Ratio, and more – the Seminar Hall was already full of enthusiastic thinkers and learners, letting their curiosity and desire to learn more and learn better channelize through their constant questions and thoughts.

Narendra Naidu is truly a seasoned AV expert, and it reflected in the way he taught. Driven by his love for pro audio elements and his experience as a teacher, Naidu indulged in passing on his knowledge to the attendees without pausing, for hours at end. Condensing his decades-long expertise in the field of AV and collating his practical experience gained by executing large-scale AV projects across India, Narendra Naidu was a learner's delight on Day One as he spoke extensively about several audio fundamentals.

However, the highlight of Day One was **Temi – The Personal Robot**, a state-of-the-art AI-based smart robot with built-in camera, microphone, sound system and support automation with built-in Alexa. Debuting for the first time in India at CAVS, Ahmedabad, Temi stole the spotlight and quickly captured the imagination of everyone present at the training.



Pictured here: Narendra Naidu, MD and Chairman, Rhino Engineers with Anil Chopra, Founder, CAVS at the inauguration of the three-day training



Narendra Naidu, MD and Chairman, Rhino Engineers, indulges in an in-depth presentation for his training on Pro Audio

Day Two – The Excitement Continues To Pulsate



Kairav Adhvaryu, Technical Manager, MNT Info Vision, engages the CAVS classroom with a lively demonstration of the latest technologies and innovations from the world of video

After the ground-breaking success at Day One, the second day of CAVS, focusing on the topic of **Video**, was conducted by **Kairav Adhvaryu**, Technical Manager, MNT Info Vision Private Limited. Adhvaryu discussed pro video concepts such as Screen Resolution, Aspect Ratio, Viewing Angle, Refresh Rate, and more with the participants. Unsurprisingly, the mere mention of video and the avant-garde trends in the world of video was enough to create a surge of excitement and eagerness

within the minds of the professionals and students alike, who sat with utmost attention and grasped every word spoken by Kairav Adhvaryu.

The attendees actively participated in the day-long session, especially when Kairav Adhvaryu demonstrated the fundamentals of video at work via practical applications. Once more, Temi had everyone's attention, and went on to prove that the world of AV is only exponentially growing by leaps and bounds.

Day Three: The Beginning of Perennial Learning



Satyanarayanan Reddy, Technical Manager, India, SAARC, The Siemon Company takes the stage on day three of CAVS to impart essential knowledge on Integration Networking

On the last day of CAVS, **Satyanarayanan Reddy**, Technical Manager India, SAARC, The Siemon Company, shouldered the task of explaining the basics of Integration Networking, consisting of, but not limited to topics such as IP Networking, Basics of IP Address, IPv4 vs IPv6, Routers, and more. It is a feat to take up a



Industry professionals upskill themselves in the field of audiovisual at CAVS – the certificate distribution at the end of the course bears a witness to the quality of knowledge disseminated at the training

heavy-loaded topic such as Integration Networking, dividing it into smaller chunks, and making it an interesting learning experience for everyone present, and Mr. Reddy's calm but confident demeanour accomplished just that. Patiently going through every bit of information from his PowerPoint presentation, and answering

Certified AV Specialist Course 2023

BASICS OF AUDIO VIDEO INTEGRATED SYSTEMS



25 - 27 May, 2023



**Bombay Exhibition
Centre, Goregaon
Mumbai, India**

DAY 1
(10:30am - 5pm)
Audio



NARENDRA NAIDU
Chairman & MD
RHINO ENGINEERS
PRIVATE LIMITED

DAY 2
(10:30am - 5pm)
Video



KAIRAV ADHVARYU
Technical Manager
MNT INFO VISION
PRIVATE LIMITED

DAY 3
(10:30am - 5pm)
Integration Networking



**SATYANARAYANA
REDDY**
Technical Manager India, SAARC
THE SIEMON COMPANY

Registration Fees for Training ₹ 6000 plus taxes – 18% GST

Examination to be held on 27th May, 2023

Certificate to be provided on Successful Completion of Training.

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*Agenda subject to change





Not just the industry professionals, CAVS provided a platform for quint-essential audiovisual learning to a large number of students as well, all of whom passed the three-day training with flying colours



The three-day CAVS certification course ended with a certificate distribution ceremony, with eminent trainers handing out the certificates to the students along with Anil Chopra, Founder, CAVS and Gaurav Sood, General Manager, India, Hyve Group and Mansi Jani, Director, MNT Info Vision



every question from the participants with a smile on his face, Mr. Reddy, in the truest sense, imparted knowledge with a professional stance in each step.

The three-day CAVS ended with a certificate distribution ceremony, where the participants received their certificates after appearing for three consecutive exams on all three days and passing each exam with ease. The last day of CAVS was graced by the presence of **Gaurav Sood**, General Manager, India, Hyve Group PLC and **Mansi Jani**, Director, MNT Info Vision Private Limited, who partook in distributing the certificates to all the participants. Of course, a small photo session followed! It was a way to say 'cheers' – to an end of a successful training course and to the beginning of a new journey into the world of AV.

When it comes to knowledge, the sky is the limit – Kairav Adhvaryu proves this as he continues his learning curve by attending the CAVS along with training the students on Day 2 of the course



The Class of CAVS, Ahmedabad strikes a confident, happy pose with Satyanarayanan Reddy on the third day of the training

A LEAP TOWARDS IMMERSIVE MIXING

Sreejesh Nair, in 2022's PALM Conference Session titled, 'Dolby Atmos For Music', Sreejesh focuses on sound localisation, HRTF, and incredible headphones. He also mentions the tips and tricks to get the best Dolby Atmos mix along with the secret behind his mixes. Catch Sreejesh Nair on the podium once again at the PALM Conference and Seminar 2023.

Considering the dreams of billions of music artisans, Avid Dolby Certified Audio Application Specialist, **Sreejesh Nair**, adopted the most informational way at the **PALM AV-ICN Conference 2022**, to view the next ingenious technology. Nair holds an experience of more than 20 years as the sound mixer in the industry. He started his career as an Assistant Sound V Recording Mixer and has worked on more than 200 movies since then. He was a part of the first Dolby Atmos Mix Theatre installation in India and the first Dolby Atmos Premier Mix Room in the



Sreejesh Nair, Avid Dolby Certified Audio Application Specialist at the PALM AV-ICN Conference 2022

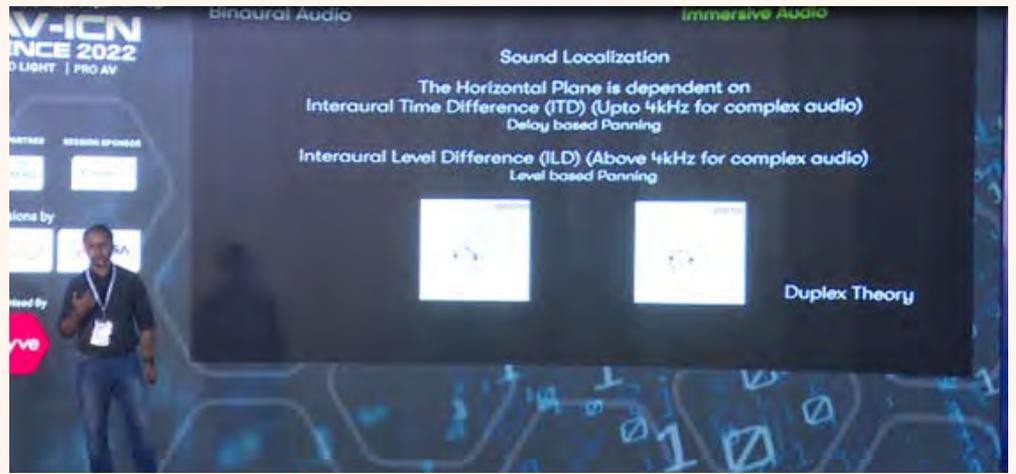


world. Educating about the different approaches to enhance the listening experience of the users at the Bombay Exhibition Centre, Goregaon (E), the expert, shared multiple ways on how to set up a mix, tips and tricks to mix for visuals, and analyze innovation of music in the AV industry.

“Concert hall is also an immersive experience because there are multiple ways you can approach any kind of a mix – It can be right in front of you or around you. It is all about what the listener needs to experience and based on that you can have a hybrid mix technique,” highlights Nair during the conference. “Advantages of headphone mixing are – It is a controlled listening environment, the sweet spot for the person doesn’t change with the position of the headphone, signals intended for each ear are delivered only to that ear, and there’s no cross talk.”

Following the concept of the low frequency spectrum, Nair brings a valid connection to what causes the difference in energy for each person. “It is the size and shape of the person’s head. Therefore, the number of vocals or the low frequency spectrum that you actually keep in the mix will go up or down because of which every person listens to a lot of things differently,” says Nair. “There is a lot of acoustic isolation in your headphones, which makes easy for the user to hear what they intend to hear. It is an unnatural listening environment, and nobody likes to stay in an ambionic chamber.”

Grasping the attention of the audience towards a few important key terms in the AV industry, Nair emphasises on the concept of inside the head locatedness. “When you place your headphones, the vocals stay inside your head like your own sound when you talk. It actually causes a lot of fatigue because we all are used to hearing a lot of noise.” Adding to his notes with the concept of cone of confusion, he says, “If you have something right in front of you, at 0 degrees, you’ll hear sounds from left and right ear side equally. Now, if it’s at the back, the sound will still arrive at the same time. So, how do you decide if it’s coming from front or back? There’s one way to navigate it. If you start tapping with one finger on the top of your head, you’ll hear sound only from one position. To understand how much of your mix can be statically positioned and how much can it be moved, tilt away your head. As you tilt your head towards the left, the sound will hit your right ear



your stereo track and slightly delay one of the channels that is already there, they’ll effectively create a delay-based positioning. If you delay the right side of the sound, the image of the stereo track will shift to the left but the image shifts to the left. When you start shifting the image like this, you can start controlling your low-level in the front, giving you enough space for your vocals,” says Nair. “In Interaural Level Difference (ILD) above 4kHz for complex audio, the vertical plane is dependent on a spectral notch that varies from 5kHz to 10kHz as the audio moves from a 0 degree to 90 degrees above the head. A very interesting thing was found out that there is actually a notch that goes across, so depending on if it starts at the front and goes up, the notch is at 5K and goes all the way till 10K depending on how the position is. And a notch also varies, so for example, in one position you might have a notch at 6k and not at 8K. However, in a different position, the notch might be at 8K because we have been looking at only 3 degrees of freedom – up, down, left, right, yaw, pitch, and tilt. There’s also a 6-degree freedom that covers the X,Y, and Z freedom too. In fact, when you work on your mix, you have to give preference to both the positions. When you have a combination of this, you bring the listener to the natural listening space that’s why when you decide panning the elements, you have to decide the positions.”

Making a mix gets easier and more creative for the artists with Nair’s thoughtful approach. He says, “If anything is at a distance outside your field of vision, our estimation of the distance is wrong. We estimate it to be closer than it actually is, always. You can use it as a technique in your mixes to a great degree. To make something prominent, you don’t need to boost it in terms of levels, you need transience or pushing it back.” Mentioning about the Localization errors, he says, “From back distinction to top-down distinction and pan speed, that is, the faster you pan, the error of finding the right degree increases.”

Head Related Transfer Function Response (HRTF)

Music is all about ‘rhythm’ and with every mix we make, we are one step closer towards a creative vision. To capture the essence of a creative mix, Nair brings out the concept of HRTF and HRIR too, during the conference. “The pinna, torso, and head are the ones that shape the way we determine sound Localization. A mathematical function, that describes this is called the Head Related Transfer Function Response. Kind of similar to the way a convolution reverb works on a dry signal to create a room emulation. Most of the HRTFs are measured using the European caucasian ink,” he says. “You get the point measurements and between these points mathematical calculations work and this whole thing is based upon frequency, but we also have face and distance associated with it, which is why it is called Head Related Transfer Function Response (HRTF).”

Nair believes the estimated space measurements are currently in the render but can change based on the distance, room parameters, or reflections. “There are the different spaces in the mixes – Off means no existence of space, near is 25 cm from your head, mid is 1.5 m from your head, and far is 3 m from your head. This is called the **Binaural Room Impulse Response**. Our whole perception of positioning is very effective if you are mixing in a near-field environment. In far field, the positioning starts to smear. Hence, the mixes will sound bigger in the bigger room,” states Nair. “Every mix has an absolute distance and a relative distance. For omnidirectional sounds, the level drops by 6dB for every doubling of distance. For line source sounds (traffic, pads, etc.) the level drops by 3dB or every doubling of distance.”

The secret behind Nair’s incredible mixes

Spilling the beans about his creative ways of mixing, Nair says, “I have an absolute distance which is probably the anchor part, everything else is at a relative distance from that. I need something that is focused. Everything is made up of sounds

“There’s another trick you can use when you start placing vocals in your mix or when you want a lot of dynamics on a higher pitch – just push it a little far,” mentions Nair.

first and left ear later. Similarly, if the sound is coming from back, it will hit left ear first and right ear later.”

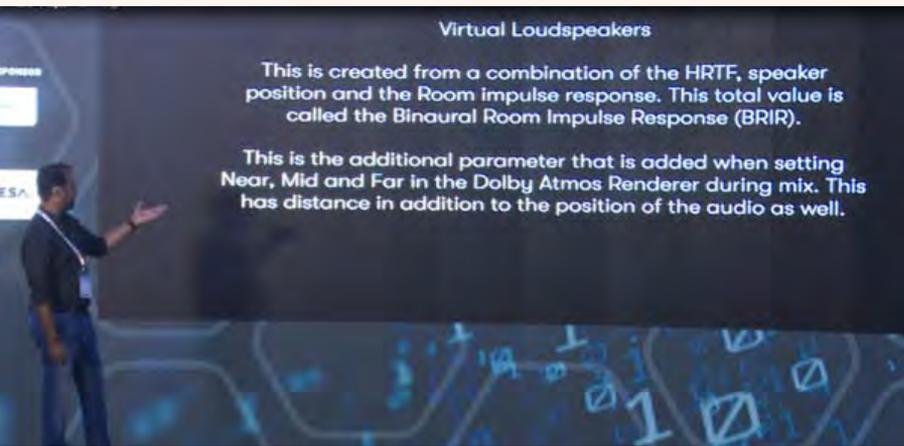
Nair believes, “No matter how we mix, one thing that we can get out of it is an incredible output or a good sounding audio mix. Most of the users will listen the sounds on ear buds, headphones, and earphones because these devices make communication easy.”

He shifts the audience’s attention towards the binaural sound too as he says, “When you take stereo (left and right set of sounds) and impose special queues like distance, height, or positioning, your sound becomes binaural.”

“There’s another trick you can use when you start placing vocals in your mix or when you want a lot of dynamics on a higher pitch – just push it a little far,” mentions Nair from his incredible experience on how to make a mix. Considering the bigger picture of sound mixing in the AV world, Nair says, “Transience always makes your sounds good.”

Sound localization – Interaural Time Difference

To cover an overview of DOLBY Atmos and the technology, Nair emphasised on the importance of sound Localization, interaural level difference, and Localization errors. “The Horizontal Plane is dependant on Interaural Time Difference (ITD) upto 4kHz for complex audio in which delay-based panning is if you put a time delay on



“You need to master your songs. Special audio is the fastest growing medium presently. If you can give something good to listen to most of the listeners, that’s really good business,” says Nair.

from your past experiences. Therefore, it’s a huge opportunity for the sounds that you have never heard getting a mix of what your audience have heard and a mix of an artistic implementation to break conventions.”

Nair conveys, “When familiarity is absent, and audio is not the visual field, we estimate the sound position to be closer to us. Virtualization of an existing mix is called specialization. A very good idea to do that is – as you take things vertically, you get an opportunity to slightly change the sound levels for your reverbs for that because that will be a very good estimation of height for your binaural.”

Diving deep into the concept of virtual loudspeakers, he also highlighted, “Virtual loudspeakers are created from a combination of the HRTF, speaker position and the room impulse response. This total value is called Binaural Room Impulse Response (BRIR). This is the additional parameter that is added when setting near, mid, and far position in the Dolby Atmos Renderer during the mix. It has distance in addition to the position of the audio as well.” But how to take-off with the inside head locatedness? Nair says, “It can be achieved by panning, having the position queue in that, and headtracking to get the access to the front. However, the problem with headtracking is that we are not used to it. Inside the head locatedness is a problem with audio being inside the head rather than externalised when using headphones. The additional challenge with

binaural reproduction is audio doesn’t pan to the front of the listener. It can go behind the head. Head tracking can help reduce this. Ultimately, the goal is to achieve better experience.”

Choosing the right headphones

There are several types of headphones that surprise the industry with their advanced features and captivating sounds. Some headphones, according to Nair, like circumaural headphones that fit around the ear, supra-aural headphones that fit on top of the ear, open back headphones, closed headphones, in-ear headphones that are for the best acoustic sealing and SNR, and ear buds that are affordable but fit will color the spatial cue, are the available options for a mixer. However, Nair says, “Get a pair of headphones and get used it. If the headphone is good for you, it will be good for your mixes. You need to master your songs. Special audio is the fastest growing medium presently. If you can give something good to listen to most of the listeners, that’s really good business.”

This session was an eye-opener and informational for the mixers who are looking to expand the concept of Dolby Atmos, a spatial audio technology, to a higher degree. To grab the in-depth knowledge on the conference about Dolby Atmos for Music in the AV industry by Nair, watch the full video on YouTube.



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Strong Sentiment for AV-ICN to Establish

The AV-ICN Expo 2023 is a stand-alone Expo in hall 2 at Bombay Exhibition Centre, Nesco, Mumbai. The AV industry attended a full-fledged AV-ICN expo at the same venue in 2019. In 2022 the AV-ICN Expo was merged with PALM Expo as the 2022 edition was captioned as the *Reunion of the Pro AV and Pro Audio industry* and the organizers put together both the expo in one hall. The AV-ICN Conference was also merged with the PALM Conference.

AV-ICN Expo 2023 has received a tremendous response from the AV industry in one particular sentiment. Whether it was Bengaluru, Mumbai, or New Delhi, the one sentiment expressed by the AV industry was indeed its acknowledgement that the task of creating or establishing an independent AV Expo is difficult and full admiration for the AV-ICN team in pursuing its goal and full appreciation for the objective of providing an alternative expo platform. "The one sentiment that almost every prospective exhibitor has expressed is that, however difficult it is to establish an alternative AV Expo, 'please do not give up'. 'India needs one more AV expo'. **Do not give up**, was the shout from the AV industry," says **Anil Chopra**, Founding Director of AV-ICN Expo.

"It was this sense of responsibility and encouragement that AV-ICN pursued its goal in leading companies like **BenQ**, **Epson**, **Christie**, **Optoma** to come on the platform. The expo reiterates India's Pro AV industry's quest of possessing

an active, determined, and dedicated AV platform to connect and convene the mass market of AV integrators & consultants," he adds.

AV-ICN Expo 2023 will again boast of a three-day conference of marquee speakers like **Kelvin Ashby-King** from Clarity Consulting, **Satyanarayana Reddy** from The Siemon Company, **Kairav Adhvaryu** from MNT Technologies, **Chandrashekar Naik.S** from T2 Technology Consulting, **Chaitanya Chinchlikar** from Whistling Woods International and **Narendra Naidu** from Rhino Engineers, to name a few.

Some of the major topics that the expo encompasses include, *Design Implications for Large Convention and Expo Centres* by Chandrashekar Naik; *Holistic Museum Design and Integration* by Kelvin Ashby-King; *IT of AV Integration, AV Communication and AV Networking* by Satyanarayana Reddy; *Education – Smart Class* by Kairav Adhvaryu; *VR / Virtual Production & Metaverse – AV's Frontier Visualization* from Chaitanya Chinchlikar; *Large Scale Monument of AV Integration* from Narendra Naidu.

AV-ICN 2023 theme is Display, Digital Signage and Projection. BenQ will bring latest 4LED projector LH730. Epson will focus on their latest 4K Laser Projectors. Some unique new technologies will include the Haptic Touch Wall by Immersion, Maxhub Interactive Flat panels, and Vestel's visual solution.

Many companies will take part in sharing the sophisticated intelligence with the industry during the AV-ICN EXPO 2023. So, let's get into the best and the latest by our top AV exhibitor, NTeck Systems, which will exhibit its latest products from major brands like Inogeni, Hall Technologies, and Sonetonix at our 2023 EXPO.

Founded in 2020, NTeck Systems ensures high performance and the best AV control solutions with a wide range of products. The company is set to boast about its all-new scalable technologies with superior performance and better connectivity solutions.

How do you share your USB 3.0 devices between two hosts, such as a room CODEC and BYOD laptop? Well, **Toggle USB 3.0 Switcher** seems a perfect solution. The latest product by NTeck Systems in the exhibition, TOGGLE USB Switcher, connects to three USB 3.0 devices and can switch them between two hosts. It automatically switches to a laptop when it is connected and reverts to the room PC when disconnected. It can also be controlled remotely by RS-232 or GPI.

Another product, **4KX-PLUS HDMI TO USB 3.0 capture device**, should also find a unique way to thrill the guests at the EXPO. It's BYOB (Bring Your Own Meeting) feature in a WebEx environment ensures that the new solutions strike the modern world with confidence. It is a proven technology that captures uncompressed HDMI video and audio from Webex devices, which then converts it to USB 3.0 for a third-party laptop. It surely stands as one of the most cost-effective and user-friendly solution for interoperability.

If you are looking to convert and connect your USB camera and audio to an HDMI input – CODEC, matrix or display, **U-CAM**, would surely help you manage all your tasks. It is a USB 3.0 to HDMI with a proven technology convertor device that captures uncompressed USB 3.0/2.0 video (up to 4K) and audio, then converts it to HDMI with embedded audio.

The **Inogeni CAM230 Switch 1 OF 3 USB/HDMI Cameras to USB or HDMI** is a USB and HDMI multi-camera switcher that helps improve meeting equity in

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“The one sentiment that almost every prospective exhibitor has expressed is that, however difficult it is to establish an alternative AV Expo, ‘please do not give up’. ‘India needs one more AV expo’. Do not give up, was the shout from the AV industry,” says Anil Chopra, Founding Director of AV-ICN Expo.

virtual sessions. With its easy-to-use camera switching capabilities and support for bidirectional audio with video bars, facilitators can ensure that all participants have equal opportunities to speak and contribute. The CAM230 also supports whiteboard and document cameras for added collaboration and productivity.

The **Inogeni Share2U Dual USB 2.0 Video Mixer to USB 3.0 Converter** is the most easy and reliable tool for simultaneous capture. With the mix of two video sources into one single USB stream, audio for PC for recording, videoconferencing, lecture capture and streaming applications gets easy. Share2U is easy to setup, has no drivers, and is compatible with all the apps for users’ convenience. It can work on all motherboards and USB 3.0 chipsets.

Discovery series including **DSCV1-70-TX**, **DSCV2-70-TX-US**, **DSCV2-70-TX-UK**, and **DSCV-70-RX** exhibited in the EXPO, offer a cost-effective 4K extension with flexible USB and HDMI capabilities for software video conferencing and audio extraction. These kits were designed specifically to address signal extension for multiple participants in classrooms, huddle spaces, or conference rooms. With both US and UK transmitter wall plate options available, Discovery makes collaboration easy and fluid with support for resolutions up to 4K. All Discovery series by NTECK Systems feature 1 or 2-gang US & UK Standard HDBaseT 2.0 wall plate transmitter & receiver kits with USB-C & 2x HDMI inputs, USB 2.0 pass through, and audio de-embedding and PoH. The receiver kit pairs natively with soft-codec video conferencing applications such as Zoom, Teams, Skype, WebEx, and more.

EMCEE200 is a presentation device that provides a seamless multi-view presentation switcher and scaler with Picture-in-Picture (PIP) and Picture-Over-Picture (POP) capabilities. It can process up to four 4K@60 video sources and gives “Confidence” and “Present” HDMI outputs in different window layouts.

HT-GEMINI is a 4K 6 multi-format input extender switch with USB extension for a soft codec, which provides AV switching, USB, HDMI, DP, VGA, and USB-C extension, plus system control for meeting spaces using PC-based conferencing codecs such as Microsoft Skype, Webex by Cisco, and Citrix GoTo Meeting. The kit is compatible with ultra-high-definition source up to 4K/UHD@60 Hz with 4:2:0 color subsampling. All audio, video, data, control, USB, and ethernet transmission between the two devices is carried over a single, ethernet-enabled HDBaseT link up to 100m/330ft.

HT-Odyssey is an all-in-one BYOD speakerphone with a presentation switch, wireless casting, and an HDBT out port. It allows everyone to hear the sound in the meeting room during conference calls and to show a presentation from a laptop, smartphone, or tablet with USB Type-C port or HDMI. The USB-C port also provides 60W of charging power.

Lynx is a maximum value extension solution for high resolution 4K graphics requiring smooth video playback and audio de-embedding at a value price point. Cascade up to 8 receivers to scale functionality and maximize distribution distance. Lynx series, exhibited in the AV-ICN EXPO 2023, cover **EX-LYNX-WPE-TX**, **EX-LYNX-WP-TX**, **EX-LYNX-RX**, and **EX-LYNX-TX** that feature HDMI over CAT6 extender family, box receiver w/ box transmitter and US and EU wall plate transmitter options.

Sonetonix will bring its latest **AC-2321-SNET**, **RS-232 TO S-NET Converter** on the floor. The network to RS232 series converter is bi-directional connector converter between RS-232 and S-NET. It is mainly used for communication between controller and peripherals. This converter converts the TXD and RXD signals of RS-232 serial port to 2 wire half duplex RS-485 signal. The low price will improve the product’s core competition, easy to access, high-speed, low-power, high-stability, and easy to install.

Sonetonix will also features its **AC-SNET-ETH**, communication interface Sonetnix network (RS 485) to ethernet converter in the EXPO 2023. S-NET TO ETH Converters connect devices with RS485 serial interfaces to a local area network for transmission of serial data over wired or wireless ethernet by converting RS485 data signals into Ethernet (TCP or UDP) packets, and vice versa. The device is easy to access, attains high-speed, has low-power with high-stability, and easy installation processes.

Sonetonix’s Halogen/Incandescent Dimmer, LC-DM-4-D, offers a wide range of dimming levels (as much as 100 steps) for enhanced smooth dimming. The Halogen/Incandescent Dimmer can be interfaced using our touch keypads or android app to control from anywhere in the room. Up to 600W loads can be controlled from a halogen/incandescent dimmer with 3A current rating per channel. It provides provision to store and re-calls up to 40 pre-set scenes and as with other Sonetnix products, all S-NET commands are available to use and program the device as per user needs, thus extending its functionality.

LC-FL-8-D, DIN rail 8 CH 0-10V Fluorescent/LED Dimmer by Sonetnix, offers a wide range of dimming levels (as much as 10 steps) for enhanced smooth dimming. The 0-10V Fluorescent/LED dimmer can be interfaced using our touch keypads or android app to control from anywhere in the room. Up to 2200W loads can be controlled from a fluorescent/LED dimmer with 10A current rating per channel. It provides provision to store and re-calls up to 16 preset scenes. As with other Sonetnix products, all S-NET commands are available to use and program the device as per user needs, thus extending its functionality.

LC-PB-8, Push Button Keypad by Sonetnix, features 8 push button keypads with the operating voltage of 12 VDC. It provides backlight LED feedback through master control, serial communication using S-NET protocol, and simple lighting solutions over standalone mode.

Furthermore, **LC-RL-8-D**, a relay controller 8 channel DIN rail, features 8 channels, with a maximum load of 10A per channel. The relay controller provides 8 channel power switching with the operating voltage 220 – 240 @50Hz VC. Third party automation modules or other Sonetnix modules are also interfaced through works on reliable 2.4Ghz S-NET communication technology to captivate an immersive experience.

Major distributors will join **AV-ICN – EIS TechInfra Solutions, Gigatronics, NTECK Systems, Infonics - distributor of Unilumin; Aaztec, Jona LED – distributor of Novastar; Vcore LED Display, Tentech Display, Enbon LED**. Other focused distributors for display include **Di Impex, Magnimage Display, Hawaii LED, Sunrise LED**. Conference Systems at the expo will be displayed by **Gigatronics and PeopleLink**. Studio Lighting for AV projects will be covered by **Canara Lighting, Leksa Lighting and Aputure**. **Epson India Pvt. Ltd., Vision Display Pvt. Ltd., Pixel Led Pvt. Ltd., NTECK Systems, Lead Vision, Optoma India, and EIS Techinfra Solutions**, will also exhibit their innovative solutions at the Expo.

The fourth edition of **CAVS** will also be held at the AV-ICN Expo 2023. Featuring faculty such as **Kairav Adhvaryu, Narendra Naidu and Satyanarayana Reddy**. The main point of the CAVS is original curriculum is designed by the faculty.

Special features in AR, VR involving 5G are also being designed this year informed Anil Chopra. These features will be highly attractive demonstrating latest technologies in 5G streaming and video projection with immersive audio.

AV-ICN Expo 2023 will again boast of a three-day conference of marquee speakers like Kelvin Ashby-King from Clarity Consulting, Satyanarayana Reddy from The Siemon Company, Kairav Adhvaryu from MNT Technologies, Chandrashekar Naik.S from T2 Technology Consulting, Chaitanya Chinchlikar from Whistling Woods International and Narendra Naidu from Rhino Engineers, to name a few.

LOCATION SOUND RECORDING

INFUSING BEST SOUND EXPERIENCES IN THE DESERTS

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

*Sound drives the film towards exceptional quality. **Cheerag Cama**, Freelance Audio Engineer, shares tips and hints to inculcate sound during a shoot in the deserts. Stepping up with his suggestions for production sound recordists, he analyses the horrors of being distraught if anything falls into an error and therefore, proposes efficient ways to get our audio out of the deserted lands. We don't want to leave out any information for you. So, we'll catch up with Part-II of this article in the future issue. Keep reading.*



Recently, I went abroad to shoot a feature film in the desert and spent close to 60 days out there. As the shoot progressed, I kept making notes about the shoot – especially of things that were not going as expected, and what I would do, if given a similar chance again.

Below are some tips / suggestions / observations that I thought of sharing.

For any shoot that you go to, preparation is the key to having a good and satisfying outcome. Especially when going away from your city or going to a foreign country.

Plan...Anticipate...Prepare...

A good sound team is one that is well prepared for any eventuality. No matter how much you plan, things will change... that is the nature of filmmaking. And the better prepared you are for any change that happens, the better your work will be. If you accept this one fact, you will not feel distraught when things change midway in a shoot. Call sheet may say something, but on set, things may change at any time, and WILL change.

Some of the points mentioned below are true for any shoot.

Do a full checkup of your gear before you go:

No matter how well you think you know your gear, before departing, do a full mock up at some place. Set-up your cart, connect all your gear, hook up each and every mic to your recorder, check all cables, check the ifb's, the headphones, the lockit boxes, everything. There will be no surprises when you land on location on the first day of shoot. Even check the HDD you carry with you to do your backups. Don't expect things to

work perfectly, even if some of the stuff you are carrying is brand new!

Carry extra backup gear: Extra microphones, extra lapels, extra cables, extra headphones...on an outdoor shoot, you never know when you will need to use the backup gear.

Try and carry your own 9 volt and AA rechargeable batteries: We were told by production that it could be a problem to carry multiple rechargeable AA and 9-volt batteries on an international flight. So, the local line producer was asked to arrange for rechargeable 9 volt and AA batteries. Yes, they did, but they got us very poor-quality batteries and lousy chargers for the batteries. The chargers took too long to charge the batteries. Not enough batteries could

be charged in one go. And to top it up, the battery ratings were all wrong.

The result was that we had to change batteries every 90 minutes. In the desert, you are not likely to find a plug point to charge your batteries. Luckily, the hotel had uninterrupted power. That was a blessing. But it was a nightmare shooting with those batteries.

Point to be kept in mind is, even if production says that they will provide all the required batteries, always carry a few of your own batteries and your own

battery charger. You never know when things will turn out differently.

On a desert shoot, be prepared for very strong windy conditions: Wind is the biggest enemy of a PSM in the desert. One day, it will be absolutely quiet with no wind. Deathly still...no ambient sound at all. The next day could be slightly windy...or, it may turn out to be very very windy. And things can change within minutes.

One time, when there was no wind at all, a sudden gust of wind came and sent a tent flying in the air! So beware, a gust of wind can catch you unawares and send things toppling over... light stands, skimmers, chairs, umbrellas... anything can go flying at any time.

Carry empty sand bags: You will

will exhaust you. So go wireless for everything as far as possible. All lapels are already wireless. Keep all Boom mics also wireless. All plant mics wireless. Even get your video feed wireless. Insist on it. Always have a video monitor in front of you. Besides seeing the camera frame, you also need to be able to see TC and audio going on camera.

Keep your sound cart compact and easily manoeuvrable: Moving a heavy sound cart in the soft sand will be a problem. Try to distribute all your stuff on two smaller carts. Let one main cart carry your video monitor, recorder and receivers and nothing else, and let the second cart be your follow cart on which you can put all the rest of your gear. In my case, I did not have the two carts and had to make do with a chair as my cart!

Cover all your gear: Sand will get into all your equipment, your clothes, your shoes, your ears... everything. So, if you have a Scorpio or 888, cover the full kit and use the iPad to control recording, move faders etc. This will help keep sand out of your gear. Decathlon makes some nice rain covers that can be used to cover your gear. Sand is a real killer if it gets into your equipment. Faders and buttons have to be constantly cleaned. Carry a big paint brush to brush away sand regularly from your gear.

Arrange for a small portable air compressor: Every evening, after pack-up, we had to take the gear to a room which had an air compressor and blow away all the sand from the gear. That is the only way your gear will survive in the desert. If you can, carry a small portable air compressor, to use as a blower, just to keep dust and sand out of your gear. Worth it. Alternatively, carry or arrange for Dust-Off dust cleaner spray cans. Boom poles will have to be opened up and regularly cleaned too.

No matter how much you plan, things will changethat is the nature of filmmaking. And the better prepared you are for any change that happens, the better your work will be.

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ADJ LAUNCHES TWO ELLIPSOIDAL LUMINARIES – ENCORE PROFILE MINI COLOR AND ENCORE PROFILE MINI WW

ADJ expanded its portfolio of theatrical lighting fixtures with the introduction of two new compact and versatile LED-powered ellipsoidal luminaires: The **Encore Profile Mini Color** and **Encore Profile Mini WW**. Both fixtures are designed to offer powerful lighting capabilities in a compact size, making them ideal for a wide range of applications where space is limited.

The Encore Profile Mini WW features a potent 40W warm white LED engine with a 50,000-hour average life expectancy and 3000K colour temperature. Its light is focused through precision-engineered optics to deliver a crystal-clear 900 Lumen output with an even field and extremely high CRI of >98. This makes it ideal for illuminating per-

formers on stage as well as scenic elements, both in a theatrical setting and for other applications such as theme park attractions and retail displays. High CRI lighting ensures

realistic depiction of colour as well as enhanced depth, which means that all skin tones appear natural on stage and that scenic elements look realistic. The Encore Profile Mini Color features a versatile colour mixing LED engine comprised of 16 x 3.5W RGBWAL (red / green / blue / white / amber / lime) LEDs that also offer a 50,000-hour average life expectancy. By varying the intensity of the six LED types, an extremely wide colour palette can be achieved, ranging from vibrant and bold primaries to soft and subtle pastels. The LED engine can also generate white light with colour temperatures varying from 2700K up to 7000K, with a dedicated Dynamic White DMX channel provided to allow simple selection. The fixture offers a good CRI of >86 and an output of 300 Lumens.



Both lenses offer manual zoom, with the EP Mini Lens 1530Z option offering a variable beam angle of 15° - 30° and the EP Mini Lens 2550Z version providing wider options of 25° - 50°. Both fixtures can also be used to project GOBO patterns and are each supplied with a

holders and shop window displays. Excluding the lens, each fixture weighs only 3.64 lbs. (1.65 kgs.) and measures just 6.03" x 5.67" x 10.75" / 153mm x 144mm x 273mm [L x W x H]. 5-pin DMX input and output



formers on stage as well as scenic elements, both in a theatrical setting and for other applications such as theme park attractions and retail displays. High CRI lighting ensures

Both models require the use of a lens, which are sold separately. Two lens options are launching with the fixtures that can be used to adapt their output depending on the beam angle required.



holder for standard 'E' size GOBOs (GOBOs sold separately). An optional barn door accessory – EP MINI BDA (sold separately) – is also available, which can be easily and securely attached to the front of either lens.

sockets are located on the rear panel of both fixtures, as are power inlet and thru connections. The latter allows the power supply for multiple fixtures (up to 28 @ 120V or 57 @ 230V) to be daisy-chained from a single outlet. There is also a USB port provided on the side of both fixtures, which can be used to quickly and easily update the fixture's firmware if updates become available in the future.

Their LED light engines allow both fixture models to offer digital dimming with variable curves and a selection of dimming modes as well as variable speed strobing. They also support adjustable refresh rates so that flicker can be eliminated for filming applications. A convenient OLED menu display on the rear panel provides access to an intuitive menu interface for DMX addressing and configuration of the unit's adjustable operating parameters. They are both also supplied with a variable angle hanging bracket that locks securely into place using a pair of large thumb tightening screws.

"Offering excellent optics and versatility, the Encore Mini WW and Encore Mini Color offer everything that a lighting designer expects from an ellipsoidal but in an extremely compact form," comments ADJ USA's Director of Sales, **Alfred Gonzales**. "They are natural additions to ADJ's Encore Series of LED-powered luminaires, which already includes full-size ellipsoidals as well as Fresnel and par fixtures of various sizes. These new models are ideal for a wide variety of applications where the focused output of an ellipsoidal is required but where space wouldn't permit the use of a typically-sized fixture."

The Encore Mini WW and Encore Mini Color are extremely lightweight and compact luminaires, making them suitable for a wide range of applications, including small theatres, bar stages, museums, theme park attractions, art galleries, restau-

PROLIGHTS LAUNCHES ASTRA PROFILE600IP

PROLIGHTS released the **Astra Profile600IP**, a bright, IP65-rated LED moving profile. The unit is designed for large-scale touring and exterior installations.

The Astra Profile600IP offers an outstanding performance that utilises a 600W white LED engine, reaching 21,000 lumens whilst achieving a flat field beam projection. Its optical system moves linearly from 7° to 62°.

This fixture has a CMY colour mixing system that delivers beautiful, saturated colours, linear CTO correction from 2,700K to 5,600K and a colour wheel with six colour filters plus a 5,600K high CRI filter.

Lastly, the Astra Profile600IP includes 4-layer motorised framing shutters, an animation wheel, a rotating gobo

wheel, one frost filter, a 4-facet prism and an iris.



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CHAUVET ACQUIRES LYNTEC

In keeping with its mission of providing customers with cutting edge technological solutions, Chauvet has acquired LynTec, one of the leading global suppliers of electrical power solutions for lighting, video, and audio systems. Founded in 1982, Lenexa, Kansas-based LynTec is widely known for its advanced lighting control panels, with these products installed well over 10,000 sites throughout the world.

“With the addition of LynTec to our group of companies, we will be able to offer our customers a complete solution that embraces lighting, video, show programming, and control at every level from the creation of a design, to the control of power at an installation,” said Albert Chauvet, CEO of Chauvet. “We not only value LynTec for its technolo-

gy, we’ve also been very impressed by the company’s ongoing commitment to improving its products and level of service to customers. In this respect, it mirrors the same values that have powered the growth of Chauvet.”

Like Chauvet, LynTec has been dedicated to offering effective value driven solutions to every segment of its markets. For example, in the House of Worship market, its panels have been used at Saint Patrick’s Cathedral and Church of the Highlands, as well as at churches serving only a small number of worshippers. The same diversity is also very evident in its mix of theatrical, sports center and entertainment venue business, as its products are found in NHL arenas, as well as at high school auditoriums.

“We are very excited to be joining the Chauvet family based on our shared commitment to providing excellence to our customers in all facets,” said Mark Bishop, President of LynTec. “The synergies between the two companies will enable us to continue developing outstanding products while providing unmatched customer service and project solutions for our current and future customers.”

In addition to lighting control panels, such as the award-winning LCP Lighting Control Panel, LynTec makes remote control circuit breaker/relay panels, and Pro AV control panels. As it’s grown, the company has continued to develop innovations. At LDI 2022 it introduced the highly acclaimed PDS-12 Sequencing Relay Panel and Smart Switch Sets.



Given this commitment to innovation and customer, LynTec should find itself right at home at Chauvet.

CAMEO RELEASES OTOS SP6 AND OTOS B5

Cameo has expanded its OTOS Series with new two new models of IP65-rated moving heads- the **OTOS SP6 Spot Profile** and the **OTOS B5 Beam**. The **OTOS SP6** is an IP65 spot profile moving head featuring a 600W LED light source and 75,800 lx illuminance at a beam angle of 7°. Featuring a 130mm front lens, the optical system comes with a zoom range from 7–50°. Weighing 34kg, the OTOS SP6 is ideal for outdoor use in the live venues, events, theatres and broadcast applications.

The OTOS SP6 comes with two gobo wheels, a five-facet prism and an integrated four-fold iris slider system with $\pm 45^\circ$ rotation. It also features CMY colour mixing along with an additional colour wheel with six dichroic filters + open for saturated, rich colours, while the linear CTO correction allows

variable adjustment of the colour temperature between the range of 2,600K to 7,000K. Its adjustable PWM frequency (650Hz–25kHz) also makes the OTOS SP6 suitable for flicker-free use with film and TV cameras.

Weighing in at 33kg, the OTOS B5 is an IP65 beam moving head with a 480W discharge lamp and a service life of 3,000 hours. It features an illuminance of 511,000 lx @ 15m and its 205mm front lens produces precise 1° beams that can sustain even in densest lighting designs. Like the OTS SP6, its IP65-rated housing makes it all-weatherproof.

The OTOS B5 features a static gobo wheel with 19 gobos + open, as well as three rotating prisms on two levels to create a wide range of mid-air effects. Users can benefit from the full range of shades, courtesy its integrated CMY colour mixing and an additional colour wheel with 14 dichroic filters.



The OTOS B5 IP65 beam moving head comes with a 480W discharge lamp an illuminance of 511,000 lx



The OTOS SP6, an IP65 spot profile moving head features a 600W LED light source with 75,900 lx illuminance

On Page 66, read ‘**Martin’s Newly-Engineered RGBW Light Engine Propulpts Compact, Brighter Wash Light Series**’, where **Mark Mercer-Buss**, Martin Global Product Line Manager of Entertainment Lighting, offers an insight into how Martin Lighting is catapulting its new offerings into the pro lighting industry with the launch of **Martin ELP PAR/ELP PAR IP** and **Martin ERA 150 Wash Light** – and how the brand took creative and technical inspiration from the Martin MAC Aura Family to engineer these new, pivotal fixtures with several stand-out features.

To feature your pro lighting advertorial in **PALM + AV-ICN** magazine, contact **Smita Rai** at smita.raihyve.group

The Bright Spark

DHANDA KHUL GAYA

Viraf Pocha



Covid kya tha? Ha Ha. Yaad hai, purane jamane me kuch lockdown- shockdown hua tha.

Chal abhi timepass band kar. Jo saman bacha hai, itna hi bhej sakta hu. Ya toh parso tak thair ja – woh 400 light ka consignment godown me poch (pun intended!) jayega.

But are we back in business! Every corner of the country is bursting with activity.

If you had been reading these lines of superior wisdom (Everything uttered by The Bright Spark), you may recall me urging my fellow 'Entertainment Techies' to rethink the way of doing business from what was a wilting activity, short of energy and innovation.

I don't know if I can take credit for inspiring you lot to initiate creative thinking or was a it a dour-faced hottie selling business Information on Instagram (more on this later). But something has clicked.

And boy, are we back!

We are a population of 1.5 odd billion. In a young population. That's roughly 250 million (my guess) kids of marriageable age whose families were held back from celebrating wildly.

During Covid, sadly, several people had a tough time. But apparently, those same 250 million 'waiting-to-be-married' guys have done phenomenally well.

On a side note, it will be interesting to learn how these kids connected during Covid – via online dating or traditional matchmakers discovering Zoom. I mean I'm not aware of Tinder or Bumble or whatever having a 'parents and relatives' approval tab. In marriage apps, do the bride, the mom, the dad, the sister, and the uncle have to swipe right simultaneously for a Shaadi to be 'tai' (a new word I learnt).

I hope all you guys are smart enough to figure out what all this sentimental rambling has to do with wires and bulbs!

Or are you just too busy to give a hoot as to why all of us are so ridiculously busy.

Never thought I'd say this, but these days, even event managers are paying the full price without haggling too much. Of course, their briefs are even more crappy than before.

I think they have a template in their phones now - (Insert date) (Insert venue) Lighten bhej do. Kitna paisa transfer karna hai? The best part is, they actually send the money!

WOW.

Not Just weddings. Shows, Concerts, Festivals – Touring & Booming.

For me, the good part is the inclusivity of everything. The penetration into deeper and deeper India.

International concerts are no longer just limited to Mumbai or Delhi. It is now Mumbai AND Delhi AND Bengaluru AND Hyderabad AND you get the gist.

The even better part is, chances are,

the weather is getting more inhospitable and pollution levels are rising. I'm sure it's getting physically demanding.

Trusses are getting motorised, so stacking speakers and rigging lights is getting easier. Gone are the days when truss pillars aligned with stage corners. Trusses are being positioned, so backdrops and LED walls can be installed independent of lowered trusses. Small detail, but it's a breakthrough, as to me, it means that people are thinking about their work. That has to lead to better things.

Which brings me back to hotties selling business information on Instagram. This is one aspect of social media that has caught my attention.

Insta Education.

Apparently, a huge portion of the Insta Education market is devoured by

Trusses are getting motorized, so stacking speakers and rigging lights is getting easier. Gone are the days when truss pillars aligned with stage corners. Trusses are being positioned so backdrops and LED walls can be installed independent of lowered trusses. Small detail, but it's a breakthrough, as to me, it means that people are thinking about their work. That has to lead to better things.

you can source most of the equipment Locally. Unlike pre-Covid, most of it is NEW.

Now the BEST Part – It is all flight-cased and maintained.

Finally, equipment houses all over the country have realised that like our own personal health, with equipment – prevention is better than cure. Sadly, inside all these crazy schedules – the work force is exhausted.

Especially if you are outdoors –

the desis.

What is Insta Education? It's an online MBA (or whatever degree you fancy) you can buy at a fraction of the cost of a University Degree.

Pros – You can do it at your own pace at HOME. So, you can accommodate work, family and have NO rigid time schedules. Did I mention it is all ridiculously cheap?

Cons – YOU must be super committed. You have to chart out your field of

study. You will make mistakes.

But the courses are more focussed on solving real life problems in TODAY's real-life environment. Not just some abstract classroom concepts.

I really urge the new business owners to download some basic business courses on Money Management, HR Policies, Workflow, etc. It's so easy and affordable. Unbelievable that each subject of a 2-year MBA program can be bought for hundreds of rupees.

Even if you don't become an expert, it will open your thought process on how to streamline your business.

And that is why it is so useful to be taught this by a desi. They know ground realities in India and have tailored their courses to do things 'the India way'.

Of course, it's great the world is waking up to the traditional way of doing business and marrying it with well-researched management principals from the West.

Sound Theory with a touch of Indian Jugaad – world beating. Especially if the Jugaad is used ONLY in emergency and not as a regular tool.

Go forth, my colleagues. Grab this opportunity. Multiply equipment, quality manpower, install efficient business systems and reap the success due to you for your hard work and commitment.

Gladly, one thing has not changed. Only a committed and enthusiastic fellow will stand up to the physical rigours of our business. It's undoubtedly tough. You need oodles of persistence and patience. I hope you can turn all that effort into a profitable and engaging venture.

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

Martin's Newly-Engineered RGBW Light Engine Propulpts Compact, Brighter Wash Light Series



*Martin Lighting's team was on a mission to introduce a universal wash light that would be an ideal fit for all verticals of the pro lighting market. In this article, **Mark Mercer-Buss**, Martin Global Product Line Manager of Entertainment Lighting, delves deep into the core technology behind the Martin ELP PAR/ELP PAR IP and Martin ERA 150 Wash Lights and reveals the real reason behind their creation, how they elevate the Martin Lighting portfolio, and what makes these essential fixtures stand out in the competitive market.*



Mark Mercer-Buss, Martin Global Product Line Manager of Entertainment Lighting

The Martin lighting team set out on their endeavour to introduce a staple wash light, a new set of complementing PARs to suit all corners of the market. The aim was to design them with versatility and sturdiness for touring/rental to add value to their client's inventories. Harnessing the power of over 35 years of Martin's technical genius, the team borrowed key features – tried, tested and loved, by lighting professionals the world over – from none other than the Martin MAC Aura family.

The result delivers an incredibly understated workhorse that's elevating wash light benchmarks. The static Martin ELP PAR/ELP PAR IP and moving head Martin ERA 150 Wash lights feature full-color calibration, allowing creatives to match rich saturated colors in their fleet like never before. From rigging improvements and implementing smart industrial design to cable management clean-up and the choice of optical systems for creating intense beams; these wash lights are incredibly capable of handling the heavy lifting when setting the perfect stage.

In this article, **Mark Mercer-Buss**, Martin Global Product Line Manager of Enter-

tainment Lighting, delves deep into the core technology behind the Martin ELP PAR/ELP PAR IP and Martin ERA 150 Wash Lights to reveal how they are poised to offer something newer, better, and brighter to the pro lighting industry.

What was the objective behind creating these new PARs?

We wanted to solve common issues our clients face with other fixtures. These lights are built for the rigors of the road. They include a lightweight yet durable design that has been thoroughly scrutinized through Martin's extensive and rigorous product testing program. We've really focused not only on outstanding illumination capabilities but also the day-to-day rigging and handling to ensure an even smoother user experience.

We've significantly raised the bar for brightness in the compact class, producing up to twice the lumen output of these fixtures' predecessors. We've added new



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features such as full-gamut color calibration, enhanced optics for narrow beam projection, and a wide uniform wash field, offering lighting designers toolkits previously only found in larger-format fixtures. With these fixtures, we have really focused on elevating the expectations of PARs. The ELP PAR IP addresses a requirement our clients have been requesting for some time – a trusted Martin PAR, weatherproofed for outdoor use. And the sealed design also means fewer maintenance cycles.

How do these PARs fit into the latest generation of LED Martin lights?

The goal for the PARs is to feel and operate just like our premium fixtures such as the MAC Aura PXL and MAC Aura XIP. On-board color calibration delivers consistent color reproduction but also the same color mixing control experience used by the MAC Aura family to create a seamless experience between Martin fixture types.

In the ERA 150 Wash and ELP PARs, we've incorporated patented light rod technology from the MAC Aura family that allows the fixtures to deliver a high-quality wash experience as well as a tight and punchy beam effect to deliver a very familiar user experience.

Now that this technology has become standard in ERA fixtures, where and how does the ERA family sit in the Martin portfolio?

To better understand how ERA products fit into the Martin portfolio, we break it down like this: the MAC range is essentially designed to push the boundaries, think exceptional innovation, shattering expectations and exceeding market benchmarks; with that comes increased cost due to the exceptional engineering, pioneering R&D and premium finish. In essence, MAC offers high features and high performance. The ERA range represents affordability with a great balance between performance and features. It adapts the MAC light rod and calibration technology and manufactures at a price-conscious point to meet current market requirements. This ultimately results in a range that combines high-quality products with reliable technology and a brilliant Martin feel.

Let's talk color, what is so important about the

way these fixtures are calibrated?

Martin's factory calibration of colors offers superior consistency. The ERA 150 Wash and ELP PARs all include RGBW color mixing and utilize an onboard full gamut color calibration hardware solution which enables the fixture to be shipped with an optimum useable color space built around the LED light engine. In simple terms, these Martin fixtures offer incredible color consistency from fixture to fixture and also deliver an accurate CTC control channel that follows the black body curve for fine-tuning the white point. There are 48 color presets and virtual color wheel effects.

Some calibration systems can prevent a user from obtaining full saturated colors, but with the Martin Extended Color Mode, the calibration system extends into the full RGB space giving lighting designers access to the full color pallet offering of the light engine. They are also equipped with electronic dimming of 0 – 100%, offering four dimming curve options. Color temperature control is variable from 1,800-12,850 K.

	Power	Weight	Colour temp	Zoom range (°)	Lumens	Rotating speed	Static speed	Framing	Colour wheel slots	Prisms	Beam (ft @ 1m)	Beam (ft @ 3m)	Beam (ft @ 5m)	Control	DMX Channels	Application	Usability
MAC Ultra	1150 W	44.0 kg	2050 – 8000K	8 – 84	48 500 lm	2 x 5.1	0	Yes / Full curtain	8	4 faces	38.9 dm	118.8 dm	191.5 dm	DMX/RS485/Art-Net/Bluetooth	48	Stage	★★★★★
ERA 800	800 W	44.0 kg	2700 – 8500 K	7 – 56	34 000 lm	1 x 8	7	Yes / Full curtain	8	4 faces circular and 8 faces linear	41.8 dm	125.4 dm	191.5 dm	DMX	42	Stage	★★★★★
MAC Quantum	475 W	23.2 kg	8000 K	12 – 30	10 700 lm	1 x 8	10	No	0	Rotating 3 faces	50.0 dm	150.0 dm	191.5 dm	DMX	33/0/7	Stage	★★★★★
ERA 400	550 W	32.3 kg	2700 – 8500 K	0 – 40	19 000 lm	1 x 7	8	Yes / Full curtain	7	4 faces circular and 8 faces linear	46.1 dm	138.3 dm	191.5 dm	DMX	41	Stage	★★★★★
MAC Icon	468 W	31.0 kg	3000 – 7000 K	12 – 48	9 300 lm	1 x 7	8	Yes / Full curtain	6	No	46.0 dm	138.0 dm	191.5 dm	DMX	38	Stage	★★★★★
ERA 100	300 W	22.5 kg	8500 K	10 – 30	10 000 lm	1 x 7	9	Yes / Full curtain	9	Rotating/locking three faces	47.0 dm	141.0 dm	191.5 dm	DMX	30	Stage	★★★★★
ERA 300	200 W	17.0 kg	8500 K	13 – 28	9500 lm	1 x 7	9	No	8	3 faces	47.0 dm	141.0 dm	191.5 dm	DMX	31	Stage	★★★★★
MAC Spirit	2200 W	107.0 kg	8000 K	12 – 48	128 000 lm	1 x 5	0	Yes	4	4 faces	50.0 dm	150.0 dm	191.5 dm	DMX	48/0/0	Stage	★★★★★

Why MAC?

The MAC series of automated lights represent the pinnacle of performance. Perfect for a wide range of concert and touring productions, these fixtures are ideally applicable for more sensitive broadcast and theatre stage lighting applications. Simply put, when it comes to workhorse fixtures that push the boundaries of output and performance resolution, the MAC range stands boldly in its class all its own. Martin MAC products are globally recognised as a brand, a leader for rental in locations across the world, no matter where your events go.

Why ERA?

ERA delivers the same Martin pedigree of performance and reliability as the MAC range, at a lower price. ERA are great for a wider range of venues, drawing from the same experience and technology used from our years of experience of the MAC range of products. Packed with great features to offer flexibility and versatility for a wide variety of events, all the ERA ranges go through the same durability and resilience tests as the MAC range so you can be sure you can rely on them show after show.

Differences

MAC pushes the limits of what an automated light can do, where range ultimate flexibility best suits the largest venues and most challenging requirements. ERA delivers for concerts and live events at a very competitive price. Both ranges are built on our 35 years of industry experience and fused with the outstanding Martin DNA.

Support

Deciding which fixture to use can be a challenging task, we know that you will have to test many years. The Martin team are here to support you to make the right investment. Our technical specialists support lighting designers, technicians, consultants and other specialists to assist them in better understand the new Martin products and solutions can be best utilised in their client projects. Our website offers comprehensive information across a wide variety of topics, including product technical information, configuration, programming, connectivity and much more.

What makes these PARs a market favorite?

With the rigging improvements on these fixtures, we've attempted to hone in on areas that can be time-consuming for our clients and have increased efficiency. These fixtures include time-saving solutions and options such as omega-bracket-connectivity, a quick-focus system and bright angle of projection indicator marks for quick and repeatable installation. With the push of a button, the fixture temporarily switches to full-power/open-white/adjustable-zoom settings to instantly confirm projection and focus.

Another underrated feature is the newly introduced input angle of the data and power cables which helps to keep cable management cleaner.

Both ELP 150 Wash and ELP PAR IP are pivotal fixtures. Which features from the products stand out for you the most?

They have an impressive very narrow and intense beam. It's a clean beam look with outstanding control of light, delivering a sharp and round beam.

With a wide zoom range of 4.2–58 degrees, the ERA 150 Wash and ELP PAR excel at producing broad washes and high-intensity mid-air effects.

I'm also quite proud of the ELP PAR IP and how we've managed to achieve weatherproofing/IP rating without the usual penalties to size and weight – these are only 1 mm longer than their indoor counterparts and only 1 kg (2.2 lbs) heavier.

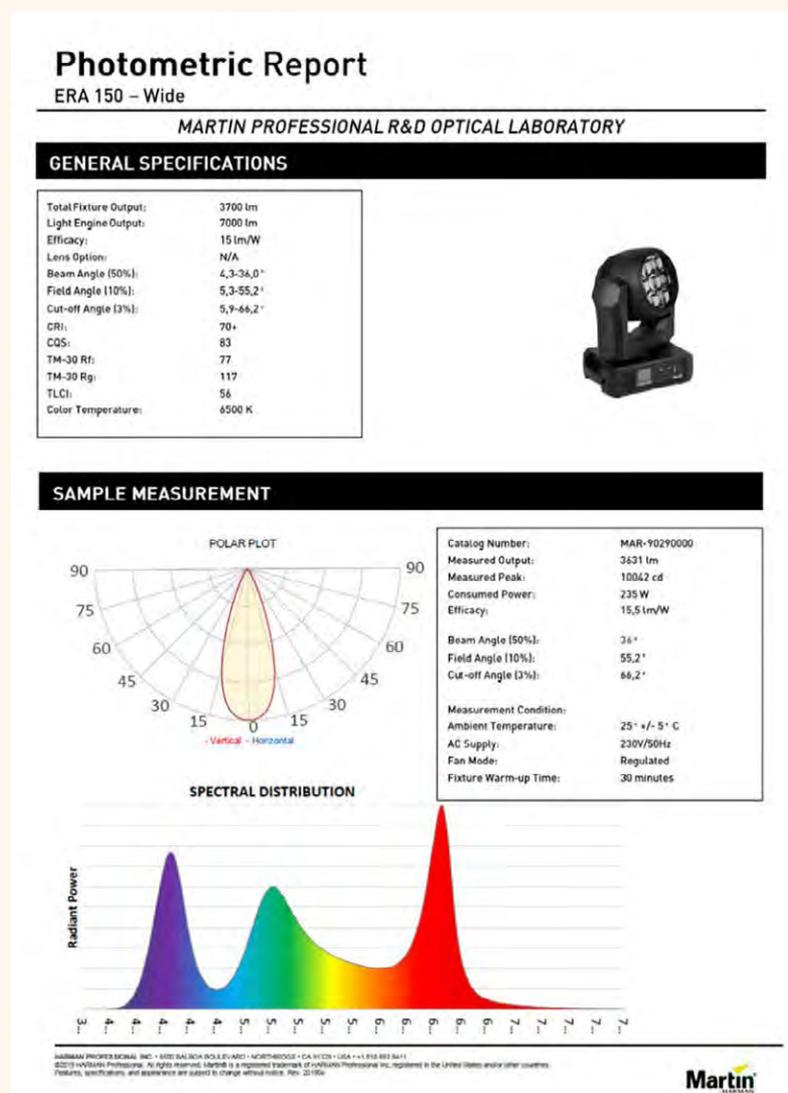
Rumor has it that these are the new PAR 2 Zoom and MH6, is that right?

In essence, yes these would be a suitable upgrade for most applications bringing modern technology to our clients' inventories.

The Martin ERA 150 Wash is the successor to the iconic Martin RUSH MH 6 moving-head LED. It delivers a whopping 3,900 lumens—twice the brightness of its predecessor—thanks to its 7 x 40W RGBW light engine and optical system. It's ideal for covering larger stages that require longer throw distances.

The ELP PAR is a successor to the best-selling RUSH PAR 2 static LED and outputs 3,500 lumens, twice the output of the previous model, again, thanks to the new powerful light engine and optical system.

Additionally, with onboard color calibration and smart rigging solutions, the ELP PAR raises the bar for the static wash fixture category.



Canara Lighting's LED Jagle Panel Is Here To Revolutionize The Broadcast Lighting Landscape

Since 1972, **Canara Lighting** has been in the business of manufacturing specialized professional lighting equipment. Canara Lighting designs, develops, and manufactures all of its products in-house within the walls of a state-of-the-art facility in Mangalore, which are, in turn, a well-reputed choice for a wide range of applications such as film studio lighting, television studio lighting, auditorium stage lighting, and more. With such a long-drawn history of creating and delivering signature lighting products, it is no surprise that Canara Lighting has always aimed at transforming the broadcast lighting industry, and to that extent, has developed a game-changing product called the **LED Jagle Panel**. But what makes the product stand tall in a market full of professional lighting products?

Ajeet Khare, Managing Director, Canara Lighting Industries Pvt. Ltd. explains what makes this revolutionary product a cut above the rest.



The LED Jagle Panel – An Ardent Mix of Sharpness & Speed

True to its name, which is a derivative of Jaguar (which denotes high speed) and Eagle (which denotes sharp), the LED Jagle Panel imbibes the spirit of light in form and function; and is dubbed as a “dream for all lighting designers.” An ideal choice for a wide range of applications such as television studio lighting, production house lighting, large-size Chroma studio lighting, film studio lighting, and more, this lighting fixture can perform some of the most vivid functions to meet modern-day exacting requirements, including but not limited to:

- Getting a colour temperature from warm light to daylight and beyond (2700K to 12000K)
- Accessing a multitude of colours and a few unique shades
- Making use of user-friendly system settings provision to save and load lighting effects as and when required

Colour Correction, Done Right

One of the most unique features of the LED Jagle Panel is that the product allows the user to switch between colour temperatures of 2700K to 12000K with the press of a few buttons. The images below represent a step-by-step process to accomplish colour correction with the LED Jagle Panel. A glance at these images is enough to understand why this lighting fixture is every lighting designer's paradise.

CCT FUNCTION



Use LEFT knob to tune CCT from 2700K to 12000K



Use CENTER knob to intensify or dim selected CCT from 0% to 100%



- Use RIGHT knob to Color Balance the selected CCT to eliminated green or magenta glares caused due to other sources of light used around JaglePanel
- Color balance varies from +10 steps to -10 steps

HSI FUNCTION



Use LEFT knob to tune HUE or select range of colors from full color gamut



Use RIGHT knob to tune SATURATION or enrich and fade selected HUE or color



Use CENTER knob to intensify or dim the selected color shade

COLOUR FUNCTION



Function is used to lit up standard colors



Use CENTER knob to intensify or dim the standard color



Use RIGHT knob to select different standard color

PRESET



Preset function gives the auto changing colors with different color sequence and speed



List of PRESET

- | | | |
|----------|------------|------------|
| 1.PLAY-1 | 6.PARTY-1 | 11.DISCO-1 |
| 2.PLAY-2 | 7.PARTY-2 | 12.DISCO-2 |
| 3.PLAY-3 | 8.PARTY-3 | 13.DISCO-3 |
| 4.PLAY-4 | 9.PARTY-4 | 14.DISCO-4 |
| 5.PLAY-5 | 10.PARTY-5 | 15.DISCO |



Use CENTER knob to select the presets and enter



Use CENTER knob to Intensify the auto changing colors

Key Features of The LED Jagle Panel

The LED Jagle Panel goes beyond being a typical lighting fixture for lighting designers. Apart from offering the above-mentioned benefits with use, here are the key features of the LED Jagle Panel that give it an edge over other lighting fixtures:

- 100% designed and manufactured in Canara Lighting's in-house facility in Mangalore, India
- Powered with a sophisticated electronic circuit, designed and built in-house
- On-board microprocessor for colour mixing to produce 1000+ colour shades
- An extensive colour temperature range that spans between 2700K to 12000K with zero compromise on CRI
- A colour correction mechanism that makes it compatible with modern-day camera settings
- A customized colour palette equipped with 'fade' and 'enrich' options to accomplish stage and wall paintings
- A host of adjustable user-friendly system settings
- 'Save and load' light effects
- USB support and on-board firmware upgradation
- Features a microprocessor with graphical LCD display
- Offers a highly uniform dispersion of light
- Comes with special light effects such as police, ambulance, fire, thunder, candle, and more
- Additional accessories include soft box, honeycomb, snap grid, and barn door

Technical Specifications of The LED Jagle Panel

- Lamp power: 400W
- Beam angle: 110 degrees
- CRI: > 90
- Protection rating: IP20
- Base colours: RGBW with HSI control
- Colour correction: -10 to +10 green – magenta colour swing

With international-grade design, easy-to-use interface, and competitive pricing, the trailblazing LED Jagle Panel by Canara Lighting truly comes with a unique set of features, which makes it a preferred option for lighting designers wishing to work with the best in the broadcast lighting industry.



- By Ajeet Khare, Managing Director,
Canara Lighting Industries Pvt. Ltd.
Email: ajeet@canaralighting.com

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

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Bringing Soul to the Sound

Studio subwoofers – a piece of musical equipment that brings music to life. The extra nudge that adds the right amount of soul to a musical note. From a technical standpoint, studio subwoofers help enhance the music that emanates from a loudspeaker by giving it that much-needed extra punch and bass. But in a pro audio market crowded with studio subwoofers, it can sometimes be a bit tough to identify the cream of the crop. Which is why, this product focus features six reliable studio subwoofers that can make the task of creating and monitoring a good mix a true joy.

KRK Systems S10.4 Studio Subwoofer

Labelled as “the next dimension in subwoofer performance” by the brand, this studio subwoofer stands true to KRK’s legacy of exceptional sonic accuracy and top-notch performance. The studio subwoofer is designed to deliver cream-of-the-crop bass with an architecture that is custom-voiced and glass-aramid along with a class-D amplifier that enhances response, punch, and control.

Main Features include:

- 10” glass aramid composite woofer
- Bass extension to 27Hz with a max SPL of 117.2 dB
- Redesigned cabinet with a lower profile and front-firing bass port
- Powerful, lightweight Class D amplification
- Optimized four-position crossover control
- Universal connectivity: XLR, 1/4” TRS, and RCA inputs and outputs

Technical Specifications:

- Configuration: Front Loaded, Vented Subwoofer
- System Type: Active Subwoofer
- Frequency Response: 30Hz - 110Hz
- Max Peak SPL: 117.2 dB
- Amplifier: Class D
- Power Output (Continuous): 160 Watts @ 1% THD+N @ 44Hz
- Signal to Noise Ratio: 92 dB
- Input Connectors: XLR L/R, 1/4” TRS L/R, RCA L/R, 1/4” Footswitch
- Output Connectors: XLR L/R, 1/4” TRS L/R, RCA L/R
- AC Power Input: 100VAC-240VAC
- Enclosure: 15 mm and 18 mm Reinforced MDF
- Finish: Black Vinyl Wrap, Baffle - Black Paint
- Hardware: EVA Isolation Pad
- Dimensions (H x W x D): (H x W x D): 13.4375” (341 mm) x 18.875” (479 mm) x 12.1875” (310 mm)
- Weight: 35 lb. (15.88 kg.)



Focal Sub One

Sleek, minimal, and effective, the Focal Sub One delivers high-efficiency power of 200W RMS. It features a double-skin Slatefiber cone to offer greater rigidity. With front panel vents, the Sub One also offers ease of installation by being an ideal fit over a wall or even under a desktop.

Main Features include:

- 2 x 8” (20cm) woofers with Slatefiber cone made in France
- 200 W RMS amplifier
- Sound neutrality, precise control of bass equalisation
- Compact design, optimal integration
- Multiple settings: low-pass crossover, volume, Footswitch input, etc.
- LFE, left and right inputs / left and right outputs
- Reproduction of sonic micro-details; precise adjustment of signal compression

Technical Specifications:

- Type: Sub One
- Frequency response (+/-3dB): 32Hz – 120Hz
- Maximum SPL: 114dB SPL (peak @ 1m)
- Inputs: Left, Right, LFE; Electronically balanced / 110kOhms; 3-point female XLR; Variable
- Outputs (to satellites): Left + Right; 3-point male XLR in parallel on inputs
- Amplification: 2 x 100W RMS, D-class
- Power supply: Universal detachable IEC inlet power cord
- Subwoofer: 2 x 8” (20cm) long-excursion Focal speaker drivers with “Slatefiber” cone
- Finish: Dark grey vinyl
- Dimensions: (HxWxD) 183/4”x113/4”x193/4” (475x310x520mm)
- Weight: 40.8lbs (18.5kg) O



PMC Speakers PMC8 Sub

One of the most remarkable studio subwoofers in 2023, the PMC8 Sub delivers an extensive bass response extension to the speaker system within any setup. Ideal to be used as a stand-alone subwoofer and even in a multi-channel system, the PMC8 Sub is elevated in form and function with 300W Class D Amplifier and the brand’s signature ATL bass-loading technology that allows for a hassle-free integration between the subwoofer and the multiple channels within the system.

Main Features Include:

- State-of-the-art Class-D amplifier: 300W
- SoundAlign™ network control interface for single or group EQ & settings
- Sophisticated DSP driver protection, EQ, and delay/phase options
- Dedicated XBD configuration mode.

Technical Specifications:

- Type: Active subwoofer with an 8-inch bass driver and ATL™ bass loading
- Frequency Response: 25Hz - 500Hz (- 3dB) (@1m full space, on-axis)
- Sensitivity: +4dBu input signal = 98dB SPL @ 1m
- Max continuous SPL: 109dB @1m
- Max Peak SPL: 121dB @1m
- Input: XLR switchable between analogue & digital AES3
- Analogue input: +20/+24dBu max. input level (selectable); 22K ohm input impedance
- Digital input: 16/24-bit AES3 signal, left, right or left + right; 18 - 192kHz Sample Rate; 110 ohm input impedance
- Output: XLR digital AES3 (fixed 24-bit @ 96kHz)
- Amplifier power: 300Wrms
- Power consumption (idle): 25W
- Power consumption (max): 300W
- Cabinet dimensions: H 266mm (10.5”); W 551mm (21.7”); D 440mm (17.3”)
- Weight: 18.5kg (40.8lbs) each
- Available Finishes: Studio black P



From Neumann.Berlin to Focal, these six studio subwoofers are designed to elevate the acoustics of any professional - grade studio. This feature is intended only as a guide and does not endorse any product.

Neumann.Berlin KH 750 AES67

Compact, connected, and compatible, the KH 750 AES67 is a great choice when it comes to studio subwoofers. This studio subwoofer helps realize stereo systems of any size. With brilliant features such as a flexible bass manager, analog + digital inputs, adaptable acoustic controls, and four routing modes, the KH 750 AES67 ideal for studio tracking, mastering, and mixing.

Main Features include:

- Physically redundant AES67 audio network interface
- Deep bass in a small space
- The perfect complement to KH 80 DSP, KH 120 and KH 310
- Optional tool to align and operate a complete Neumann stereo system.

Technical Specifications:

- THD+N: analog, digital: < -100 dB; < -90 dB
- Free field frequency response ± 6 dB: 16 ... 800 Hz
- Free field frequency response ± 3 dB: 18 ... 750 Hz
- Self-generated noise at 10 cm (with input gain set to 100 dB SPL for 0 dBu): <20 dB(A) SPL
- Analog output(s): 2 x XLR; analog electronically balanced
- Dynamic range A-D-A: >120 dB(A)
- Dynamic range D-A: >123 dB(A)
- Power consumption (230 V / 100 V): Standby: <300 mW
- Power consumption (230 V / 100 V): Idle: 18 W
- Power consumption (230 V / 100 V): Full output: 410 W
- Cabinet material: Wood cabinet, aluminum electronics panel
- Woofer: 265 mm (10") with protecting black metal grille
- Product dimensions (height x width x depth): 383 x 330 x 383 mm (15 1/8" x 13" x 15 1/8")



Mackie CR6S-X Powered Floor-Standing Subwoofer

Looking for a deep, punchy bass? Look no further than Mackie CR6S-X, a compact floor standing subwoofer that delivers exceptional audio experience right from under the monitor setup. Powered by a touch control panel for ease of use and elevated in form and function with RGB LEDs at the bottom, the Mackie CR6S-X is just the right fit for any studio setup.

Main features include:

- High-output 6.5" LF driver
- Front Ported for enhanced bass
- Capacitive touch Volume and Mute controls
- Compact design saves precious floor space
- Volume follows source audio
- Integrated selectable RGB LEDs
- Stereo 1/8" input easily connects to CR2-X speakers and other common subwoofer outputs

Technical Specifications:

- Frequency Range (-10 dB): 40 – 200 Hz
- Maximum SPL Peak: 105 dB
- Total System Power: 60 watts peak
- Dynamic Range: ≥ 90 dB
- Signal-to-Noise Ratio: ≥ 90 dB
- Height: 10.0 in / 255 mm
- Width: 11.0 in / 280 mm
- Depth: 11.0 in / 280 mm
- Weight: 7.4 lb / 3.4 kg
- IEC: 100–240V ~50 / 60 Hz



ATC Audio 12"/300mm Subwoofer

The best partner for ATCs active monitor range, the 12"/300mm Professional Active Subwoofer works like a dream in all sorts of studio setups, be it stereo, surround sound, or immersive (like the Dolby Atmos). This quality alone makes the 12"/300mm Professional Active Subwoofer one of the top picks for audio professionals around the world.

Main features include:

- ATC hand-built high-excursion 12"/300mm SS75-314SC subwoofer driver
- Exceptional balance of high SPL capability, low cut-off and low distortion
- ATC discrete MOSFET class AB power amplifier
- Remote muting via footswitch*
- Hand-built in England and covered by a 6-year warranty

Technical Specifications:

- Drive Unit – Bass: 1 x SS75-314SC 8 Ω . Ω
- MaxSPL: 110dB continuous, 116dB peak (IEC Weighted Pink Noise, 1m, half space, low pass filter @ 80Hz)
- Sensitivity: +4dBu ref 88dBc (single channel driven, Gain +6dB, Level 0dB, pink noise, low pass filter @ 80Hz)
- Amplifier type: Grounded Source MOSFET based Class A-B, convection cooled
- Output Power: 300W into 8 Ω
- THD+N: <0.003%/-90dB, at 100Hz, 300W into 8 Ω over 90kHz bandwidth
- Balanced Inputs: 2 x Rear Panel Mounted Female XLR, pin 2 hot
- Balanced Outputs: 2 x Rear Panel Mounted Male XLR, pin 2 hot
- Frequency Response: <2Hz (-3dB) – 320Hz (-6dB, set by panel-controlled LP filter)
- Gain Control: 0, +6dB, +10dB
- Power Consumption: Idle 8W/14VA. 1/8th Power 170W/230VA. Full Power 500W/600VA
- Dimensions: (H x W x D): 568 x 464 x 500mm / 22 5/16 x 18 1/4 x 19 11/16 inches
- Net Weight: 44kg / 97lbs



AMG EVENTS ACQUIRES DAS AUDIO LOUSPEAKERS IN BHOPAL

AMG Events from Bhopal, a provider of professional sound and lighting products, has recently acquired 12 no's of **DAS Audio EVENT-210A** and 6 no's of **DAS Audio EVENT-218A loudspeakers**, adding them to their portfolio. These audio systems have been designed to meet the needs of all types of events, showcasing the incredible sound quality and having been used in thousands of venues globally.

DAS EVENT loudspeakers have become a go-to for professionals seeking reliable sound solutions for concerts, events, and conferences. Rising to prominence due to their excellent sound quality, user-friendliness, and exceptional performance, the popular EVENT-210A and 218A speakers have solidified AMG Events' standing as one of the market leaders in innovative sound production.

The DAS EVENT-210A Line is equipped with a double 10" "dual-band" configuration and a three-way powered line array, offering an extended frequency range.

A single M-75 compression driver and an injected aluminium high-frequency waveguide are custom-designed to enhance the performance of the DAS loudspeaker units.

This line array is powered by a three-channel Class D amplifier that delivers 360 Wpeak per channel. On the amp's rear panel, top-quality Neutrik XLR and powerCON connectors are provided, along with status LEDs that simplify setup. The DAS Easy-DSP interface is also included, enabling preset selection for the number of units and throw depth, making it easier to operate.

The DAS EVENT-218A powered subwoofer, featuring dual 18" drivers, utilizes the renowned LX series long excursion transducers that were initially introduced in the high-end LX-218 model. The enclosure is explicitly crafted for horizontal deployment, constructed with high-grade Birch plywood, and finished with the durable ISO-flex coating. Additionally, the subwoofer's upper panel features a pole mount socket, making it easy to mount and position.

"Wow, we couldn't be more excited



AMG Events is all set to deliver high-quality pro audio solutions for live events, stage shows, and more with the recently-acquired DAS Audio EVENT-210A and DAS Audio EVENT-218A loudspeakers

to invest in the latest technology from DAS Audio!" exclaimed **Ved Nidhish** of AMG Events. "Our clients deserve the best, and we're confident that the DAS EVENT-210A and EVENT-218A loudspeakers will elevate our sound game to a whole new level. With exceptional sound quality and performance, we can't wait to exceed their expectations and deliver an unforgettable auditory experience!"

Sudeep Shah of Stagemix Technology, Importers & Distributors of DAS Audio in India, expressed his excitement

about the partnership with AMG Events to bring the latest loudspeaker systems to their customers in Bhopal and beyond. DAS Audio products are renowned for their ability to meet the demands of the most challenging sound reinforcement applications. With the introduction of the DAS EVENT-210A and EVENT-218A, Mr Sudeep Shah is confident that AMG Events will be able to deliver exceptional results, setting a new standard of excellence in the industry.

LARGE-SCALE EXHIBITION FOR THE INTEGRATED PROFESSIONAL AUDIO, VIDEO AND LIGHTING (AVL) INDUSTRY COMES TO S.E. ASIA IN 2023

In partnership with **Montgomery Asia**, The **Professional Audio Visual & Lighting Integration Association (AVLIAS)** launches the inaugural international exhibition named **Pro Integration Future Asia 2023 (PIFA2023)** from 26 to 28 June 2023 at the Marina Bay Sands Expo & Convention Centre.

PIFA2023 is a dedicated business gathering specially curated for commercial Audio, Video and Lighting (AVL) manufacturers, suppliers and specialists to harness their AVL knowledge and technologies to deliver real-world applications and solutions to multiple vertical markets in the Southeast Asia region.

Focusing on the theme 'Pro Audiovisual & Entertainment Lighting Technologies Exhibition and Conference for the Growing Southeast Asia Markets', the inaugural mega exhibition will be supported by a series of industry conference and technical workshops across 6 key sectors namely, Unified Communications & Collaborations, Digital Signage & Out of Home (OOH) Media, Parks & Attractions, Stage &

Mega Events, Production & Immersive Technologies and Smart Homes & Buildings.

Well-supported by Singapore Tourism Board and Industry Associations such as the **Association of Electronic Industries in Singapore (AEIS)**, **Singapore Association for Private Education (SAPE)**, **Singapore Photographic & Digital Imaging Trade Association (SPDA)**, **Association of Small and Medium Enterprises (ASME)**, **Singapore Industrial Automation Association (SIAA)**, **Security Systems Association Singapore (SSAS)** and the **Association of Independent Producers Singapore (AIPRO)**.

PIFA2023 is expected to bring more than 6,000 visitors over 3 days, featuring over 100 international brands displaying their latest AVL Technologies including digital signages, displays, LED, projections, studio production, stage lighting fixtures, immersive technologies, presentation systems and smart homes & buildings gadgets, and more!

Christopher McCuin, Managing Director of Montgomery Asia says, "We

are excited to launch this brand-new industry event with our partner AVLIAS – providing a refreshing new sourcing location for the fast-growing Pro Audio Visual & Lighting (AVL) industry. The pre-launch has garnered extensive interest from the international market with some of the world's leading brands already reserving their stands at the event. We look forward to bringing the latest AVL technologies together in June 2023 for the industry to experience, purchase and enjoy."

Jackson Yeoh, Executive Director of Professional AudioVisual & Lighting Integration Association (AVLIAS) says, "More than 90% of the world's renowned AudioVisual and Lighting brand suppliers has either a subsidiary office or regional distributor in Singapore which looks after the channel distributions, installations, rental and staging markets surrounding our country.

As business travel continues to normalise and S.E. Asian economies recover, the surge in demand for AVL

equipment will be naturally directed back to Singapore head offices for both equipment supply and technical support. This is a unique business characteristic which cannot be ignored for our industry, and this is why Singapore has been identified as the chosen strategic location for PIFA 2023."

Poh Chi Chuan, Executive Director of Exhibitions & Conferences at the Singapore Tourism Board says, "We are pleased to see one of Singapore's most reputable event organisers, Montgomery Asia partner with the AVLIAS to co-organise this major international gathering for the audio-visual, light and sound industries. This further solidifies Singapore as the business hub destination for AVL procurement, accelerating and improving the visual experiences for the hospitality, tourism, experience and entertainment industries. We look forward to welcoming PIFA to our shores in June 2023."

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Patna Women's College Auditorium Gets Best-In-Class Audio System From SOUNDXPERTS

An Equilibrium of Art & Technology

Founded in 1940 by **Bishop B.J. Sullivan S.J.**, Bishop of Patna and **Mother M. Josephine A.C.** Superior General of the Apostolic Carmel, **Patna Women's College** was the first institution of higher learning that catered to the educational needs of women in Bihar, India.

The college has recently invested in new world's best-in-class pro audio, video and lighting systems for its newly-built 2500-seater auditorium named Veronica.

Following the successful completion of another project for Patna Women's College, Punjab-based **SOUNDXPERTS** won the contract to supply a complete turnkey solution for the auditorium, including pro audio, video, lighting, control, acoustics, seating, and flooring. **SOUNDXPERTS** worked closely with professional audio distributor, **Sun Infonet**, which supplied leading brands for the crucial audio component of this prestigious project.

Talking about trusting Sun Infonet for a mammoth pro audio install project such as Veronica auditorium, **SOUNDXPERTS** owner, **Amninder Warraich**, commented, "Having a complete audio solution under one roof from renowned brands like **Shure**, **Allen & Heath**, **AUDIOFOCUS**, **Quest Engineering** and **Meyer Sound**, Sun Infonet is known for its commitment, timely delivery, technical support and after sales service."

Pro Audio Equipment Used:

The stage of this auditorium has a vast space that accommodates more than 350 people to perform at a time. This auditorium can be used for the full spectrum of live band performances, theatre shows, cultural events, video conferencing and cinema screenings. For this purpose, four cameras and fourteen display screens have been installed on various places like left and right side of the **Main Screen - Samsung P4 Active LED screen**, the biggest screen of its kind - Green Room, VIP Room, Control Room and Main Hall. The entire system is connected on a network and switching for the same is provided by **AMX**.

The main PA system comprises of clusters of eight **AUDIOFOCUS ARES8A** line arrays on each side and a single cluster of four **ARES 8a cabinets** as centre fills. With the potential for



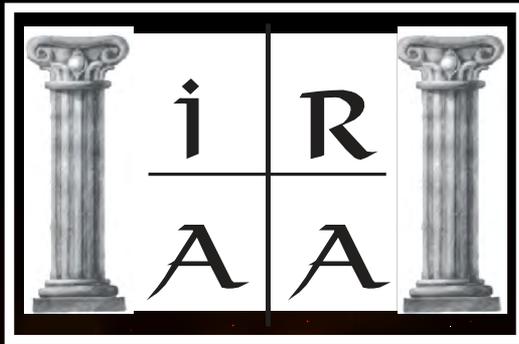
The Veronica Auditorium in Patna Women's College is equipped with a multitude of pro audio equipment, including, but not limited to, **AUDIOFOCUS** tops, subs, and coaxial monitors

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large numbers of artists onstage, eight **AUDIOFOCUS CM 15a low profile monitor speakers** were provided, together with four **MTSub 218a twin 18" subwoofers** from the same brand.

"Belgium-based AUDIOFOCUS has always focused on transparent tonality that needs minimal equalisation," comments **Kallol Nath**, Sun Infonet Senior Application Engineer. "AUDIOFOCUS being the main PA system gives the user ease of operation. As all cabinets are equipped with internal Wi-Fi, the user can check and alter any parameter of any loudspeaker whenever needed. This brings a lot of flexibility to the entire system."

In addition to live events, the PA system is capable of delivering full 7.1 Dolby cinema sound for screenings. 18 **Quest HPI 110 loudspeakers** were installed to achieve this surround sound capability, with a further 13 **Quest HPI25 cabinets** employed as front fills under the stage and balcony and two **Quest QM4** as side fills, plus a pair of **QM18SA speakers** from Quest on each side of stage. Four **Quest QSA200i active speakers** have been positioned in the main and stage control rooms. **Quest QX2280 amplifiers** were installed to power speakers in the main control room and entrance foyer.

A pair of **Allen & Heath's Avantis mixing console** was supplied for both FoH and monitor mixing purposes. The main PA and surround systems are controlled by an Allen & Heath **AHM-32 matrix processor**, supported by **DX168** and **DX012 I/O** expanders connected over S-Link. Presets transforming the entire auditorium from a live venue to a cinema can be recalled from the AHM-32's front panel.

"Allen & Heath's **AHM DSP** is built for scenarios where we have multiple sources and zones," comments Amninder Warraich. "The ability to link AHM-32 to external input and output modules expands its horizons and allows you to control the entire system with surrounds, green rooms, control rooms, and more. AHM is a very versatile, powerful DSP and it is readily available on the market."

Warraich further adds, "Avantis consoles are very flexible and take the main responsibility for mixing all the acts on the stage. Equipped with a gigaACE card and a DX Hub remote audio networking hub, Avantis controls the stage as well as the control room and multiple inputs coming from the Shure wireless microphones and also provides enough inputs and outputs for any other operations that need to be done."

Shure wireless microphones were deployed throughout the Auditorium and control rooms, including the flagship **Axient Digital System** for the main presenter, plus **ULX-D**, **SLX-D**, and **SVX** systems for the audience, anchors, performers, and main control. All Shure systems are networked and can be checked and controlled through the **Shure Wireless Workbench** application. The system is designed to cover the entire facility, enabling easy communication between audience members and guest speakers during panel discussions, and allowing interaction between the stage and control rooms.

In addition to the wireless microphones, wired **Shure CVG 18RS-B/C gooseneck microphones** have been installed at the podium. **SM7B vocal microphones** were supplied to enable studio-quality recording of key performances and speeches. Patna Women's College has also invested in its inventory of microphones for musicians and performers, adding **Shure Beta 91/A/C-X**, **SM57**, **SM58**, **PGDRUMKit7**, **MX 418D/C**, **MX393/C**, **SM81-LC**, **PSM 300**, **PGA57** and **PGA58** to cater for all perfor-



The self-powered line array system from AUDIOFOCUS completes the pro audio install at the Veronica Auditorium, promising an unrivalled audio experience for the audience

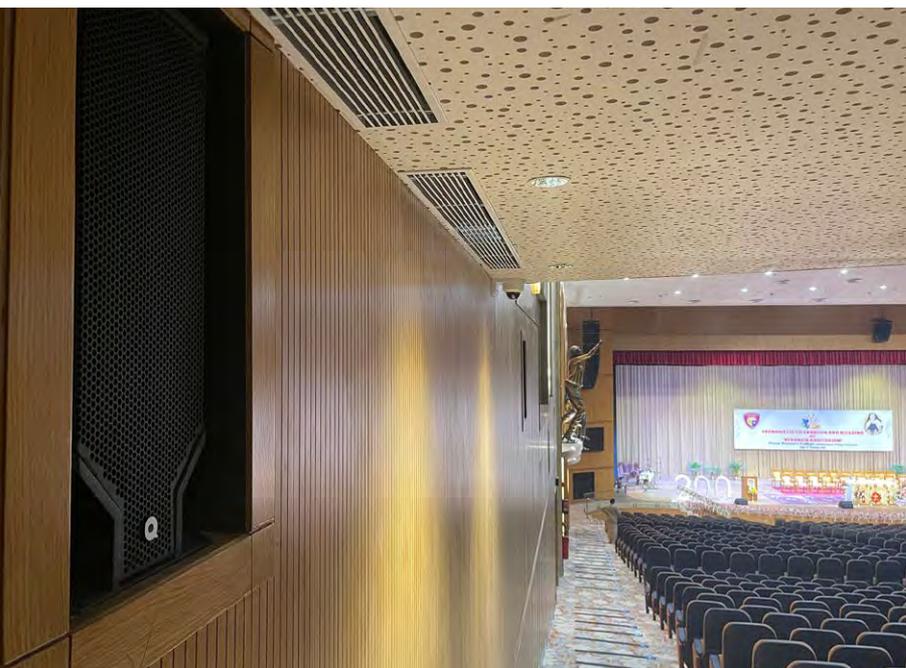
mance scenarios. **Shure UA844+SWB Antenna Distribution Systems** and **UA874 Active Directional Antennas** have also been used to ensure strong, uninterrupted wireless signals.

Final Remarks:

Amninder Warraich, while talking about equipping high-end auditoriums with equally sophisticated, fine quality audio equipment, says, "Today's auditoriums go beyond the game to provide high-impact entertainment - from video and music to live performances, delivering an awe-inspiring experience. Our high-end range of audio products deliver full-fidelity, full-bandwidth sound, from the deepest lows to crystal-clear highs, over a range of programming, from announcements to music." He further adds, "We installed the India's largest **P4 Samsung Active LED screen** at Veronica Auditorium with a super wide viewing angle. It adds another star to the venue and also multiple contents that can be showed at once."

Installed Products:

- AUDIOFOCUS self-powered line array & stage monitoring system. 20 tops, 8 subs & 8 coaxial monitors
- QUEST HPI110 and HPI25 for stage fill & surround sound speakers with asymmetrical acoustic coverage and 2 QM4 along with 2 QM18SA on each side of the stage for side fills. QSA200i Active Speakers in the Main and Stage Control Rooms. QX2280 in Main control room for Entrance Foyer Speakers
- SX Class-D, ultra-high efficiency amplifiers for Paging & Surround Speakers
- Allen & Heath AVANTIS as a main mixing console and another AVANTIS as a Monitor Console
- Allen & Heath AHM Signal Processors & Stage Racks
- Shure Axient Digital, ULXD & SLXD, SVX wireless microphones with UA series antenna system
- SX stage lighting system with Obsidian Control System
- LUMENS 30X optical PTZ Cameras, joystick, recording, streaming & webcasting hardware
- India's largest SAMSUNG P4.0 Active LED screen
- AMX AV Control system



The QUEST HPI110 and HPI25 were used for stage fill & surround sound with asymmetrical acoustic coverage, and two QM4 along with two QM18SA were installed on each side of the stage for side fills

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HOW IOT WILL AFFECT DATA CENTERS IN 2023

By Keshav Kumar, General Manager Pre-Sales, Data Center, Rahi Systems



The integration and adoption of the Internet of Things (IoT) is changing the way in the daily lives of society. Its ability to serve multiple industries is only leading to their wider adoption.

As per a 2022 report from IoT Analytics titled "State of IoT-Spring 2022," the number of global IoT connections grew by 8% in 2021 to 12.2 billion active endpoints. While the chip shortage will take a toll on the number of IoT devices, the number of IoT connections will continue to increase and is expected to reach 27 billion by 2025.

With the explosive growth of IoT devices, the future of technology will take a positive direction. However, the rapid increase in the growth of IoT devices is also leading to an explosion of data which is becoming more and more vulnerable. This poses a great concern for data centers that house massive amounts of data and are often under the scrutiny by authorities for their massive energy consumption.

With sustainability and energy efficiency being the prime importance for data centers, it is critical for enterprises to leverage technologies that can help them to achieve these. Thankfully, the technology that is responsible for surge in data, can also aid enterprises with viable solutions.

The latest advances in IoT technology are enabling enterprises to serve with a better alternative to continuously growing concerns in the data center industry. They enable enterprises to address common data center issues that concern energy consumption and environmental impact. Furthermore, IoT can enable enterprises to build a data center facility with less manual intervention and more automated tasks.

Here are a few ways IoT will affect data center industry in 2023 and beyond:

Address the issue of leak detection

Water leakage can have serious consequences for data centers. Even a minor leakage can compromise the data center facilities leading to significant monetary loss. Hence, incorporating IoT sensors, made for leak detection, can help enterprises quickly recover from a leak.

IoT sensors for leak detection can notify teams immediately, when a leak is detected, enabling facility managers to take proper measures. For instance, incorporating rope sensors enable an enterprise to reach difficult-to-reach locations including

enterprises with energy efficiency and sustainability.

As IoT-powered lighting systems can be controlled and scheduled, these systems can easily turn on or off based on motion or sound. This allows data centers to avoid excessive lighting use. Lighting systems integrated with IoT are more energy-efficient enabling data centers to achieve next-level sustainability.

Monitor server performance and optimization

As volume and complexity of data

center facility.

Security is still an issue

Security has always been a great concern when implementing IoT devices. With the evolution and adoption of IoT devices, threat actors are always seeking ways to breach network security. As per a 2022 report from SonicWall titled, "Cyber Threat Report," 77% of IoT devices suffered from malware-related attacks in the first half of 2022. While the battle with security is never-ending, enterprises can still take steps to further reduce the exposure emerging from IoT devices.

Data center facilities should integrate IoT devices that have built-in security features. Ensure that they have the same level of defense as the servers, networks, and applications they receive. The addition of an extra layer of security in IoT implementation empowers enterprises to secure their vulnerable endpoints while reducing the risk associated with a cyber-attack.

IoT will drive the sustainability of data centers

The integration of IoT technology in data centers is becoming increasingly important with the number of IoT devices and connections rapidly surge. While the growth of IoT devices can raise a concern regarding security, the technology will certainly help centers improve sustainability and energy efficiency.

Keeping up-to-date with IoT technology will not only help enterprises to build better data center facilities but also empower them to create a better tomorrow for everyone in the years to come.

The latest advances in IoT technology are enabling enterprises to serve with a better alternative to continuously growing concerns in the data center industry. They enable enterprises to address common data center issues that concern energy consumption and environmental impact. Furthermore, IoT can enable enterprises to build a data center facility with less manual intervention and more automated tasks.

cooling systems, cooling distribution units, beneath raised floors, and every place that can emerge as a potential leak source.

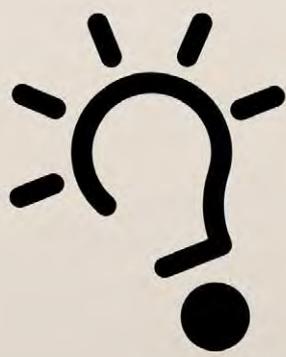
Such placement of IoT sensors enables enterprises to take remedial actions and prevent equipment damage or other dangerous situations.

Improve energy efficiency with smart lighting

Data center facilities using fluorescent lamp light fixtures, replacement or retrofitting to smart lighting sensors can improve energy efficiency. A smart lighting system exploits the capabilities of IoT technology and can help

continue to increase, integrating IoT devices can help enterprises to track server performance while also tracking various components. This helps facility managers become more proactive and handle the issues with component failure and equipment maintenance with ease.

IoT tools can enable enterprises to track network congestion and disk usage, making it easier for them to troubleshoot issues, recover from outages and prevent downtime. Not only that, the integration of IoT technologies can help enterprises to further optimize their server performance leading to an efficient and environment friendly data



11

QUESTIONS

PALM + AV-ICN brings to you

THE VOICE. THE VISION. THE VERITY

From pioneers at the apex of the industry

11 QUESTIONS WITH Manuel Peris

CEO - DAS Audio Group SL

With more than 20 years of experience at DAS Audio, first as Controller and Founder of DAS Audio America, and then as Financial Director and CEO since 2013, Manuel Peris has nurtured DAS Audio to bring it to the trailblazing position it occupies today. In an exclusive interview with PALM + AV-ICN, Manuel Peris shares his insight on running a family-owned business, the Indian pro audio trajectory for DAS Audio, his plans to penetrate the pro audio market in India, and more.



Tell us about your journey in the pro audio industry? What have been some of the highs and lows?

I'm excited to share our journey in the pro audio industry. We've been driven by a passion for sound and a commitment to creating true value for our customers.

One of the highlights of our journey was the launch of our line array, which was a huge accomplishment for us and helped establish us as a major player in the pro audio industry. Also, the international expansion was a key point for us. It allowed us to reach new customers and to keep growing.

Of course, there have been times as well. The industry is extremely competitive, and we've had to work hard to stay ahead of the curve.

Overall, I am proud of what we've achieved at DAS Audio and I am excited about the future. We are constantly pushing boundaries and looking for new and innovative ways to improve our products and services, and we will keep doing so.

As an independent family-owned business, DAS Audio company culture, we would assume was forged in the early stages itself. What according to you are the greatest learnings and advantages of being in a family-owned business?

One of the greatest advantages of being a family-owned business is the ability to take a long-term perspective on business decisions. This allows us to focus on sustainability and stability, rather than short-term gains. Additionally, the close relationship between management and employees led to more effective communication and decision-making. Another advantage is the strong sense of personal responsibility and ownership. This results in a dedicated and loyal workforce.

as employees tend to feel more connected to a family-owned company. Overall, our company culture is built on a foundation of close relationships with our customers, employees, and suppliers. It has allowed DAS Audio to create a strong company culture based on trust and mutual respect.

Are there any concrete changes in how the company is run today?

I can say that the company has adapted to the changing demands of the industry. Today's pro audio market is more competitive and technology-driven than ever before, and we have had to adjust to stay ahead.

One of the biggest changes in how the company is run today is the focus on customer service. We have invested significant resources in our customer service, which has helped us build a strong reputation for our products and services.

What according to you are the main milestones in terms of product development in the five-decade history of DAS Audio?

I am proud to say that we have achieved several milestones in our five-decade history in the pro-audio industry. One of our most significant achievements was being the first manufacturer of professional sound systems to use Class D amplifiers, providing our customers with energy-efficient products 20 years ago. Another major milestone was being the first European company to manufacture self-powered speakers. We also "star" grew in our in-house manufacturing process, where we produce everything from transformers, wood enclosures, and electronic components in Spain. This is a testament to our achievement in a set-up that is self-owned, self-financed, and self-managed. It is a privilege to be able to manufacture in our own country, and we are committed to continue to invest in our technology and people to bring solutions to our customers.

Less than a year ago, DAS Audio revealed its LARA line array system. Can you

anticipate to take our systems to the highest level of performance and provide the best sound quality and reliability possible.

“The EVENT Series, our best-selling product line, is a complete solution for live events of all sizes. The DAScontrol technology allows for easy setup and configuration, ensuring optimal sound quality every time.”

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11 QUESTIONS WITH Michael Bosworth

Executive Vice President, Christie Digital Systems

Michael Bosworth, Executive Vice President, Enterprise, Christie, has garnered more than three decades of experience in the field of projection and visualization. In his current position, Bosworth is responsible for overseeing and steering the sales and strategic planning for Christie Digital Systems in North America, EMEA, and APAC regions. In his previous positions, as Business Development Head at Barco and Managing Director and Owner at VR Solutions Pvt Ltd, Bosworth amassed a wealth of knowledge and knack with respect to modern-day projection and innovative, experiential visualization. In this article, Michael Bosworth fields 11 questions on Christie being at the forefront of innovation and transformation, its journey through the pandemic, how far along has it penetrated the Indian market while addressing the unique cultural aspects the country poses when it comes to 3D mapping and projection, and the roadmap ahead.



Christie story is one of constant innovation and forward transformation, what according to you are the five main milestones in terms of product development in the history of Christie?

Christie has brought great technology to life for more than 90 years. From the first projectors we built in the 1930s to our digital cinema projection that revolutionized the movie industry, we are leading the way to help our partners and customers create amazing shared experiences. Over the years, our integrated solutions have captivated audiences in numerous applications from houses of worship to Hollywood, from museum-critical command centers to classrooms. We are proud of the accolades and milestones that we've achieved.

1. Christie debuted the world's first CRT (cathode ray tube) projector in 1938, and became the first projection manufacturer to enter into digital cinema in 1999.

2. At the close of last century, Christie provided the first DLP (digital light processing) projector to premier the fully digital feature of the animated film, Toy Story.

3. In 2012, Christie became the first manufacturer to conduct the first public movie screening using a laser projector.

4. In 2018, Christie was named by AV Magazine as the Most Influential Company of the last 20 years.

5. Christie has set a high standard with more than 50 patents, 100+ patents, countless industry

awards, and multiple Academy Awards. Christie solutions are used around the world, from the largest movie-theaters to the smallest boardrooms. We've created a legacy of light, and will continue to create innovative and industry-leading technology, and look to a brighter future.

What are your views on solid-state light source in a projector? Can you share some developments from Christie in respect to these types of projectors? And what are some of the advantages of RGB pure laser projectors?

Christie has continued to lead the way in advancing laser illumination technology over the past decade by offering the widest range of leading-edge laser projectors in the industry. Our greatest breakthrough is in RGB pure laser projection technology, where our innovative laser illumination system architectures, which include cooling and sealed optical path, continues to set the standard in our class. For example, our Gifflin Series and M 4K Series pure laser projectors are capable of producing over 95% of the Rec. 2020 colour space—more than twice the colour of Rec. 709 and 50% more than DCI-P3-capable projectors—for an enhanced audience experience. As a testament to this achievement, many of our customers are impressed that our projection systems are able to deliver excellent picture quality at very

compact sizes and weight. Christie solutions are used around the world, from the largest movie-theaters to the smallest boardrooms. We've created a legacy of light, and will continue to create innovative and industry-leading technology, and look to a brighter future.

What is the most popular Christie projector sold in India today?

While Christie is well-known for its leading-edge display solutions, our product offerings are not limited to projection. We offer comprehensive, end-to-end visual and integrated solutions that consist of various technologies such as projection, LCD panels, direct-view LED video walls, as well as an array of content management and processing, auto calibration and even for-LiDAR, calibration industries that light the way to a sustainable, brighter future for everyone.

For the Indian market, we have had immense success with the Cirrus Series 3DLP laser projectors and the Gifflin Series, which is powered by RGB pure laser illumination. Over the years, we have established ourselves firmly in the marketplace with a number of high-profile, large-scale projects in India and across the globe that set us apart from the competition. For example, more than 50 Christie Cirrus Series projectors were used for the stunning light & sound show on the facade of the Statue of Unity—the tallest statue in the world.

Did Christie witness a slowdown in the last two financial years due to the pandemic and is it now witnessing a strong rebound with demand for products? If yes, the demand is from which segments / sectors of the industry?

Christie has not seen a slowdown in the last two financial years due to the pandemic and is now witnessing a strong rebound with demand for products? If yes, the demand is from which segments / sectors of the industry?

To feature in our upcoming 11 Questions Series, Contact **Smita Rai** at smita.raihyve.group

The Key To Hassle-Free Hybrid Conferencing

Hybrid work is the future of the professional world. One of the major hybrid conferencing trends, collaboration equity, is a game-changing step for the corporate intelligentsia – the phrase, put into action, not only allows every participant in a video conference to be seen and heard well, but actually puts him/her on an equal footing with the rest of the team, no matter where in the world he/she is at that moment. But for collaboration equity to come to fruition, a quintessential element that simply cannot be ignored is a high-quality videobar. Akin to a soundbar, but with in-built speakers, cameras, and microphones, a videobar takes the conferencing game up a notch by delivering premium audio and video clarity, so that a meeting can go beyond its typical definition and turn productive in the truest sense.

Bose Videobar VB-S

An all-in-one USB conferencing device from Bose, the Videobar VB-S offers rich, high-quality audio and video solutions in rooms that measure up to 3x3 metres (10x10 feet). But what makes the Videobar VB-S a leading product from the brand is its four beam-steering microphones, an ultra-HD camera (4K), and the signature sound from Bose, which makes the product an ideal choice for extremely clear meetings.

Main Features include:

- An all-in-one USB solution
- 4K ultra-HD camera
- Signature Bose sound quality
- 4 beam-steering microphones
- Remote management
- Group mode
- Individual mode
- Elegant low-profile design
- Multiple mounting options

Technical Specifications:

- Configuration: Mono loudspeaker, ported enclosure
- Amplifier Power: 15 W per channel, < 0.3% distortion over frequency range
- Frequency Response (–10 dB): 90 – 20,000 Hz
- Maximum SPL @ 1 m: 86 dB (IEC 60268-5, mono input, wall-mounted)
- Configuration 4 microphones
- Frequency Response (±3 dB): 20 - 15,000 Hz
- Technology Static and adaptive dynamic beam-forming, 3 exclusion zones, stereo acoustic echo cancellation (AEC), digital noise suppression
- Field of View (FOV): 123° diagonal × 115° horizontal × 81° vertical
- Image Sensor: 8 MP
- Focus Distance: 0.5 m (1.6 ft) to ∞
- Lens: Up to 5x digital zoom, integrated camera privacy cover
- Processing: Automatic white balance, automatic brightness, digital noise reduction
- Supported Video Resolutions: UHD 2160p (4K)1, 1080p, 720p, 960×480, 848×480, 640×480, 640×360, 432×240 (30 fps)
- Video Encoding: H.264, M-JPEG



Poly Studio R30

A videobar ideal for small conference spaces, the Poly Studio R30 delivers a dynamic video experience with Poly DirectorAI Technology that ensures that no one from the meeting is left out of the frame, while background noise filtering with a multi-mic array, Acoustic Fence, and NoiseblockAI technologies ensures that no word spoken is miscommunicated or lost in the noise. With 4K resolution and 120-degree field-of-view, the Poly R30 makes sure that the participant/speaker is audible and visible with a clarity like never before.

Main Features include:

- Powerful speakers with passive radiator
- Smart camera tech
- Advanced microphone array
- Additional USB ports
- Flexible mounting options

Technical Specifications:

- Camera: Ultra HD (4K 16:9, 2160p), Full HD (1080p), HD (720p); 120° DFOV, 110° HFOV; True color and low light compensation; Automatic meeting experience powered by Poly DirectorAI including speaker framing, presenter tracking, and conversation mode; Electronic zoom up to 5x
- Audio: Poly Acoustic Clarity technology with advanced acoustic echo cancellation and background noise suppression; Poly NoiseBlockAI technology; Poly Acoustic Fence technology; Microphones: 3-element beamforming microphone array; 50 Hz to 14 kHz frequency response
- Speaker: 100 Hz to 20 kHz frequency response; Output: 84 dB SPL @ 1000 Hz @ 1 meter at maximum volume
- Interfaces: 1x USB 3.0 Type-C port (with USB 2.0 compatibility); 2x USB 2.0 Type-A ports
- Net Weight: With monitor clamp: 17.5 W x 3.4 H x 3.2 D (Inches); Without monitor clamp: 17.5 W x 2.7 H x 3.2 D (Inches)
- Temperature: 0° C to +40° C



Wyrestorm Apollo VX20

The Apollo VX20 by Wyrestorm is a conference videobar and switcher that comes with a built-in speakerphone and camera in a single device. With HDMI and USB-C local inputs, 4K camera with presenter tracking and AI-assisted lighting, quality stereo speakers, and wireless casting ability, the Apollo VX20 is designed for the next generation of hybrid meeting enthusiasts.

Main Features include:

- Simple plug and play design using a single USB-C connection
- Native USB-C connection provides up to 60w device charging for laptops or tablets
- Magnetic privacy lens cap
- Handheld Bluetooth Remote
- APO-MIC-EXT – USB to Ethernet cable for use with the APO-COM-MIC add-on microphone allows point-to-point extension up to 60m over Cat6 cable to the APO-COM-MIC. (Sold separately)

Technical Specifications:

- Video Resolutions (Max): 3840x2160p 30Hz 4:4:4 8bit; 1920x1080p 60Hz
- Inputs/Outputs: 1x USB-C Input with Alt-Mode; 1x HDMI Input; 1x HDMI Output
- Supported Standards: RGB | USB | USB Alt-Mode
- Maximum Pixel Clock: 300Mhz
- Microphone: 4 x MEMS mic array, AEC | ANS | AGC; 180° Pickup Angle; Pickup Range: 5-8m (16-26ft)
- Speaker: 2x 8 watt
- Camera Sensor: 1/2.5", CMOS, Effective Pixel: 8.0M
- Camera Resolution: 3840x2160p @30Hz; 1920x1080p @60Hz
- Camera FOV: 120°
- HDMI: HDMI 1.4 | HDCP 1.4 | EDID | CEC
- Power Supply: 24V DC 5A
- Power Consumption: Max: 40w; Max with USB-C charging: 100w (60w max charging)
- Handheld Remote: Bluetooth



From Bose's VB-S to Jabra's PanaCast 50 Video Bar System, here are six trustworthy videobars that hold the potential to change the landscape of video conferencing this year. This feature is intended only as a guide and does not endorse any product.

MuxMeet Videobar

For small to mid-sized meeting spaces where acoustical and visual challenges are aplenty, the MuxMeet Videobar delivers a superb audio and video performance, so that collaboration equity is never compromised. With four beamforming microphones, 4K ultra-HD cameras, and full frequency range loudspeakers, the MuxMeet Videobar essentially offers a 6-metre pickup distance, Acoustic Echo Cancellation, and an impeccable sound clarity.

Main Features include:

- True plug and play all-in-one 4K-UHD Camera, beamforming microphone and full-frequency range loudspeaker
- 120° wide angle view and 5x digital zoom
- Pan / Tilt support $\pm 15^\circ$
- Built-in microphone with 6-meter pick-up distance
- High quality noise reduction system with echo cancellation
- Auto Tracking and Auto Framing
- Bluetooth 5.0 connectivity
- Local HDMI output
- May be table-top or wall-mounted
- Supports presets
- Supports extended microphones

Technical Specifications:

- Video System: 4K@30fps, 1080P@60fps, 1080P@30fps, 720P@60fps, 720P@30fps
- Sensor: 1/2.5 inch, CMOS, 8.51M pixel
- Lens: 120°(DFOV), 110°(HFOV), 5x Digital Zoom, Pan/Tilt $\pm 15^\circ$
- PTZ: MPT + EPTZ
- Digital Noise Reduction: 2D & 3D Digital Noise Reduction
- Digital Output: 12-bit
- Colour Depth: (bits) 8 bit
- Video S/N: ≥ 55 dB
- Full Frequency Speaker: 96 dB SPL in the case of 0.5 meter
- Number of output channels: Mono
- Real frequency range (Hz): 100Hz-16KHz
- Speaker impedance (Ohm): 8Ohm
- Microphone Array: Beamforming microphone
- Real frequency range (Hz): 100Hz-10KHz
- Real sensitivity (dB): -38dB
- Real SNR (dB): 65dB
- Real THD (%): Max 1% @ 1KHz 100dB SPL
- Real impedance (Ohm): 400Ohm @ 1KHz
- Pickup pattern: Omni directional
- Pickup distance: 6 meters



Jabra PanaCast 50 Video Bar

Engineered for hybrid meetings, the PanaCast 50 Video Bar System from Jabra comes with a 180-degree field-of-view in a panoramic 4K resolution, a unique system architecture that allows the video bar to keep a track of room occupancy, 24x7, and a sleek, minimalistic design that fits in any space and elevates the space's aesthetics even more. .

Main Features include:

- High-precision multi-camera array
- Whiteboard streaming
- Minimalist design
- 24x7 PeopleCount
- Wall mount, table stand, and screen-mount enabled
- Optional remote control

Technical Specifications:

- Number of cameras: 3
- Type of camera: Panoramic multi-camera array
- Camera resolution: 13 megapixels
- Zoom: Up to 6x lossless digital zoom
- Field of view: Horizontal: 180°, Vertical: 54°
- Resolution: Panoramic-4K: 3840 x 1080 @ 30fps
- Intelligent Zoom: Yes
- Dynamic Composition: Yes. Requires USB 3.0 connection (USB 3.0 port + USB 3.0 cable) and UC clients that support NV12 format.
- Virtual Director: Yes
- Vivid HDR: Yes
- Speakers: 2 x 2" (50mm) woofers, 2 x 3/4" (20mm) tweeters
- Speaker frequency range: 80Hz - 20000Hz
- Number of speakers: 4
- Automatic Speaker Detection: Yes
- Microphone type: 8 microphone beamforming array - certified for rooms up to 4.5x6
- Number of microphones: 8
- Microphone sensitivity: -37dBFS
- Microphone frequency range: 100Hz - 8000Hz
- Packaging dimensions: (WxHxD) 685mm x 167mm x 130mm | 27in x 6.6in x 5.1in
- Main unit dimensions: (WxHxD) 650mm x 80mm x 125mm | 25.6in x 3.1in x 4.9in
- Weight: 2200g | 77.6oz



WolfVision Cynap Videobar

Built for the modern-day hybrid conferencing and web conferencing, the Cynap Videobar by WolfVision is the perfect mix of the brand's signature wireless presentation technology along with a superior quality conferencing camera, in-built speakers, and one microphone for a single, multi-functional AV system. Participants can connect to the Cynap Videobar from any laptop, phone, tablet, or computer and share content across the board without a single hassle for a meeting experience unlike any other.

Main Features include:

- Equipped with 4K UHD AI camera
- Features four beamforming array microphones
- Plug-and-play integration
- Ideal for small-to-medium-sized meeting rooms
- Supports AirPlay, Miracast, and Chromecast
- Superior audio quality with a Fohn speakers

Technical Specifications:

- System: Wireless presentation and collaboration system
- Operating system: Linux
- Output resolution: 2160p60/30, 1080p FHD 60
- Max. no. of devices simultaneously displaying material on-screen: 4
- Dual screen function: Yes (Mirroring, Content, and Moderator Modes)
- Local streaming: Yes (Unicast/Multicast), RTP, RTSP
- Local video recording: Yes, (360p, 540p, 720p or 1080p, up to 30fps), MP4 container with codec H.264 (video file extension is *.mp4)
- Support for touchscreen displays: Yes
- Web conferencing support: Zoom, Teams, WebRTC
- Remote management software: Yes, vSolution Link Pro (Cloud & on premise)
- BYOM web meetings: Yes
- Video outputs: 2x HDMI (with HDCP 1.4)
- IP configuration: DHCP, Static (IP address, Subnet mask, Default gateway, DNS server), Proxy, Interface priority
- Power consumption: Max. 105W
- Dimensions (L x W x H): 245mm x 245mm x 79mm (9.65inch x 9.65inch x 3.1inch)
- Weight: 2530g (5,58lb) standard configuration, 2655g (5,85lb) with HDBaseT



TOP 7 TRENDS FOR THE SECURITY INDUSTRY IN 2023

By Ashish P. Dhakan, MD & CEO, Prama Hikvision India Pvt. Ltd.



The physical security industry has been changing quickly in recent years. Developments and applications of cutting-edge technologies in this ever-evolving industry such as AI, machine perception, and IoT, are breaking boundaries all the time. We have seen security systems become deeply integrated and more comprehensive, expanding with capabilities that are now shouldering more intelligent tasks to improve efficiency in security as well as other operational functions. And all this is happening across many different industries and types of organizations.

As we step into 2023, Hikvision would like to share some insights into seven key trends coming to the fore in the security industry.

AI applications are diversified, requiring more open ecosystems

We have seen more diversified AI products and applications that help solve intricate problems daily and meet customers' fragmented needs. AI's acoustic and textual capabilities are also being explored by the industry, beginning with visual AI. For example, AI-powered audio anomaly detection is being used to detect equipment failures in industrial environments for heightened levels of worker safety. Furthermore, AI technology itself is evolving to the stage of self-learning with training and optimizing itself much faster than supervised learning.

All of these require more ecosystems with open technologies, open resources, and even open protocols, for collaborations in the industry. Open technologies, such as container technology and virtualization technology, have significant potential for our industry, which are making hardware products more open.

AIoT continues to bridge physical and digital worlds

Taking artificial intelligence further, we believe the combination of AI and IoT (AIoT) will continue to be a major trend for 2023, reshaping the scope of the security industry. More AIoT solutions have been introduced that will not only provide intelligent protections but also help advance the efficiency of operations in a multitude of industries and organizations.

AIoT will create an important path for boosting digital transformation across several industries. This can be done by creating a digital twin, bridging the physical and digital worlds. For example, in industrial park management, virtual sites can be created by applying 3D modeling, using VR and AR technologies to represent and reflect the real ones, empowering them with the dynamic insight to act quickly to make the whole site run smoothly.

Visual experiences improve with 24/7 imaging technologies

Capturing security imaging with sharp clarity and color around the clock is a core demand for users of video security, but dim light at night has always been the biggest challenge to achieving this.

Now, with the development of several new imaging technologies, we are seeing these challenges removed. Bi-spectrum image fusion technology that employs two sensors is being used to combine IR and visible-light imaging to reproduce vivid colors in dim lighting conditions. Artificial Intelligence-based Image Signal Processing (AI-ISP) technology leverages deep-learning algorithms to radically improve visual noise reduction for night-time image optimization.

Perception capabilities extend to a wider range

For security applications, perception capabilities are going far beyond visible

light, extending out along the electromagnetic spectrum to expand capabilities of perceiving the physical world in new ways. For instance, hyperspectral imaging technology has been used in analyzing optical irradiance characteristics and eutrophication to record water quality trends in rivers and lakes. In the millimeter-wave band, radar products are assisting the measurement of vehicle speeds and distances. The X-ray band has been applied widely in security inspections, now extending its applications in industrial equipment flaw detection.

And these multi-dimensional perception capabilities also converge to create innovative solutions that can accomplish a multitude of new operations, such as radar assisted video systems for perimeter protection, integration solutions of video and sonar arrays for traffic management, and alarm systems with a wide range of detectors for smart home applications.

More focus on usability of devices and systems

Usability of devices and systems impacts the daily life of security professionals, which has generated more focus now in light of workforce shortages and labor cost increases across our industry. This trend is requiring manufacturers to optimize their products with an easier configuration process, make better use of interactive experiences that will reduce installation time, and lower the costs of equipment maintenance and skill building.

For example, we see more installers preferring to use mobile applications over PCs in device installation and maintenance where that interactive and simplified process comes across best.

The industry moves to greener, lower-carbon operations for sustainability

Trends in green manufacturing

and low-carbon initiatives in the security industry are very inspiring. Security manufacturers are rolling out products featuring longer life expectancies, recyclable materials and packaging, and renewable energy usage. Each of these initiatives reduces waste and emissions. For example, the solar-powered camera demand continues to increase due to its well-established effectiveness at using the sun's limitless clean energy.

And in daily manufacturing and operations, more companies in the industry have set medium-to-long-term goals for environmental management, spanning from lower carbon production, efficient energy use, and waste and chemical management, to greener office environments.

Zero Trust continues to become the go-to cybersecurity strategy

Cybersecurity remains a very important and challenging issue for all parties in our industry, as customers and regulators get more concerned about the security of their data and privacy, and have set higher standards and demands on this issue. We see the value in highlighting the idea of Zero Trust for everyone to consider when making cybersecurity strategies.

Zero Trust is a strategic initiative that was developed to prevent data breaches by eliminating the concept of trust from an organization's network architecture. In cybersecurity, trust becomes a vulnerability. Zero Trust is an approach to cybersecurity that dictates our connected systems must "never trust; always verify."

PIONEER DJ INTRODUCES THE DJM-A9, OPUS-QUAD, AND DDJ-FLX10

DJM-A9

AlphaTheta Corporation announced the release of the DJM-A9 next-generation professional DJ mixer from its Pioneer DJ brand. The 4-channel unit raises the bar for club standard mixers – boasting huge upgrades compared to its predecessor, the DJM-900NXS2 – with clear sound quality, enhanced playability and connectivity, and a host of new features to help the user take his/her performances to the next level.

An ESS Technology 32-bit high-quality A/D converter is built into the channel input section and D/A converters of the same type are featured in the master and booth output sections to produce crystal-clear, natural-sounding audio on the dancefloor and in the booth for any genre of music. The sound from the microphone input and headphone outputs has also been enhanced through fine-tuning and improved construction with carefully selected new components.

The DJM-A9 has also received major upgrades to the way it feels. Various elements have been tweaked to make the DJ mixer more instinctive and comfortable to play on, including increased spacing around the EQ knobs. The channel faders and the MAGVEL FADER crossfader are slicker than those on the DJM-900NXS2, enabling the user to mix and scratch more smoothly. The Sound Color FX include the world's first Center Lock feature, which the user can turn on to ensure he/she doesn't accidentally cross over between the hi/low parameters, no matter how quickly he/she turns the knob.

Beat FX are more instinctive to use on the DJM-A9 thanks to the new color display and revamped X-Pad, which is now arranged horizontally for simple, sideways finger sliding. The Beat FX channel selector is now a dedicated button, enabling quicker effect routing, and the Multi I/O section has been upgraded to offer true send capabilities. In total, there are 14 Beat FX to play with, including 3 new ones.

An enhanced microphone

section brings new possibilities when streaming or MCing. The user can connect a condenser mic directly to the DJM-A9 for the best possible vocal sound quality thanks to the phantom power supply to the mic input, which is an industry-first feature on a DJ mixer. To dynamically change the sound of the voice, there are 3 different mic effects plus a dedicated reverb to



play with.

Changing DJs or playing back-to-back is easy on the DJM-A9 thanks to the dual sets of USB Type-B and Type-C ports, which enables the user to connect two PCs/Macs running either rekordbox or Serato DJ Pro. The mixer's expanded connectivity opens up new possibilities for the performances. If the user wants to play tracks from a mobile device, Bluetooth/MD input makes it easy on the DJM-A9. The audio can be routed to any channel and the user can use all the mixer's effects to change the sound.

The Wi-Fi connectivity built in to the DJM-A9 is useful for front of house teams, who can use the new Stagehand app to remotely monitor various information from the mixer, and even control selected functions, via an iPad that's wirelessly connected to the same LAN router as the decks. By keeping an eye on things such as level meters and track information, engineers can adjust sound system settings and troubleshoot without entering the booth or disturbing the DJ.

Other Features

- Support for rekordbox and Serato DJ Pro
- DJM-REC app support for reliable recording

- Lockable power cord
- Video and lighting app support

OPUS-QUAD

AlphaTheta Corporation released the OPUS-QUAD from its Pioneer DJ brand. This new professional all-in-one DJ system puts the user in control of the music, like the conductor of an orchestra. Creating harmony between beautiful design and playability, it includes new and evolved features such as standalone 4-deck playback.

The OPUS-QUAD has a unique look. Shaped like a fan and featuring a sloping top plate and curved edge at the front, it's designed to not only look sophisticated, but also to enable comfortable and intuitive operation. And, with a matte black finish and earth-coloured slits on the front and sides, the unit can enhance the aesthetic of any environment.

For the first time ever on a Pioneer DJ all-in-one DJ system, the OPUS-QUAD offers standalone 4-deck playback to enable versatile DJ performances. And with support for various media types, it gives the user total flexibility to adapt to each scenario and the play the way they want.

The user can find tracks in even the biggest music libraries faster than ever, thanks to the large touch display and

them the choice to play different music genres in different rooms of a venue from just one unit.

Harmony between brand-new beautiful design and playability

With a matte black finish and earth-coloured slits on the front and sides, the unit can enhance the aesthetic of any environment. The entire product is sloped at a 5-degree angle and the edge is rounded, making it more comfortable to rest hands on, and the dimples and textured finish on the outer and top parts of the jogs add to the aesthetic while offering a perfect grip. The colours of the lights on the jog rings match the customizable colours assigned to the decks.

Standalone 4-deck playback for versatile DJ performances

The OPUS-QUAD offers standalone 4-deck playback for versatile DJ performances. This means the user can play 4 tracks on 4 different decks simultaneously, cue up tracks in advance, or leave a deck free for dropping requests into the set at a moment's notice - all with just one unit.

Support for multiple media sources to match different playing styles

The user can draw from various music libraries with just 1 OPUS-QUAD and can even pair a mobile device via Bluetooth/MD wireless



new rotary selector on the OPUS-QUAD, which enables him/her to select songs that fit the occasion. The layout of the deck sections is designed to make performing comfortable and easy too, and each one has a display so the user can keep an eye on the track information for each deck without needing to switch the gaze.

With zone output, the user can even have the option to output sound that's separate from the master audio, giving

technology.

The unit features 4 USB inputs in total: 1 x USB Type-C port for connecting the latest devices, a PC/Mac or, in some cases, a mobile device; 1 x USB Type-A (3.2) port on the rear panel for rapid communication with an SSD drive or similar device; and 2 x standard USB Type-A ports on the top panel.

(Continued on page 88)

D&B AUDIOTECHNIK ANNOUNCES NEW VICE PRESIDENT OF GLOBAL MARKETING

d&b audiotechnik announced the appointment of **Mike Case** to Vice President Global Marketing, effective February 1st, 2023. The new role will also include continued responsibility for Segment (Market) Development and Artist Relations.

Case, who has over 30 years of experience in the industry, brings a strong business, brand, and product knowledge to this newly defined function. Previously, as APAC Territory Manager, he set up and ran the subsidiary in Singapore, successfully expanding the d&b footprint in the region. Along with his most recent role

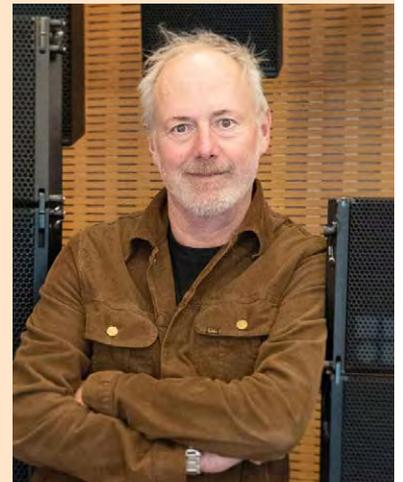
as VP of Segment Development and Artist Relations, Mike holds a wealth of experience and knowledge that forms an essential basis for this new role.

Stephan Greiner, Chief Operating Officer, d&b audiotechnik, commented, "Mike is the perfect fit for this role. His comprehensive knowledge of our industry, our technologies and experience with customers and users of our system solutions, along with his unconventional and creative approach, will support brand development and our sales enablement in new and exciting ways. I'm very pleased that he is taking over this new role and wish him and his entire team every success."

Mike Case, in sharing his enthusiasm

about the new role at d&b audiotechnik, concluded, "Here at d&b I know we are looking forward to a bright and innovative future. With the technology and creative trends that are reverberating through the music and entertainment industry there surely cannot be a more exciting time to be involved with this company, its people, and products. I'm incredibly excited to be taking on this position which has such legacy in terms of d&b's famous take on brand and marketing. Alongside this, leading a great team of talented and dedicated individuals whom I look forward to helping deliver yet more cool, passionate, quirky and visionary messaging to our global community of users and

customers."



Mike Case, d&b audiotechnik

LIGHTWARE APPOINTS CHRISTOPHER CHANDLER AS VICE PRESIDENT OF GLOBAL PARTNERSHIPS

Lightware announced the appointment of **Christopher Chandler** as Vice President of Global Partnerships. In his new role, Chris will be responsible for driving business growth within integrator customers and alliance partners globally, and he will report to **Szabolcs Turi**, Lightware's Executive Director, Business Development.

Chris is a highly experienced audio and technology industry professional with an exceptional track record spanning more than 25 years in sales and management. Prior to joining Lightware, he worked at Biamp where

he held various roles including Sales Director.

Szabolcs Turi, Executive Director, Business Development, commented, "Lightware is committed to providing the best integrated systems solutions to our customers, and we are excited to have Chris join the business to lead our global partnerships strategy," said Szabolcs Turi, "His extensive experience across the industry will make him an invaluable asset, and we're confident that he will help us to continue to grow and provide exceptional service to our partners and



Christopher Chandler, Lightware

customers alike."

Christopher Chandler, Vice President of Global Partnerships, shared, "I am thrilled to be joining the Lightware team and look forward to helping the company elevate its already impressive offering to the AV community," said Chris. "I am passionate about the AV industry, and I believe that Lightware has a unique opportunity to work closely with partners to make a transformative impact on the industry. I am excited to be a part of that journey."

MEYER SOUND PROMOTES AMY LULEY TO DIRECTOR OF GLOBAL SALES OPERATIONS

Meyer Sound has promoted **Amy Luley** to the position of Director of Global Sales Operations. In her new capacity, Luley will assume responsibility for overseeing and coordinating operational activities of the Meyer Sound sales teams both in the United States and internationally.

Luley was promoted to the new position based on the extraordinary sales success achieved in her prior position as Director of U.S. Sales Operations. She will continue in that role, but now in addition to Meyer Sound's team of sales managers in the United States, her responsi-



Christopher Chandler, Lightware

bilities have been extended to include supporting the operational activities of Director of International Sales **Scott Gledhill** (Asia Pacific), Meyer Sound Europe Managing Director **Wolfgang Leute** (sales for Europe, Middle East, and Africa), and Director, Latin America Operations **Jocelyn Moras**. She will continue to report to Senior Vice President **John McMahon**.

"Amy played a major role in driving our sales team to set a new record for U.S. sales in 2022, and now we want to bring that same energy and skillset to the global stage," says McMahon. "She has a unique ability to not only grasp the big picture of our global sales and

marketing strategy but also to apply the focused mindset needed to manage the myriad of details and decisions that turn strategy into measurable results."

Luley joined Meyer Sound in 2014. Luley was principally responsible for introducing the Salesforce platform and leveraging its power to boost the efficiency and productivity of the company's sales efforts.

"I'm looking forward to working directly with our international sales teams," says Luley. "My focus will be on supporting their efforts with

(Continued on page 87)

ALAN CHANG JOINS QSC AS APAC BUSINESS DEVELOPMENT DIRECTORAL MARKETING

QSC announced that **Alan Chang** has been named Director of Business Development, APAC where he will manage Pro Audio sales in the region. In this new role, Chang will be responsible for driving sales, developing business and building go-to-market strategies for the entire region.

"Alan has been part of the



Alan Chang, QSC

team for almost two years and has made considerable contributions to our sales organization in Japan and Korea," says **Perry Celia**, Vice President Sales and Service, QSC Pro Audio. "We are thrilled for him to take on responsibility for the entire region as his knowledge of the region and distribution channel will continue to be an essential asset to us."

"QSC Pro Audio is known as a reliable and steadfast brand," says Chang. "I am pleased to work with our sales and support teams to advance the growth of QSC and help to deliver memorable experiences for audiences throughout APAC."

Chang will continue to work out of QSC Asia offices located in Hong Kong.

NEC CORPORATION ELEVATES AALOK KUMAR TO NEW GLOBAL ROLE

NEC Corporation India, a wholly owned subsidiary of NEC Corporation, announced the elevation of **Aalok Kumar**, Chairman, President and CEO, NEC Corporation India, to Corporate Officer & Senior Vice President - Head of Global Smart City Business.

Aalok will continue to lead the India business and further strengthen India's strategic positioning for NEC Group as a whole. He will continue to forge partnerships with the Government and private sector, pursuant to the company's vision of "In India, for India" and "From India, for Global". Aalok will take over a new global role as a Corporate Officer and Senior Vice President and Head of the Global Smart City Business. As part of NEC's Corporate Management Team, he will be responsible for building a global business, drawing on his unique learnings from his global experience.

Commenting on the elevation, **Takayuki Morita**, President and CEO, NEC Corporation, said, "Having spearheaded some of our biggest marquee projects for both

public and private organisations in his time at NEC Corporation India, Aalok has played a pivotal role in cementing NEC Corporation's position as a trusted digital transformation partner to the Government and enterprises of India. His new position as a Corporate Officer and NEC's management member leading India shows NEC's commitment and importance towards India as a market."

NEC aims to build a robust Global Smart City vertical, represented by talent from all over the world with deep technological know-how and experience. India will play a major role in shaping this, drawing on Aalok's expertise in driving digital transformation in India and the learnings from smart city projects implemented in the country. In the long run, he will endeavour to set up a global Smart City Centre of Excellence in India, thereby fast-tracking the company's realisation of its vision of developing solutions "From India, For Global".

An alumnus of **St'. Stephens College**, Delhi and Indian Institute of Management, Ahmedabad, Aalok Kumar brings nearly three decades of experience in senior leadership roles in business

transformation, performance improvement, and margin expansion. Prior to taking up the mantle as the President, and CEO at NEC India in 2020, he served as the Senior Vice President of McKinsey & Company. He has also worked in companies like GE Healthcare, GE Capital and ABN Amro Bank.

"I am humbled by the opportunity given to me by the global leadership. I have had the privilege of leading an exceptional team in India, and it is with their unmatched talent and support that we have been able to accomplish some crucial milestones for NEC Corporation India thus far. I look forward to fulfilling the responsibilities that come with this new role and will strive to take NEC to greater heights in close collaboration with the entire team", said Aalok Kumar, Corporate Officer & Sr VP-Head of Global Smart City Business & President and CEO, NEC Corporation India Pvt. Ltd.

As part of NEC Corporation's organisational changes, the various business units and the organisational management structure are being streamlined and consolidated at a global scale. In line with NEC's "2030VISION", the company aims to further strength-



Aalok Kumar, NEC Corporation India

en its corporate governance and boost management speed towards catalysing the growth of its global business pillars. This will help NEC Corporation achieve its Mid-term Management Plan 2025 and increase NEC's medium- to long-term corporate value as a global technology company.

MEYER SOUND PROMOTES AMY LULEY... (Continued from page 86)

processes and tools to help them achieve higher sales. I'll also help to make sure their customers — our dealers and distributors — are up to date on all the resources they have available, not just new products, but also new marketing tools as they become available."

Although specific challenges may vary across global regions, Luley maintains that the essential approach applies across the board. "I see my role as motivating our sales team with all the tools we have available," she says. "I already have solid relationships not only with our global sales team but many of their

customers from my past positions. I look forward to strengthening this foundation and achieving our goals in 2023."

John McMahon notes that Luley is an example of the opportunities afforded at Meyer Sound. "Amy started in sales and it wasn't long before she took the initiative to make some needed chang-

es. Her work with Salesforce helped update and transform all our sales operations. And as a liaison with our marketing teams, she made certain that our marketing efforts were developed and directed to achieve concrete results. And the results this past year certainly were impressive."

ARRI APPOINTS LARS WEYER AS THE NEW EXECUTIVE BOARD MEMBER AND CFO

Lars Weyer, effective March 20, 2023, has been appointed as new **Executive Board member and Chief Financial Officer (CFO) of ARRI**. This announcement was made by the Supervisory Board of the global film technology company. In this position, Lars Weyer is responsible for the Finance, Human Resources, IT, and Facility Management departments.

"The expansion of the Executive Board to include a CFO underscores the path we have already taken towards a faster and more flexible organization with strong business units," explains **Prof. Dr. Hans-Joerg Bullinger**, Chairman of ARRI's Supervisory Board. He continues:



Lars Weyer, ARRI

"We are very pleased to be able to fill this important position internally with a proven expert and experienced colleague like Lars Weyer. In his new role, we wish him every success and a sure hand in his decision-making."

Lars Weyer, member of the Executive Board and CFO at ARRI, adds: "I would like to thank the owners and the Supervisory Board for their trust and am very much looking forward to my new tasks. It is very important to me to create the best possible conditions so that ARRI can continue to be a successful technology company in the future."

Lars Weyer joined ARRI on March 1, 2019, initially in an advisory capacity as part of the Rental US restructuring. In

October 2019, he became Head of Finance for the ARRI Group, responsible for controlling, accounting, treasury, consolidation, and tax. Lars Weyer was instrumental in driving the professionalization of the finance department, managed M&A projects from a finance perspective, and set the course for the realignment of the finance department at ARRI. Prior to ARRI and after completing his business studies, Lars Weyer worked as a consultant for major management consultancies as well as in various management roles, including CEO and CFO, at international companies in different industries.

PIONEER DJ INTRODUCES THE DJM-A9... *(Continued from page 85)*

Rapid and accurate track search - even from the biggest collections

Find tracks faster and more accurately than ever before with the freshly designed user interface with an electrostatic touch module. The user can use the 10.1-inch touch screen to quickly search for songs via the keyboard or use Playlist Bank for quick navigation between playlists. With Touch Preview, the user can even preview tracks while browsing. The new Smart Rotary Selector offers a joystick-like experience with left/right, up/down, rotation, and push control. The other browsing controls are neatly arranged around the selector so the user can scour music collection and preview and load tracks without moving his/her hand.

Optimized deck configuration and new Smart Cue

With this arrangement, the user doesn't need to switch the gaze when manipulating tracks or checking things such as the track information, parameter, and status of each function. With the new Smart Cue feature, the user can automatically overwrite the current cue position with the recalled Hot Cues. This makes it much quicker and more intuitive than ever before to use Hot Cues with one touch.

High-quality comfortable sound

Designed to meet the needs of the increasingly diverse DJ scene, the OPUS-QUAD produces high-quality sound that's comfortable to listen to for long periods of time. The configuration of the unit eliminates transmission loss and AD-DA conversion loss and

it's loaded with a high-quality 32-bit D/A converter from ESS Technology. As a result, wherever you play on the OPUS-QUAD, the entire venue is gently enveloped by a comfortable sound that enhances the spatial experience.

Easy-to-use professional effects

The evolved effects on the OPUS-QUAD make it easy to add texture and tension to the personalize the sound with Beat FX. The XY-Pad makes it easy to control features such as FX Bank and channel select, as Beat FX parameters and the cut-off frequency of the filter are controlled by movement on the X and Y-axis respectively to blend both effects with a single finger. With the popular Smooth Echo feature, the user can easily trigger an echo sound by moving a pre-assigned fader or knob to apply the effect when it's turned on. Each channel also has Sound Color FX, giving the user even more possibilities when creating different sounds to wow the audience.

Zone output for playing different music in different spaces

Thanks to the zone output - which can output sound that's separate from the master - the user can play different music in different rooms from just 1 OPUS-QUAD.

rekordbox and Serato compatibility

Plug-and-play compatibility for rekordbox Performance mode and Serato DJ Pro (coming summer 2023) is included with the OPUS-QUAD. Simply plug in a PC/Mac running either application to get started - there's no

need for a license or subscription. If case of rekordbox, the user can also connect to the rekordbox for iOS mobile app (Android coming soon).

DDJ-FLX10

AlphaTheta Corporation announced the release of the DDJ-FLX10 from its **Pioneer DJ** brand. This 4-channel performance DJ controller for rekordbox and Serato DJ Pro includes a host of brand-new features that enable new

DDJ-FLX10, and customize the look of the controller, thanks to the expanded On Jog Display. Improving on the jogs from the popular DDJ-1000, there are 4 modes to choose from, offering the option to display different types of waveform information.

The DDJ-FLX10 introduces **Mix Point Link**, a new rekordbox-compatible feature that enables the user to neatly and seamlessly link the playback of tracks in



creative possibilities, including functions that can be used to easily perform mashups on the fly with no need to prepare tracks in advance.

Thanks to the new Track Separation in rekordbox, the user can load tracks from the music library to the DDJ-FLX10, then manipulate different musical parts to create infinitely unique performances including live mashups. The controller focuses on the 3 track elements that are crucial to DJing - vocals, drums, and inst (other instruments) - so the user can easily play around with each one.

The user can also view more information on the jog wheels of the

your set while freeing up hands so you can get creative by applying effects and making live mashups.

The user can add hypnotic lighting effects to the performances with the DDJ-FLX10, which includes a DMX output to connect lighting fixtures without the need for any other equipment.

Key Features of the DDJ-FLX10:

- Expanded On Jog Display
- New Mix Point Link for seamless transitions
- DMX output for rekordbox Lighting function
- rekordbox and Serato DJ Pro compatibility

11 QUESTIONS WITH **Dave Haydon**

Director Co-Owner, Out Board & TiMax Spatial Audio

*As the co-owner and director of Out Board, one of the leading innovation companies in entertainment, presentation, and experience technologies, **Dave Haydon** also relaunched the **TiMax Spatial Audio** division in 2000 with his business partner Robin Whittaker. Today, TiMax's products are revolutionizing the field of immersive audio at every step of the way. In an exclusive interview with **PALM + AV-ICN**, Dave Haydon reveals the reason behind foraying into the world of spatial audio, the core technology that makes TiMax's products a cut above the rest, and how he envisions the trajectory for spatial audio in the Indian pro audio market.*



You co-founded the current outboard in 2000. Since the last 23 years or so, you have been a witness to how this cutting-edge technology – immersive spatial audio - has been evolving. What in the first place motivated you to start the whole journey?

Outboard existed before 2000. I and my current business partner (joint CEOs) relaunched the company in 2000, but there was a history of it just before that creating an earlier version of TiMax. At that point in time, there were no commonly used terms like immersive audio and spatial audio. I had worked for BSS Audio / Harman in signal processing and previously in the mixing console business – Midas and Solid State Logic, in the live sound, theatre, studio and broadcast markets. When everything became digital and a whole series of new generic processors evolved, as are now very common, where you are assembling and hooking up virtual versions of all the boxes I'd previously been developing and selling in hardware form, for me it felt in a way just more of the same stuff and not so interesting.

So after 12 years at BSS Audio / Harman, I was interested to get into something new and noticed what my now business partner was then starting to do with TiMax. It was just a case of getting into something a bit more pioneering, bit newer..

Out Board was initially more about rigging and trussing as well as electrical power controls to a large extent. What made you foray into spatial audio?

Rigging control is a significant part of our business, actually. It is a very simple technology compared to the TiMax. It came originally out of making power distribution systems in the early days, very important but fairly unexciting stuff. From some early custom designs, we then developed since 2000 several standard

lines of chain-hoist rigging controllers which you now see everywhere in the rigging industry who need reliability and consistency for staging, lighting, sound, video, scenery etc. Alongside this, electrical safety testing systems are also a section of our business, serving the same markets, and still growing. But audio is our first love and predominantly of course pioneering spatial audio..

With spatial audio, what has been some of the major milestones for TiMax in terms of application?

When it comes to TiMax spatial audio, one of the things where it first broke boundaries, I suppose, was in the Royal Albert Hall opera

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productions. It's a big circular building in London, very impressive, but being circular and with a dome, it could be a sound engineer's nightmare. In fact, acoustically, they've hung lots of mushroom structures in the ceiling to stop the sound going to and from the dome.

In the old days, they often used to treat the space like a sports arena, with a centre-cluster design. There'd be a big speaker system hung in the middle, and they'd hope not to get too much back off the building. But inevitably it sounds like it's coming from the roof, not ideal for premium opera shows staged in-the-round with audience all around.

This is where strategic delay management comes in. With cross-stage distances of 30 meters, you've got time differences of 90 milliseconds. So we replaced the centre-cluster design with an "exploded cluster" concept, with multiple drops of speakers like Meyer or d&b hung further out and nearer to the audience. Then we timed these to all the areas on-stage and added front-fills to help pull the sound down and localise to the performers. This approach needed a device that could have different timings for every speaker from every mic on the stage. So the delay-matrix, the key element of the TiMax spatial processing, was the answer. It just revolutionized the sound of the show, as it has many others since in London, Broadway and venues worldwide.

At the same time, corporations were doing lavish product launches and conferences requiring something a bit more exciting than just mono or stereo audio. So they started looking at surround sound formats, such as 5.1, which was very limited in terms of multiple sources and live presentation into large and variable-shaped spaces. TiMax software offered a screen where you could drag blobs on the screen to position or move sound. This is what became known as object-based mixing many years later, such as what Dolby Atmos is today. TiMax allowed the user to place and move sound between dozens of speakers rather than just five or eight channels.

Did TiMax Spatial Audio initially encounter any resistance or reluctance from within the audio industry?

About 20 years ago, when the original TiMax weighed around 40 pounds, producers would look at it and say, 'Speakers, I understand that. Microphones, I understand that. That mixing desk, I don't really understand that, but I see a lot of them about, so we need to invest in it. But what is this delay-matrix thing?'

Apart from a few enlightened sound designers, some would regard this as less important. There was also a battle of the budgets, and often show designers wanted to see fewer speakers, and then there was the time needed to take measurements and set up these delays in the matrix software. There was some resistance at first from within the industry, except for very forward-thinking people who really went for it and consequently created much more advanced operas and theatre shows.

In terms of research and development, what was the roadmap like for TiMax's products?

In the speaker industry, stereo line-array was the king for a period. So to some extent we were working against that. However, we were also doing Broadway shows for Disney and other major producers, with more sound designers starting using those same products from the speaker industry in the multichannel configurations we were suggesting.

TiMax's original Classic version from more than a decade ago was still a bit expensive and limited. We also couldn't get the chips anymore, so we developed a smaller, newer version, at lower price-points, double the number of channels, a lot more functions, including 64-tracks of playback, equalization, system and source group control, snapshots, cueing and showcontrol – and of course with what had now become known as object-based spatial mixing, with instant auto-rendering of multiple spatial layers. This was TiMax SoundHub, and suddenly the economics made more sense to more people, applications and budgets.

We didn't stop there, because up to about five years ago, we had limitations in

“ Another emerging pattern in the field of spatial audio in enclosed spaces involves a radio microphone. When someone from the audience in that space has a question, rather than personally handing them a microphone, they put a tracker in the microphone and throw it around. This means, wherever the person in question might be in the audience, they get automatically tracked.

the memory and performance of the DSP chip in TiMax. We would struggle with long delays in very big spaces and had to allocate memory in a limited way. So we got into an FPGA platform and it gave us the ability to also completely redesign the delay-morphing algorithms, the special bit that makes the panning sound cleaner and better than before, and also to add more delay memory to easily handle arenas and stadiums without any compromise.

This helped us meet demand across more pro-audio markets; TiMax now came in at lower entry-level and overall price-points. The other thing the FPGA allows us to do, which is quite recent, is to allow user-selection in the software between 48k to 96k, which can be an important investment criteria for clients seeking state-of-the-art technology.

Can you tell us a little bit more about the 96k audio technology?

There are two places where 96k audio is evident - one is in the core processing and there it's all about resolution, the other is in interfacing to the outside world, plugging it into sound systems and mixing consoles.

Some people don't care about switching to 96k, and they stick to 48k because the rest of the system is. But it's old-fashioned to only offer 48k, so with TiMax you can now choose. We have two Dante card options, so we can now do 32 or 64 channels up to 96k. The 96k selection in TiMax is free of charge to anybody who's purchased or upgraded to the FPGA.

We are great believers in sustainability - we can take a 10-year-old TiMax, upgrade it to FPGA for some money less a loyalty rebate for the old dsp cards, and then you have a free 96k upgrade if you want. You'd need our 96k Dante card, just a little extra money,

to get into the outside world, but this helps future-proof even a relatively long-ago TiMax purchase.

Can you elaborate a bit more about the core technology behind the TiMax SoundHub and the TiMax TrackerD4?

The algorithms that run inside TiMax are quite important and are what we might call holistic. They listen to the audio signal, and decide on a sample-by-sample basis, based on spectral and dynamic content, which one of several morphing algorithms to use. In real time it figures out, based on the signal that's going through, how it's going to manipulate the imaging delays for the most seamless and transparent outcome. That's a unique part of the TiMax platform. Then it's the software. We've always focused heavily on the workflow to make it task-based rather than function-based, so the sound designer thinks in terms of spatial objectives rather than how the system is achieving them.

However, compared to other spatial processors, what TiMax offers is full visibility and agency over all processing. You can open up another screen and see all the numbers. This can prove very useful, because for example, if the user moves the sound around and something's not right but the algorithm behind the screen doesn't tell them what it's doing, the user may struggle to deal with the issue. So although the TiMax workflow is intuitively and efficiently task-based, the added visibility and agency is second to none.

With our second-generation TiMax TrackerD4, we built on our original tracking system that was the first in the market in 2008. We'd learnt that the industry needed a tracking system with a better entry-level price and even higher performance. So our OEM core UWB technology supplier partners made it work and we launched the current highly-successful TrackerD4 about 5-6 years ago with both those major benefits, and more to come.

TiMax SoundHub and TiMax TrackerD4 are widely used in both enclosed spaces and open-air spaces. How is their application different for these spaces?

It depends on the show. In terms of performance, we've covered arena-scale things indoors. We have done a lot of theatre, be it conventional theatre or in-the-round theatre. Outdoors, we've covered areas the size of an entire stadium. Sometimes, we have speakers all around and we are timing and localising from 50 meters to 100+ meters. There, our most effective tracking systems have 16, 20, or even 24 sensors. There our inherent tracking redundancy plays a very important role as half the sensors can't see many of the performers. In a conventional theatre, most of the time, you will be seen a bit by most of the sensors, but there'll be blocking when people get in the way and turn away, but luckily only two sensors need to see you for you to be tracked. Those big venues were also restrictive for

TiMax SoundHub before we had the FPGA, but now it easily handles very large stadiums too.

We do a huge opera show regularly in Austria in a Roman quarry. At 80 meters wide and 20 meters deep, it's the biggest open-air stage in Europe. The speakers are all built into the set and painted over, so they are invisible and also not placed in exact regimented locations – the unique flexibility of TiMax allows it to compensate for this. Our specialization also comes into play when the scenery and speakers actually move during the show, so certain delay configurations have to change as the set moves; TiMax is designed to manage that as well. You may not have these sort of shows every day, but, especially in some outdoor applications, there are often extra challenges due to the scale and design of the shows, and you need something a bit clever to make it work.

In a lot of corporate events in convention centres – for instance, car launches, we don't get to put speakers in a neat row like some spatial systems demand. We need to deploy them in a discreet manner. With TiMax, we can instantly calculate around that, both indoors and outdoors, albeit within certain obvious laws-of-physics boundaries.

What key trends do you see emerging in spatial audio in 2023?

Definitely a lot more what you might call rock shows, such as a tour we did with Tool. They built a separate 3D effects system – with TiMax creating like a cocoon of sound, blending many effects and instruments and a lot of electronic stuff from stage into that system. Lately, there have been a lot more conventional touring productions using spatial audio.

Spatial audio continues to diversify in corporate events, what we call the presentation

market. These spaces want to have a bit more than just simple speaker systems. Interestingly, there are also presentation suites emerging at major corporations in their actual HQ buildings as well as these temporary systems for launch or conference events.

One recent site even included audience mics into the TiMax spatialisation. When someone from the audience has a question, rather than personally handing them a microphone, they put a tracker and mic into a spongy Catchbox and throw it around. This means wherever the person is in the audience their voice gets automatically localised. Creating a kind of specialized corporate presentation space is something that we anticipate seeing more of.

Even with applications such as VR, XR, and AR, there's a little bit of a drift towards moving outside of headphones and moving into a multichannel speaker environment. We haven't



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sold a lot in that area yet but there's some development work going on with associates.

How do you see that trajectory of spatial audio evolving in India? What role does Alphatec play in this?

I'm getting an impression spatial audio is going to get quite big here, very quickly. We signed up with Alphatec just before Covid as they offer us experienced full-service distribution, integration, and support for TiMax across multiple regions in India. This is a very serious company, I believe, for us to be engaging with just at the right time. When there's an appetite for something in a market, it's important that the passion and capabilities are matched to the same degree to capitalise on it.

In India, for spatial audio, there weren't previously so many conventional theatre spaces. However, as well as the usual festivals, they seem to be now building contemporary venues and full-size theatres; I hadn't heard of that 5 to 10 years ago.

And I think that it is going to get very big from here. So in my opinion, it's very good timing for the market and also for us to have found the right people to do it with.

What has been the Indian pro audio market's response so far to TiMax's products?

We haven't done any tracking systems here yet. But when it comes to the TiMax SoundHub spatial audio platform, I think the performing arts in this country are exploding and probably the experience market as well, which means the Indian pro audio market will witness a surge in such projects where TiMax will ultimately prove to be quite quintessential.

Promotion Index

Name	Page No.	Name	Page No.
Ahuja Radios, New Delhi	09	LBT Electronics Pvt. Ltd., New Delhi	37
A-plus Audio (Sound Solutions), New Delhi	19	N-Labs, Gujarat	05
ATIpro, New Delhi	92	NTeck Systems, Bengaluru	17
Beta Three Audio Pvt. Ltd., New Delhi	15	Osram, New Delhi	23
BLK Ferrites Pvt. Ltd. (WinJoy), New Delhi	57	Pro Integration Future Asia 2023, Singapore	35
Calibre Sound Systems Pvt. Ltd., Mumbai	27	IRAA Awards 2022, Mumbai	77
Comcon, New Delhi	43	JTS, (Sonotone), Mumbai	29
Decibel Pro Private Limited	03	PALM AV-ICN expo, Mumbai	47, 61, 63, 67, 71, 75, 79, 81 & BC
CAVS, Mumbai	53	Sennheiser, Gurugram	IBC
LD Systems (StageMix Technologies), Mumbai	11	Sonotone, Mumbai	39
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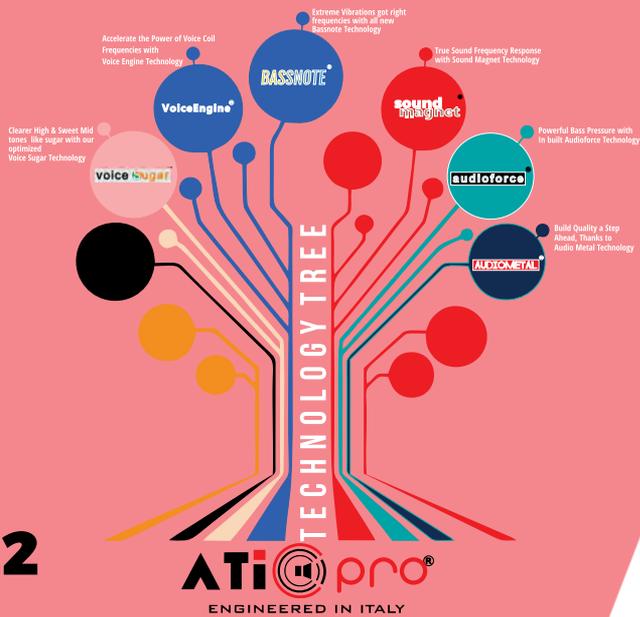


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