

# ETA ENTERTAINMENT TECHNOLOGY ASIA

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## Audio Dimensionz Crafts A Sonic Wonderland at CONTROL ALT DELETE

**MARCH 2024**

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and Reaffirmed Investment  
into the Future

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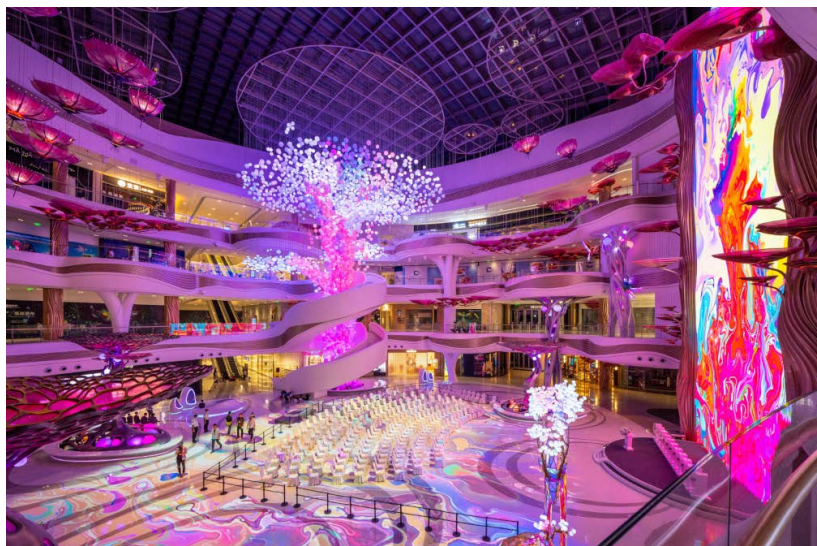
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Prolight + Sound Frankfurt is set to captivate audiences this month with an array of activities curated by the organizers. Among the highlights is a Keynote program boasting experts from diverse fields. Additionally, visitors can anticipate an exciting entertainment feature with the introduction of the Live Box. This 100 m<sup>2</sup> space, nestled within the Performance + Production Hub (Hall 11.0, E50), has undergone a significant

expansion to 3000 m<sup>2</sup>. Renowned international performers will offer exclusive insights into their craft within the Live Box, alongside captivating band performances. The event is scheduled to take place from March 19th to 22nd, 2024.

Alex Schloesser, our esteemed columnist, recently attended ISE 2024 and deemed it a resounding success, despite the considerable journey from Asia. However, he expressed the view that ISE has not, does not, and will not centre around the live sound industry. The absence of substantial interest from both visitors and exhibitors in driving the live sound industry to Barcelona underscores this perspective. As a result, the spotlight now shines brightly on Prolight + Sound as the premier event for the live industry.

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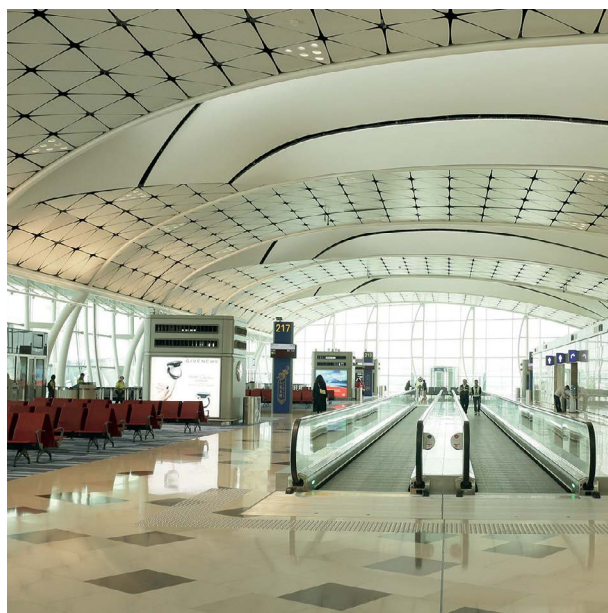
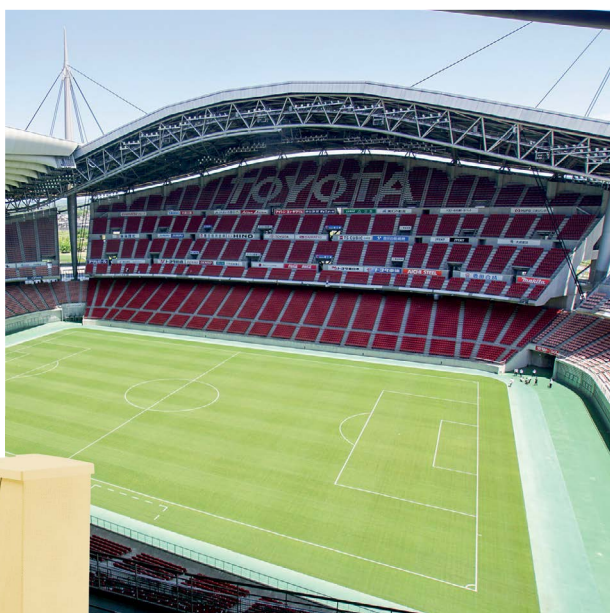
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# L-Acoustics and d&b audiotechnik Join Forces for New Platform



(L-R) Herve Guillaume, CEO L-Acoustics Group and Amnon Harman, CEO at d&b audiotechnik.

**GLOBAL:** In a remarkable departure from traditional competition, born from the companies' shared commitment within the **Avnu Alliance**, L-Acoustics and d&b audiotechnik are co-designing a new software platform that addresses some of the challenges which currently discourage widespread adoption of Milan AVB technology.

The software will be a neutral and free-to-use solution that eliminates any branding affiliations to help further foster universal acceptance. This collaboration reflects the commitment of the two manufacturers to removing barriers and paving the way for broader adoption of Milan AVB, the most stable and open networking technology.

"Our two companies each have individual value propositions for our customers, and we will continue to enjoy healthy competition. However, we are also excited to be cooperating on technical standards that will provide value to our industry," said Amnon Harman, CEO at **d&b audiotechnik**

"This new form of competing on one side and cooperating on the other side results in higher quality products, faster development times, and better functionality for all of our customers."

Both companies believe in the high-performance reliability of Milan AVB to enhance the artist's art and the audience's emotions. This project is a testament to their combined dedication to advancing technological standards in professional live events. While d&b audiotechnik and L-Acoustics lead the initial development, the project actively encourages additional contributors, emphasizing inclusivity and collective industry advancement.

L-Acoustics and d&b audiotechnik are also collaborating with SoundPLAN on the key issue of noise impact, they are working to define an exchange format between professional audio manufacturers' software and environmental noise simulation software.

"This groundbreaking collaboration underscores our shared commitment to advancing technology that improve workflow and delivers a memorable experience that connects artist and audience, and a safe and comfortable experience for crew and neighbours," stated Hervé Guillaume, CEO at L-Acoustics Group (<https://www.l-acoustics.com/>). "Together, these projects will create benefit for the entire industry, reinforcing our collective strength."

**Avnu Alliance/MILAN**





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## Electro-Voice ZLX Goes Platinum



**GLOBAL:** The one-millionth **ZLX** portable loudspeaker has rolled off the assembly line, establishing the series' reputation as the most popular in Electro-Voice's nearly 100-year history and giving the company a significant head start on 2024.

Designed to deliver professional audio performance at an accessible price point, ZLX launched at the NAMM Show 2013 and made a triumphant return to NAMM 2024 to mark the momentous occasion. Electro-Voice dealers and enthusiasts visited the EV demo room to meet the one-millionth ZLX in person – the box is now covered in signatures from EV team members from around the world – and to sign a special Platinum display in recognition of their key role in the ZLX's iconic success. Representatives from the Electro-Voice engineering and product development teams behind ZLX were also present to celebrate.

Guests in the Electro-Voice demo room also experienced EV's latest offering, the **EVERSE 12 battery-powered loudspeaker**. Models from the broader Electro-Voice portable sound

portfolio – including ZLX – were also showcased in what was easily one of the most impressive pro-audio demonstrations at the show. The EV team hinted at more major product introductions coming soon, further building on the extraordinary momentum generated by market leaders like ZLX, EVOLVE and EVERSE.

Given ZLX's global appeal, the celebrations extend far beyond the NAMM Show. Members of Bosch's executive board of management travelled to Electro-Voice's ZLX production facility to witness the historic one-millionth speaker being made, adding their signatures to 5 x ZLX boxes, along with members of the production team. These 5 x ZLXs are now travelling to Electro-Voice sites around the world, gathering additional signatures from the various teams behind the product's remarkable journey, to signify what is a truly international success story – one that has been created by passionate ZLX users around the world, and one that is set to go from strength to strength in 2024.

**Electro-Voice**



# JBL Professional VTX A6 Line Array Loudspeakers Win 2024 NAMM TEC Award



**GLOBAL:** A NAMM Technical Excellence & Creativity (TEC) Award in the Sound Reinforcement Loudspeakers category has been AWARDED to HARMAN Professional Solutions' JBL Professional VTX A6 line array speakers.

The 39th annual TEC Awards honoured best-in-class products in the professional audio community and were presented at The NAMM Show 2024. **JBL VTX A6 line array speakers** are JBL's smallest VTX line array product to date and bring flagship VTX A Series performance to a subcompact form factor.

"We thank the NAMM TEC Award judges and voters as we are honoured that our JBL VTX A6 line array loudspeakers have won this prestigious award, the third for the VTX Series," said Karam Kaul, Vice President Audio, HARMAN Professional Solutions. "Since their introduction in July 2023, A6 has been widely adopted by many of our mid-size rental house, corporate, performing arts,

hospitality, and house of worship customers. The entire team who has worked on the VTX Series have been unrelenting in their pursuit of excellence and this award is proudly shared with them and all our customers who help us develop the world's highest quality audio systems."

This is the third NAMM TEC Award in the Sound Reinforcement Loudspeakers category for the JBL VTX Series as the VTX A8 line array loudspeaker won in 2020 and the JBL VTX A12W line array loudspeaker in 2019.

The TEC Awards Nominating Panel was composed of leaders from across the audio and production industries. More than 1,000 products and projects in 23 categories were considered for Outstanding Technical Achievement nominations, ranging from computer audio hardware to recording microphones to wireless technology.

**JBL Professional**



# Ayrton Mistral S Proves Perfect Solution for Saturate Designs



© Saturate Designs.

**THAILAND:** Saturate Designs is a 2009-founded company that specialises in lighting design for the entertainment sector and has offices in Sydney and Bangkok. The company offers custom solutions, from idea visualisation to programming and operation, for live music festivals, film projects, installation projects, and theatrical designs.

Saturate Designs, Thailand, recently invested in 16 x **Ayrton Mistral S fixtures** which were supplied by Ayrton's exclusive distributor for Thailand, **Total Solution Marketing** Thailand.

The team at Saturate Designs were extremely impressed and pleased to discover the compact, yet powerful Mistral S lights which produce an infinite palette of vivid pastels and saturated colours: "We now own 16 Mistral S which we use across a variety of our own projects and designs,"



stated Peem Poolpol, Lighting and Creative Designer at **Saturate Designs** .

"We had previously searched for a small 'easy to carry' fixture which could still maintain the



high quality and strong light output that is so necessary for our designs. We then discovered Mistral S which is perfect for the kind of work that we do, and, additionally, as an excellent substitute for the riders of many international artists.

"The Mistrals are currently on the fixture list for most of our shows, which can be anything from a small live house of 500 people up to a maximum of 12,000 people for arena shows. The Mistrals are great for most of the applications in each venue that we bring them into. There are some shows where the stages are quite big and need a bit more power, but with the right placement, the Mistral's 300W LED light source works well as it is pretty bright for its size. We are hoping to add more Mistrals in the near future and are also looking at bigger models from Ayrton."

Service is always an important factor when purchasing new equipment and Saturate Designs was not disappointed with their experience with Total Solution Marketing. "We are delighted with our Mistral S fixtures, especially the good quality of the build and the ease of use with such a lightweight product," confirmed Poolpol. "We are very happy with the service we received from Total Solution and look forward to exploring a variety of fixtures from the other Ayrton series with them in the future."

Tevin Heng, Executive Director of Total Solution Marketing commented: "We extend our heartfelt gratitude to Saturate Designs for their faith in choosing Ayrton Mistral. Saturate Designs is a team of young, exciting, and highly sought-after lighting designers who have captivated audiences in Thailand with their bold and innovative approach. We are glad the Mistral S performance has exceeded their expectations and is now a key member of their lighting inventory."

**Ayrton**

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# Meyer Sound Celebrates 45 Years with New Logo and Reaffirmed Investment into the Future



**GLOBAL:** Since its establishment in 1979, Meyer Sound has been a leader in professional audio. To mark 45 years of innovation, the company unveiled a new logo that emphasises its dedication to the advancement of sound. This rebranding effort demonstrates Meyer Sound's ongoing commitment to breaking down barriers, developing cutting-edge technology, and reshaping the market for future generations.

## A Legacy of Innovation

Meyer Sound has been a driving force in audio ever since John and Helen Meyer set up shop in Berkeley, USA, four-and-a-half decades ago. From its inception, the company's mission has been to create the best sonic experiences the world has ever heard.

Meyer Sound's technologies, including trapezoidal loudspeaker cabinets, self-powered loudspeakers, processor-controlled loudspeaker systems, curvilinear arraying, and source-independent measurement systems, have become "industry standards". The company's inventions have earned more than 100 patents and numerous prestigious awards, including the TEC Awards, Parnelli Awards, and the R&D 100 Award.

"Scientific innovation, engineering excellence, an unwavering commitment to quality, and constant evolution—this is our legacy, and our future," stated Meyer Sound Senior Vice President John McMahon. "Our dedication to craft defines us, and we're excited to carry this spirit forward as we set our sights on developing integrated sound solutions on an even broader scale."

## Investing in the Future of Sound

As Meyer Sound embarks on a new era, its focus is on key initiatives within multiple areas:

The company "continues to shape the future of audio technology", building on the successes of its PANTHER large-format linear line array and 2100-LFC low-frequency control element and expanded investment in integrated solutions and digital systems, including the Nebra software platform and the NADIA integrated digital audio platform. By actively advancing industry standards, from a leading role in the Avnu Alliance to the AES75 initiative, Meyer Sound is at the forefront of furthering the state of the art.

From its 38-year partnership with the Montreux Jazz Festival to ongoing collaborations with the Roskilde Festival, the Telluride Film Festival, and TED Conferences, Meyer Sound's strategic alliances showcase a dedication to delivering exceptional audio experiences and commitment to supporting the arts both in the local community and around the world.

Education is central to Meyer Sound's mission, with comprehensive and science-based programs tailored to all disciplines and experience levels. The company's newest offerings, marked by new

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partnerships and expanded in-person classes and online content, underline a significant investment in nurturing future industry leaders. Advocating for diversity, equity, and inclusivity, the company actively champions women, gender-expansive individuals, and other under-represented communities in audio.

Meyer Sound strives to minimize its carbon footprint, following sustainable manufacturing practices and envisioning future product innovations with a green perspective.

### A New Logo: A Symbol of Evolution

Accompanying Meyer Sound's 45th-anniversary celebration is a bold new logo that encapsulates the company's evolution and readiness for the future.

The versatile new design features heavier wave and type forms, filling more of the space it occupies and exuding a stronger presence. It is a visual representation of Meyer Sound's commitment to staying at the forefront of an

evolving industry landscape and maintaining a clear and bold identity.

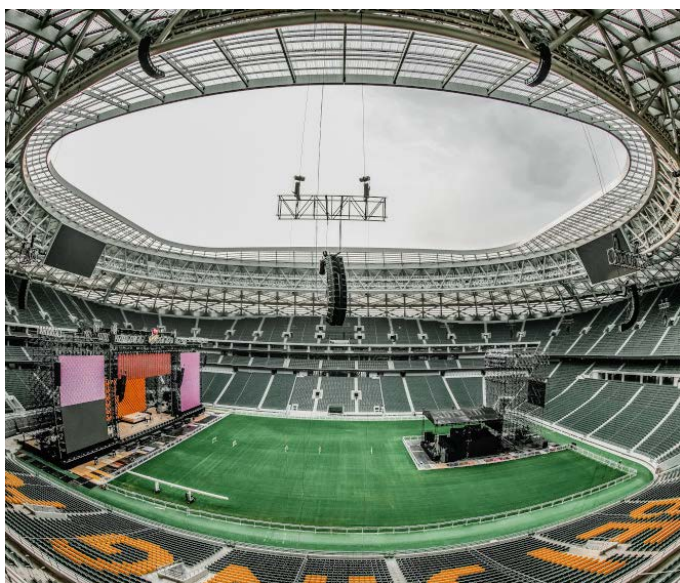
"The goal with the new logo was to create a mark that respects our history while better reflecting the scope of our business growth and strategic direction," explained Meyer Sound's Creative Director Simon Miller. "In a world where Meyer Sound's presence spans diverse platforms, the robust, modern design ensures an iconic presence that matches the strength of our technologies."

"This anniversary marks a time of transformative growth for Meyer Sound," added Senior VP McMahon. "As we double down on our investments in both acoustic innovations and digital ecosystems, our emphasis on partnerships, education, diversity, and sustainable solutions will drive our next chapter as we aspire to help people experience sound in ground-breaking new ways."

**Meyer Sound**



# Rightway Audio Consultants Rock Out with L-Acoustics in Rebuilt Workers Stadium



**CHINA:** Following a three-year rebuild, the Workers Stadium in Beijing staged See You Summer, its first concert in the upgraded space. Home to Chinese Super League's Beijing Guoan Football Club, the venue seats 68,000 in an international-standard football arena and welcomes live concert performances by local and international stars. The highly-anticipated See You Summer concert featured six popular musical acts from three successful seasons of the nationwide iQIYI streaming service variety show, The Big Band.

Established Chinese rock bands New Pants, Tong Young, Wutiaoren, Re-TROS, Novahearts, and Second Hand Rose performed to more than 30,000 fans in the large outdoor stadium, which features a bowl canopy design that fully covered the spectator stands. **RAC** Technical Director Zhou Fengxin designed a concert sound system that would provide high SPL to support the dynamic pop and rock acts while providing flexibility for the diverse range of musical instruments featured in the six bands.

Zhou worked with sought-after concert sound producer Jin Shaogang to survey the newly rebuilt venue, create a 3D representation of the space, and translate that into L-Acoustics Soundvision to ensure an optimum sound design. During the process, they identified long reverberation times as a significant challenge. "We took note of staging and audience areas and discussed speaker deployment positions and their respective coverage areas. We saw that we needed to shorten throwing distances to achieve optimal, direct sound and reduce reflections as much as possible," explained Zhou.

He simulated several design drafts with varying speaker heights and angles, calculating SPL with every reiteration of the system design to meet the promoter's requirement of covering concert audience areas designated on two-thirds of the stadium's field and the spectator stands.

A system design was chosen based on the powerful, long-throw characteristics of **L-Acoustics K1**. A main left-right system of 12 x L-Acoustics K1 and 3 x Kara II speakers per side was flown above the stage, with eight K1-SB subwoofers flown behind each side. An additional six groups of 6 x KS28 subwoofers in cardioid configuration were stacked in front of the stage. The side-fill system comprised 12 x L-Acoustics K2 boxes per side, with its Panflex horizontal directivity adjusted to 70° to minimise reflections from the glass surfaces of the stadium canopy structure.

To deliver coverage to the stands surrounding the football field, twelve sets of lightweight Kara II boxes were rigged as a delay system on a flying ring truss. A second delay system comprised four stacks of three to five K2 boxes to cover the

audience in the spectator stands furthest away from the stage. Here, the Panflex of the top two boxes of each stack was adjusted to 70° while the bottom three were set to 110°. Using two delay systems allowed the main system to output at lower levels, reducing reflections and effectively improving the overall consistency and coverage.

Once deployed, Zhou's system engineering team leaned on the L-Acoustics P1 processor and M1 measurement software to achieve swift system tuning during the tight schedule between band rehearsal times. Sweep signals and the tuning process took less than a quarter-hour. However, once tuning was attained, Zhou knew the significant changes from daytime temperatures of 30°C to night-time temperatures in the teens

would impact the sound during the live show. During the show, his team used the Autoclimate function of **LA Network Manager** to adjust to environmental changes and create consistent sound from the first musical notes of soundcheck and rehearsals to the final encore.

The result was a heart-pounding, exhilarating sonic experience for all fans. "A member of the audience praised the sound as being incredible and thanked our team for producing one of the best live concerts in recent memory. Several concertgoers were looking forward to more shows here in the Workers Stadium," concluded Zhou.

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# Lux Machina Consulting Looks Ahead Following Tracking Success at LoL Championship



**SOUTH KOREA:** Lux Machina Consulting, specialists in virtual production and official authorised service-based partners of Stage Precision, recently wrapped up work on the production of Riot Game's League of Legends World Championship e-sports competition. Through the implementation of Stage Precision's flagship **SP software** into their workflow, the team were able to manage a complex and multi-layered AR production with ease.

"Within our work at Lux Machina Consulting, we've used every tracking tool out there," noted Wyatt Bartel, VP of Production at the company. "Most of the workflows available are proprietary, meaning you're locked into a particular manufacturer's ecosystem. We came to know **Stage Precision** when we were searching for a platform to stabilise our camera tracking practices across film, television, and live events markets and upon learning about their lens

calibration features and Shield plug-in we realised it was exactly what we'd been looking for - a tool that would unify data from several sources."

For the League of Legends project, the Lux Machina Consulting team opted for several different tracking solutions, including an inside-out optical tracking data system via Mo-Sys, a tracked cable camera, and a SuperTechno crane, but needed a tool to provide a common link between data sources with offsets and profiles. SP proved to be the ideal solution.

"SP provides us with a workspace in which we could view the data coming in and out," explained Jephtha Valcich, Camera Tracking Specialist at Lux Machina Consulting. "Having this data overview means the camera tracking team can work in a separate environment from the technical team, leading to a greater sense of organisation on projects."



The production team likened SP to a “catch-all filter” when it came to data control and distribution. “We used SP as a big tracking mixer, ingesting all the data we had available to us and allowing us to manipulate it before delivering it back out,” added Xander De Jong, Camera Tracking Specialist at the NEP Group Netherlands, a sibling company that collaborated with the Lux Machina Consulting team on the League of Legends project. “From within SP, we could see all the 3D data from several sources, sync or delay the data and deliver it up to Unreal Engine.”

The release of SP version 1.1.0 in September 2023 included new and updated features for camera and lens calibration. These features proved invaluable during the production in Seoul. “We used lens profiles in SP for all five of our cameras, three Mo-Sys systems we were operating, the crane, and the cable camera. Additionally, we had mechanically tracked camera heads without tripods that we needed to track and control the height of. SP gave us a platform from which to pull in the data, manipulate it and in turn control the height of the cameras,” recalled De Jong. “Without it, we had no way of combining these data packets.”

This lens calibration workflow within SP proved a game-changer for Lux Machina Consulting. Unlike previous methodologies employed by other tracking workflows, SP’s approach provided a user-friendly and scalable solution.

“SP gives us a single source of truth with the ability to understand the data as a whole as signals come in and go out,” stated Bartel. “It’s amazing to see the discrepancies in the data flow and to view the data as a visual representation is a real plus when it comes to timing the various types of tracked systems in use. As you boot the system up every day, SP allows you to guide your calculations in a predictable, visual way and helps us to avoid dirty data and mistimed frames.”

Comparing SP to previous workflows, the Lux Machina Consulting team emphasised the advantage of being able to create unique tracking profiles and the openness of the platform. “Stage Precision has unlocked what other companies prefer to keep locked. You can do a lot within native software, but with SP you can do so much more,” reflects Bartel. “Plus, the quality of service is outstanding. If we have any questions or requests, you receive support very quickly.”

Looking ahead, Lux Machina Consulting envisions a future where Stage Precision continues to evolve its software. “Equipped with SP we can do more; have more cameras, have different types of cameras and bring different technologies to productions we previously wouldn’t have due to the time it would have taken to set them up,” concluded Bartel. “On League of Legends, we had around 25 cameras overall and with SP in our workflow we can turn more and more of those into AR or XR cameras in the future. I’m convinced that the ease of set-up that comes through utilising SP will push the XR industry forward as a whole.”

**Lux Machina Consulting**



# Claypaky Continues Towards a Greener Future by Obtaining 2nd ISO 14064-1:2018 Certification



**GLOBAL:** Claypaky is continuing to improve its environmental performance with the CP Green project launched in 2022. The company has already implemented several aspects of the long-range project, which is constantly revised to make Claypaky's sustainability strategy more effective and efficient.

The main objective of the project is to reduce Claypaky's impact on climate change and mitigate greenhouse gas (GHG) emissions. To achieve this goal, the first and most important step is calculating GHG emissions. For this reason, for the second consecutive year Claypaky obtained in November 2023 the ISO 14064 certification, which calculates the impact on climate change at the organizational level for the year 2022.

This study, performed with the support of Spinlife, a spin-off of the University of Padova,

has been carried out with a "cradle to grave" approach analyzing all direct and indirect emissions. This organizational carbon footprint assessment allows Claypaky to understand where the environmental hot spots are and to define concrete actions to reduce its impact on climate change.

The result of this analysis will also permit updating the carbon management plan established in 2022 (created according to data from the ISO 14064 study of the year 2021) and delineating a more precise and realistic GHG emission reduction strategy.

With this in mind, Claypaky has already started implementing some of the GHG mitigation activities established by the carbon management plan of last year.

Claypaky has:

- Reduced the consumption of methane thanks to a new Building Management Control Scheme, which monitors and improves fuel consumption at Claypaky's production plant.
- Purchased 100% of its electricity from certified renewable sources. Claypaky plans to install a photovoltaic system capable of generating all the electricity needed for its operations. This initiative will begin as soon as the Italian government provides approval for state funding. Converted its internal combustion engine car fleet to fully electric vehicles. The new fleet is powered by renewable energy, as mentioned before.
- Installed a new and more energy-efficient laser cutting machine to reduce the electricity consumption of the operation and improve efficiency.
- Exchanged all interior lighting for energy-efficient LED lighting to substantially reduce energy consumption.
- Improved product design and components to make them more energy efficient. Consequently, Claypaky now significantly cuts emissions from the use phase. This result was achieved by converting the fixtures fleet to more efficient products through innovation and the use of superior raw materials (e.g., high-class lenses, highly efficient LEDs, and lasers).
- Implemented a more precise and reliable data collection and management system to better monitor and improve environmental performance. This system facilitates a more precise Carbon Footprint study for the year 2022 and obtains more valid and reliable data about the main sources of GHG emissions.

- A significant result already has been achieved by creating a more accurate analysis of the supply chain. Claypaky created an enhanced system for raw materials analysis and classification to better track the emissions generated by resource usage. Suppliers of raw materials and outsourced finished products were also involved in collecting more solid data about their operations. These activities enabled Claypaky to improve the calculation of upstream GHG emissions.

- Performed training that targets GHG managers who will track data continuously over the years.

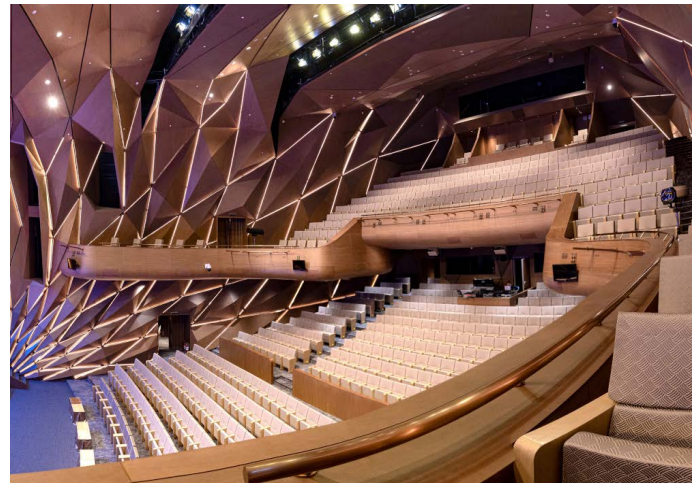
- Plan to compensate Category 1 and Category 2 (equivalent to Scope 1 and Scope 2 emissions according to the GHG Protocol) using carbon credits. Claypaky is implementing this initiative to be more accountable for emissions related to production activities.

As a result of all these initiatives, Claypaky has not only started to substantially reduce its carbon footprint but also begun to better monitor and improve its environmental performance and play a more significant role in the global fight against climate change.

### **Claypaky**



# New Ho Guom Opera Optimizes Listening Environments with Meyer Sound Constellation



**VIETNAM:** The Ho Guom Opera is operated under the direction of the Ministry of Public Security and the Hanoi People's Committee. The arts complex, located on a 5,000m<sup>2</sup> site adjacent to Hoan Kiem Lake in an area of Hanoi rich in cultural and historical sites, also incorporates a smaller, 500-seat theatre.

The opening of the Ho Guom Opera in Hanoi, Vietnam vaulted it to the front of Asian countries offering the most advanced technical facilities for hosting the performing arts. The stunning new venue was presented to the public in a soft opening in July 2023 and has since earned international accolades for its visionary architecture, audience amenities, and an aural environment instantly optimized for any event by the **Constellation acoustic system**

Vietnam's Ministry of Public Security, which operates the theatre, focused on acoustic priorities led by "a passion for art, and especially, the natural sounds of musical instruments in concert," said General Tô Lâm, Vietnam's Minister

of Public Security. "We need a place with a good sound field for artists to flourish."

The large 900-seat hall in the new performing arts complex is a multi-purpose venue equally suited to hosting all arts and entertainment genres. In addition to opera in the Eastern and Western traditions, the hall also hosts symphony concerts, Broadway musicals, ballet, jazz and pop concerts, conferences, and film screenings. With Constellation, both the intensity and spectral envelope of the reverberant field can be optimized for the event at hand, with multiple zones allowing fine-tuning of the effect both on stage and in different sections of the auditorium. As originally proposed by Vietnamese government officials, the Ho Guom Opera was intended to host classical orchestral and choral concerts.

"As we progressed through the design development the concept evolved," explained Paris-based Acoustic Engineer Antoine Pommier of international consulting firm Delhom Acoustics. "The client looked to extend the types of events that could be hosted in the hall, including some amplified music. Initially, we looked at

accommodating these needs with variable architectural acoustics, though optimizing for such a wide range would be a challenge.”

The tipping point came with one final request. “When the client came to us and said they also wanted to host film premieres, we knew this would be difficult without an electroacoustic solution,” noted Loïs Delhom, the firm’s General Manager for Vietnam.

The focus then shifted to a hybrid approach, with the architectural acoustic design working hand-in-glove with electroacoustic augmentation to assure optimum results throughout the audience seating and across a broad spectrum of reverberant field requirements, from orchestral and choral music to amplified rock and film showings.

“We would utilize the natural acoustics, such as the orchestra shell and reflectors, to establish the primary natural sound field, and then use electroacoustic technology to fine-tune the late acoustic sound field and enable uniform coverage across the entire audience, including distant zones,” stated the Delhom team. “Also, as the project progressed, it became evident that Constellation adhered to all the project constraints and, as a result, became the preferred choice. Meyer Sound successfully reassured both the client and our project team.”

General Lâm added that Meyer Sound Constellation was chosen for both its acoustic attributes and ease of operation. “I have many experts in this field of sound advising me,” he said. “I have researched systems from many other brands, but Meyer Sound brings the best, most natural music quality.”

The Constellation system at Ho Guom Opera comprises 165 full-range self-powered loudspeakers placed discreetly on the side walls and overhead in the auditorium as well as around the stage, with a dedicated D-Mitri DVRAS

processor for each of the five reverberant zones. Deep bass extension for Constellation is provided by 16 x small subwoofers, and a total of 57 x miniature condenser microphones are deployed throughout the space for ambient acoustical sensing.

For amplified events, the venue relies on a house system anchored by 24 x LEOPARD compact linear line array loudspeakers, with 12 900-LFC low-frequency control elements for bass extension. Fill and delay requirements are met by a contingent of 32 point-source loudspeakers, with ULTRA-X40™, UP-4slim, and ULTRA-X20XP deployed as appropriate.

Since the Ho Guom Opera opened, it has hosted performances by the Vietnam National Symphony, the Sun Symphony Orchestra, Katy Perry, and Kenny G—all showcasing Constellation’s ability to support diverse programming, General Lâm said. “With symphony concerts, the instruments have very natural, soft sounds. And with pop music, the P.A. system really gives beautiful sound.

“We aim for high-quality concert programs, with major orchestras and artists from around the world coming here to perform,” he concluded. “When introduced to our theatre, major orchestras and artists around the world trust us and are willing to cooperate with us in the future.”

In addition to **Delhom Acoustics** agencies in France, China & Vietnam, Delhom Acoustics founder & CEO Jean-Philippe Delhom played a key role in the initial phase of the project. On the Meyer Sound side, Constellation Project Director John Pellowe served as principal liaison with the client and the Delhom team, and performed the system voicing, while Jessica Borowski was primarily responsible for system design and worked alongside Tom Cavnar on calibration.

## Meyer Sound



# Dicentis Conferencing System Supports IPC General Assembly



**BAHRAIN:** A Dicentis conference system from Bosch was selected by the organizers of the recent International Paralympic Committee (IPC) General Assembly and Conference which took place in Manama, Bahrain near the end of 2023. Five new nations were added to the IPC family, taking the membership to 208 countries, and a pair of international federations recognized as governing bodies for para-sports.

The event saw participation from more than 350 attendees from different National Paralympic Committees, International Federations, Regional Organizations and International Organizations of Sport for the Disabled. Smooth communication was ensured thanks to an extensive Dicentis system which comprised 201 delegate devices, including eight multimedia devices, seven discussion devices with voting and 186 discussion devices with touchscreen. The conferencing solution for the event was provided by local Bosch partner Mohammed Fakhroo & Brothers W.L.L.

## Accessible voting

**The Dicentis discussion device** with voting was specifically chosen for the General Meeting, thanks to its accessible options for visually impaired participants. The orientation sheet as an optional accessory added noticeable braille cells to help distinguish between the different voting buttons. Added to this, audible feedback from the device helped to facilitate voting – when a participant casts a vote, a beep sounds in their headphones to confirm the action.

“The Dicentis conference system has been proven to be very successful for this event as it provides options for being inclusive to people with impairments,” observed Vipin Ravindran, the Sales Manager of Mohammed Fakhroo & Brothers W.L.L. “It’s not just the delegates with hearing difficulties who benefit from using the Dicentis conference system, but also the visually impaired, which has been well received by the committee.”

### Multi-language support

To further aid communication at the event, interpreter booths ensured that delegates could select between six languages to hear proceedings. Ahead of the General Assembly, the IPC also hosted two days of board-level meetings in the Bahraini capital. These meetings relied on a CCS 1000 D **digital discussion system** with advanced digital audio processing and superior microphone and loudspeaker performance, all ensuring excellent speech intelligibility.

The conference required a large amount of customization in preparing the agenda and the synoptic view showing the voting results. This was achieved using the software from Bosch IPP Partner MVI AudioVisual Global B.V.

"There were a lot of extended requirements from the customer, which included a touch display for the president of the IPC to enable and disable microphones, voting grid showing individual country/organization's name and their selection, a separate display for the president to show the queue and active speakers, a display of results for scrutineers which once verified was passed to the president to display on the main screen and many more," recalled Varun Raj Khanna, Technical Manager at Mohammed Fakhroo & Brothers W.L.L. "Thanks to the advanced features of the Dicentis system and its API customization using MVI AudioVisual's Easy Conf software, we were able to provide a state-of-the-art conference experience for this year's general assembly."

**Bosch**

## Ragam Pro AVL Purchases DiGiCo Quantum 225 for "Advantage in the Current Market"

**INDIA:** From humble beginnings 50 years ago, Kerala-based Ragam Pro AVL has created a reputation for delivering first-class events.

"Recently we ... planned to upgrade our audio inventory to meet the growing demands of clients," explained Biju KV of Ragam Pro AVL. "Our first thought was to purchase one from DiGiCo's SD series. But then they introduced the Quantum 338 and 225 to the Indian market via their distributor, Hi-Tech Audio & Image. Azhar Meem from AVL Marketing, Kerala, the dealer partner of Hi-Tech Audio & Image, told us about the powerful Quantum 225 that incorporates all the new design features of the Quantum 338 but in a compact, robust work surface and we knew it would be perfect for us."

Rajan Gupta, CEO/Founder of Hi-Tech Audio & Image, noted that the combination of DiGiCo's

technical excellence and support plays a pivotal role in converting prospects to clients. "DiGiCo has been challenging its limitations while innovating new product ranges," he said. "From the S and SD Series, and now the **Quantum 225**, DiGiCo has put a ton of power and versatility into a compact work surface. The Quantum 225 is definitely a rider-friendly solution for Ragam Pro AVL."

Until now, the Quantum 225 had not been used in the Indian live industry. Though Ragam Pro AVL was keen to invest in Quantum 225, they were initially uncertain. Azhar took the initiative to help them in every possible way. "We connected with a few sound engineers from our state, who'd had the chance to work with Quantum 225 console in Europe," he shared. "Their feedback about it was extremely positive and they were happy with its upgraded features. Hearing this, Biju was





confident to invest in the console. Furthermore, the support provided by Rajan Gupta and Nirdosh Aggarwal of **Hi-Tech Audio & Image** confirmed their choice.”

“We have been associated with Azhar for a decade now. He has been instrumental in Kerala in promoting brands like DiGiCo among his clients,” explained Nirdosh Aggarwal, Managing Director of Hi-Tech Audio & Image. “The inventory requirements for pro audio brands are extensive and it becomes hard for us to cater to everyone. We have a wide span of trusted dealer partners across India like AVL Marketing who are boosting our sales by supporting our brands. Investing in the Quantum 225 is aligned with Ragam Pro AVL’s future business plan.”

When choosing the Quantum 225, Biju had the future in mind and wanted a console that would give him the edge in the current market and deliver the longevity he wanted. With the Quantum 225 on board, Ragam Pro AVL is now able to provide touring engineers with a much more comprehensive and user-centric mixing workflow.

Being the first DiGiCo Quantum 225 in India, hands-on training was immediately planned. DiGiCo Application Engineer, Piyush Joshi, shared his experience with conducting well-structured training for Ragam Pro AVL’s team.

“The Quantum 225 is the best-packaged beast in the industry, with such efficient technology,” he concluded. “Features like Nodal Processing, Spice Rack, True Solo, and DMI slots for protocol integration, have redefined the digital audio console’s capabilities.

“What impresses me most, is that after all these extraordinary added features, operating the console is a breeze, and switching between the SD and Quantum ranges is seamless. Ragam’s choice of acquiring a Quantum 225 with MQ-Rack has given them the latest platform of digital audio protocols. The MQ-Rack has set yet another benchmark in terms of AD/DA converters on the MADi protocol and it sounds absolutely phenomenal.”

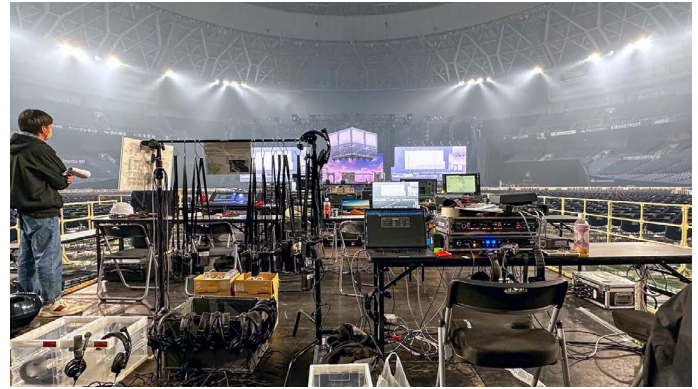
**DiGiCo**

# ATLinkage Adds Riedel's Bolero Wireless Intercom to Rental Portfolio

**JAPAN:** ATLinkage, a provider of video production and distribution solutions for large-scale live venues, is enhancing and expanding its rental portfolio with the addition of Riedel's Bolero wireless intercom system. The Bolero system allows ATLinkage to deliver flexible communications solutions that not only improve range and sound quality but also support a greater number of connections — all essential for reliable communications across expansive sports and entertainment facilities.

"While Bolero's wide antenna coverage area and beltpack battery life match the requirements of concert tours, the ease of installation when operating the Bolero has also led many of our customers to order rental equipment," said Tsukasa Ishii, Video Engineer at ATLinkage. "The fact that up to 10 beltpacks can be connected to one antenna — with the option to add antennas and install wherever necessary — not only makes it easy to configure the equipment but also provides total scalability and coverage for large venues. Overall, Bolero has become an indispensable asset in delivering exceptional experiences at every event we undertake, helping us reinforce our commitment to providing cutting-edge technology and enhancing the overall efficiency of our operations."

ATLinkage is providing equipment rentals and support for 70 x Bolero beltpacks and 14 x antennas, as well as **Riedel's NSA-002A Network Stream Adapter** and other products. The company's on-site team has already deployed Bolero antennas and beltpacks to support live event production at renowned stadiums and concert halls including the Tokyo Dome, Kyocera Dome Osaka, the Japan National Stadium, Pia Arena MM, Makuhari Messe, and Saitama Super Arena.



Bolero's scalability, supporting up to 60 units in a single system, and its ability to integrate with both wired and wireless setups make it a versatile solution capable of addressing the dynamic demands of live event production. The wireless intercom system's wide antenna coverage and extended 18-hour beltpack battery life make it a preferred choice for concert tours, providing unparalleled flexibility and performance. With a waterproof and dustproof design, Bolero also ensures resilience in various operational conditions. Bolero redefines seamless communication in challenging radio wave environments, thanks to its 1.9-GHz DECT band, which ensures crystal-clear sound quality and reduces the likelihood of interference with other wireless broadcasting equipment, such as drones or the venue's permanent Wi-Fi.

"We are delighted to join forces with ATLinkage, a company that shares our dedication to advancing communication through the fusion of art and technology," concluded Guillaume Mauffrey, Director Sales Asia at Riedel Communications. "Thanks to its reliability and versatility in complex environments, the Bolero system aligns well with ATLinkage's goal of enhancing the efficiency of event productions across Japan."

**Riedel Communications**



# Versatile Optocore Network Applicable to Any Performance at KOCCA Multi Content Testbed

**SOUTH KOREA:** The need for a lightning-fast, supremely reliable and infinitely flexible digital network was the key requirement when Korea Creative Content Agency (KOCCA) set out its requirements for a 'black box' theatre in Seoul. The Multi Content Testbed was conceived as a testing ground where all types of cultural and artistic content would merge with innovative cutting-edge technology.

Optocore originally received the inquiry from the installation company, SiDiS, as far back as October 2021 when the search began for a robust network.

The equipment needed to be compatible with any incoming production mixer, as well as the in-house Midas M32, feeding the L-Acoustics PA. It was based around an M8 MADi switch at FOH, which would share the inputs and outputs of four stage boxes. These, in turn, are catered for by a variety of **X6R-FX** and **X6R-TP** devices, and BroaMan Repeat 48, which convert video or digital audio formats between coaxial and optical connections.

The equipment was duly supplied by local distributors, Seoul-based **Ingang Audio Co.**

The black box theatre forms the hub of the experimental Creative Content Culture Plaza, set on a total area of 2,700 m<sup>2</sup> (with two floors above ground and two underground). This is where STAGE66, which comprises the STUDIO1 stage, the larger STUDIO2 experimental stage as well as a practice room, is housed. The main aim is to turn Korea into a major player in the content industry worldwide.

The 191-seat STAGE66 showcases technology demonstrations, stage experiments, B2B



showcases, cutting-edge performances and events. These experimental performances receive support from the Government, regardless of audience revenue. It had been Eugene Yune, then working with SiDiS, but now working as EG Audio, who first recommended that the client—part of the Korean Government—adopt an Optocore solution. "I knew some people at the theatre, and thought Optocore would be useful to them since they had been wanting a versatile system that could be applied to any performance format," he said.

Optocore is presently connected to the Midas M32 through a Klark Teknik DN9650 interface. However, for the future, Yune has also proposed a mixer upgrade to their Avid or DiGiCo platform, specifically to meet high-level performance requirements.

"Versatility is important and the in-house techs can rest in the knowledge that they can move the Optocore devices to any place in the theatre, in order to increase or decrease the number of A/V channels and control lines required," he summarised.

**Optocore**

## Superwaves Looks to Elevate Sound Experiences with Major Investment in Martin Audio Line Array Inventory



According to Gurvinder, Superwaves' burgeoning business portfolio and an ever-growing demand for top-tier audio solutions proved to be key influences in the company's extensive investment; with the belief that their newly acquired gear will play a vital role in helping the company stay at the forefront of technological advancements to meet and exceed client expectations. Superwaves team-member Lionel Correia added

**INDIA:** Mumbai-based live event equipment rental powerhouse, Superwaves, has made waves in the industry with its recent substantial investment in a comprehensive line array inventory from renowned manufacturer Martin Audio. This strategic move sees Superwaves acquire a formidable arsenal comprising 48 units of the WPL 3-way bi-amp Optimised Wavefront Precision line array modules, complemented by 16 units of the WPC 3-way bi-amp Optimised Wavefront Precision line array modules, and further bolstered with 36 units of the SXH 218 passive Hybrid horn/reflex subwoofers.

"We are thrilled to partner with Martin Audio and VMT to bring top-of-the-line audio solutions to our clients. This investment represents our commitment to delivering unforgettable events and setting new standards of excellence in the industry" commented Gurvinder Singh Saini, director of Superwaves.

to this, stating, "The Martin Audio Wavefront Precision line arrays provide us with the precision and power we need to cater to diverse event requirements – from intimate gatherings to large scale concerts – these systems ensure crystal-clear sound and immersive experiences for our audiences."

The purchase was facilitated by Vardhaman Mega Tech (VMT), the official distribution partner for Martin Audio professional audio products in India; with Jeff Mandot, VMT's director of sales commenting, "We are delighted to have facilitated this partnership between Superwaves and Martin Audio. This investment not only reinforces Superwaves' position as a market leader but also highlights the quality and innovation that Martin Audio brings to the table. We look forward to continuing to support Superwaves in their quest for audio excellence!"

**Superwaves** **VMT**



## TOKYO-SANKO Extends Impressive Portfolio with DiGiCo Quantum 338 Consoles



**JAPAN:** Tokyo-based rental company Tokyo Sanko recently added two DiGiCo Quantum 338 consoles to its inventory. Already loyal DiGiCo fans – with 10 years of experience using the brand's desks - Tokyo Sanko has now extended its already impressive brand portfolio with a next-generation controller.

"DiGiCo is a super machine. The company produces faultless consoles that can adapt to many different scenarios," said Tetsuya Matsunaga, audio department manager and system engineer at Tokyo Sanko. "We've been using their desks for over a decade now and are consistently impressed by what we're able to achieve."

Tokyo Sanko rents concert-related sound and lighting equipment from its base in Tokyo, Japan. As well as servicing long-running theatre, musical, corporate, and sporting events, the company has an additional branch that oversees stage production and direction. Well-known for their

work in large stadiums, domes, and arena-class venues across the country, Tokyo Sanko supports this wide variety of entertainment with a highly skilled staff and an impressive inventory of equipment.

The company first heard about DiGiCo when it was introduced by an agency during the industry's transition to digital consoles back in the early 2000s, but it was the flagship SD7 that sealed the team's decision to invest. "I liked that I could customise things freely on the SD7," recalled Matsunaga. "I first used the desk in a small-scale venue, and it sounded incredible. This is when I realised how powerful it could be."

Since then, Tokyo Sanko has continued to turn to DiGiCo for numerous live shows and projects, including an outdoor concert at Heian Jingu Shrine in Kyoto where the SD7 was used for the first time. The Shrine dates back to 1865 and is dedicated to the spirits of the first and last emperors who reigned in Kyoto; Emperor Kammu



*Tetsuya Matsunaga, audio department manager and system engineer at Tokyo Sanko.*

(737-806) and Emperor Komei (1831-1867). It is located within the city, so the main challenge was to ensure clarity of audio, whilst keeping under the 90dB noise limitation. The DiGiCo SD7 exceeded expectations – delivering a balanced sound that matched the breathtaking setting of the venue.

“This project cemented our love for DiGiCo,” Matsunaga explained. “The console delivered a beautiful sound in a complex setting, so we expanded our portfolio with the addition of other consoles including the Quantum 7. The **Quantum 338** now pushes our rental services into a new era.”

The Quantum 338 follows in the footsteps of the Quantum 7 and boasts a wealth of flexible design features. It merges tried and tested workflows with substantial processing power and includes 128 input channels – a game changer for built-in console I/O.

Additionally, the desk uses separate FPGAs for control and processing. When asked about Quantum's unique features, including Nodal and Mustard Processing, and Spice Rack with Chilli6 and Naga6, Matsunaga replied: “They’re really useful. I've been using the dynamics in the basic

DiGiCo to the extent that I might only use one piece of outboard equipment for vocals. With the Mustard and Spice Racks, you're all set.”

Eiichi Abe and Takumi Koga, sound engineers at Tokyo Sanko, also expressed their reliance on these features: “I use Spice Rack's Chilli6 and Naga6 a lot. If it's Quantum, I feel like I'm doing this without any concerns,” enthused Abe.

“Of course, the processing speed of Quantum is faster, and the desk also has its own features like Mustard and Spice Rack, but Quantum can use SD EQ and comps, too, which are sometimes programmed behind the scenes,” Mr Koga adds. “This is a job that can't be done without DiGiCo, I think we'd be lost without them.”

Tokyo Sanko's relationship with DiGiCo has been long-standing, and the addition of the two Quantum 338 consoles will further expand the rental company's reach in the entertainment sector.

“DiGiCo has become the standard for us,” concluded Abe. “The consoles are easy to operate, customisable and can be used on a range of projects – and they feel futuristic!”

**DiGiCo**



# Kim Sun-ho's Color+Full Tour Treats Bangkok to a Visual & Aural Extravaganza



**THAILAND:** Kim Sun-ho is hailed as an icon in the realm of contemporary music, and has long been celebrated for his unparalleled talent and electrifying performances that has captivated audiences worldwide. With a career spanning over a decade, Kim Sun-ho has amassed a legion of devoted fans, earned critical acclaim, and solidified his status as a trailblazer in the industry. And amidst his illustrious journey, the 2024 Kim Sun-ho Asia Tour stands out as a milestone achievement, marking the commencement of his second Asia tour with a dazzling spectacle in Bangkok, Thailand.

On the 3rd of February 2024, Bangkok witnessed a convergence of music, technology, and artistry as Kim Sun-ho took the stage for his Color+Full Tour. This event was not merely a concert; it was a testament to the boundless creativity and innovation that define Kim Sun-ho's artistic vision. From the moment the curtains rose, attendees were transported into a realm of sensory delight, courtesy of a technical production quality that transcended expectations.

At the heart of this extraordinary experience was the collaboration with One Systems Global Production, a leading authority in live sound and entertainment production. Recognized for their expertise and commitment to excellence, One Systems was entrusted with the task of orchestrating a technological marvel that would elevate the concert to unparalleled heights. And with meticulous planning coupling unwavering dedication, the team at One Systems embarked on a mission to craft an immersive experience that would leave a lasting impression on every attendee.

Central to the success of the Color+Full Tour was the seamless integration of state-of-the-art audio and lighting systems, meticulously designed to complement Kim Sun-ho's performance. Drawing upon their vast experience and technical prowess, One Systems opted to bring together an all-encompassing audio solution; with the audio architecture being hailed as a marvel in itself – featuring 20 units of the K2 line array modules suspended in a stereo



hang, delivering pristine sound quality with unparalleled clarity and precision. To ensure a consistent sonic experience for every member of the audience, an additional 8 units of the KARA II line array modules were deployed as front fill reinforcement, accompanied by 12 units of the KUDO line array modules to act as supplementary all-round reinforcement. Furthermore, the deployment of 12 units of the SB28 subwoofers enveloped the entire venue in deep, resonant bass, while 8 units of the 115XT HiQ high-performance monitors provided artists on stage with impeccable sound monitoring capabilities. And with digital mixing consoles from DiGiCo at the helm, the sound engineering team had complete control over tailoring the audio experience to perfection.

Complementing the immersive audio experience was an enchanting array of high-performance entertainment lighting, curated to mesmerize and dazzle audiences. From Clay Paky's acclaimed Scenius Spots to Taurus Lighting's Brightly Beam 260 moving heads, every element of the lighting infrastructure, which comprised over 120 fixtures in total, was meticulously selected

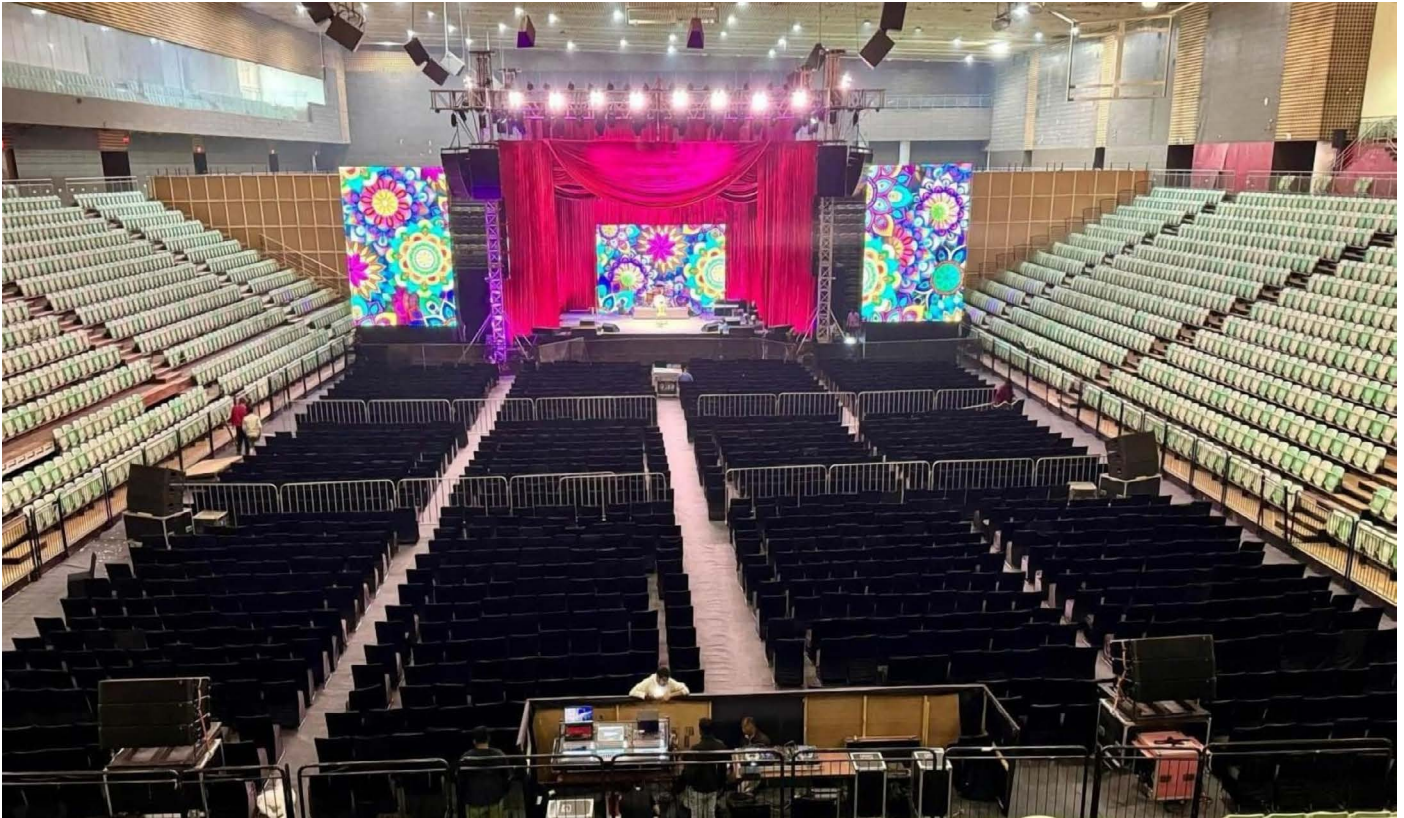
to evoke a sense of wonder and awe. Controlled seamlessly by the grandMA 2 full-size lighting controller console from MA Lighting, the lighting design illuminated the stage with an unparalleled brilliance, perfectly synchronized with Kim Sun-ho's electrifying performance.

In essence, the 2024 Kim Sun-ho Asia Tour in Bangkok was a testament to the power of technology to transcend boundaries and create unforgettable experiences. With the visionary expertise of One Systems Global Production and the unparalleled talent of Kim Sun-ho, audiences were treated to a sensory journey unlike any other, reaffirming Kim Sun-ho's status as a global icon in the world of music and performance art. And as the curtains drew to a close and the echoes of applause reverberated through the venue, one thing became abundantly clear – the Color+Full Tour had set a new standard for live entertainment, leaving an indelible mark on the hearts and minds of all who were fortunate enough to bear witness to its splendor.

### One Systems Global Production



# Zakir Khan and Dhawan Stagecraft Treat Delhi to a Melange of Comedy & Technical Mastery



**INDIA:** In the ever-evolving landscape of stand-up comedy, certain figures emerge not just as entertainers but as cultural icons. Among them stands Zakir Khan, a luminary whose comedic prowess has captivated audiences far and wide. Known for his relatable anecdotes, endearing demeanor, and impeccable timing, Zakir has risen to become one of India's most beloved comedians.

Recently, the iconic Thyagaraj Sport Complex in New Delhi played host to a landmark event in Zakir Khan's illustrious career. Drawing a crowd of over 6000 spectators, this stand-up comedy extravaganza was more than just a performance—it was a celebration of Zakir's artistry and an affirmation of his status as a comedic juggernaut.

What set this event apart, however, was not just Zakir's magnetic stage presence but also the unparalleled production quality that elevated the entire experience to new heights. Spearheaded by the esteemed solution providers Dhawan Stagecraft, the technical design and execution of the audio and lighting production were nothing short of spectacular.

Dhawan Stagecraft left no stone unturned in crafting an immersive sonic landscape that enveloped every corner of the venue. With a meticulously planned audio architecture, featuring Adamson Engineering's cutting-edge Y10K line array modules, the audience was treated to a sonic experience like never before. From the front row to the furthest reaches of the stadium-style seating arrangement, every listener

was immersed in a crystal-clear and consistent soundscape, thanks to the strategic deployment of over 44 units of the Y10K line array modules that was expertly conceptualized and executed by team Dhawan Stagecraft.

A total of 14 units of the Y10K line array modules suspended in a stereo hang to comprise the main PA solution, while a total of 10 units of the Y10K line array modules were deployed as the outfill reinforcement to cover the audience located at the sides of the stage; and a further 6 units of the Y10K line array modules deployed as the frontfill reinforcement covered the audience nearest to the stage. Furthermore, considering the fact that some of the spectators were seated at a distance and height range that exceeded the coverage extent of the FOH and fill reinforcement solutions respectively, team Dhawan Stagecraft decided to deploy a delay reinforcement solution that comprised four groups of 3 units of the Y10K line array modules. And enhancing the overall soundscape were Adamson's powerful and impactful subwoofers, with 8 units of the mighty T21 dual 21" subwoofers strategically deployed to cover the entire audience area with resonant bass.

"The conscious decision to deploy the Y10K line array system as the main PA, fills as well as the delay reinforcement allowed our team ensure that every last audience member - from those located at the very front to those located at the extreme ends - enjoyed a truly consistent sonic experience; while also allowing us to precisely tailor the sound coverage and impact" emphasized Sandeep Dhawan, Director of Dhawan Stagecraft.

Not content with just wowing the audience, team Dhawan Stagecraft ensured that Zakir Khan himself (along with his troupe of performers) enjoyed a world-class auditory experience

on stage. With 6 sets of world-class high-performance in-ear monitoring systems from Sennheiser and the critically acclaimed SD10 digital mixing console from DiGiCo at FOH, Zakir was able to deliver his signature punchlines with utmost clarity and confidence.

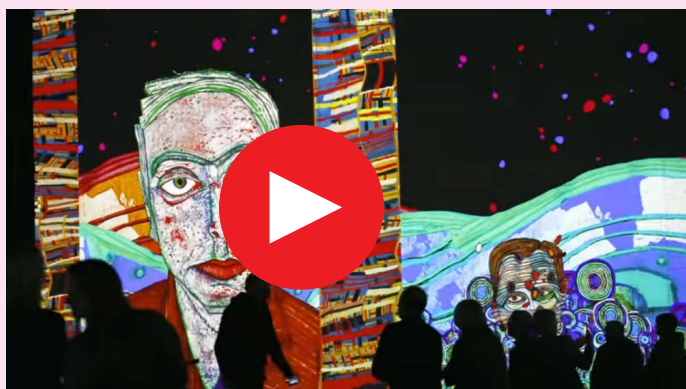
Perfectly complementing the stellar sound production was an equally impressive lighting infrastructure that bathed the stage in a mesmerising glow. Every element of the visual design was carefully orchestrated to accentuate Zakir's performance, with the awe-inspiring lighting infrastructure comprising multiple units of DAGE's powerful 800w LED moving head profile spots, seamlessly blended with an assortment of lighting fixtures from reputed Indian manufacturer D.LED, the likes of which included 30 units of 14R sharpy beams, 12 units of mini-B wash 7x40w RGBW, 16 units of 18x12 RGBW LED linear battens, 8 units of 18x40w RGBW LED moving battens, 12 units of 4x100w WW molefay blinders, and 2 units of high-performance 19x40 WW+CW moving head wash backlight. And with this consortium of high-performance fixtures controlled seamlessly by the Arena lighting controller console from Avolites, the lighting design added an extra layer of magic to an already unforgettable evening.

As the curtains drew to a close, it was apparent that the event was not just a mere night of laughter — rather; it was a testament to the power of exceptional production quality. Thanks to the visionary efforts of Dhawan Stagecraft, audiences were treated to an experience that transcended the ordinary, leaving a lasting impression on all who attended.

**Dhawan Stagecraft**

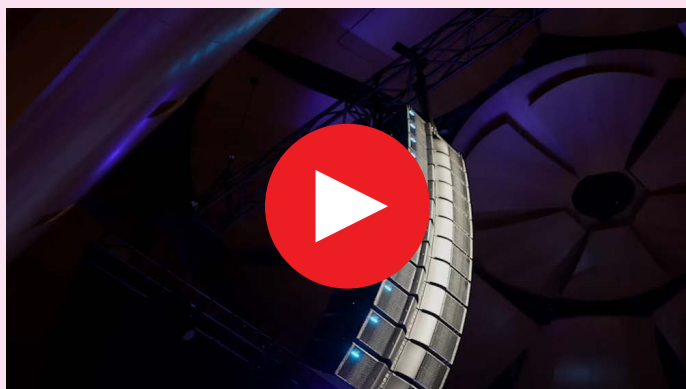


## Culturespaces Exhibition Dazzles with Barco-Enabled Digital Art



Over a million people visit the immersive exhibitions powered by Barco in France each year, where they get to experience digital artwork reproductions from artists such as Salvador Dalí, Claude Monet, and Vincent van Gogh.

## PK Sound T8 Robotic Global Launch



Featuring PK's patented multi-axis robotics, T8's output – with peak SPLs reaching 143.5 dB – is precisely controlled down to 400 Hz in both the vertical and horizontal planes. T8 is the most important product launch in PK Sound's history to date and the next step in robotically operated line array systems.

## Christie Brings Interactivity to ISE 2024



During ISE 2024, the Christie immersive room was illuminated by 4K13-HS laser projectors. THÉORIZ's content and Augmenta's use of sensory technologies allowed for content that varied based on the visitors' movements and positions.

## In Ukraine with Robe



The two-year anniversary of Russia's invasion in Ukraine passed on the 24th of February. In conjunction with Robe Lighting, Louise Stickland visited the war torn country to meet with industry colleagues and hear how they have coped whilst living within the war zone. Hear their stories in this video.





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# Elation Colour Innovation on Display with New SIX+ PAR Series



Elation's SIX+ PAR offers an electrifying fusion of enhanced output, expanded colour spectrum, and overall superior quality of light, making it an indispensable tool for the colour-savvy lighting designer. Not only that, the new SIX+ PAR is IP65 protected to handle any environment.

## Chromatic excellence

Available with either 7x or 14x 20W RGBLA+UV LEDs, the SIX+ PAR offers the ultra-wide colour spectrum, outstanding colour rendering and high CRI (93) that exacting designers demand. The carefully engineered optical system guarantees that beautifully homogenized colour distributes evenly and with no colour fringing, from high-fidelity whites to intense primaries and virtually every shade in between. Furthermore, they house the same LED engine as Elation's new SIX+ BAR series for a perfect colour match.

At 3200 lumens for the **SIX+ PAR S** and over 7000 lumens for the **SIX+ PAR L**, these indoor/outdoor PAR colour changers punch well above their weight. To expand the colour capabilities of the SIX+ PAR further, precise colour temperature control via a dedicated variable CCT control

channel has been integrated with adjustments for 2400K - 8500K. A CMY Emulation mode plus an integrated library of calibrated colour presets that match the most popular gel filters have also been included.

The SIX+ PAR's durable housing includes a dedicated diffusion lens holder with an optional gel frame holder available that can accommodate industry-standard 7.5" (S)/10" (L) accessories. The beam angle is 12° with a 22° lens included that allows them to match seamlessly with existing SIXPAR fixtures. Other optional lenses are also available. SIX+ PAR luminaires house an electronic dimmer and strobe and are capable of smooth dimming from 0-100% with excellent stability throughout the range. A selection of 16-bit dimming modes and curves are also included.

## Seamless integration with original SIXPAR fixtures

To ensure the SIX+ PAR can be integrated seamlessly alongside original SIXPAR fixtures, great care has been taken to ensure that the new LED array colours match the original. A unique DMX mode has been created for SIXPAR emulation, enabling seamless control of the new fixtures using the identical DMX mapping as the original. The colour mixing has also been calibrated to virtually emulate the White LED included in the original SIXPAR array, and an output limit master setting has been added so the new lights don't overpower any older fixtures in the rig.

## Versatility

Useful for any production that requires the magic and allure of colour and is easily integrated into installation applications, the SIX+ PAR serves as a highly versatile wash light, uplight, wall wash, key/front light, truss warmer and more.

A robust IP65 rating makes these compact and rugged LED fixtures go-to workhorse colour-changers for both indoor and outdoor events. Its marine-grade coating makes it safe to use in harsh coastal environments, while the fanless cooling system ensures silent operation for noise-sensitive settings. In addition, remotely variable LED refresh frequency allows them to be easily integrated into any broadcast application.

With a dual yoke design, mount them on the floor or effortlessly rig them to hang using a c-clamp or the included omega bracket receiver. The fixtures also feature proprietary Aria x2 wireless device management for simplified system setup and maintenance.

#### **Elation/SIXPAR Series**

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## Take Your Sound Anywhere with HH Tensor-MINI



HH Electronics' Tensor-MINI is an ultra-portable, all-in-one, battery-powered PA. Tensor-MINI delivers an exceptional audio experience from an easy-to-carry design which can be set up in seconds.

With its 6.5" co-axial full-range driver, Tensor-MINI is perfect for a host of applications, meeting the needs of buskers, small gigs, parties, gyms,

cafes, classrooms, corporate AV presentations and many more. Its versatile pre-amp includes a three-channel mixer (two universal inputs with tone presets and adjustable EQ, and an auxiliary input), DSP and reverb effect, along with a Bluetooth/USB media player which doubles as a charger for the input device. Bluetooth also supports stereo linking of two Tensor-MINI units.

Tensor-MINI's multi-angle cab allows the unit to be used on the ground, as a monitor, or on a pole stand, and comprehensive audio protection prevents overloading and damage. Fully chargeable in just 5 hours, the unit delivers up to 12 hours of continuous playback thanks to its built-in Li-ion battery.

With Tensor-MINI, HH Electronics continues to draw on five decades of pioneering heritage to expand its range of versatile, competitively-priced, high-quality solutions, which enable performers and presenters to take their sound anywhere they choose.

#### **HH Electronics/Tensor-MINI**



# Barco Releases Next-Generation Event Master Alongside First IPMX Transcoder



Barco has announced the Encore3, its highly anticipated third-generation Event Master platform. The Encore3 is designed to be the ultimate image processing platform for every event offering integrated video signal distribution, switching, layered video screen composition, and the ability to manage all screens – be it projection, LCD or LED.

It grants access to a broader canvas space of ~80MP PVW/PGM, boasting 12 bits 4:4:4 processing with never less than 16 fully capable 4K layers per screen. And like any other of the Barco state-of-the-art video processors, this presentation powerhouse brings forth exceptional native 4K image quality, best-in-class Athena scaling, and ultra-low processing latency down to 16ms.

With a flexible slot-based architecture and modular cards, Encore3's built-to-order design enables users to configure the system to their

requirements and safeguards their investments through card and controller reusability.

Alongside the Event Master's launch, Barco has also introduced the **IO Gateway** its first IPMX transcoder. Barco IO Gateway series brings a revolutionary AVoIP solution using IPMX/2110 open standards. The gateways with bi-directional connections form the foundation of a simplified, future-proof setup, seamlessly transporting traditional baseband signals, such as HDMI and SDI, into an open standards networks-based system. By reducing the need for additional switchers, cables, converters, and more, the IO Gateway solution streamlines installations and interoperability while minimizing clutter and costs.

## Barco/Encore3

# Clear-Com Introduces Gen-IC Cloud Intercom and SkyPort Virtual System Management Platform



In a strategic move towards virtual technology, Clear-Com's Gen-IC Cloud Intercom system is a secure and flexible virtual intercom solution that allows users to easily integrate on-premise hardware with virtual intercom clients.

Designed for scalability, Gen-IC Cloud Intercom will be sold through Clear-Com's extensive global network of Reseller Partners and will allow end-users to quickly ramp up multiple virtual clients as needed, with the unique capability of integrating with Clear-Com's extensive hardware infrastructure over LAN, WAN, and the Internet.

The issue of latency is especially important for audio comms, and Clear-Com has developed a unique virtual intercom application that can be deployed on selectable regional targets. This minimizes the latency inherent when going

virtual by giving administrators the ability to easily deploy Gen-IC Cloud Intercom closest to where teams are doing work. Moreover, Gen-IC Cloud Intercom instances from around the world can be linked, producing the ultimate communication and collaboration tool for mission-critical productions.

The system is designed for ease of use and utilizes Clear-Com's virtual clients, **Agent-IC mobile app** and **Station-IC virtual desktop client**, eliminating the need for additional user training. Connections from the virtual clients to hardware ecosystems are achieved through the existing range of Clear-Com **LQ Series** of IP Interfaces, with no dedicated interfacing requirements.

The Clear-Com SkyPort provides Workspace Management for Partners, making it easy to manage many different customer sites and events in one online application. Through SkyPort, Partners are empowered to authorize local administrators to manage events and put the control in the users' hands, while still benefiting from Clear-Com's impressive support capabilities provided via their Partner network.

## Clear-Com/Gen-IC



## Astera Boosts Creative Potential of PlutoFresnel with New ProjectionLens



Astera is boosting the creative potential and functionality of its battery-powered PlutoFresnel LED luminaire with the launch of the new ProjectionLens which transforms it into a profile fixture.

Profiles and fresnels are a versatile go-to standard light for any designer's toolbox, whether lighting a dance, drama, or opera performance or highlighting sets and people – specials – for a concert or music show as well as for key lighting events, from a conference to an awards show. They are also a classic standard for fashion show runways, producing smooth, even lighting coverage that's perfect for photos and video reels highlighting clothes and models.

Astera Fresnels are ideal for numerous lighting scenarios – from film and broadcast to a wide range of live events – and ProjectionLens is expected to be especially popular for events. The ProjectionLens offers precision optics, zoom, accurate shutters for highlighting specific areas, plus gobos, all giving the Fresnel the value of being a truly multifunctional lighting fixture.

The ProjectionLens is quickly and efficiently installed by sliding in and out of the luminaire. The integrated manual zoom has a range of 16° to 36° for projection and is simply adjusted by twisting the lens barrel like a camera zoom lens. Two focus wheels are included in the ProjectionLens to assist in producing crystal-clear gobo projection at any distance. One is for standard focus and the other enables a focus for proximity surfaces.

The E-Sized gobo holder means the projection of shapes, breakups and other effects and custom logos/gobos are seamless and eye-catching, with the projected beam or gobo image aligned and focused by rotating and tilting the lens barrel. A four-leaf shutter design offers maximum beam control by allowing the projected and lit areas to be trimmed as needed. This option greatly enhances the adaptability of Astera's highly portable wireless PlutoFresnel which was launched in June 2023.

The **PlutoFresnel** has a 15° to 60° beam angle without any colour fringing and has both wired and wireless DMX control with up to 3 hours run time utilising the inbuilt battery. Powered by Astera's full spectrum high rendition Titan LED engine, the fixture has an impressive output comparable to a traditional 300W Tungsten fresnel, with power consumption of less than 80W.

It weighs just 4.5kg and is ideal for fitting into small and less accessible spaces on sets or stages. There are also multiple rigging options. The fixture has a removable handle, foldable legs and YokeBases.

The new ProjectionLens will vastly increase the potential of Astera's PlutoFresnel for stage and theatrical applications, events, and installations, and has been developed after gathering extensive feedback from event companies, lighting designers and other end users embracing the fresnel range. Input has come from worldwide via Astera's distribution network.

With the ProjectionLens, Astera Fresnels can now also be profile lights with a set of dynamic gobos, the Titan engine's high CRI and excellent range of whites all with the convenience of wireless operation.

[Astera/ProjectionLens](#)

## DiGiCo Fourier Interface Card Brings VST3 Software Plugins to Quantum and SD-Range Desks

Following DiGiCo's acquisition of Fourier Audio and partnership with the brand, DiGiCo has released a new Fourier Interface Card that will soon be retrofittable on all Quantum consoles as well as on the majority of the manufacturer's SD-Range desks.

The new module delivers 64 channels of bidirectional audio at both 48k and 96k connections to the Fourier Audio transform engine, which is a 2U outboard Dante-connected server designed to run VST3 software plugins in the live environment. The forthcoming Fourier Interface Card is based on Dante, thereby allowing most of DiGiCo's consoles—even those without DMI card slots—to readily join the Dante ecosystem, and without requiring MAD1 on the transform.engine.



With the introduction of the new Fourier Interface Card and its Dante connectivity, DiGiCo console users will have direct control of these plugins on their worksurfaces, including older SD-Range desks, like the SD8, SD9 and SD10.

[DiGiCo/Fourier Audio](#)



# NEXT Audiogroup Scales Up and Down with MOKA System

The MOKA System is an ultra-compact plug 'n' play line array system optimized for flexible, high power and modular array configurations to fit a diverse range of sound reinforcement applications.

MOKA seamlessly integrates cutting-edge concepts in sound reinforcement technology into a singular system, comprising 3 fundamental elements — the MOKA Array, the MOKA Sub and the MOKA Sub A.

Its capabilities span from a small to large event, extending to flown line array systems for professional live sound reinforcement at concerts and festivals, complete with adaptable subwoofer arrangements on the ground, or flown if needed.

Beyond its system flexibility, MOKA stands out with its sophisticated features and technologies designed to streamline the life of every installer, rental company or band.

The MOKA Array speaker, encased in a polyurea-painted multi-laminate birch plywood enclosure, serves as a line array element. It accommodates a 9" neodymium woofer with a 3" neodymium driver coaxially mounted. The waveguide ensures minimal interference among the arrays, creating a classic line array dispersion pattern with remarkable throw and energy density.

The MOKA SUB A is a 15" active bass-reflex subwoofer powered by a 4x2300w Class D amplifier module with DSP. This professional active subwoofer was engineered for high-level and extended low-frequency output. Each



Moka Sub A can power up to another Moka Sub (passive) and 4 Moka Arrays.

NEXT Audiocom presents MOKA in 4 different configurations: MOKA Small (4 Moka Array + 1 Moka Sub + 1 Moka Sub A), MOKA Medium (8 Moka Array + 2 Moka Sub + 2 Moka Sub A), MOKA Large (16 Moka Array + 4 Moka Sub + 4 Moka Sub A), and MOKA Giant (24 Moka Array + 6 Moka Sub + 6 Moka Sub A).

**NEXT Audiogroup**

# Two New Projector Platforms Under Barco Flagship Range



*I600 Single-chip laser projector.*

The new Barco flagship line projectors are designed to redefine the standards of visual excellence and versatility, giving higher resolutions and brightness levels in a more compact design than currently available on the market. With the I600 and QDX leading the way, Barco is driving its progress and setting the stage for a future where visual excellence knows no bounds.

**I600: Expanding immersivity with compact power** The I600 4K UHD single-chip laser phosphor projector is designed to offer exceptional colour fidelity, high resolution and a long lifetime. With its compact and lightweight design, weighing under 25 kgs (55.1 lbs), the I600 is the most portable in its category.

The new Barco-patented SuperShift technology ensures the sharpest 4K UHD images, and the integration of next-gen Barco Pulse electronics ensures a seamless experience, delivering

smoother images at the lowest latency. In addition, the I600 is joined by a new range of swappable lenses. The ILD lenses offer a ratio range from 0.37 UST to 7.4:1 long-throw.

**QDX: Brighter. Sharper. Lighter. Faster.** The Barco three-chip portfolio also welcomes a new addition to the QDX projectors. The feature-packed projector elevates visual experiences with up to native 4K resolution, REC. 2020 colours and brightness levels going up to 40,000 lumens - boxed into a lighter unit to optimize transport costs and installation time.

In addition, the QDX supports existing TLD+ lenses, offering the highest flexibility in installations. The projector's intuitive and user-friendly interface makes it easy to operate, catering to both seasoned professionals and newcomers to the world of visual technology. The incorporation of IoT allows for remote projector management, enhancing operational efficiency.

## Barco Pulse

The QDX and I600 innovations go beyond their hardware excellence by supporting a range of software tools for both on-site and off-site operations. Fully integrated into the Barco software ecosystem, the projectors come with the latest versions of software tools like Pulse Prospector, Pulse Mobile App, Pulse toolset, and Insights Management Suite for enhanced on-site and remote control.

## Barco/Pulse

## ETC Mosaic Show Controller X Gets a Refresh with New Video I/O Options



New visual I/O options and an audio input for two Linear Timecode channels are being added to the Mosaic Show Controller X (MSC X), doing away with the requirement for a separate RIO-A unit.

With this change, ETC will be switching to a new part number, and model numbers will add "Mk3" at the end. Once the MSC X Mk3 is released, all existing orders for the current Mosaic Show Controller X will be automatically switched over to the Mk3. Shipping of the new units began in December 2023.

With the new model comes new connectors. The video input accessory (-VCC), if equipped, changes from DVI to HDMI. Video output is now a DisplayPort-style connector. The serial port on the unit (RS232) has been updated from connectorized to terminal-style interfaces. Audio output is handled with either a S/PDIF (RCA) port or terminal connectors. Audio input for linear timecode is also via a terminal interface.

The MSC X Mk3 will require a minimum version of Mosaic 2.11. Both the new MSC X Mk3 and version 2.11 software are now shipping.

**ETC Asia/Mosaic Show Controller X**

## NEUTRIK Launches TRUE OUTDOOR PROTECTION Data Connectors

*etherCON NE8FDP-B-TOP*



The etherCON TOP cable connectors are TRUE OUTDOOR PROTECTED RJ45 carriers for 1 Gbit/s / 100W PoE Ethernet and network connections (RJ45 not included). The D-shape panel mount connectors are designed to withstand the harshest environment and offer a unique teardrop design.

These cable connectors are robust, RoHS / REACH compliant, flame retardant, UV and corrosion resistant, and provide IP65 protection against particulate and moisture ingress, ensuring quality, reliability and performance for applications in harsh environments.

Ingress Protection (IP) ratings are a standardized system used to categorize the level of protection offered by an enclosure or product against the intrusion of solids and liquids. These ratings hold significant importance in various industries, including professional video, professional lighting, industrial equipment and outdoor appliances to ensure the functionality of devices in challenging environmental conditions. The IP65 rating signifies that etherCON TOP connectors are dust-tight and protected against low-pressure water jets.

**NEUTRIK/NE8FDP-B-TOP**



# Cadac Consoles Creates Smaller, Lighter, Faster Mix Platform for CM-Series



Cadac Consoles' radical realignment of its product offering comes in the form of the brand-new CM system, centred around the CM-J50 mixer. The result of an extensive re-engineering program, the CM system offers enhanced connectivity, control and flexibility, all packaged in a lighter but familiar form factor showcasing an all-new design language.

Audio-first is the core design principle of Cadac Consoles, married with an intuitive user interface and workflow. The interface has undergone a significant evolution on the CM-J50, including the addition of several new user-led features, allowing faster creative control of Cadac's unprecedented audio quality, while maintaining an industry-leading 0.4ms through-system latency. Resulting in a unique mixing experience for engineers of all levels.

Though smaller and lighter than its forebears, the CM-J50 mixer boasts a higher I/O density with

96 inputs and 56 outputs, of which 48 are user-assignable. Brighter 23.5" and 6.5" touchscreens are at the heart of the user interface. And while the form factor is familiar – including the wooden armrest – the CM-J50 is massively internally re-engineered, mechanically and electronically, to ensure both roadworthiness and increased performance. Local I/O has expanded to include 16 analogue mic inputs, 8 analogue outputs and 8 AES3 ports, plus an integrated Waves interface, and there are dual internal PSUs. Two MegaCOMMS ports, mirrored on optical LC ports as well as BNCs, provide system extension through a new series of 'intelligent' CM-SR remote stage racks.

These follow Cadac Consoles' new design language with the series comprising the 4U CM-SR24 and CM-SR40, with 24 ins and 32 outs and 40 ins and 16 outs respectively, and extending up to the 7U 64 input and 40 output CM-SR64. Designed to meet the ever-increasing demands of live audio production, they feature comprehensive local control via a 2.4" colour screen, OSC implementation, headphone monitoring and dual internal PSUs, with the units encased in a robust, 100% recyclable aluminium chassis.

The all-new iPad CM-Remote and PC CM-Editor provide comprehensive remote control and offline editing solutions, respectively, and complete a cohesive and powerful audio mixing ecosystem.

## Cadac Consoles/CM-J50

# DiGiCo Quantum Consoles to Benefit from New Software Update



DiGiCo has announced second-generation software updates for its popular Quantum338, Quantum338T, and Quantum225 mixing consoles. Available in April 2024 for a nominal fee, the Mk 2 software packages, known as Pulse, will increase the input channel and buss counts of each desk model, plus add other notable features.

On the Quantum338 and Quantum338T, the new upgrade will increase the number of input channels to 156 (from 128), busses to 72 (from 64), Mustard Processors to 48 (from 36), and Nodal Processors to 72 (from 64). Other perks include the addition of Mix Minus functionality, plus a larger 36×36 Matrix on the “T” theatre-software model of the console (up from 24×24).

Similarly, Pulse will bump up the Quantum225's power and versatility, raising its input channel count to 96 (from 72), buss count to 48 (from 36),

and Mustard and Nodal Processor tallies to 36 and 48, respectively (from 24 and 32). Mix Minus is also included in the new feature set.

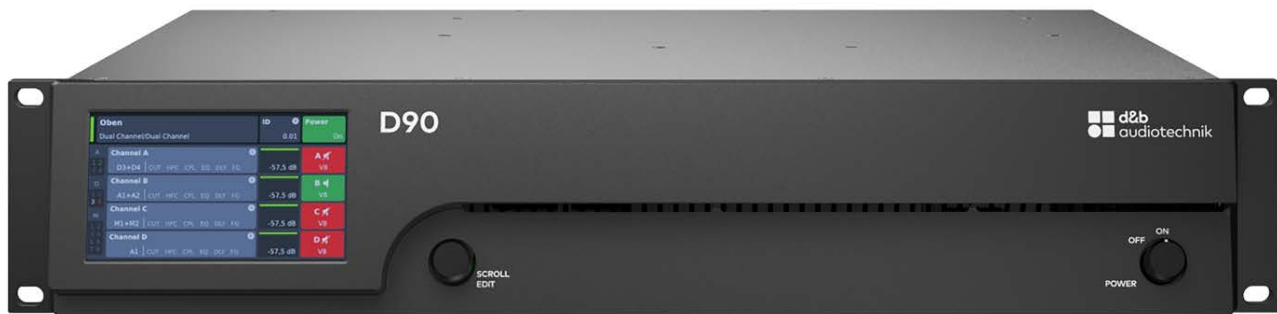
As a token of appreciation to their early adopters, DiGiCo is offering a 50% discount on the new software to users who purchased their Quantum338 or Quantum225 in 2023 or earlier.

To qualify for the discount, the Pulse software upgrade must be purchased before the end of 2024.

DiGiCo added that it will simultaneously offer Mk 2 software updates for its Quantum7 and Quantum5 consoles free of charge adding Mix Minus to the desks and increasing the number of Mustard Processors on the Quantum7 to 80 (from 64) and 64 (from 48) on the Quantum5.

**DiGiCo/Quantum 338T**

# d&b audiotechnik Meets User Needs with MILAN Future-Proof Reliability and Performance



MILAN is the technological cornerstone of d&b's system vision, offering reduced complexity, maximum interoperability, increased redundancy and independence from single suppliers or third-party technology providers. While recognizing the importance of Dante, d&b's unique offering of both MILAN and Dante underlines its commitment to providing users with a transitional perspective and investment security.

d&b audiotechnik's new range of MILAN-enabled products includes the DS20 Audio Networking Bridge, the DS100M Signal Engine and the D90 power amplifier. These new products demonstrate d&b's dedication to driving the industry forward with future-proof technology.

The **DS20 Audio Network Bridge** has been designed to provide a seamless and cost-effective connection between d&b systems and MILAN. Acting as an interface between d&b amplifiers and the MILAN audio transfer protocol, the DS20 boasts impressive technical features including 16 digital AES 3 output channels, 4 digital AES 3 input channels and an integrated, fully AVB-capable 5 port network switch for unparalleled flexibility and redundancy.

The **DS100M Signal Engine** is the MILAN-enabled iteration of the DS100 with Dante. Leveraging the technological prowess of MILAN, the DS100M extends its functionality to provide an expanded range of features. These include more audio channels via MILAN, MADI, word clock inputs and more, making it an essential part of a complete MILAN system for both d&b Soundscape and matrix applications.

Also launched is the D90, d&b's new flagship amplifier. The D90 delivers "unparalleled" sound quality and performance, increased system efficiency and power-saving features which place the D90 at the forefront of advanced amplifier technology. As well as providing maximum loudspeaker performance, it maintains lower internal temperatures at the highest output, ensuring long and reliable operation. By incorporating MILAN networking technology, its robust design allows seamless configuration for redundant system setups for audio signal transport, complemented by fallback capabilities for all inputs and device communication.

**d&b audiotechnik/D90**



## ISE 2024 in Barcelona



Welcome back after the Lunar New Year break, and welcome to the Year of the Dragon. I followed some 80k other people at the end of January and early February 2024 and went on the pilgrimage to Barcelona for ISE 2024. Since the impressions are far and

many, I want to dedicate the column this month to my impressions from the show. Many of us were worried about access to the fairground since this was the biggest complaint in 2023, but FIRA BARCELONA has resolved this very well. Access was quick and convenient, with more access points open and more efficient than in previous years, so kudos to the show organizers for listening to complaints and even more for resolving the resulting issues. Once inside the location, you make your way to your destinations, and simply because of the size of the fairground in Barcelona, distances are long, and you get your daily exercise simply by moving around all day.

One of the main impressions from the show is that VIDEO is king, and it should rather say VA than AV since, for way too many people, audio is a required accessory for the video world. With the arrival of social media, we are all way more visual than before. However, any video without audio is tedious at best and useless in many instances. After all, you close your eyes while you sleep but cannot close your ears; they will always be active and listening. In the FIRA Barcelona, video gear occupied five halls, and audio occupied one hall. This gives you an impression of the ratio of audio versus video offerings.

Since I am an audio engineer first, I did focus on the audio offering during the show, so most of my time was spent in Hall 7, where Audio has its permanent home at this show. Before the show, a few dear colleagues had recommended that I check out specific gear and brands, and I tried to listen to them as much as I could. There were a few really good things that I could hear and check out, and other stuff, especially the gear that was hyped high ahead of the show, turned out to be quite disappointing. Plenty of





discussions with colleagues confirmed that just because you can do something does not make it useful or good. A great product for many applications is fantastic, but a sophisticated product with no application is still useless. Critical listening and thinking are still crucial, and I encourage this as much as possible.

ISE was not, is not and will not be about the live sound industry and sector. The offering is system integration-based, and all the aspects of installed sound are addressed. If you are looking for large scale concert sound or even smaller concert sound, then this is not your show and it will stay interesting, which place we will all meet at to discuss all the important live sound related topics. This will not be in Barcelona now, although plenty of places are less beautiful than Barcelona in January. Still, there is no ambition and no audience for this within the ISE attendance. As for NAMM, I do not see this show as an alternative space for live sound, so something else will naturally develop in the future.

In the end, this was a very successful show, and it was worth the effort of the long trip from Asia. This show in Europe will easily outperform INFOCOMM, no matter if it is in Las Vegas or Orlando. Seeing and meeting dear colleagues and friends from around the globe is equally essential as checking out all the new gear on offer. I am happy to pay my share for events that focus on or at least support the idea of networking with each other and meeting people in a decent environment to have substantive discussions about the topics that are important to us. This currently needs to be included, and I wonder if this requires a new platform altogether or if one of the events in the Asia Pacific will eventually develop into an event where we will all meet and be able to chat in peace. Stay tuned and observant to be part of this, please. Where you decide to go and what event you attend will determine all this.

Join the conversation and share your thoughts with Alex. Alex can be reached at [alex@asaudio.de](mailto:alex@asaudio.de)



## INDIA

# CONTROL ALT DELETE

*Audio Dimensionz Crafts A Sonic Wonderland At This Fan Favourite Music Festival Where Indie Music Continues To Trump Over Corporate Noise*

by Elton Noronha



In a world where music festivals echo corporate ads, Control ALT Delete (CAD) music festival affirmatively redefines the very essence of 'coming together'. CAD as it's known colloquially, is considered by many as a gift bestowed to the India's independent music scene by its co-founders, Nikhil Udupa and Himanshu Vaswani – the duo behind event production and entrainment consultancy firm 4/4 Experiences, and the late Rishu Singh.

The way the festival works is that the audience contributes online or at the venue to attend the proceedings, executed entirely by volunteers. The profit, if any, is divided equally among all the performing acts, who only get paid if there's money left over. The accounts are made available

for the public, who can see exactly where their cash went. And contrary to sceptics and naysayers, this formula has worked brilliantly for the CAD since its inception.

CAD originally launched as a gig series in 2011, which travelled to Pune and Bengaluru for a couple of instalments, and subsequently evolved into a two-day festival in Mumbai; as it continued to provide a platform and spotlight to over 180 indie acts – including the likes of Divine, Emiway Bantai and Peter Cat Recording Co. years before they became the arena-filling and world-touring names they are today.

With past performers at Control ALT Delete include the likes of DIVINE, MC Stan, Achint, Ankur





Control Alt Delete - Backyard

Tewari, Dhruv Visvanath, Emiway Bantai, Seedhe Maut, and many more; the tonal palette of the festival stretches from electronic music to metal, with artistes coming in from various genres. And the 2024 edition lived up to every single bit of the hype!

Held on January 13 and 14 at the plush Roaring Farms estate in Malad, Mumbai – the 2024 edition of Control Alt Delete music festival continued to stay true to its ad-free policy and ‘pay what you want’ approach; as the festival once again provided a platform for upcoming acts and emerging sounds, while also serving as an incubator for several future music industry professionals who could go on to create chart thriving careers.

Hip-hop artists at Control ALT Delete’s 2024 edition included Naezy, Yashraj, 100RBH and Poet Shaf, Farhan Khan, The Dharavi Dream Project, Wild Wild Women, Yung Fly, Shia x Zero Chill, Tracy De Sa, Shreyas and Vedang, Lil Malai and Tappori’s Paradise. Metal music at the festival was represented by heavyweights such as Bhayanak Maut, Inner Sanctum and Third Sovereign, plus Infestation, Moral Collapse,

Konflicts, Sabotage and more. Indie, alternative and rock acts at CAD 13 included the F16s, Tejas, Saach and the Situation, Excise Dept, St. Cyril, Komodo Jane, Tidals, Gandhar and more. On the other hand, electronic artists and DJ-producers like Kiss Nuka (with a live set), Tarqeeb, Tyrell Dub Corp, Watashi, Hashbass and more took over on the dancefloor-friendly side of things at the festival. Alongside, ‘genre-fluid’ artists like Bharg, Perp, Bawari Basanti, Marykali, Merak and Excise Dept were also on the bill, added intrigue and excitement, while high-energy artists like Bombay Brass, Drum Aani Bass and producer Raakshas rounded out the lineup.

Similar to previous editions; CAD 2024 also sported five stages — ‘Home Turf’, which is the hip-hop stage; ‘Electric Jungle’, for electronic music and some hip-hop crossovers; ‘Orchard’, which is located in an orchard is a stage for singer-songwriters and sundowner sets; ‘Backyard’, for alternative music; and ‘Survive This’, an exclusive stage for metal music. Noticeably different this year was the enhanced expanse of the respective stages, each of which sported an evidently augmented soundscape which was brought to life thanks to



the expert efforts of Audio Dimensionz, one of India's leading live sound rental service providers for events of all scales and applications.

Lead by Sean Lobo, team Audio Dimensionz actively engaged in crafting a meticulously detailed audio plan for the festival, as he reveals, "Our objective was clear from the get-go. The aim was to create a truly immersive soundscape for the audience to revel in; while ensuring that the artists themselves had an equally great sonic experience while performing on stage. Achieving this takes not just a tonne of effort in terms of precise execution, but also hours of planning, creativity, attention to detail and most importantly, the expertise of a team of thoroughbred professionals – all of which defines our team at Audio Dimensionz."

Sean informs that the audio plan for CAD 2024 involved not just the locking in on the perfect loudspeaker rig and mixing consoles to accompany each rig; but also establishing precise individual routing, RF + wireless systems, microphone inventories, as well as the backline infrastructure for each stage – all while ensuring that artists and performers with every bit of technical support and assistance they needed; and more importantly, assuring that safety

and efficiency in terms of execution was easily achievable.

To achieve this, team Audio Dimensionz began the process with first conducting a thorough analysis of the venue at large by taking into account the designated sections for every performance stage and their relative positions to each other. The team then narrowed focus onto the requirements of each individual performance section by taking into account the physical expanse of each individual performance section and the fact that they had to ensure zero-spillage of sound from one performance section to another. And after running a few detailed software analysis and measurements that birthed a few draft iterations, team Audio Dimensionz zeroed in on the perfect audio architecture for each performance stage to bring their vision for CAD 2024 to life.

With due consideration to the genre and music experience intended to be enjoyed at each of the individual performance stages, team Audio Dimensionz perfectly stuck to their objective of maintaining a constant world-class sonic signature throughout the festival as they chose to deploy d&b audiotechnik as the main PA solution for all 5 stages.





The Home Turf stage featured a stereo FOH system comprising a total of 8 units of the V-series line array modules (+ 2 units JBL VRX932LA deployed as frontfill reinforcement) coupled with 4 units of the thunderously impactful J-Infra series subwoofers, while the PA at the Electric Jungle stage sported a stereo hang of 8 units of the Q-series line array modules (+ 2 units JBL VRX932LA deployed as frontfill reinforcement) coupled with 8 units of the matching pair Q-series subwoofers and an additional 2 units of the B2 subwoofers to deliver the much-needed thump and punch that dance music aficionados desire. On the other hand, the Orchard stage was adorned by a total of 6 units of the more-nimble T-series line array modules flanking each side of the stage accompanied by 4 units of the Q-series subwoofers, whereas the Backyard stage featured a stereo PA solution of 8 units of the V-series line array modules matched with 4 units of the V-series subwoofers and 2 units of the J-series subwoofers, with an additional 4 units of d&b Audiotechnik's T10 point source loudspeakers acting as the frontfill reinforcement. Finally, the most imposing stage of them all – Survive This – was outfitted with an equally impressive PA solution that comprised a total of 6 units of the mighty KSL-series line array modules flanking either side of the stage along with 4 units of the Q7 point source loudspeakers

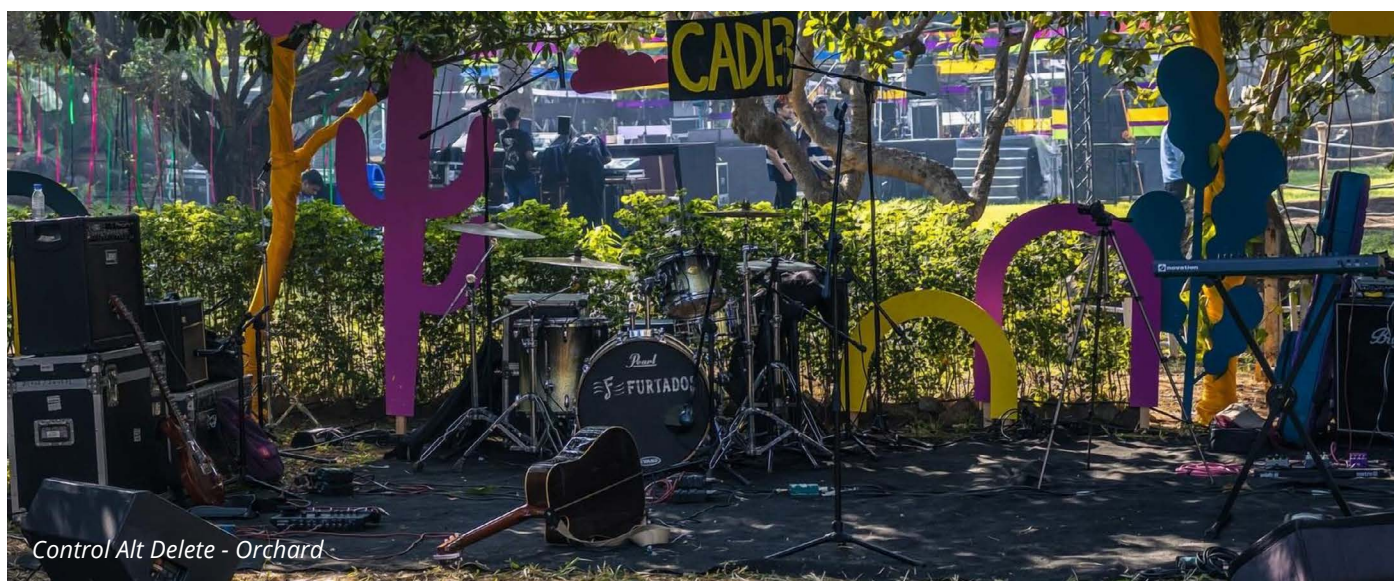
acting as the wall of frontfill reinforcement while a whopping 8 units of the SL-series subwoofers rounded off the system – ensuring that the audience in this section could definitively enjoy every single nuance of the high-energy metal music; from the highest of highs to the lowest of lows.

d&b Audiotechnik's Max2 wedges and JBL's 915m wedges were selected as the high-performance on-stage monitoring solution in an attempt to ensure that the artists performing at each of the stages are equipped with an equally adept and world-class soundscape, while all the artists were supplied with Sennheiser's acclaimed G3 wireless IEM system for their personal in-ear-monitoring exigencies, along with multiple units of the Fischer Amps wired IEM system also being made available.

Another key highlight for artists performing at CAD 2024 was the fact that team Audio Dimensionz spared no stone unturned in providing top notch backline inventory to perfectly meet the needs of each performance stage. While the Home Turf Stage and the Electric Jungle Stage were both supplied with the industry standard Nexus 2 kits from Pioneer DJ, the other stages comprised an assortment of high-performance world-class musical instruments and gear – the likes of which included Pearl Masters Drum Kits, Fender Twin Reverb Guitar Amps, Fender Hot Rod Guitar Amps, Ampeg SVT7Pro + 4x10 Cabinet Ampeg SVT7Pro + 4x10 Cabinets, Novation Impulse 61 Key MIDI Keyboards, Bugera Bass Amps, Laney Ironheart Combo Guitar Amps, Vox Pathfinder 15Rs, Hartke Bass Guitar Amps, Laney Ironheart Head + Laney 4x12 Cabinets, Tama Superstar Hyperdrive Drum Kits, and an assortment of Percussions (Congas, Bongo, Timbale, Chimes, Cymbals, Stands).

At the same time, team Audio Dimensionz also ensured that visiting engineers and artist





engineers were afforded with world-class mixing desks at their workstations to empower them with everything they needed to craft a truly bespoke and high-quality music experience for the audience. The Electric Jungle Stage and the Orchard Stage were both supplied with Midas' acclaimed M32 digital mixing console complete with the DL32 stage rack for added I/O flexibility. On the other hand, the Home Turf stage was equipped with Allen & Heath's flagship dLive S7000 digital mixing console and DM48 stage rack, whereas the Backyard stage featured DiGiCo's stalwart SD10 digital mixing console along with the D2 stage rack. Finally, the sound experience at the Survive This stage was tailored to perfection through the ever-reliable Midas Pro2 digital console, complete with DL251 stage rack. Reliable power supply and redundancy was instituted as a mainstay at all 5 stages thanks to an extensive network of CAT5 cabling that was meticulously planned and commissioned by team Audio Dimensionz.

"Working on a nuanced project like Control Alt Delete is an experience in an of itself. It's challenging and rewarding all at once – bringing together a complex technical plan that not just delivers a high-quality audience experience but also precisely meets the needs of the diverse artist line-up is the challenging part, while seeing

the audience truly soak in the vibe and emotion of music and watching the artists truly have fun while performing on stage is the rewarding part of it all. Kudos to our team for the hours of dedication and effort that they've put into bringing together a truly amazing sonic vibe at CAD 2024; and of course, a big thank you to the organizers for supporting us and trusting us with their vision of making CAD 2024 a truly standout music festival experience!" exclaims Sean.

While the music and the soundscape were undoubtedly the standouts at Control Alt Delete 2024; it is also important to note that another key positive takeaway from this year's edition was the fact that CAD also offered 'volunteering and skill-based programs'. A press release stated, "We introduced an apprenticeship programme in association with OffSet Education called 'Off Course' that aims to cultivate the next generation of sound engineers, light designers, stage technicians, and managers," – indicating the management's intent to contribute more holistically to the growth of this already dynamic and vibrant industry.

### Audio Dimentions India

### Control Alt Delete

## CHINA

# 'Phoenix Dance of Yinchuan' Projections from Christie Demonstrate Transformative Power of Creativity and Technology

*The D20WU-HS projectors installed along the shore of Diannong River are displaying stunning images measuring 90 metres wide and 12 metres high on the water screen*



Christie HS Series 1DLP laser projectors are elevating the new light and water show at Ningxia Yinchuan Cultural City to new heights with an array of fascinating visuals inspired by the phoenix, an immortal bird that's become the icon of the city.

Located in the Ningxia Hui Autonomous Region in northwest China, this Phoenix-themed night-time

performance is positioned to become a hallmark performance in this region, which underscores Yinchuan City's commitment to artistic excellence and cultural significance. The light and water show combines authentic environments and innovative storytelling with cutting-edge technology to deliver a breathtaking spectacle.

At the heart of the "Phoenix Dance of Yinchuan" water show are 5 x **Christie D20WU-HS 1DLP**





**projectors** each boasting an impressive 20,600 lumens, which bring vibrant projections to life on the water screen. They were installed by Jianye Display, Christie's trusted partner in Southern China, which has a wealth of experience in various projects spanning cultural tourism, corporate and government installations. Jianye Display played a pivotal role in this project by overseeing projection and systems designs, as well as managing on-site construction and commissioning.

"The centrepiece of this aquatic spectacle is the striking water screen projection at this musical fountain that has contributed significantly to the night-time allure of Yinchuan," said Huazong Dong, Technical Supervisor, Jianye Display. "The D20WU-HS projectors played a pivotal role in this endeavour, thanks to their remarkable attributes such as high brightness output, excellent colour reproduction, compact footprint and omnidirectional capabilities. The vivid projections, synchronized with the rhythmic dance of water jets and uplifting music, beautifully paints the city in an ethereal glow after dark."

With water columns reaching heights of up to 15 metres, the show is a living embodiment of the overarching theme, "Return to Phoenix City,"

transforming the Diannong River into a canvas for a mesmerizing phoenix-themed performance that captivates audiences with a harmonious blend of water jets, high tech projection, show lighting, and music.

Dong noted that the 5 x Christie D20WU-HS projectors equipped with telephoto lenses were fitted in weatherproof enclosures mounted on vertical poles, and positioned along the shore of the Diannong River. From this location, the projectors were able to display vibrant images measuring 90 meters wide and 12 meters high on the water screen. Additionally, the **ChristieNET Master Display Controller** was used to remotely monitor the equipment status in real-time to ensure the stable operation of the performances.

In a departure from traditional light and water shows, "Phoenix Dance of Yinchuan" boasts a clear and diverse narrative that has garnered unanimous acclaim from audiences. Dong added, "Unlike conventional shows that often rely on repeated combinations of various elements, this innovative spectacle presents a clear and well-defined portrayal of its core theme. Here, the convergence of culture, technology, and creativity gives rise to a performance like no other."

April Qin, Senior Director of Sales for China, Enterprise, Christie, commented, "Witnessing our D20WU-HS projectors bring the 'Phoenix dance of Yinchuan' light and water show to life is a testament to the transformative power of technology and creativity. Collaborating with our trusted partner, Jianye Display, we've not only illuminated the night skies of Yinchuan but also elevated the city's cultural legacy. This compelling project exemplifies the brilliance and innovation that define our commitment to delivering unparalleled visual experiences."

**Christie**



## QATAR

# Ayrton Fixtures Deliver “Superbowl on Steroids” for AFC Asian Cup

*LD Roland Greil created a complicated yet breathtakingly beautiful 21-minute live story broadcast using more 450 Ayrton lights at the largest stadium in the Middle East*



©Katara Studios

On 12 January 2024, Qatar hosted the Opening Ceremony of the AFC Asian Cup at the 88,000-capacity Lusail Stadium, the largest stadium in the Middle East. The ceremony was on an unprecedented scale comprising a full-size stage in midfield with a set featuring sand dunes, colourful costumes, and stunning visuals around a central motif of giant mirrored petals.

Simultaneously broadcast across the Middle East, Asia and Australasia, the 21-minute visual extravaganza, *Mirrors, The Lost Chapter* from the Book of Kelileh Wa Demneh, was a triumph of theatrical story-telling. Equally impressive was the speed in which it was struck in just 27 minutes by 700 stage hands, in choreography as coordinated as the performers who preceded them, before the first match of the tournament kicked off.



"It was like Superbowl on steroids!" exclaimed lighting designer, Roland Greil who, brought in by design and production agency, Sila Sveta, used over 450 Ayrton fixtures as the majority - and main key lighting workhorses - of his design.

"Our aim from the beginning was to create a very theatrical theme and lighting design in keeping with the cinematic approach taken by producers, Katara Studios," explained Greil. "The show was a hugely complex, spectacular, yet very theatrical piece with a detailed story line and glorious costumes. We needed a rig that could support the beautiful story on stage and create magical looks for 80% of the time, but also to have additional fire power to create some big looks for the remaining 20% for the live broadcast, and to reflect the joy and enthusiasm for the game of football within the region."

Countering the constraints of stadium rigging positions, Greil worked with technical director Shannon Gobell to develop some "really good" lighting positions, the throw distances of which "bring their own physics with it!"

45 x **Domino Profiles** and 80 x Huracán Profiles were rigged around the circumference of the pitch on Level 0 at a height of at 1.6m with a throw distance of 40m-50m. "These immediately gave us traditional theatrical side lighting without interfering with audience sightlines, yet were high enough to fire above the heads of the security teams on the perimeters," explained Greil. "Side lighting is your biggest friend for those magical looks, and the Domino Profiles and Huracán Profiles were our work horses for key lighting, side lighting and eye-candy for background imagery from here.

"Half way up the grandstands on Level 4 we found another perfect lighting position which we filled with 110 Domino Profiles for more key lighting from a distance of 80m-90m. Domino Profiles are basically an IP version of the **Huracán Profile** so I was able to use them both as if they were the same light. In the Arabic world, lighting for the live audience is of equal importance to lighting for worldwide broadcast, so getting the key lighting right is the most important aspect of the whole lighting package to achieve both."

A further 67 Domino Profiles were rigged along two overhead catwalk trusses at a height of 90m-100m providing two high lighting positions from where they could light the audience for background shots, washing them with LED spotlights.

96 x laser-sourced **Ayrton Cobra** fixtures were rigged on top the stadium roof to create aerial beams and extend the effect of the fireworks which were filmed by overhead drones and a helicam. "We also used the Cobras to create some nice looks that worked from the inside of





the stadium, positioning them to build a kind of roof of lights over the open stadium that could be seen perfectly from within.”

On stage, Greil integrated 54 x Ayrton Domino Washes into the floor which he used to light the scenic elements, but also to create a ‘beautiful shaft of light’ in between the five mirrored LED petals of the main scenic element.

Traditional follow spots were replaced by a FollowMe system working in conjunction with the Huracán and Domino Profiles on Level 4. “In fact, we were able to calibrate each and every one of 450+ Ayrton fixtures in the overhead rig and choose any light or combination of lights we wanted to act as follow spots,” explained Greil. “This was very beneficial for broadcast as we could pick and choose multiple lights to ensure we had the exact perfect angle for both broadcast and the live performance at all times. This was the first performance of a FollowMe system on a major stadium event and it worked perfectly. We were able to follow performers over an entire football field, not just a defined stadium

stage, and we replaced what would traditionally have been 12-20 follow spots offering a limited number of angles, with 450 ‘follow spots’ that could be used in an incredibly creative way. It gave us huge flexibility and saved us an immense amount of time in rehearsal too.

“Considering scale of the show, we lit the whole ceremony with relatively few lights,” concluded Greil. “In total there were 54 x Domino Washes, 224 x Domino Profiles, 80 x Huracán Profiles and 96 x Cobra, alongside another 244 moving lights, all of which were amply able to cope with the huge throw distances. Thanks to these and a great collaboration between all the departments we were able to beat the challenges of lighting a huge profile event in a stadium.”

All lighting for the AFC Asian Cup was supplied by **PRG Middle East**

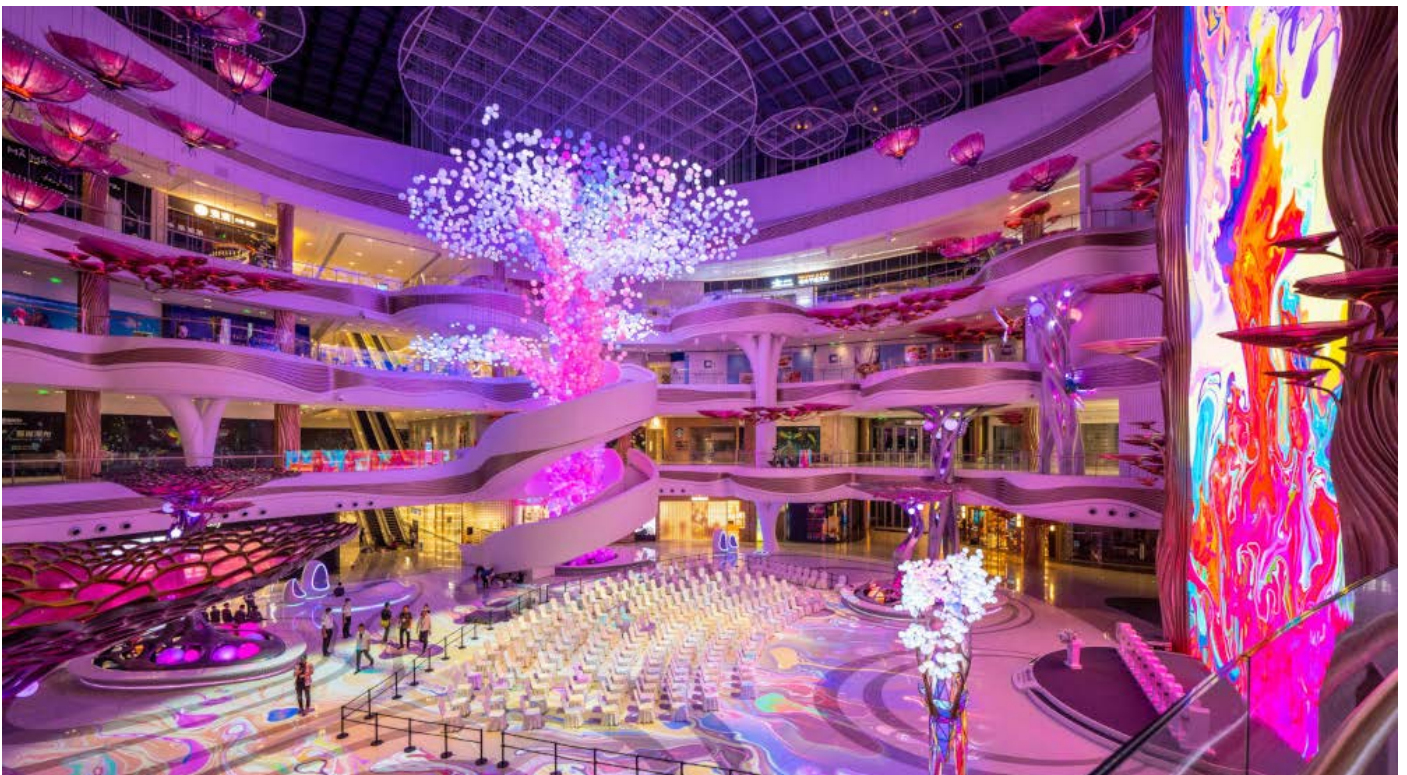
**Ayrton**



## CHINA

# RAC Deploys L-Acoustics for Multi-Media Exhibition in World's Largest Duty-Free Retailer

*L-Acoustics boxes accompanied the video, light, and art displays of the Academy Award-winning Weta Workshop during their unique 'retailtainment' experience*



Officially opened in October 2022, The Haikou International Duty-Free City Shopping Complex is the largest duty-free centre in the world. Built adjacent to China's Hainan province capital's newest seaport and transportation hub on the west coast of Haikou City, the sprawling complex covers an area of 280,000 square metres. Designed by Valode & Pistre Architects, the building's exterior features a stunning wave-shaped roof that shelters over 800 retail outlets from the world's most renowned brands. In addition to shopping, the high-grade offices,

luxury hospitality concepts, and art exhibition spaces attract leisure, tourism, and business activities to Haikou.

The complex's main atrium was recently the host to The Forest at the Edge of the Sky exhibition, which told the story of a fantastical Hainan through a dream-like multi-sensory world. The immersive experience centred around a 27m high and 12m wide LED screen, installed on one side of the five-storey high and 50m wide atrium square. With creative visual content

created by the New Zealand-based company Weta Workshop, the exhibition integrated the giant video display and physical art installations with lighting and sound systems to recreate an imaginative version of Hainan's natural environment.

Special effects company and six-time Academy Award winner for Best Visual Effects Weta Workshop leaned on L-Acoustics Certified Provider Distributor **Rightway Audio Consultants (RAC)** to deliver a world-class audio solution for the duration of the immersive multimedia exhibition and meet Haikou's objective to provide a one of a kind 'retailtainment' experience that would transport shoppers through time and space.

The system's design needed optimal sound coverage throughout the vast space to reach mall audiences, viewing the large LED display from vantage points roaming from the first to the fifth floor. The RAC team envisioned compact L-Acoustics speaker products that make up systems that would be deployed to tight, reserved spaces for audio. Elements would be installed as close as possible to the large-format video displays, some others hidden amongst elaborate art installations in various exhibition areas.

RAC's system engineers used **L-Acoustics Soundvision** to ideate the ideal system across the complex audience area. Only minor adjustments were needed from design to deployment, significantly reducing installation time amidst the bustle of footfall during busier retail operating hours.

The team at RAC deployed L-Acoustics X12 on both sides of the LED display screen. A group of **Kara** boxes delivered sound coverage to the atrium's first-floor square, while another group of Kara ensured coverage from the second to the fourth floor. L-Acoustics X12 was used to deliver sound to the topmost fifth floor. **Coaxial X12**



boxes also made up a surround system for the atrium square. L-Acoustics Syva Sub and SB28IIi **subwoofers** ensured low-end definition to the entire immersive audio experience.

Adjacent to the atrium, a 40m-long escalator is wrapped in a metallic art structure inspired by a gigantic tree trunk. Within, it was fitted with a professional audio system consisting of X8 boxes and SB10i subwoofers that played back interactive, cinematic soundscapes. The Moon Bridge and Deer structural and light installation also required audio content playback and utilised L-Acoustics **X8 boxes**.

The systems delivered sufficient SPL to audiences spread across the five floors of the atrium while visually engaging mall visitors through the multimedia art installations, RAC were pleased to have presented pristine L-Acoustics signature sound to match the award-winning, world-renowned creative visual ideas of Weta Workshop.

**L-Acoustics**



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