

# mendoor

## DAVE LIANG

The founder of PR Lighting discusses its place in the lighting hierarchy.

## ARCHITECTURAL AUDIO

Discreet audio systems designed with aesthetics at the forefront.

## MOVING HEADS

A round-up of the go-to fixtures for lighting designers.





Image by Invasion Studio

# JEWEL



LAS VEGAS, USA  
THE AMERICAS

Getting the band back together - after the success and dominance of projects that have gone before - was the decision made by the Hakkasan Group team when its latest venue, JEWEL reared its head. Located in the Aria Resort & Casino, Las Vegas, USA, JEWEL, as is usual with Hakkasan Group outlets, wanted to offer its guests the best experience in an innovative way, exposing them to something they haven't seen before.

“The project initially came about following Hakkasan’s acquisition of The Light Group and the space of their former nightclub HAZE,” said James Algate, Hakkasan Group’s Vice President of Entertainment. “The previous owners of The Light Group and Aria had already developed plans for the space, however, after our team began to understand the direction the resort wanted to go, we set out to improve the plans and create a venue that would be more fitting within Aria. This was to be a nightclub that catered to their high-end clientele through an intimate design, and would be a significantly compelling offering in the ever-changing and competitive Las Vegas market.”

After seeing the capabilities and successes of past projects including OMNIA nightclub in Las Vegas and San Diego, and Hakkasan nightclub at MGM Grand, Hakkasan Group felt it was a natural decision to bring the teams who they worked with back on board. There’s a real synergy between interior designer, Rockwell led by Shaun Sullivan, Frank Murray, Chris Kmeic, Mags Morton and Len Bolger at Audiotek, architect Shaun



• Above The main room at JEWEL.

Yauch of BWA and Nevin Edwards from local integrators, NTA.

“With the design and architect teams appointed, the core ambition and direction detailed and agreed by Hakkasan’s Vice President of Development and Construction Jerry Klint as project manager, in cooperation with James Algate and Derek Silverstein - Executive VP of Operations - from Hakkasan’s design team, we were confident that we could achieve something completely radical and innovative to reflect the modern style and architecture of the Aria Resort,” said Frank.

It was established early on that covering the room in video walls wasn’t the favoured option, neither was installing an ubiquitous LED screen located behind the performer, or scaling it right back to a simple lighting fixture design. So a number of think tank design meetings were required. “We had initial discussions with James. His concern was that video features had become an ‘arms race’ with promoters and club operators using more and more, higher output, higher resolution LED video, leading to the

atmosphere and entertainment in venues being lost to technology. This was a view with which we were in complete agreement,” Frank continued. “Clever use of visual effects coupled with custom design visual media content was the goal, right from the start.”

James added: “As our other venues, such as Hakkasan nightclub and OMNIA nightclub, provide grandiose experiences that mostly surround the DJ talent and multi-room destinations, JEWEL provides guests with a more intimate and modern luxurious experience. While we still boast top-tier talent and performances, we have put more focus on the overall client experience through the design, VIP offerings and integrating the technology into the design aesthetic of the project.”

Obviously, OMNIA’s eight layered, four-storey high kinetic chandelier, which was designed specifically to be and has fulfilled its duty as the talking point, set a benchmark in club design, and with JEWEL, it wasn’t the intention to challenge that status quo. Rather to look at this as a new concept in design. “Ed Shaw, Video Director at Hakkasan Group

wanted to integrate the lighting and video elements into a cohesive unit,” added Chris. And the design of this started to come together thanks to Ayrton’s Dream Panel Twin, which was launched at Prolight+Sound in Frankfurt, earlier this year. Using both sides of the 54 Dream Panel Twin - installed in a grid formation behind the DJ - to construct a kinetic video wall. “It was a new process with a product that was not available when the other clubs were designed, so the new technologies helped with the creative process,” Frank explained. “As soon as we saw the Ayrton Dream Panel Twin we knew they would look fantastic in a large array behind a performer, a complete game changer from the standard, flat, one-dimensional video wall. It opened up a completely new world of imagination and creativity, for both the lighting and video elements,” Andy Taylor Audioteck’s LD added. The video wall is an array of Dream Panel Twins, which goes against the norm of a plain grid by the insertion of two parentheses, each comprising 11 Ayrton Magic Dots that reflect the central oculus feature, and is framed by



Image by Al Powers

• Above  
The grand  
opening at  
JEWEL

two vertical columns of five Magic Dots spaced between the horizontal rows of Dream Panels. The dots are mounted on custom fabricated telescopic brackets to ensure the LED emitter is proud of the panel when the panels are flat. "To have a panel combining 6mm video and 64 high output LED matrix luminaires in one fixture was a dream come true for ambitious lighting designers like us," said Frank.

The ceiling feature consists of a virtual coffer dome, which was constructed in concentric ovals rings highlighted by ROE Hybrid 15S LED tiles. Rockwell added a number of mirrored rings within the video structures to enhance the visual impact and maximise the output.

Frank continued: "This is a product that is unique on so many levels. A truly versatile, creative tool, with the custom

shape and size - the individual brackets, the secondary high output module within the centre of the tile, and the high quality of the LED and control electronics this is truly a stunning product - we could build a building within a building using these modules." The rings descend into four corner pillars of video creating a canopy to define the space and add a kinetic and sculptural shape to the overall club - not just the dancefloor area. The ROE Hybrid 15S LED tiles were made into a custom size to be used on the bands of LED around the room. The bands were made from around 3,000 150mm square tiles, each of which has a 90W high power spotlight in the centre. This allows the bands around the room to be used in two ways, either as a series of pixel-mapped dots, or as a higher resolution display allowing the look and ambience of the

room to change very quickly, another feature that is unique to the club. "Arnaud Pierrel - LD with Ayrton at all the landmark exhibitions, really made the Dream Panel Twins and Magic Dots come alive with superb programming and concepts," said Chris. "The integration of lighting and video together created interesting challenges but Ed Shaw created specific video content to exploit these features. We also used the ROE Hybrid 15S product, as a dual lighting and video effect, so the two disciplines were really integrated on this project."

Audioteck's Andy Taylor takes up the story: "The Ayrton Cosmopix were our next choice, but we realised they could only really be used to their full potential if they were floating in mid-air and not just wildly spinning about at ceiling

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Image by Al Powers

height. In this space, having them drop down on the Desisti Pantographs adds a pretty impressive gag, filling the whole room above and below them with beams.” Once the two main features were in place, it was a case of filling in the details. Around the central ceiling oculus there is a ring of eight Robe Pointes and a ring of eight Robe DL4X moving heads. “The trusty Robe Pointes were chosen for their beam patterns and their amazing in-air effects, and the DL4Xs for added gobo texturing and spotting of tables and performance areas,” Andy continued. A further 40 Pointes have been configured in 10 ‘spoke’ formations emanating from the centre of the ceiling. Grouped tightly together in fours as a modern interpretation and homage to old school four-way ACL bars. Again in groups of fours, more Magic Dots have

been installed around the balcony the edge, to create another level of lighting. The use of both these and the Cosmopix is a good combination because they have the same LED emitter. Eight Robe ColourStrobes - four encircling the central oculus and the other four, at the top of the LED corner pillars - complete the lighting fixture inventory. “The aim was to have a system with enough of each different type of light that everything didn’t have to be on all the time, spinning out of control in a migraine inducing rainbow chase. The end goal was to be able to create dramatically different looks in the room by subtle use of a selection of fixtures,” Andy added. Kvant ClubMax 6000 lasers were also incorporated in strategic locations to add an extra dimension to the lightshow, which also include customised graphics and

programming by JEWEL technicians, Jorge Tellez and Shaun Coleman. For control, Chris selected an Avolites package and he explained his reasons: “With the amount of pixel based fixtures in the system, Avolites’ pixel mapper was the obvious choice for us to get the best effects out of not only the lighting side of the Dream Panel Twins, but the Cosmopix and Magic Dots as well. We thought the keyframe shapes would be especially useful for programming the Dream Panel Twin moves and we also worked closely with the development team to debut a couple of neat little features that will be revealed in future software releases.” The console line-up comprises a Sapphire Touch plus a Sapphire Touch Wing, as well as a Quartz and a trio of Titan Net processors. Chris continued: “As the

• Above A combination of Ayrton’s Dream Panel Twins and Magic Dots make up the video wall

## Light & Video



Omnia, Las Vegas



- Ai Key Features:**
- All New Audio Engine
  - Dynamic Content Page
  - Live Mask on Output Page
  - Autoblend
  - Surface Modelling Page
  - Editable Scene Triggers

• Above The entrance staircase was created using Absen's A103 LED wall and Avolites Ai servers.

project developed and it became apparent there was going to be a single operator for video and lighting, this cemented our decision, as the console could provide seamless integration between lighting and the Ai video servers.

"The Ai video servers were chosen to host all of the video content for the room, as well as the screens in the entry-ways and outside the club. Including the very ambitious LED staircase. The Ai has a very close integration with the Avolites control surfaces being used in the club, and as the fixtures we are using are so dependent on a close integration between lighting and video this made a lot of sense. Another reason these were used was the complex shapes of the LED around the club, especially on the staircase and the ROE Hybrid bands around the room and the Ai is currently the leader in slightly weird shaped LED and mapping."

"It was invaluable to have the Avolites team on site for the final couple of weeks, and in 30 very odd years in this industry I have never come across a company more dedicated to getting a very challenging project across the line," added Andy. Ollie Waits, Tim Hornung, Steven Baird Smith and Brad White from Avolites headquarters were on site for support, and JB Toby was also involved from the UK base. "Their contribution was invaluable - and their presence is a testament to their support and

commitment," reaffirmed Frank.

Aside from the main club area, the team also specified an Absen A103 LED wall in the entrance staircase, providing an amazing first impression for guests. "The recessed wall panel combination with the video steps makes this a truly three-dimensional visual experience," said Chris. "Absen have been our partner on many of our projects both in the US, Europe and in Malaysia. Their latest products are stunning in performance and build quality. Using this Absen screen in the lobby and grand staircase - an area where the video is literally in the face of the

clientele proves the optical performance and attention to detail that we have come to expect from Absen has gotten even better," said Frank.

"What differentiates this from other projects and sets this venue apart - are the textures and content of the video media provided by Ed Shaw and his company NeIco, which created specifically for this space and venue."

"From a lighting point of view, most of the challenges during the project involved the physical installation of the fittings in some pretty awkward places - especially among the mirrored ceiling features - but these were all handled fantastically by NTA,"

## TECHNICAL INFORMATION

### LIGHTING & VISUALS

54 x Ayrton DreamPanel Twin luminaire; 48 x Ayrton Magic Dot-R LED moving head; 6 x Ayrton Cosmopix-R luminaire; 48 x Robe Robin Pointe moving head; 8 x Robe DL4X Spot moving head; 8 x Robe ColourStrobe LED fixture; 1 x Avolites Sapphire Touch console; 1 x Avolites Sapphire Touch Wing console; 1 x Avolites Quartz console; 3 x Avolites Titan Net processor; Avolites Media Ai servers; 6 x Desisti Spider Pantograph (custom DMX control); 2,000 x ROE Hybrid 15S LED tile; 1 x Absen A103 LED wall; Kvant ClubMax 6000 lasers

### SOUND

10 x L-Acoustics ARCS II loudspeaker; 10 x L-Acoustics 12XTi loudspeaker; 16 x L-Acoustics 8XTi loudspeaker; 8 x L-Acoustics SB28 subwoofer; L-Acoustics LA4 and LA8 amplified controllers; 1 x QSC Q-SYS Core 250i with TSC-7w touchscreens

[jewelnightclub.com](http://jewelnightclub.com)

## FRANÇAIS

En vue d'aménager son dernier établissement, le JEWEL, situé dans le Aria Resort et Casino à Las Vegas, le conseil d'administration du Hakkasan Group a décidé de reconstituer une équipe qui avait couronné sa grande maîtrise d'un énorme succès lors de précédents projets. Il semblait alors évident que les équipes responsables du succès de l'Omnia à Las Vegas et San Diego et Hakkasan au MGM Grand se retrouvent, car il existait une vraie synergie entre le designer d'intérieur Rockwell dirigé par Shaun Sullivan, Frank Murray, Chris Kmeic, Mag Morton et Len Bolger chez Audiotek, l'architecte Shaun Yauch de BWA et Nevin Edwards des intégrateurs locaux NTA. La pièce maîtresse du club est le mur du DJ comprenant deux luminaires DreamPanel de chez Ayrton entrecoupés de Magic Dot-R du même fabricant, et qui renvoient à l'oculus central. Le magnifique plafond à caissons virtuels est constitué d'anneaux ovales concentriques rehaussés d'un carrelage en LED ROE Hybrid15S. De plus, autour de l'oculus central du plafond se trouve un anneau de huit lyres Robe Pointes et un autre anneau de huit lyres Robe DL4X - la composition est contrôlée par un système Avolites comprenant une console Sapphire Touch en plus d'une Wing, ainsi qu'une console Quartz et un trio de processeurs Titan Net. L-Acoustics a complété la mise en place audiovisuelle du JEWEL en fournissant le système de sonorisation.

## DEUTSCH

Nach dem Erfolg und der Dominanz der vorherigen Projekte hat der Vorstand der Hakkasan Group beschlossen, die Band wieder zu vereinen, als ihr letzter Treff, der JEWEL im Aria Resort und Casino von Las Vegas, seinen Kopf zurückwarf. Die Entscheidung, wieder auf das Team hinter Omnia in Las Vegas und San Diego und Hakkasan von The MGM Grand zu setzen, erschien ganz natürlich. Zwischen dem Innenarchitekten Rockwell unter der Leitung von Shaun Sullivan, Frank Murray, Chris Kmeic, Mags Morton und Len Bolger von Audiotek, dem Architekten Shaun Yauch von BWA und Nevin Edwards des lokalen Integrators NTA besteht eine regelrechte Synergie. Das Kernstück des Clubs besteht aus einer DJ-Wand mit Ayrton DreamPanel Twin Leuchten und Ayrton Magic Dot-Rs, die das zentrale Rundfenster-Merkmal widerspiegeln. Das Deckenmerkmal besteht aus einer virtuellen Kassetten-Kuppel, die aus konzentrischen ovalen Ringen besteht, welche durch ROE Hybrid 15S LED Platten betont werden. Und rund um das zentrale Rundfenster im Dach gibt es einen Ring mit acht Robe Pointes und einen mit acht Robe DL4X Moving Heads. Zur Steuerung wurde ein Avolites Package mit einem Sapphire Touch und einem Sapphire Touch Wing sowie einem Quartz und einem Trio von Titan Net Prozessoren ausgewählt. L-Acoustics vervollständigte die audiovisuelle Anlage im JEWEL mit dem PA-System.

## ITALIANO

Far ritornare il gruppo di nuovo insieme, dopo il successo e la predominanza dei progetti precedenti, è stata la decisione presa dal consiglio Hakkasan Group quando è stato creato Jewel, il suo ultimo locale situato nell' Aria Resort e Casino di Las Vegas. Sembrava una decisione naturale per portare la squadra di nuovo a bordo dopo Omnia a Las Vegas e San Diego e Hakkasan al MGM Grand. C'è una vera e propria sinergia tra l'azienda di design di interni Rockwell guidata da Shaun Sullivan, Frank Murray, Chris Kmeic, Mags Morton e Len Bolger di Audiotek, l'architetto Shaun Yauch di BWA e Nevin Edwards dell'azienda di integrazione locale NTA. Il fulcro del club è costituito da una parete DJ che comprende delle luci DreamPanel Twin della Ayrton, intervallate da delle Magic Dot-R, sempre della Ayrton, che riflettono la caratteristica centrale dell' oculo. Il soffitto è costituito da una cupola a cassette virtuali, che è stata costruita in anelli ovali concentrici messi in evidenza da mattonelle a Led ROE 15S Hybrid. Inoltre, intorno all'occhio centrale del soffitto c'è un anello di otto Robe Pointers e un anello di otto teste mobili Robe DL4X. Per il controllo, è stato selezionato un pacchetto Avolites comprendente un Sapphire Touch più un Sapphire Touch Wing, nonché un Quartz e un trio di processori Titan Net. L-Acoustics ha completato l'impianto audiovisivo del Jewel fornendo il sistema PA.

## ESPAÑOL

Volver a juntar a la banda de nuevo - luego del éxito y dominio de los proyectos que fueron anteriores - fue la decisión tomada por el directorio de Hakkasan Group cuando apareció su último sitio, JEWEL - ubicado en el Aria Resort and Casino, Las Vegas. Parecía ser una decisión natural relanzar al equipo detrás de Omnia en Las Vegas y San Diego y Hakkasan en The MGM Grand. Existe una sinergia real entre los diseñadores de interiores Rockwell liderados por Shaun Sullivan, Frank Murray, Chris Kmeic, Mags Morton y Len Bolger en Audiotek, el arquitecto Shaun Yauch de BWA y Nevin Edwards de los integradores locales, NTA. La atracción principal de la disco está conformada por una pared de DJ compuesta de luminarias DreamPanel Twin de Ayrton, intercaladas con Magic Dot-Rs de Ayrton que reflejan el óculo central. EL cielorraso consiste en un domo virtual, el cual fue construido en aros con forma de óvalos concéntricos resaltados por mosaicos LED ROE Hybrid 15S. Alrededor del óculo central del cielorraso hay un aro de ocho Robe Pointers y un aro de ocho cabezales móviles Robe DL4X. Para el control se seleccionó un paquete Avolites que incluye un Sapphire Touch más un Sapphire Touch Wing, así como un Quartz y un trio de procesadores Titan Net. L-Acoustics completó la puesta audiovisual en JEWEL proveyendo el sistema PA.



said Frank. "The support structure for the DJ wall was also a particular challenge for the architects and I think when the rest of Las Vegas has crumbled to dust, that thing will still be standing! Every install throws up its own unique set of challenges, but that's what makes these things interesting," added Andy.

The same team was also charged with designing and specifying the audio set-up. "We start every project with a blank sheet of paper. Every project and venue represents a different challenge and makes different design demands," said Chris. Collectively, about 12 months were spent researching different manufacturers and the new products that were coming to market. "We feel this information and knowledge is what gives us the edge at the design stage," he continued.

"We are big fans of the L-Acoustics brand and for our large-scale projects it is currently our most popular choice. We have a superb relationship with L-Acoustics and find their support and commitment to quality and design beyond reproach." The main system is based around two five-wide arrays of L-Acoustics ARCS II, placed either side of the DJ. The reason for such a wide array is due to the configuration of the room, which is much wider than it is deep, leading to a much more intimate experience for all of the seats and audience on the balcony. A standard stereo system was chosen, as the room lends itself to this set-up - a balcony surrounding the main dancefloor on all sides other than the DJ side of the room, with fills covering above and below the balcony easily time aligned to those sources either side of the DJ. The fills are a combination of L-Acoustics 12XTi and 8XTi cabinets, while low end for the entire system is provided by L-Acoustics SB28 subwoofers. LA4 and LA8 amplified controllers from the manufacturer power

the system.

"The decision on audio was a joint decision between myself and James at Hakkasan," Chris continued. "For the OMNIA project we both undertook a wide-ranging research exercise, and that system at OMNIA has been superbly received. This caused us to design the main PA around the ARCSII product. As we are dealers for the L-Acoustics range, we undertook a SoundVision modelling process, working with Dan Orton at L-Acoustics, which is the most accurate audio design software available today, in my opinion. The software plots show the client how the system will perform in the venue and provides information on all the acoustic parameters.

"The Hakkasan Group's other clubs have a reputation for being some of the best nightclubs in the world, and the sound is central to this reputation, so maintaining that sound quality was an important part of the brief," continued Chris.

Summing up Frank said: "The most important thing to mention in all of this is the fantastic team that was involved in this project. From everyone at Hakkasan Group's in-house team including Andrea Frey and Gerardo Gonzalez, Ed Shaw and Jorge Tellez, Nevin Edwards the lead at NTA with support from Joe Garcia Miranda, Shaun Yauch at BWA architects, Arnaud Pierrel the Dream Panel genius, our wizard Tim Hornung and the fantastic team from Avolites. It was a complete pleasure to work with them all. Without any one of them there is no way we would have been able to complete this project." James concluded: "JEWEL fits perfectly into our portfolio of nightclubs in Las Vegas both in capacity but it also allows us to offer a more intimate type of nightclub experience for our guests, which in turn helps diversify our offerings in this market." 🎧