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IN THIS ISSUE:

Theatre: Network
Combining stage and screen

Tech Focus: Robin MegaPointe
Robe's all-purpose moving head

Review: JTSE, Paris
Showfloor highlights

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Dragone's *La Perle*

From the mind of Franco Dragone, Dubai's theatrical spectacular wows with its immersive grandeur. Sharon Stancavage reports ...

"I want to provide a little piece of eternity for the region, a place of escape that any culture and ethnicity can understand and enjoy. I was so inspired by Dubai and it's an honour to introduce that vision to the world," says Franco Dragone, founder and artistic director of Dragone Studio, when asked about *La Perle*, his immersive extravaganza that has been captivating audiences from across the globe.

The resident show, which is held at its own purpose-built theatre in the luxury complex Al Habtoor City in Dubai, features a cast of 65 artists who perform a gravity-defying spectacle with acrobatic, aquatic and aerial stunts in addition to acting.

However, key to realising Franco Dragone's concept was building a performance space for his production - a precedent for Dubai, as Jean Marcouiller, *La Perle's* executive production manager and head of Dragone Studio, explains. "In Dubai, there is not a tradition of places where you go and sit to see a live performance," he says. "There are shows based on Arabic traditions and then you have rental spaces in convention centres. But there is no theatre dedicated to one show - especially not of that size. We are the first with any kind of large-scale theatre."

The design for *La Perle's* permanent home was led by Dragone's theatre development team, who worked alongside scenic designer Jean Rabasse, theatre consultants Auerbach Pollock

Friedlander and architects Khatib and Alami, with developer HLG (Habtoor Leighton Group) carrying out the construction. The result is an intimate performance space that seats an audience of 1,250 and boasts a standard stage, but also a wet stage area with an 8m deep diving pool at its heart. In addition, the lower seating levels slope closer to the performance space and take their curvy shape after the wet stage area. "We wanted it to feel as if you were inside a grotto or a cave, and we wanted to be able to change the mood by using video projection," says Marcouiller. "You have curves and levels, so the seating is made in that concept that people are sitting on something like a grassy knoll where they sit wherever they can."

Simon Lemieux, production technical director, offers up details on the stage: "The whole stage, except the dry stage - a 27m by 14m rectangle upstage - can become wet or retract below, and then you just have the eight-metre well in the middle. It's a flat surface where we can pour about 350mm of water by transporting it from one tank to the other." The wet stage can be drained in a matter of seconds through the theatre's complex drainage system.

"On this show, we went back to realistic water effects like the waterfalls on each side of the proscenium," Marcouiller adds. However, there was one major issue - the bounce back into the audience. "The waterfalls are almost at 17m up and you can make every kind of test and simulation, but because of



the accumulation of the water combined with the draught of the theatre between the dry and the wet stage, you never know which way the drop will go." He adds: "With water like this, you can never mock this up; you turn it on and see what it is."

The pool, the wet stage area and water effects were delivered by Madrid-based aquatic entertainment specialists Ghesa. Marcouiller explains: "We've worked with Ghesa on events before. The water system for the pool and the water special effects were linked to the same supplier, and there aren't many people in the world that can do that."

STAGING

For the fly system, the rigging and several of the major scenic pieces, Dragone turned to long-time collaborators Tait Stage Technologies. CEO Mark Ager says: "One of our fortés is providing high performance flying systems and rigging systems. We tend to need to work at high speeds and high acceleration and with someone like Dragone, it's four or five metres per second." The artist fly system includes 20 rigging points, so for every three to four performers there is a dedicated rigger.

The scenic system is exponentially larger, with over 100 rigging points. Project manager Brian Malone explains: "We have 28 scenic winches, but they vary from four line winches to 10 line winches, depending on the scenic element. We had 48 BT 290, 390 and 490 winches that vary in speed up to four metres (13ft)





per second for performer flying." The grid height is 30m, similar to other Dragone shows.

The majority of the system is controlled by Tait's proprietary Maxis SI digital position control system. Ager says: "We've developed this over 10 years and it's a full-feature, multi-user system that allows multi-dimensional flying and other complex movements. In this case, we're doing a lot of 2D and 3D flying, which is all programmed into this motion system, and then controlled by our front end."

From an automation standpoint, *La Perle* is challenging. "They have two years to develop what they're going to do, so consequently, it's a more complex show and lot more effects are used throughout simply because they have more time to integrate them," he adds.

While Franco Dragone's *modus operandi* is well-known - much of his productions are usually created impromptu during rehearsals - there is another aspect of *La Perle* that makes it very different from the standard theatrical fare. "In a big musical, they'll do a tech run that takes two or three weeks. We do West End musicals, and they will spend maybe the first two days getting four minutes into the show," notes Ager. However, that type of schedule doesn't work for *La Perle*.

He continues: "In acrobatic shows, you can't do that - you have to let the acrobats do their work-out every day on equipment, and they can only do it for a certain length of time. If you have a Dragone show, where 20 people are doing somersaults in the air, they are probably going to rehearse that for an hour and a half and have a break. The show is put together into acts, and then they work out the changes - that means it's a lot harder to build up the final sequencing because you have to make sure everyone is in the right place. Basically, you're building the show in parallel, rather than series, which is a challenge."

Upstage is the first major scenic piece - the 24-tonne doors that separate the wet and dry stages. Malone explains: "There are four 22m high by 4m wide doors that weigh 6.5-tonne each, and they run on a rolling beam system. They open and close in a mere 30 seconds - it's quite a good reveal when you see the entire proscenium just disappear into the wing."

Although *La Perle* is filled with acrobatics and unexpected elements, it also includes two traditional circus feats. "The

Wheel of Death is rigged using two of our CHIs, which is our intelligent chain hoist. With that, we can have variable speed control and synchronisation - we synchronise the hoists with each other, so one doesn't go off faster than the other and cause the effect to tip," explains Malone.

The death theme continues with the *Globe of Death* act. Popular in circuses around the world, the effect - which uses a rigged globe - has been re-imagined for *La Perle*. "The *Globe of Death* effect is absolutely phenomenal - it's the show-stopper for me," says Malone.

"Normally this is a ground-supported apparatus, where the bottom stays static and then the top lifts. We do it differently," adds Simon Lemieux.

The *Globe of Death* involves a large 4.6m diameter globe that drops down from the ceiling; a door opens on the upstage side and five performers on motorcycles drive in. It splits in half, and traps the lead actor inside. The globe is then raised high above the stage. "For the fabrication of the ball, we didn't want to do the normal metal bar cross pattern; we wanted it to be a scenic element, so we wanted to control the pattern. We had to build it in China with one of our normal suppliers, because that's the only place where they were using the old method of stamping the steel plate without compromising the structural integrity of the plate. Custom stamping of this size and thickness simply isn't done anymore," Lemieux remarks.

Rigging the globe was complicated, as he notes: "It's not the weight of the motorcycle or the men - it's the centrifugal force that is generated that was a concern. For this piece, we had to go out of our way to engineer and fabricate this." Agar adds: "There were a lot of studies done [on the globe] and with the motorcyclists driving around and what the effects would be on the tension. There's quite a lot of complexity in the loading of that piece."

The *Globe of Death* uses five BT 490 winches taking 20t of tension into those lines to hold the ball - with a dead load of 4,000kg (close to 90,000lb) - steady. Also making an appearance during the production is a 6m Golem-like puppet created by South African puppeteer Roger Titley. "The puppet is manipulated by 3D rigging combined with ground manipulation for the legs. It's rigged on the acrobatic fly rig and the head and shoulders are driven by someone sitting on top of the rig," says





↑ Suspended water sirens – a 3D visualisation of the show's acrobatics

Lemieux. Seven crew - six on the ground and one overhead - operate the puppet.

For the finale - a joyous Bollywood-like affair that includes most of the cast - a large, two-part scenic piece called *The Frame* makes an appearance. It's 7m wide by 8m high and the inner portion can roughly hold up to 24 people. Malone explains: "Basically, here are two frames running up and down. One has the crown on it, and there's another piece inside of it. So, this is three six-line pieces, for which we have three winches working together, with six lines on each to pick up that."

La Perle is a work in progress, and there are two new Tait elements that will be integrated into the show during the next few months. One is water bees - autonomous boats with a fountainhead system that move in pre-programmed sequences - and a large bridge. "It's 23m long and 5m wide with a single 50-tonne winch on what is basically a drawbridge," notes Malone. However, theatrical winches aren't usually that large, as Ager explains: "We usually do winches up to four tonnes; that's the biggest we've done to-date. They came in with this request, which is effectively over 10 times that amount." Malone adds: "It's a capstan winch, probably the size of your living room, with four 40mm (1.57") steel wire ropes running down through the building. The winch is in the grid, and it runs down through the building and diverts out to pick up the drawbridge half way up. The drawbridge goes from vertical to horizontal, so it's a 90° travel." As for the



speed of the winch, Malone says: "It takes three minutes to go 90°, but when you're standing next to it, it looks pretty fast when it's coming at you."

The production also uses flame-retardant stage fabrics and motion control systems from ShowTex, including RGB LED starcloth ShowLED Chameleon, black-masking drapes and a DMX-controlled chaintrack. ShowTex also provides the Spirelli aluminium chain curtain with a LaserVoile drape that's suitable for laser projections.

PROJECTION

While many who worked on *La Perle* were new to Dragone Studio, video designer Patrick Neys of creative studio Drop the Spoon has been working with Franco Dragone for the past 15 years. "I became involved with *La Perle* just after the first drawings of the theatre, which was four years ago. At that time, I was working on the creation of Dragone's Chinese shows, but I was periodically called to discuss,

choose and sometimes define the various surfaces to project on and the number of projectors - I really began to enter artistically in the project and created the video content at the beginning of this year," he says.

Production began in earnest with Neys and his team at Drop the Spoon in Belgium four months before rehearsals started. "Franco wanted to open the show with a talk about the origins of life on Earth and the universe; he told us the show would be about the 'pearl of origins', going from that pearl to civilisation. He then left me to figure out the best way to use and transform the theatre to give the audience a journey through many worlds," explains Neys. "Sometimes those worlds are really obvious and clear, but usually we evoke places or give visual emotions by way of illusion."

Before collaborating with Dragone, Neys and the Drop the Spoon team created

a large collection of looks and elements. Neys explains: "My biggest challenge was not only to propose enough new material, but also to create good content related to his intuition and the universe of the shows he was creating."

Neys had a variety of tools at his disposal when he was shaping the show content. "The looks were created so they could be added everywhere and played in real time through the VYV Photon media server or our live station. During pre-production, we were able to visualise all content in VR within the Photon with Oculus glasses," he says.

Earlier this year, VYV updated Photon to include Oculus VR support with multi-user, 3D visualisation within the user interface. As it turned out, the Oculus glasses were an important part of the process. "This was a perfect tool for us to understand the scale, speed and the relation between the three main surfaces: the curved cyclorama, the floor and what we called the dome," says Neys.

Projection throughout the theatre is delivered by 20 Barco HDF-W26 projectors for the floor and the dome, and four Barco HDQ 2K40 projectors for the upstage cyc, with the gear provided and installed by Solotech. "We're using the Zap Technology yoke, specifically the VIP Dual LX 1500 made by Cinemeccanica - 20 yokes are used exclusively with the HDF-W26 projectors," says Anton Montaut, head of lighting and video for *La Perle*. The Zap yokes enable projector movement.

The system used to run the show includes two Photon controllers (one main and one back-up) and 11 Photon display servers (nine main and two back-ups, each with four HD outputs). One of the display servers is used for user interface and three are for the projectors. There are also two VYV Albion

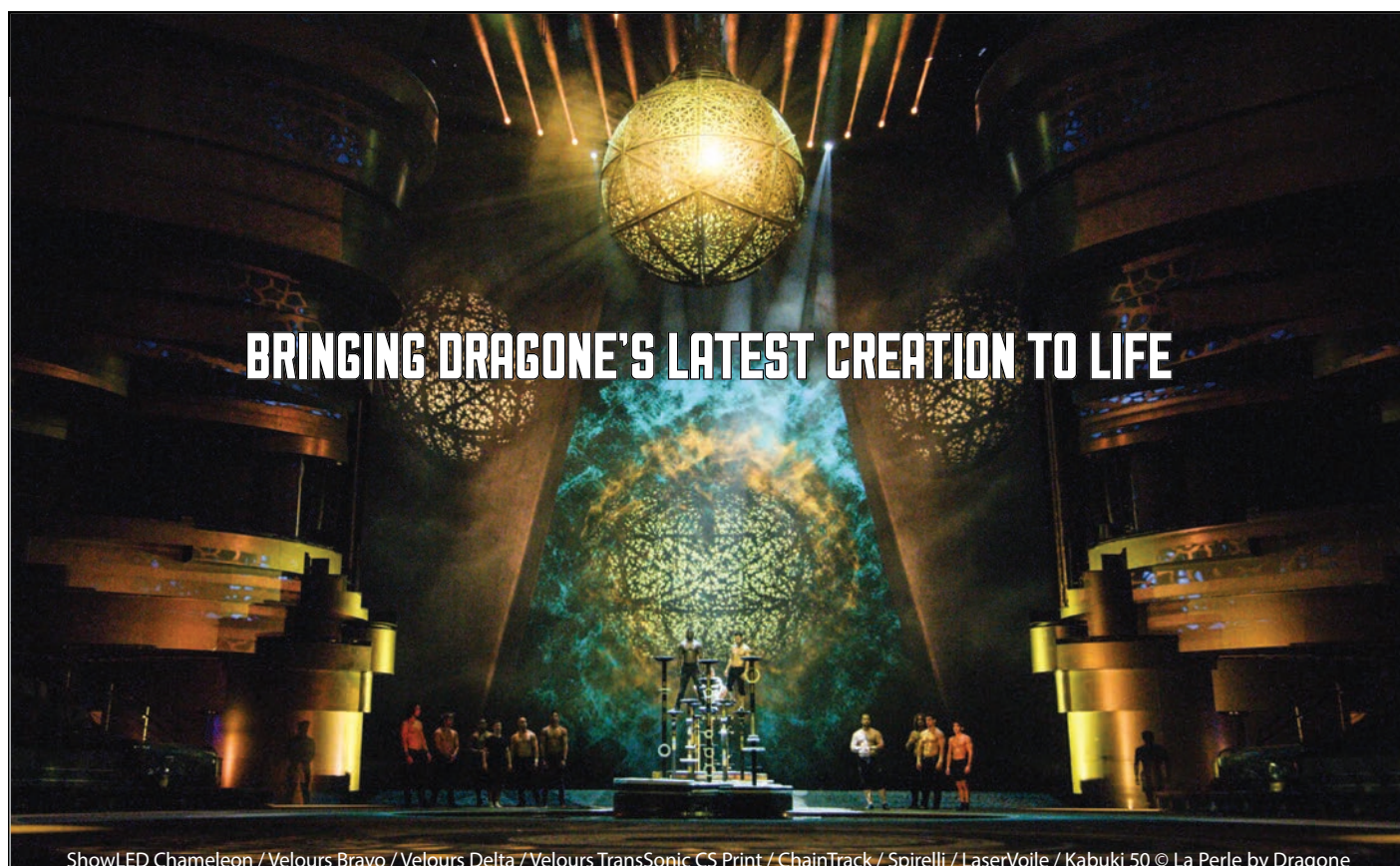
systems (another main plus back-up) to manage the tracking, the real-time calibration and the volumetric calibration. The Barco HDF-W26 projectors are all on the Albion system, which - in combination with the Zap yokes, 40 Albion cameras and VYV's Copernic infrared emitters - enable the projection system to do real-time tracking.

Beyond the complex technical requirements, Franco Dragone's method of working live and crafting essential show elements during rehearsals presented further challenges. "He's always looking for the unexpected," says Neys. "From a video content point of view, it's a nightmare to deal with immediacy, but through years of experience working together and thanks to fascinating new technologies, we have developed ways to react live in seconds. I have my huge library ready in [Adobe] Premiere Pro and in the Photon, operated by Alexis Rivest, and together we jam on the three surfaces." Photon's playback infrastructure is based on uncompressed video, which allowed Neys to edit and apply effects to the content, without having to spend time rendering the sequences.

LIGHTING

Although the creative of any Dragone Studio show starts and ends with Franco Dragone himself, the process involves a myriad of others, specifically the performers, the musicians and the technical staff. The latter, in particular, can change over the arc of the project.

The original lighting design was done by Enrico Bagnoli, who brought in Claude Plante as his assistant designer. As Bagnoli left however, Plante stepped into his shoes. "I met Enrico 18 months ago in Brussels and the design was already done by then. The initial design was in conjunction with the first draft of the show, and we had to change a few things around. When Franco came in and took over during rehearsals, he wanted



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other things from a lighting standpoint, and other elements were brought into the show," says Plante.

The theatre is home to wide variety of lighting positions, as Plante explains: "There is a round truss right in the centre, directly over the pool. Then, at the dry stage, there is a curved truss as well. There is a catwalk above all along the wet stage, it's 360°, so there are positions there." In addition, there are four coves with lighting positions and five 'vomitories' - one for the bridge, which is also the location of a small truss, while the others are balcony rail positions.

The rig includes numerous automated fixtures from Claypaky. Plante says: "The Alpha Profile 1500s and the Super Sharpys are the workhorses. The majority of the 1500s are on the catwalk above the wet stage and the core of the Super Sharpys are on the curved back truss, which is over the cyc, those work a lot and were really helpful."

The voms are home to Claypaky B-Eye K20s. "They were very helpful in washing with the deep colours; we also used them for the effects they have. There is a lot of video in the show and sometimes lighting is only a little support for the video, so those were really, really useful," remarks Plante. The vom positions also include Sharpy Wash 330s and Alpha Profile 800 STs, while the floor package includes bubbles.

"There are bubbles all around the pool with instruments inside them; because of the water, they have to be protected," says Plante. Also from Claypaky are Alpha Profile 800 STs, Super Sharpys and B-EYE K20s located inside the bubbles on the floor. In addition, the rig includes a variety of Studio Due products, as Plante notes: "We have T-Color [RGBW/FC] from Studio Due. There were 14 on the bottom of the cyc, we also had 14 on the top of the cyc that we decided to take out. The cyc is so huge, and it was mainly treated with video, so it was a waste of instruments there. We changed those locations, and we put them at different levels in the house to light up the walls. For the aerial numbers, at low level, they were very helpful."

The *La Perle* lighting package also features 50 Studio Due SlimBars RGB, a linear RTB LED bar, 28 Claypaky GlowUp Strips (LED bar with an adjustable 14° to 70° electronic motorised zoom), eight Claypaky Stormy CC strobes and 12 Claypaky GlowUp C fixtures (compact, portable, RGBW LED units). While some lighting was sourced directly from the manufacturers, other units were provided by Dubai-based Oasis PPD.

The show also features a number of gobos, purchased directly from Rosco. "Franco loves gobos," says Plante. "We had to change them a bit and brought in some speciality gobos for the floor to mix with the video. There is one gobo that Franco particularly likes and it was used a lot on the video for texture and to fill in the holes." For spotlights, there are four Robert Juliat Cyrano 2.5K HMI followspots.

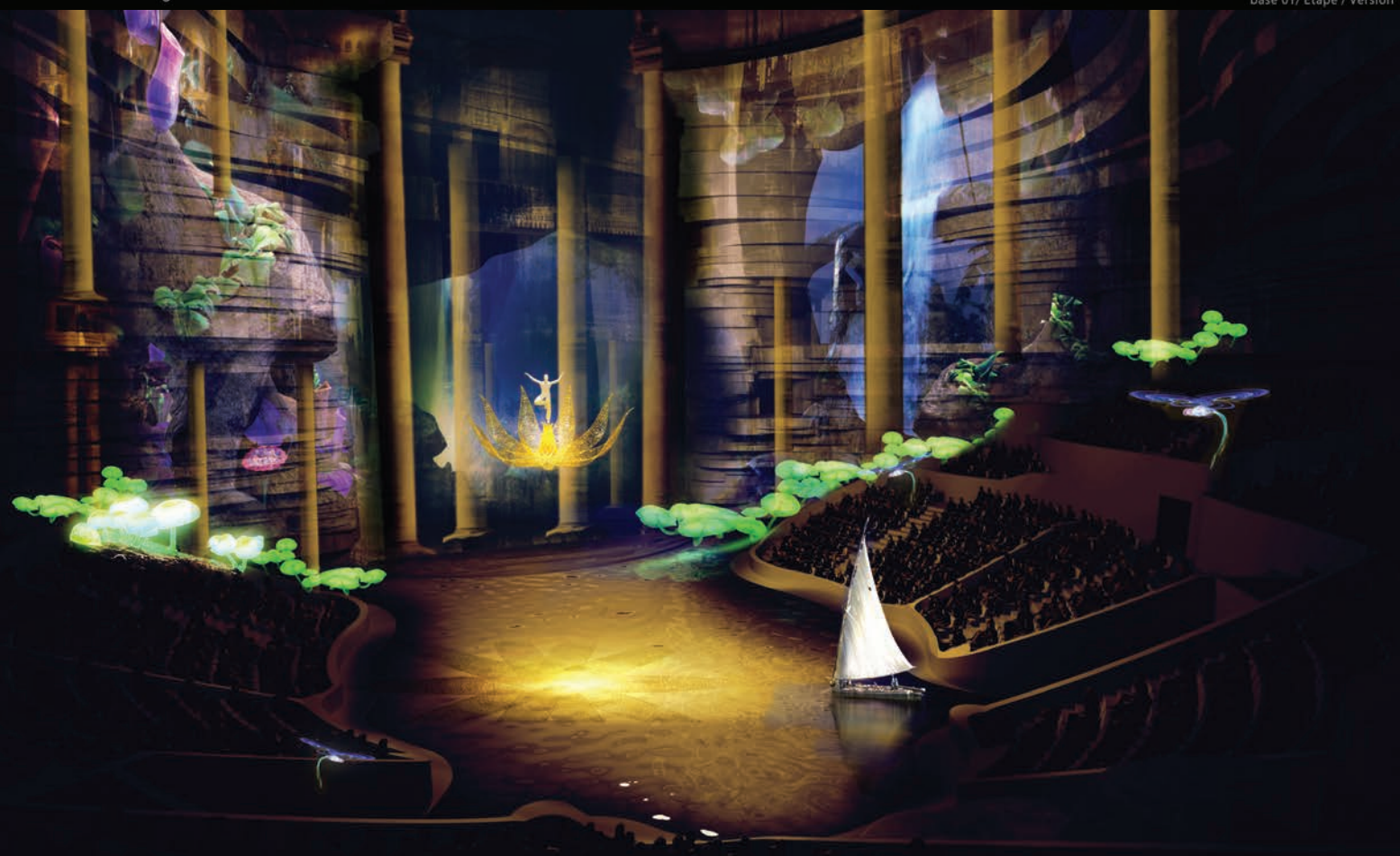
For the water lighting, Bagnoli specified a combination of 131 Anolis ArcSource Outdoor 24MC submersible units and 10 Anolis ArcSource 7 RGBW. "The ArcSource 7 was really helpful to get anything that was above the central well, because it is very, very powerful - even though the beam has to travel through water," Plante notes. In all, over 400 lighting fixtures are utilised in the theatre.

Programming was done by Plante, Stephane Lecavalier and Nathan Files, who all worked on two MA Lighting grandMA consoles. "I was sitting behind one, in case I had to do something fast - I had to work directly with Franco most of the time, so it was better for me to be able to respond to him," explains Plante, highlighting just how projection-heavy the show is. "Franco loves the projection and for him it tells the story. If you compete with that, you're missing the point of what he wants," says Plante. The lighting control package also includes two ACT Lighting 8 Port DMX Nodes, two ACT Lighting 4 Port DMX Nodes, six Doug Fleenor 5 Port Enhanced DMX Opto Splitters, and a Goddard Design MiniDMXter4 DMX/RDM for RDM management.

On Dragone's creative process, Plante remarks: "He'll throw in an idea about the video, lighting, sound and special effects, and then take bits and pieces and make a show out of that. Franco collects looks - we do as many as he wants for him to pick from." The laborious process takes weeks to complete. "Any one look, which corresponds to a specific number, might not be where the look ends up when we finally present the show," explains Plante.

The colour palette is also decided in the process. "We just sit down with him and see what happens," adds Plante. "It's very instinctive - he works in the moment. If you give him 10 ideas, he'll take one or two - or maybe none - and that's what works for him at that moment."

Working in conjunction with the lighting rig are Kvant lasers, specifically eight Clubmax 6000 FB4Ws and one Atom





- ↑ Live waterfalls on both sides of the stage
- A visualisation of the waterfalls used in conjunction with projection

20. Dragone had been planning to incorporate lasers in his show for a while and allowed the crew to use "a small quantity of small units, which created a 'bang for the buck'," as Marcoullier points out. "We went from normal, out-of-the-box laser imagery for that type of machine and created our own images to make the water twinkle or to highlight a performer or some edges in the scenery," he says. Laser design and programming was handled by Steve Critchley.

SOUND

For the sound design, Dragone turned to Sebastian Hammond, who was part of the audio team on Dragone Studio's *The Han Show*. He says: "I think the biggest thing that these shows require is flexibility. The system needs to be immersive and flexible in terms of what we can create for Franco Dragone during the pre-production phase."

The overall brief was straightforward, as Hammond explains: "We always have to ensure we meet the coverage of the theatre and there is a consistent experience for each patron; each one of Dragone's theatres is unique in its design and delivers different challenges. After addressing coverage, we then looked into options for imaging and effects."

Located over the wet stage, Hammond is using an L-Acoustics PA from Solotech. The audience is split into two halves - house-left and house-right - and each side



of the house has three line arrays making up the main PA. In each hang, there are six L-Acoustics Kara cabinets and a SB18 subwoofer on top. The main PA also includes 10 L-Acoustics SB28 subs, with the main sub arrays located in the centre of the three arrays, acting as a central radiating source. Hammond continues: "I think subs integrated with the line arrays like this are fantastic, whether it's for effects or drums, we can make a much bigger image with that array."

Within the proscenium, there are also six Karas and one SB28 per side. "A lot of video content and action happens on the cyc and the dry stage as well, so the proscenium system allows us to bring focus over to anything that is happening with the video content, scenic elements or the artists," adds Hammond.

Finally, there are two of the newly-released L-Acoustics Syva, which are used within the scenic bridge. Hammond notes: "Syva worked as a perfect solution for the image I needed. Because of the cabinet's size, we

were able to fit it into the architecture of the bridge while still delivering big sound."

Hammond is using the Kara loudspeakers for the first time, but admits they are "a fantastic-sounding box, and I've been really, really impressed with them." The speaker's IP55 rating was also put to the test during rehearsals. "We had our house-right centre array get completely drenched - a rain nozzle got loose and went full-pelt into the front of the array." L-Acoustics' advice? Just let them dry. "And sure enough, there were no issues at all - the next morning I ran [Rational Acoustics] Smaart through the system and everything was like new. If it was any other system, the whole array would have been gone," says Hammond.

Amplification is achieved via four L-Acoustics LA4x and 15 LA 8 amplifiers located in a HVAC-controlled room. Hammond says: "L-Acoustics Network Manager was great, it easily looked after all of our processing we needed in terms of EQ and delays."



For the front fills, 24 Meyer Sound MM4XPs are deployed. "There is a front wall which divides the audience from the stage, and these MM4s are concealed inside the wall, so you can't see them; they're obviously ideal because they're compact and they can also handle water if they get wet," notes the sound designer. Power and signal is via nine Meyer Sound MPS-488HPs located in the main rack room. "For surrounds, we have Meyer Sound UP4-XPs - there are 32 of these concealed in the rear wall of the theatre - almost every two metres there's a UP4-XP to make sure there is even coverage for these last four rows of the theatre," says Hammond.

There is a second row of surround cabinets as well, made up of L-Acoustics XT12s. "We have a ring of 10 XT12s; they extend the coverage of the surround effects further into the house for the people sitting closer to the stage. That ring runs from proscenium house-left all the way to the proscenium house-right," explains Hammond.

As for stage monitors, the crew uses K-Array products, including eight KP102s. "The KP102s have been ideal, not only for their small size but also because they're water resistant as well," states Hammond. There are also four K-Array Anakonda KAN200+ speakers and two Kommander KA84 amplifier/processors being used. For the pool, there's an underwater monitor system, including three Lubbel Labs LL916 underwater speakers and three underwater cameras.

Hammond continues: "For FOH we have a [DiGiCo] SD7, and for the monitor console, we have the [DiGiCo] SD10. We have some complex imaging we're doing with the system, and with DiGiCo's matrixing it's pretty straightforward and also gives us what we need to be flexible with our images around the theatre." The use of effects has been kept to a minimum. "We are using the Waves Sound Grid, with the SD7 at FOH, so this has outboard processing available for us for extra effects that we need for the show as it evolves."

"One part of our system is BSS, notably the London Blu units. This is being used between our consoles and the amplifiers mostly for routing and some processing of the system." Hammond is using a single BSS by Harman Soundweb London BLU-806 signal processor with digital audio bus and Dante and six BLU-160 signal processors.

The production features live musicians and a female singer. On the house-left upper artist platform is the band leader, who plays keyboards and electric mandolin, with the string and flute player next to him. There's also a percussionist, who is located in a nearby isolated drum booth. "We use Audix D2s, D4s and D6, AKG 414s, Neumann 184 and Shure SM57 and Beta 91 on the drums, with Sennheiser MKH-50 and MKH-800 for the flute and AKG 414 and 451 for the string," explains Hammond. The singer is on a DPA 4066 headset and the band leader runs Ableton Live software to enhance the playback or incorporate sounds and instruments that could not be played live. Ableton is triggering timecode for the music, sound effects and video content.

He continues: "We are using QLab at FOH for any playback; we have two playback computers, a main and back-up, running simultaneously. QLab can be triggered by timecode, which we do during the opening video sequence. During that sequence, our band leader is sending time code, and we're able to synchronise the sound effects precisely with the video content."

Yet the job is never complete. "Now that we've finished the creation, the operations team gets to continue to develop the show and the mix. These shows evolve over time with acts, artists and musicians, so we get a chance to really focus on finite details and really strive for the best sound possible," concludes Hammond.

This is Dragone's first show in the UAE, with the last two international productions staged in China only. Marcouiller compares the two: "I think it was easier in Dubai - getting goods in and out was very easy, shipping was efficient and we didn't have any problems with materials getting stuck in customs." China also had specific regulations on using Chinese products - those were not applicable in Dubai. "The civil authorities have been very cooperative. They really understood what we wanted to achieve with this show and knew we were doing something that had never been done in Dubai before," concludes Marcouiller.

La Perle is currently performed in Dubai's Al Habtoor City once or twice a day, five days a week, with tickets on sale now. 🎟️

▶ www.laperle.com