



Opposite and above: The 16'-tall flower is positioned near the B stage. "It is the emblem of the show," Caslin says.

hawn Mendes burst upon the music scene in 2014; since then, he has headlined three tours and received countless awards. Last year, Mendes became the first artist under 20 to have four number-one singles on the *Billboard* Adult Pop Songs Chart. *Shawn Mendes: The Tour* started in Europe last March; like all his live performances, it is being handled by 24/7 Productions. "We head up all sides of the tour: budgeting, creative, design, logistics, etc.," notes Andrew Thornton, of 24/7; he is also the tour's production manager. "The first show we did with Shawn was the People's Choice Awards; we pitched for his touring and first started working with him in early 2016."

Thornton and the team at 24/7 reached out to Paul Caslin, a longtime creative partner and now Mendes' creative director, who says, "It became quickly apparent that he wasn't some random, up-and-coming kid; he was the real deal. I realized this is going to be a long-term project.

"We try to think of how we can make each tour feel like a tailor-made Shawn Mendes tour," Caslin says. "This campaign [for Mendes' current album] was based around the theme of flowers and we wanted to find something that could tap into it. We came up with this idea of creating this huge flower, which would be seen in every photo of the show. People would see it and know it was from the Shawn Mendes tour. That is the emblem of the show."

The 16'-tall flower is positioned at the far end of the arena, at the B stage. "A metal core holds the structure of it and rigging of the lighting fixtures," Thornton says. "Individual petals are pinned into place to make the full flower. The stem is a custom tube/sock with three strands of FloppyFlex [TMB's LED neon product] to give it light and color; it's rigged from three Kinesys hoists. Brilliant Stages designed the piece from references sent by Paul Caslin." Under the flower is a 20'-diameter B stage. "Shawn performs underneath the flower on the piano and on the guitar," Caslin says. "It's his solo moment."

Once the flower concept was established, the rest of the design fell into place. "We also wanted to create a stage set that could be anthemic and epic but also small



The lighting rig makes use of several new products from Ayrton, including the Khamsin-S, Bora-S, and Mistral-S.

and intimate," Caslin says. "A lot of Shawn's music is very dynamic; it starts, then builds and builds, and we wanted to support him with lighting and the video." (Among other things, Brilliant Stages purchased Harlequin's Hi-Shine floor, in black, to cover the stage.)

Such considerations led to the concept of an automated circular LED wall. "It gives us the ability to do something intimate and isolate Shawn and the screen," Caslin says. "It could also be a focal point for everything else; a lot of lighting looks emanate out from the center in a circular motif." The center wall—using ROE Visual CB 5mm LED elements with custom frame and rigging by Brilliant Stages, all provided by Vision Screen Services (VSS)—is flexible. "For the final track in the show, we take the video wall to its 'out' position, revealing semicircular lighting trusses running the length of the stage."

Working with the video wall on a daily basis is a challenge. "The largest piece is the center LED circle, which weighs over five tons and is a complex build," Thornton says. "Rigging the video screen is complicated. The weight must be placed on the downstage hoists in order to build it vertically; we have eight 2-ton Kinesys hoists that are Delta-plated [delta plates are triangular pieces of metal used between the motors and the pickups] down to three pickups. Our Kinesys operator has to run this up very

carefully in order not to overload any part of the frame."

For video content, Giles Maunsell, of Treatment Studio, says, "We were asked to create big video moments throughout the show. A single circular video screen is suspended upstage from Shawn and the content needed to evolve and change throughout; the overall creative went through a few iterations before settling on the inky/water-color look that Shawn liked."

Treatment provided content for four songs and three transitions; the first transition was the most complex. "The intro video transition, being the first moment of the show before Shawn comes onstage, had to have real impact," Maunsell says. "In order to bring the album artwork to life and kick-start the show, we had to precisely recreate it, which meant rebuilding it piece-by-piece. To create the very best sunrise for 'In the Morning,' we settled on creating a 3D scene with a full-on water simulation for the reflections. The renders ended up taking about 60 hours, and every little tweak at the front end had an effect on the timing throughout. We had to manage that one very carefully, but it was worth it. 'Why' was a fun song; we recorded smoke and ink in water to create the surreal-looking nebula that builds with the track." The content was created using After Effects, Cinema 4D, and Notch; it is managed via a disguise [formerly d3 Technologies] guz 2 media server. The video package also includes three Sony HSC-300 and two Sony HDVF-200 cameras, plus two side IMAG screens, with two Panasonic-DZ21K2 projectors aimed at each.

Lighting

Louis Oliver, who has worked with Mendes for the past several years, says, "We wanted the lighting design to be clean and structural, keeping the overall look of the lighting as panoramic as possible."

Oliver continues, "We wanted to make the 40' LED screen the hero piece in the space without cluttering it with rows of additional trusses above the stage. We started off playing with shapes upstage and downstage of it; we ended up with five upstage curved trusses that add a real depth to the show. It was designed using various pieces of CAD software; all technical drawings and design work was in Vectorworks before moving to WYSIWYG for pre-viz."

The trusses begin approximately 10' from the upstage edge. "All five are curved, with the most downstage of them built out of twenty-one 4' sections," Oliver says. "We wanted it to have the most prominent curve, since it's the most prominently used truss. The other four are built out of 8' sections, still continuing the curve. All the upstage trusses are automated; this allows us to create different environments for Shawn to perform within." The Kinesys hoists used here and elsewhere in the show are provided by Christie Lites, the tour's lighting vendor.

"We have a quarter moon following the curvature of the downstage," Oliver says. "It tucks behind the PA so we can get additional lighting on the side-stage wings, which span 24' stage left and stage right of the main 40' performance space."

The light rig has some surprises contained in it. "We're using 76 Khamsin-S units," he says. "It's Ayrton's new high-output, arena-level LED spot fixture, and it's fantastic. It looks great and the output and feature set are amazing." The Khamsin-S has a proprietary optical system with 13 lenses, an 8:1 zoom ratio, zoom range of 7° - 58°, and an output of 40,000 lumens. "The thing that sold them to me is that they're as feature-packed as anything else on the market and you do not suffer on output by moving over to LED; the show will look the same today as it will in a hundred shows' time. The Khamsin units are located on the upstage and downstage trusses, as well as strategically placed on RSC Lightlocks over the B stage. The latter has a circular truss around it with Khamsins and [Martin by Harman] MAC Viper Wash DX units. The Khamsins are on individual winches, which are attached to Lightlocks, so you can pan and tilt the unit without it wobbling around. The Khamsin is the workhorse of the show."

Working with the Khamsin-S units is another new Ayrton product. "We have 16 of their new Bora-S, which is an LED wash beam," Oliver says. "It's a great partner to the Khamsin, really, and they both have pretty much the same features. The Bora has a bigger front lens, so it gives you that nice, big, thick beam of light, while the Khamsin has a smaller lens. The Bora doesn't go as sharp." Like the Khamsin, the Bora-S has an 8:1 zoom ratio, as well as an 8° to 64° zoom range and CMY color mixing, along with an output of 42,000 lumens. The Boras "are on pre-rig, but they are not flown; the pre-rig is just there to raise them off the floor in that position. They're in an arc underneath LX 2, following that curvature upstage."

Oliver also uses another new Ayrton unit, the Mistral-S.



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CONCERTS

Like the Khamsin and Bora-S, the Mistral-S is an automated LED luminaire with an 8:1 zoom ratio, as well as a zoom range of 6.7° – 50°, a 119mm front lens that produces a uniform beam, and an output of 18,000 lumens in a compact package.

Another unique aspect of the lights consists of 26 six-light Mole-Richardson Molequartz Spacelites. "It looks like a flower, which fits the theme of the show," Oliver says. "They are on two trusses upstage, which are used only for 'In My Blood'." This number, the finale, has a different look from the rest of the production: "We made the decision to use lighting only, leaning to more of a rock environment for the finale."

"The other dominant fixture in the rig is GLP's JDC1," Oliver adds. "There are 97 of them. They lace three of the five upstage trusses and are built into the band's risers; one is hidden in Shawn's upright piano." The rig also includes 20 Martin Mac Viper Washes, on the B stage, "for audience light. Due to budget constraints, these are the only non-LED moving heads on the show."

The main stage is home to 28 Chroma-Q Color Force units. "We have a mixture of Color Force II 12s and 72s," Oliver says. "There are four 72s and thirty-nine 12s over the A and B stages, used mainly for key light and effects."

The Chroma-Q units also provide low frontlight on Mendes. "Shawn is keyed from the front truss, using Khamsins with support from the Color Forces," Oliver says. "There are no followspots on the show." At one point, the production considered a tracking program like BlackTrax but decided against it. "I never like to force the singer to be illuminated," Oliver says. "Shawn knows where he needs to go to be lit, in terms of his main positions. We have additional coverage on the wings of the stage and for specific spots; that being said, if Shawn wants to step upstage out of the light, we don't chase him, exposing areas of the stage we might not wish to." The rig also includes 18 TMB Solaris Flare Q+s, used in the scenic flower.

The final portion of the lighting rig comes via LED-infused bracelets and roses from PixMob; Caslin has used the company's products in the past, but, he says, "I've only used them on one-off performances and on this scale. We decided on this hybrid idea of having miniature LED versions of the giant scenic flower, in addition to giving the majority of the audience PixMob wrist bands."

The PixMob flowers and bracelets combine to make an integral part of the show. "Every song uses the wristbands; we go big on it," Caslin says. "At certain moments, for five or ten seconds, we drop everything out and just have the wristbands. It creates this incredible, otherworldly kind of feeling; you're in this sea of flashing lights. It gets a wow from the audience because they're not expecting to be such a big part of the production."

The PixMob products work in conjunction with Oliver's lighting rig. "We spent time on the pixel programming,"



Caslin says. "A lot of shows using PixMob do it in a way that's on/off; we wanted to take it to the next level and make it a lighting source. Ryan Nixon, our lighting programmer, did a wicked job with this. He manipulated the audience so that it felt like different sections of the audience were different light sources. Sometimes, the accents aren't always on the stage; instead, they're in the audience wristbands. That makes it feel like the whole arena is one



The center video display consists of ROE Visual CB5 elements, with a custom frame and rigging by Brilliant Stages.

huge lighting rig as opposed to a stage and flashing lights on the audience." Approximately 10,000 bracelets provided for the audience; the flowers are available for purchase.

Nixon runs the show on an MA Lighting grandMA3 with MA2 software. Oliver says, "We have two full-sized MA3s at the front of house and a grandMA Lite as a tech con-

sole, which is used for focusing the rig due to the front of house being at the back of the arena. Ninety percent of the show is programmed to time code, and everything is in one show file as well. It triggers all video from disguise; it handles all the PixMob programming as well, as well as the lighting and CO2."



The view from the front of house.

For Mendes, Oliver's color palette is expansive. "It's a very monochromatic show in terms of each song having a color and being truthful to that color. We will complement that color with white."

Effects

The show also includes a smattering of special effects, provided by Quantum Special Effects. "There is CO2 built into the main stage, which is used in 'In My Blood'," Caslin says. "We use low smoke a couple of times on the main stage as well. With special effects, it's about finding the line between getting a big wow from the audience; the audience always reacts to CO2 hits, but we have to do it in a way that warrants a reaction." The CO2 complement includes, from MDG, three theONE dual fog and haze generators and two ATMe haze generators.

Sound

Front-of-house audio engineer Tom Wood has been mixing Mendes for the past four years. "We're using a Cohesion System from Clair Global, the CO12 specifically," he says. "It's a new PA for us, and Clair Global is a new vendor this

year for us."

Wood notes that Mendes' musical style has evolved: "While Shawn definitely is still a pop artist, he wants the freedom to transition into more of a rock show at points, then go back to something more intimate; the Cohesion system really has been good in helping us do that. In terms of how the PA sounds tonally, it's more aggressive and more rockish than we've been used to."

The rig includes 16 CO-12s per side for the main hang, 14 CO-12s per side for the side hang, eight CO-12s per side for the rear hang, and nine CP-6s for the front fill. Six P-218 subs are flown cardioid and 12 CP-218s in a cardioid, steered array. It is handled on a daily basis by system engineer/audio crew chief Jeff Wuerth.

Wood mixes Mendes on an Avid S6L console. "I love it enough that I actually purchased it myself," he says. "It gives me a great deal of confidence to know that's what I'm using every day."

As for plug-ins, Wood has a few Waves favorites. "It's not a Waves-heavy show, by any means, but I use the things I like pretty religiously," he says. "There are some lovely compressors that Waves has modeled; the CLA 76,

for example, is a drum staple for me and always has been. I use de-essing on vocals as well."

The B stage has, naturally, affected Wood, who says, "Due to the fact that it is in the middle of the audience, I take advantage of a plug-in called X-FDBK [for feedback elimination]. During the day, I can turn up the microphones that Shawn will use for his vocals and ring them out; it uses an incredibly narrow filter that senses the frequency at which feedback is happening and, essentially, eliminates it. It has been an incredibly useful tool."

A minimal amount of outboard gear is used at the front of house. "The old faithful outboard is the Avalon [VT] 737sp [channel strip] which I've been using on Shawn's vocal pretty much from the beginning," Wood says. "It's essentially a tube pre and is the one thing that comes to me analog. I really like that there's a difference between every other pre-amp that we have as part of the Avid desk, something warm that has that lovely tube sound and is a little bit different. It gives me an extra degree of control over what is going on with Shawn's vocals."

Wood adds, "The lovely people at SSL sent me a new bit called the Fusion. It's a stereo analog color processor that has five new colorations for tonal character, weight, and space. I use it on my band group, and it's a lot of things all in one—a compressor, an EQ, and it has a width option for stereo, if you're using it in that way. Essentially, I am almost mastering the mix as a final polishing stage. It's incredibly easy to use. There are options with it; however,

what you're presented with when you turn it on is already something that sounds good.

"The most important microphone is Shawn's vocal, which is a Sennheiser e945 capsule going to a digital wireless system, the [Digital] 6000 Series," Wood says. "We've used the e945 on Shawn pretty much from the beginning. It really complements his vocal and it's a nice warm capsule." He adds that Mendes is "quite dynamic and has a lot of power in his voice, which is fantastic for a front-of-house sound engineer. What's important in this case is finding a capsule and a stick that can take the dynamics that Shawn delivers, and deliver them to the audience in a way not doctored or distorted or nasty in any way. There is a lovely midrange on the e945, and it supports the highs where they need to be supported." The rest of the mics are a mixture of Shure, Sennheiser, Audix, and Beyerdynamic.

"I think the biggest challenge is the diversity that is naturally in the set," Wood says. "There are five years' worth of Shawn's back catalog, so there is a lot of variation, which is great. That keeps it really interesting, and I wouldn't have it any other way, but we quite literally go from a song you could only describe as heavy and rockish straight into something which just might be him and an acoustic guitar. Keeping with the pace of the show—and making sure that I'm mixing him in a way that is appropriate for each song as opposed to a blanket overview for the whole show—is really important."

Shawn Mendes: The Tour moves into the US in June.

