



Halos, Robots, and Death Stars

The design team for Queen + Adam Lambert
uses new technology to bring back
that old-time glitter

By: Sharon Stancavage

"The band is very, very interested in the show and, for this tour, they wanted to do something different," explains lighting designer Rob Sinclair. The band is Queen + Adam Lambert; Sinclair has been involved with it since their initial tour in 2012.

The team at London-based Stufish Entertainment Architects, headed by Ric Lipson, has been involved with Queen in one form or another for almost 15 years. "The nature of the Queen show means there are no new songs—apart from, in this show, Adam's 'Two Fux'—so you're trying to find different ways to display the music," Lipson says.

This meant taking the band—and Lambert, via video conference—to the Neg Earth rehearsal studio for a massive technology demo that included lighting, video, and special effects. "The band was very involved; we had meetings at least once a month for the last six months, maybe more," Lipson says. "Rob and I went to see Adam in LA, we saw the band in London a lot, and we went to band rehearsals before we went to Rock Lititz [located in Lititz, Pennsylvania] for technical programming."

During the Freddie Mercury era, Queen was famous for its use of pods filled with PAR cans; the design team wanted to put a 21st-century spin on that concept. "We decided we wanted a piece that was essentially a huge PAR can," Sinclair says, "I did an arrangement of lights in an enormous ellipse, and Ric decided that they needed to be mirrored cells." The giant ellipse is filled with a multitude of Claypaky Sharpy 330 Washes, and officially

became the "Halo." "A lot of the time, it's used as a single thing, so it's a single source made up of 92 Sharpy Washes," Sinclair says. "There are times where we make shapes out of it, using bits of it. Each Sharpy Wash sits inside a mirrored cell, and there's a red mirror surround around the outer Halo edge, so we can also fire lights from the floor up onto the Halo and it reflects down." The Halo became the nexus of the design.

Working with the Halo are two automated Glux Carbon 10 screens, provided by the London office of Creative Technology: a curved screen downstage that surrounds the perimeter of the Halo and an upstage 58'-wide by 16'-high rectangular screen. "Originally, we thought of the Halo as a big PAR bulb that would lift up over the stage and would reveal the band," Lipson says. "We would have a front screen that wrapped around and a back screen. Between the front screen and the back screen and the Halo, you can have some amazing looks."

The Halo's movement is controlled by a Navigator system [provided by the show's scenic vendor, TAIT, [also located in Lititz], and can move up and down as well as tilt. "During 'I Want It All,' we do what we call the penny roll; that's where the Halo does its most spectacular effects," Lipson says. "In the middle of the song, the whole grid comes down and twists and rolls in all directions. There's a three-minute sequence in which Rob flashes more lights than you've ever seen. It's quite fabulous." For the finale ["We Will Rock You"/"We Are the Champions"] the Halo starts off at an extremely low trim, blasting white



Above: The show opens with robotic hands clutching the curved Glux Carbon 10 screen in low trim position. Right: As the hands lift the curved screen, Frank the robot is revealed upstage, as is the lighting Halo.

light onto the stage as it rises and tilts above the band. "The Halo is really the cornerstone of the look and it does a lot of work for us—from small things, like picking up Brian at the top of the lift, to really big moments in 'We Will Rock You'," Sinclair notes.

While the team was working on the production design, another factor came into play: It is the 40th anniversary of Queen's album *News of the World*, which features a huge robot. "The robot on the front of the album—we call it Frank, because the original artist was named Frank [Kelly Freas]—became a theme in the production," Lipson says.

Sam Pattinson and Third Company handled all of the content creation for the production. Video—featuring Frank the robot and the curved screen—opens the show. "We have always done a show with what I would call an instant reveal; we've simply dropped the kabuki and the band is there," Lipson says. "What we wanted to do with this show was reveal the band slowly, which is difficult, because none of the songs really suit that, except 'We Will Rock You'."

As the unmistakable notes of "We Will Rock You" fill the arena, the front screen, which starts the show on the floor, comes to life. "There is the sound of robot footsteps coming towards you and then, suddenly, Frank the robot smashes through the curved LED screen," Lipson says. "You see his face on the upstage video wall. He lifts the curved screen up and we reveal the band in a slow way." The interplay between the downstage and upstage video walls is something not seen very often, especially during a show opening.

One unexpected moment happens during "Killer

Queen," when Frank makes an appearance, thanks to David Mendoza, of Show FX, based in Santa Fe Springs, California. "In previous shows, Adam would sit on a chaise lounges or a throne during 'Killer Queen,' and we just felt that another furniture object would be boring," Lipson says. "In this show we have lifts, and that means we can bring things up." Instead of a simple prop, Frank's head appears from the depths of the stage. "The robot head is 8' high, and the stage is only 5' 6", so the head is created in two pieces, and it has a scissor lift inside it," Lipson says. The head is assembled underneath Lambert at the beginning of the song and, when ready, ascends to its full height.

"We decided to make the eyes in the head animate, and wanted them to open and wink and look at Adam and Brian," Lipson explains. The original idea was to make the eyes out of LED screens and run a pre-made video. However, he says, "We eventually realized that there was no way Brian May was going to do the same thing in every show. In the end, we figured out we could build the eye-balls in Notch [a real-time work flow for production of video content used within the d3 Technologies D3 media server]," explains Lipson. The eyes are controlled via the MA Lighting grandMA2 light console that is dedicated to video. "Neil [Holloway, the d3 operator at the front of house], basically follows Brian with the faders; he has one fader that makes the eyes look left to right, one fader that makes them look up and down, and a function that makes them blink. So it's live, created through Notch, and is live-rendered." The eyes are 3-D, and look not only dimensional, but mechanical. "You would never think that they're flat.

It's very high-resolution video [3mm] and it's done very well," Lipson adds. Notch, used with two of the new d3 Technologies gx 2 media servers, is also used with the IMAG during the show.

Staging

The stage is 70' wide by 50' deep and includes a 70'-long, 8'-wide thrust. "It's probably one of the longest, if not the longest, thrust they've ever had," Lipson says. "It leads to the B stage, which is shaped like a guitar head. It has three pegs each side, which have lights on them [six Philips Vari-Lite VL6000s], which represent the guitar string pegs." He adds, "The majority of the stage is rental decks and anything to create the guitar edge is custom. We got away with maybe 25% custom, maybe less. The band never had a Tait stage, and they were amazed by it."

The stage also includes numerous lifts. Lipson explains:

"Two are standard Tait prop lifts; one of them goes in the 4.5' B stage and the other is in the 5.5' main stage portions of the catwalk. The one in the 4.5' stage brings up the bike [for "Bicycle"] and the drum set. On the main stage, we have the 5.5' lift, which brings up Brian in 'Bohemian Rhapsody,' and takes Adam down in 'Who Wants to Live Forever.' Upstage on the main stage, there are two Tait scissor lifts, with a 6m-wide, 2m-deep custom bridge between them that's shaped to fit the curve of the screen, so that Brian can ride up 4m for the guitar solo."

The stage fascia, band riser, and parts of the stage floor are unabashedly, boldly chrome and glittery red.

"Originally, the colors were going to be gold and black; we've done gold for the past few years," Lipson says. "But because we were now in the world of the guitar, we would go red, since it was based on Brian May's iconic red guitar. The edge of the Halo is red chrome, there is a red chrome





On lead vocals, Lambert is on a Shure Axient transmitter with a Telefunken M81 capsule.

edge all around the stage that delineates the guitar, and all the band risers are painted red chrome or red glitter. It's really powerful as a visual; it doesn't look like any other stage."

Lighting

"Brian and Roger [Taylor] are fairly old-fashioned; they want to be seen and they want the lights to be exciting," Sinclair says. "Overall, their opinions regarding lighting are fairly consistent; they like what they like, and we just have to think about presenting that to them in different ways. They like specific colors, they like warm colors, and they like the lights to go on the stage." Audience illumination happens only at very specific moments.

Sinclair reports the rig is comprised of "two front trusses [located over the audience, near the B stage] and a rear truss that we use for [Claypaky Scenius] Unicos. We also have a big wall of Unicos behind the rear screen, and a bunch of [Claypaky] Mythos in the rear as well." There are

four straight trusses behind the screen, mixing Unicos and Mythos units.

This is Sinclair's first time on tour with Scenius Unicos; there are 56 on the show. "I thought it would take a lot to tempt me away from the [Martin by Harman] MAC Viper, which has been my choice for the last few years, but I really love the Unicos," he says. "It's a nice, bright, precise profile spot, and there's no green in the beam, which makes them ideal for use as key light."

In addition, 19 Philips Vari*Lite VL6000 Beam luminaires are placed overhead and on the stage. Sinclair says: "I just love the beams; they don't look like anything else and the guys from Queen love them. Originally, we were going to use them as effects lights, but I love their wide apertures and thought they'd make really good truss spots, which they do. They look fantastic as backlight followspots. It was a eureka moment, and was a bit of a risk." Also used are 10 VL3500 Wash luminaires, located in the mother grid above the Halo [listed on the lighting plot as the God light],

as well as 26 Martin by Harman Atomic 3000 LED strobes, 23 eight-light DWE moles, 12 four-light DWE moles, and 18 two-light DWE moles, all fabricated by James Thomas Engineering. The entire lighting package is being provided by Upstaging, located in DeKalb, Illinois.

Nine VL6000s and 48 Scenius Unicos are linked to a CAST BlackTrax system. "The last time we toured, we had 14 spotlights that I called every night. Now have none, because we've replaced them with a BlackTrax system," Sinclair says, "The guys wear transmitters [infrared units also called BTBeacons], we have trusses out in the house, and they are entirely followed by key light from the Unicos, which are all metered to specific levels. When we want to have very specific IMAG key light, it comes in from specific angles."

Sinclair adds, "Using BlackTrax, we have a much more precise show, and we're not standing around all afternoon trying to optimize house spotlights to get the colors right. We can do really fast cues between the guys that you could never call and that spot operators could never get. There's a point in Brian's solo in 'Bohemian Rhapsody' where he's being followed by 35 moving lights as he walks, which is something we could never do with conventional spotlights."

Sinclair says the BlackTrax system has enabled him to shift his focus: "I have a lot more time to look at the stage and make judgments regarding what we're doing. I'm looking at video, I'm looking at the lasers, I'm looking at lighting, and working out how we can make it better next time." This allows time for changes, he adds: "A lot of my job on the road to make sure that we're constantly making

the show better. This show is never, ever done. There's always something we can try, and, quite often, we try things and they don't work and we change them back. But there's always a timing of a cue that I can change by .1 of a second, to make it better."

"'Bohemian Rhapsody' is the only part of the show that runs to time code," Sinclair notes. The song is complex and cue-intensive; it mixes lighting, laser punches, and, at one point, there's a clever visual duel between angelic steel blues and devilish reds that takes place using the Halo, the floor lights, and lasers. "In the past," the designer says, "I ran it manually, but there's something like 80 cues in two minutes, and if I ever got behind, it would fall apart. That's why we time-coded it. It also means I can put more cues in it if I want."

Queen likes bold colors and Sinclair certainly delivers. The show is awash in deep reds ("Fat Bottomed Girls," "Somebody to Love"), interspersed with occasional lavers ("Killer Queen," "I Want to Break Free") and blues ("Under Pressure," "Don't Stop Me Now"). "The whole point of Queen is that it's big blocks of solid color," Sinclair says. "I feel very much that this is a continuation of the enormous productions they did in the '70s and '80s. The one thing they couldn't do back in the day was to make everything go red the same time, because it was before color-changers. The fact that we can do that now is something they really appreciate."

At the front of house, Sinclair is running a Jands Vista L5 console; he also has a spare. "It does a lot of things I want, and I'm very fast with it," he says. "I've never found the time to become quick enough on another console."



The lighting Halo harkens back to the days when Queen tours had massive PAR can rigs.



Each of the 92 Claypaky Sharpy Wash 330s in the Halo is placed in an individual mirrored box.



Claypaky Scenius Unicos and Mythos luminaires are located behind the upstage LED wall.



Production rehearsals are extremely expensive, and they're not the time to be looking at the manual."

He adds, "For me, I do a lot of shows with programmers running [MA Lighting's] grandMA, and there are things you can't do easily on the grandMA that you can do on a Jands, like copy and paste between fixtures. I can take whatever my Sharpy Washes are doing and copy/paste that to my Mythos, and it does a good job with it."

The Jands also offers alias cues. "If I change one of my choruses on the Jands, it changes all the choruses," Sinclair says, "If I change one of my verses, it will change them all, so the cues mix together. I know you can't do that on a grandMA, which is a source of great frustration to me. I find it's very easy to do very simple things very quickly with the Jands. The grandMA is incredibly capable but also incredibly complex. The Jands is perhaps less capable, but is simpler and I find that suits my brain better."

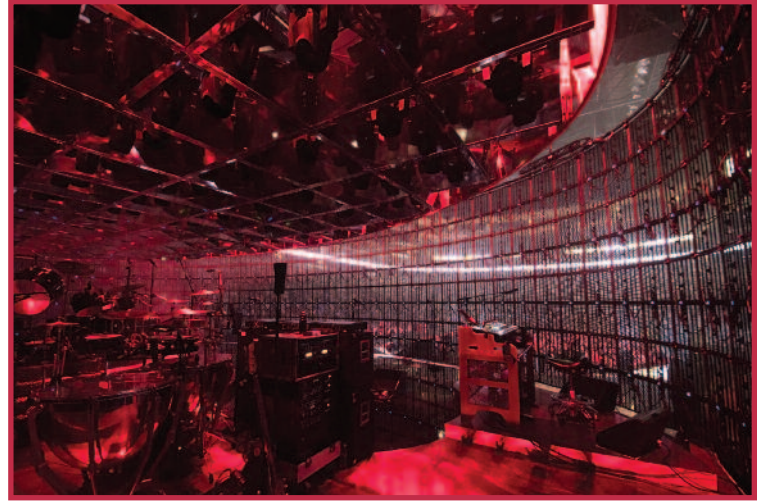
Effects

"Who Wants to Live Forever," "Radio Gaga," "Bohemian Rhapsody" and Brian May's guitar solo all make extensive use of lasers; they're from UK-based ER Productions. Sinclair notes, "We have very specific laser moments; we

CONCERTS



The top of the Halo, showing rigging and construction details.



The view from the stage when the curved screen is lowered; note the custom red stage floor.

give them a lot of space and they look great.”

Six Phaenon 30 full-color lasers, fabricated by Laser Animations, are located upstage. Four are placed behind the drum kit and downstage of the square video wall, on what’s termed “The Death Star.” The others are offstage left and right. According to Lipson, the conversation during rehearsals at Rock Lititz went something like this:

Sinclair: “We need lasers in the middle of the screen.”

Lipson: “You can’t put lasers in the middle of the screen.”

Sinclair: “Damn! Why can’t we have a lift that brings them up?”

Tait Representative: “We have a lift from Bon Jovi that we can use to bring the lasers up.”

Lipson concludes: “So Tait dug up one of their old Bon Jovi lifts and put a truss on top of it, hung four lasers, and suddenly we have a Death Star.” Marc Webber, partner

and director at ER Productions adds, “The biggest challenge was where the lasers were going to go, and it was difficult to find the right position. Putting those four lasers on the ribbon lift was a really good solution.”

Also featured are 16 full-color proprietary BB3 [Beamburst] audience exposure lasers from ER, located upstage on stands. “It’s not audience-scanning in the traditional sense of a laser scanning a flat line over the audience,” Webber says. “It’s a diffracted effect which is much punchier and actually ideal for Queen for the Brian May solo.” The lasers are positioned in clusters. “It’s unusual to cluster lasers together like that; you find yourself wanting to spread them apart, but it does work really well for Queen.”

May, an astrophysicist, loves space, and, for his solo, Frank appears on the video screen, raises his hand, and takes the guitarist into space. “When we got the robot as



The Halo is controlled via a Navigator system from TAIT.



Each band member is on the CAST BlackTrax spotlight tracking system.





Quantum Special Effects provided confetti cannons for the finale, "We Are the Champions."

part of the show, lifting him into space became the obvious thing. It's a very clever, amazing visual moment," Lipson notes. During May's solo—which can last ten minutes or more—the BB3 lasers are activated, enveloping the room. "The guitar solo is quite fluid, because it can vary in time each night; it all depends on where Brian goes with it. It's quite beautiful," Webber adds.

Laser programming was done by Lawrence Wright, general manager of the US office of ER Productions in Las Vegas. The Phaenons were programmed using Pangolin Beyond software, while the BB3s were programmed on a High End Systems Road Hog console. "When we went down the Hog road, MA didn't do a desk small enough," Webber says. "We're only running some smoke machines and a couple of lasers. An MA is a big desk to lug around. At the time, High End did a really nice, small Road Hog—it's really compact, really powerful, and really reliable." On the road, control is via a High End Road Hog as well.

"I Want It All" features 14 cryojets and the finale, the epic "We are the Champions," features a stunning gold

Mylar confetti drop. The cryojets are from Quantum Special Effects, located in North Las Vegas. Lipson explains: "The band isn't interested in a fireball for the hell of having a fireball; the brief from them is about what is needed and why. It has to be there to highlight a moment."

ER Productions also provided atmospheric effects, including six Look Solutions VIPER deLuxe smoke machines and two Look Solutions Unique 2.1 hazers, divided between the stage, B stage, and front of house. "We also have five [Reel FX] DF-50 [hazers] and eight [High End Systems] FQ-100 [fog generators] from Upstaging. We like smoke," Sinclair says with a smile.

Sound

This time out, front-of-house sound engineer Tom New is wrangling a Clair Global i-5D PA with a total of eight hangs. "We have 28 total i-5D cabinets for the main hang," he says. "In addition to that, we have 36 standard i-5 cabinets that we're using for our side and rear hangs." The i-5D is a part of the popular Clair i-5 series. New says: "It's

an extremely large PA cabinet, and it has an extra 18" low driver in the same cabinet, which is absolutely fantastic. The i-5D is, without a doubt, my favorite PA."

The PA also includes 12 Clair CP-218s, which, New says, "are Clair's active double-eighteen subs." He adds, "On this tour, we're using them in a cardioid configuration for steerage. Normally with cardioid, you have two facing forward and one facing rear." All the speakers are powered by lab.gruppen PLM 20000Q powered loud speaker management system. He adds, "My system tech is Ben Rothstein; he's a very experienced Clair technician. He's absolutely fantastic."

New adds: "We also have a 70'-long thrust going down to the B stage, so we have an extra pair of hangs of Cohesion CO-8s. We have six CO-8s pointing directly off-stage left and six facing directly offstage right, hung directly above the B stage. This enables us to fill the audience area on either side of the thrust with sound, without pointing the main PA at it. The CO-8s are more compact and were a better aesthetic choice for space over the B stage."

Speaking about the stage's configuration, New says, "That thrust is a considerable challenge in terms of making sure that we don't get issues not only with feedback potential, but getting over the fact that they can hear a delayed version of what they're playing. It's a very tricky balancing act for the monitor engineer, in terms of helping the band to overcome the volume of the PA that's behind them."

"Previously, we had a 30' thrust, which gave them half the delay time. Personally, I still can't believe they can play in front of it, because it's such an unnatural thing to hear yourself with a short delay. Having spoken to the band about it, they seem quite able to overcome it through years of experience."

New runs the show on a DiGiCo SD5 console: "I've been a fan of DiGiCo for quite a while now; you can pretty much do anything you want, with a button or a fader or a snapshot, that you can possibly think of. I used the SD7 until two tours ago; I moved onto the SD5 because I like the fact that there is an extra row of buttons, instead of an extra row of faders. Rather than using snapshots to run my show, I run my cues and triggered effects off of macro buttons, which you can do very easily on an SD5."

He's also using Waves. "I use Waves externally, rather than within the console. It's running on a separate Mac Mini, connected to a touch screen, to my left. I like the fact that I can use the Waves system more like a regular set of outboard gear. My Waves multi-rack is always visible, and I can go in and check effects as I need to, rather than be tied to where I am on the SD5." He adds, "H-verb [H-Reverb] is probably the plug-in I use the most, for all kinds of things like vocal effects and drum effects. I use the Waves Abbey Road Reel ADT chorus for an acoustic guitar that Brian plays, and I use Waves L2 [Ultramaximizer] for

some processing for my two-track mix." New is also using a Waves dbx 160 compressor/limiter for Taylor's drums.

New has his Waves monitor on his left; on his right is a UAD Real Time rack. He explains: "I've used a split-risk strategy with these two different sets of plug-ins. It makes me feel like I have a more reliable system when I don't have to rely on one computer for all of the process. The Realtime is more for dynamic processing; I really like their [Textronix] LA-3A compressor and the 1176 [Classic Limiter Collection] emulation. I'm using also the Lexicon 224 for one of Adam's vocal reverbs."

"I have a couple of bits of outboard; I have an Empirical Labs EL 8 Distressor that I use on the vocal, and a dbx 160sl, which is a dual compressor. The only other thing I have outboard wise is the [lab.gruppen] Lake Mesa [LM 44] EQ, and that's on Adam's vocal as well. That means that I have an EQ that I can always see if I wish, on a separate screen, for Adam's vocal, and should I want to take out a little thing here or there, I can do it with a pen on a touch screen."

Even though New has numerous plug-ins available, as well as outboard gear, he has a less-is-more philosophy: "I've always used processing sparingly and where necessary. It's live sound, so it's all about being able to fix problems if one does come up, and you want to be able to do that fairly quickly and easily. The last thing I want to do is to paint myself into a corner by giving myself a 25-plug-in long chain on every instrument. It's more about things where they're required."

As for microphones, New reveals, "We have a fairly standard [Shure] Beta 91 and an Audix D6 for the bass drum; we also have a not-so-standard Audix i5 for the snare top and an Audio-Technica AE3000 for the snare bottom. On toms, we have a mixture of Telefunken M80 short handle microphones on the higher toms, and the floor toms have Audix D6s." He adds: "We also have a percussion rig, which uses AKG 414s that are strategically placed. He does have a snare drum on that rig which is an Audix i5."

For the bass, New has an Audix D6 on the cabinet and on the DI. "Brian's guitars are on Sennheiser MD4s; we also use the [Voodoo] VR2 ribbon mics from SE Electronics on the second cabinets," explains New. SE gave them a few microphones to try, and New liked the VR2. "We do take a little more care with those than the rest of the touring mics, which are a bit more robust," he confides.

For vocals, "The band is all on Telefunken M80s and Adam has a Shure Axient transmitter with an M81 capsule which we favor for him. I think we [New, monitor engineer Gary Stokes, and Lambert] all felt that the M81 felt like the right mic to use," he says.

Queen's 2017 tour wrapped up its US dates in August; the band moves into Europe next month. 📶