

# Lighting & Sound America

\$10.00

plasma media

## Ozzy Osbourne

*No More Tours 2*

**ALSO:**

*Samson et Dalila* at Metropolitan Opera

Lewis Arts Complex, Princeton University

*Bernhardt/Hamlet* on Broadway

Philips Vari-Lite VL2600 Spot

Yamaha DXS15mkII Subwoofer



LSA NAMM  
featured exhibitors  
on page 13



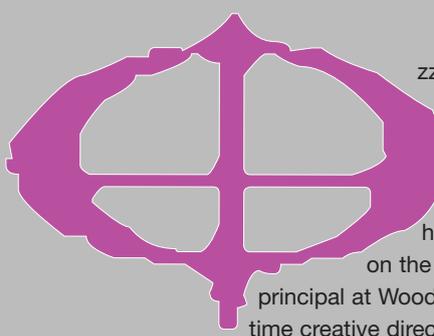
A Positively  
Final Engagement



## On his second farewell tour, Ozzy Osbourne's team continues to innovate

By: Sharon Stancavage

The entire lighting rig is on the Follow-Me system, which enabled the team to do much complex cueing.



Ozzy Osbourne has had a storied career, first as the lead singer of Black Sabbath, later as a solo act, and as star of various TV reality series. Through it all, he has been guided by his wife/manager, Sharon. “She leads on the design side,” says Patrick Woodroffe, principal at Woodroffe Bassett Design and Ozzy’s long-time creative director. Speaking of Osbourne’s *No More Tours 2*—Ozzy’s second farewell tour to date—he says, “[Sharon] talked to Terry Cook—lighting designer and show director at Woodroffe Bassett Design—about making something special of this, Ozzy’s last time out on the road. She wanted it to be spectacular but with some real theatre as well.” Cook took on a role much larger than his title would suggest: “Terry ran this project from beginning to end,” Woodroffe says, “not only in terms of designing the lighting but also in tying in all the scenic elements and running the film elements with the content creators. He was also Sharon’s partner in the creative direction of the show; the result, through a collaboration, as ever, with me and lighting director Michael Keller, is very much Terry’s cre-

ation, and something we are all very proud of here at Woodroffe Bassett Design.”

Cook adds, “I’ve worked hard to create one visual experience, and that’s lights, video, and lasers. No department is more important, visually, than any other, and I think that’s the key to the success of the show.”

The nexus of the stage design is an impressive LED cross. “It is a longtime icon of Ozzy’s, and we wanted to give it some real presence,” Woodroffe says. “This we did by making it not only the center focal point on stage but also a three-dimensional object.” The two-ton cross is comprised of Saco S6 video panels from the DeKalb, Illinois office of Solotech, the tour’s video provider. “We purposely built it with a seam running on each edge, where the screens align, and that’s to enhance its 3D nature,” Cook says. “We also have a 2D cross; we used it for some of the South American leg and our flyaway shows; logistically, it’s easier to travel.” Woodroffe adds, “The tour started as a series of festival dates in South America and Europe, then ran through a number of amphitheatres in the US and will become a full arena tour in 2019. So, the usual schedule was turned on its head



Lasers, lighting, and video content from Silent Partners Studio come together in the song "Mr. Crowley."

and we did the whole thing back to front."

Working with the LED cross are two 20' x 20' LED walls. "We split the rear video screens to frame the cross and built more video elements into the back plinth and drum riser," Woodroffe says. "We have a series of video screens, which can work in all sorts of combinations and permutations, including laying a single image across all the surfaces." Cook adds, "With those screens matching what the cross is doing and the wider video screens upstage, we have a layered video look and are able to make it feel almost as if the cross moves."

An amp line at midstage conveys the proper heavy-metal feel; it is more decorative than functional. "Even metal bands need fewer physical amplifiers and speakers on stage nowadays," Woodroffe says. "In this case, we built a series of faux boxes to fit in with the real thing. We had Tait [the tour's scenic vendor, located in Lititz, Pennsylvania] line them with LED and tied them into the programming of the video and lighting scheme."

Most of the video content was created by Gabriel Coutu-Dumont, of Silent Partners Studio, located in Montréal. "It was really interesting working with Gabriel," Cook says. "He's an incredible video visionary who has delivered video for Pink and Taylor Swift, to name two;

suddenly, he's been put in this crazy heavy rock world that is Ozzy. Even he was captivated by the Ozzy way."

One of Cook's favorite video moments happens during "Mr. Crowley." He explains: "It really starts, architecturally, with big, church-like arches on the video screens and smoke coming up from under the LED panels, the risers, and the set." Atmosphere is supplied from a variety of sources, including eight Viper NTs and eight Unique 2.1 hazers from Look Solutions. "The cross has a sword at the center and we play with light in the video behind it," Cook says. "This makes it look like a stained-glass window. As we go into the verse, on the video screen we have a window that opens to reveal black-and-white IMAG of Ozzy; it's an incredibly theatrical moment, something not [previously] done on an Ozzy show. For me, it really ticked the box of what I was trying to create with Sharon."

The prerecorded intro was done by Sam Pattinson, of Third Company. "Sam was the video designer for Black Sabbath," Cook says. "We wanted to keep that feel as part of our entrance experience, but [the overall show is] different. It's much more based on the history of Ozzy, rather than who people think Ozzy might be."

Discussing the production's media server, Cook says, "We are using a [disguise, formerly known as d3] 4x4pro

as a pure master, driving two gx2s in a slave-and-under-study setup. We're also using Notch to overlay on our cameras. We have two pit cameras, two front-of-house cameras, and two robo cams on the drum kit—one on Adam, the keyboard player, and one in the lighting truss overhead, to give us a down-shot of the stage." The cameras are directed by Lindsay Haney, another longtime member of the Ozzy production family.

## Lighting

"[Management was] looking for a lighting rig that felt large, very heavy, and had a fresh take on the Ozzy feel," Cook says. "We instantly went back to the Ozzy pods—large pods built for Ozzy years ago—and decided to do a different take on them."

Seven pods are found in the air, with lighting units in them grouped in pairs. Cook says, "We have six Robe MegaPointes [discharge-lamp moving head units] in each pod, along with four Robe Squares [moving head LED effects], which work on a 5-x-5-pixel grid. They allow us to put large eye-candy looks into the audience." Michael Keller, lighting director, an Ozzy alum of 19 years, says, "The Robe MegaPointe is our workhorse; two-thirds of our system are this fixture."

"When the Robe Squares are off, they have to be point-

ed to the ceiling," Cook says. "There's large amount of glass in front of each light and I want to avoid unnecessary reflections from the stage floor." Each pod also includes a GLP JDC1 strobe. "We start the show with just washlights; we don't turn the pods on for song two [typically "Mr. Crowley"]. In song three [usually "I Don't Know," since the set list changes], it's the first time we see the Squares and the first time we light the amp line with the in-built LED."

Working with the pods, Cook says, are "two trusses downstage, two trusses upstage, two verticals upstage, and a floor light package. We have [Robe] BMFL Blades on our front truss, to shutter into the amp line and drum kit." BMFLs are used on the upstage truss as well. "Our floor package is Martin [by Harman MAC Viper] Air FXs, located behind the amp line and down on the stage front, left and right." On the left/right trusses "are MegaPointes again, in pairs."

Proving especially versatile are the rig's Chauvet Professional Strike 4 LED moles, each with a 16-bit dimming curve that facilitates incandescent-style fades. "Sometimes we put them in LED mode," Cook says, "which allows them to be a lot faster, and sometimes [we deploy them] in tungsten halogen mode, but there is a much longer delay when they are triggered. What you lose in that softness of tungsten you gain in the effects ability." The lighting gear is provided by Upstaging, located in



## CONCERTS

Sycamore, Illinois.

Also in use is the Follow-Me automated spot system, distributed by AC Lighting. “We made a conscious decision not to put followspots on the show,” Cook says. “When you listen to the music, you hear these great moments of a drum solo into a guitar solo back to a drum solo and we didn’t want to tell Zakk [Wylde], our guitarist, that he had to stand in a certain place for a certain moment. So, the entire rig is calibrated to Follow-Me, and we do fantastic moments where we have 72 lights on the drum kit, and they stagger on and off; it’s literally a two-



The upstage cross is a dimensional piece that can dominate—or disappear—as needed.

and-a-half second moment. It’s almost like you have 72 cues in two seconds; some of the audience will see it and some won’t, but it really enhances that moment.”

Keller adds, “Follow-Me has proven to be a very reliable and extremely functional system. Having it follow Zakk into the audience was outside of the specified listings of what it is able to do. Our Follow-Me programmer, Jason Arhelger, is able to use additional cameras to make this work.” Since the tour, conceived for arenas, is now playing sheds and amphitheatres, he says, “The daily variables are significant, since many venues have extended wings and ramps into the seating area. It makes for daily adjustments.”

Keller runs the show on two MA Lighting grandMA2 light consoles. “I can’t tell you what a joy it is to work with Michael,” Cook says. “There are a couple of moments where we really wanted to get that syncopated hit, and the best way was have to Michael do it, since nobody knows the music better than he does.” Keller adds. “Our band isn’t time-coded and there are audibles which we adjust to. I wouldn’t want it any other way.” Programming was done by Chris Lose, who worked with Cook on the last

Paul Simon tour and Rock in Rio Las Vegas.

Coping with variously sized venues has been an issue as well. “All the departments work together to try to put the entire production in every venue,” Keller says. “Our production team is on top of it and we have not yet put the entire lighting package into a shed or amphitheater. Upstaging manufactured the custom pods that are easy to hang and quick to strike. Our Upstaging team, headed by John Chiodo, put together one of the best prepped rigs I’ve toured with in my entire career.”

### Effects

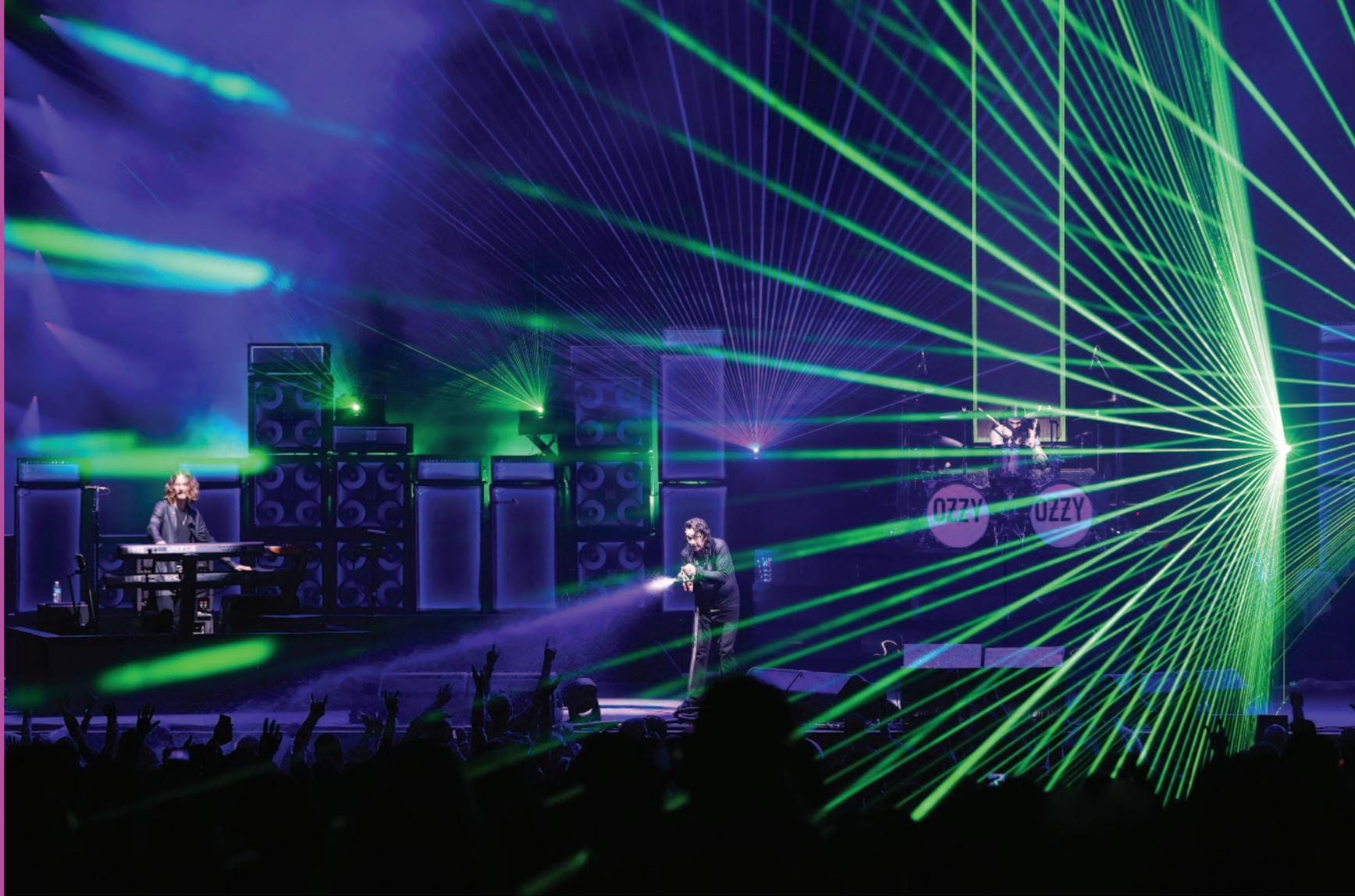
The tour’s effects are provided by ER Productions. “I have worked with ER before,” Cook says. “Ryan [Hagan, co-founder] and his team are amazing, and I really enjoy working with them. They are creative, forward-thinking, and completely willing to listen.”

Lasers were a must. Cook explains, “We got into a studio and played with every range of lasers ER has; we did a lot of R&D work to come up with what we wanted. Each time, we came back to the strongest, brightest, and most usable laser on the touring market.” He’s referring to ER’s proprietary high-power 18WRGGB lasers with high-speed X/Y scanning. “We have four in the air, and eight on the floor. This combination works really well.”

Cook, who programmed the lasers with ER’s Alexander Oita, says, “One hundred percent of what we were going for was a light-and-laser look. As far as I’m concerned, it’s one department. We syncopate color, tempo, timing, and feel; the lasers were programmed alongside the lighting rig, just like you’d treat another type of moving light. I always wanted to homogenize lights and lasers into one show. Thankfully, Ozzy has given us this opportunity and management really pulled into the idea of delivering this vision.”

An especially interesting laser moments happens during “Paranoid:” “We hit the A beat with the lighting rig, the B beat with a laser, and the C beat with everything,” Cook says. “I’m really proud of that, because I’ve never done that before.” Lasers also appear during “Road to Nowhere,” “No More Tears,” and “Suicide Solution.” Keller adds: “The lasers are an essential part of the show; lead rigger Patrick Leonard’s precise rigging makes the installation painless each day.” Eight streamer cannons, also supplied by ER, appear in the finale.

The show features another effects surprise. “Over the years, Ozzy has used a fire hose gun [of mysterious and unknown origin] that fires foam into the audience, but he hasn’t used it in quite some time,” Cook says. Fans loved the foam gun and wanted it back; Ozzy and management listened. “For me, it’s a really fun moment; you can see it on Ozzy’s face,” Cook adds. “The moments Ozzy loves are when he interacts with fans, whether it’s a single fan in the front row or the entire audience, you can see the energy passed from him to them and them to him.”



Cook carefully integrated lighting and lasers to create a cohesive visual picture.

## Sound

Greg Price, who has been mixing Ozzy at the front of house for over 20 years, needs no introduction to those in the industry. “Not only have I been the front-of-house engineer for Ozzy Osbourne and Black Sabbath,” he says, “I have recorded and mixed two live Black Sabbath albums, I also have a Black Sabbath EP co-partnered with Rick Rubin, producer of *13*, the Grammy award winning Black Sabbath album. I am the recordist and the mixer of the Black Sabbath film *The End: Live in Birmingham* with director Dick Carruthers.”

Price runs the show on an Avid S6L console. “I got console number one, before it was released to the public in 2015, for a Black Sabbath tour,” he says. “I had it for maybe six months before anybody else. The S6L is the hub for all of the data content collection. This is a growing software platform; the Avid product is in its infancy in terms of growth. It’s staggering how much growth is ahead of it and where it will go in the future. It’s unbelievable.” He adds, “The console is an enabler. I would not be able to record and mix two live albums for Black Sabbath without it.”

Recording is the nexus of Price’s audio setup. “I started recording everything Ozzy and Black Sabbath did starting around 2000,” he says. “However, it wasn’t really until the Avid digital console became available in 2004 that we started using Pro Tools and multitrack recording for everything they do. I have been recording Pro Tools, a minimum of 64 tracks, since 2005 to the present day; that is how I was able to record and mix those albums.”

Price continues, “It’s really the responsibility of front-of-house engineers to capture digital recordings of these artists, who are going to pass away eventually. No one else on the production staff is focused on this. Hopefully, this will become the new normal for front-of-house engineers in the future.”

Pro Tools is a key element of the recording process, he notes. “The big mess in the room is 128 tracks of audio and what you do with it—how do you deal with it—so it’s natural for the front-of-house engineer to embrace Pro Tools and use Avid Pro Tools in this way, because it accepts video native. I take the video show file and drag and drop it onto the audio tracks. It’s child’s play.”

## CONCERTS

Price uses two Pro Tools machines running simultaneously. “I am recording AVB on one machine and MADi direct from the stage racks on machine two. I have redundant recording going in native live during the show; there is no chance I am going to lose a show. They are both recording on Pro Tools Ultimate; it is the latest version of Pro Tools. One is taking a feed via MADi streaming and the other is taking its feed via AVB streaming. Between those two streams, you are able to manipulate the signal exactly the way you want; there is no difference between the two recordings. The MADi recorder records only what goes into the Avid Stage 64 stage rack for the S6L; the MADi recorder is my primary recorder and the AVB recorder is a secondary recorder.”

There are two additional pieces of gear that Price uses that comes from his firm, Diablo Digital, based in Orinda, California. He explains: “The flagship machine from Diablo Digital is called the EXIII 128 MADi recorder: It has 128 tracks of MADi. It’s a rack-mounted machine. On the AVB side, it’s a different type of recorder because the S6L allows AVB recording on the network. We’re network-recording and it has to be a much more powerful CPU to

record AVB 128 on the network. It is the second machine that Diablo Digital has made; it’s a Sonnet xMAC Pro Server that’s custom-configured to record on the Avid S6L. The system is outfitted with 4TB of SSD record drives. This allows complete record drive allocation for hours of continuous recording with Avid Pro Tools Ultimate software. All you do is plug our machine in and you’re recording via an Ethernet connector.”

Price has 22 channels of audience microphones. “I recorded two live albums for Black Sabbath using this room mic array. You have to capture the audience; otherwise, you have nothing. The cornerstone audience mic is a DPA [d:mension] 5100 5.1 surround sound microphone. It has left/center/right as well as left rear surround and right rear surround. I place it at the front of house and the audience capture is absolutely stunning. Not only does it capture the environment of a rock concert but all the people’s screams. Out at the front of house, I also have an AT4050ST deployed. This is a stereo Audio-Technica 4050 microphone that is absolutely amazing-sounding. On the stage, at the downstage edge or front of stage are the other ten channels of microphones. You could just stick



one stereo mic and hope for the best, but that's not what I'm about. I want to record live audio, an environmental recording of the audience like you've never heard.

"Clair Global [located in Lititz, Pennsylvania] provided a Cohesion CO-12 PA," Price notes. "Black Sabbath was one of the first to take it out. Again, it is an amazing piece of engineering design that is undergoing continual evolution."

Price adds, "Just as important as me focusing on putting 22 channels of audience mics up and recording the band for future albums, is my other half [system engineer] Simon Bauer. He is the one taking care of the PA system. In my mind, going forward, the SE is as important as the mixer." Bauer says, "The flown main array consists of sixteen CO-12-line array loudspeakers and four to six CP-218 self-powered sub bass speakers per side. The side array is sixteen CO-10s. A steered sub array features eight to twelve CP-218s stacked on the ground, downstage center, and eight CO-8s are used for front-fill speakers."

The PA package also includes Lab.gruppen PLM20K44 amplifiers. There is, Bauer says, "a total of 34A for the PA and 15 for the stage [monitors]. Additionally, we use Lake LM44 and LM26 processors in the system for various applications ranging from PA drive matrix and sub array steering to control over local send-to-house and press feeds." He's also using EASE Focus for system design and a Clair iO Lake controller for system processing and control.

Bauer notes his biggest challenge is "to produce and deliver a consistent sound quality from one show the next—day after day, venue after venue. With the new Clair Cohesion Series speaker system, PLM amplifiers, and integrated Lake processing, this task has never been easier. Never before have I experienced this level of control over a sound system. It allows me to present Greg with a system that performs and sounds the same every day, even in this challenging and ever-changing touring environment."

Price adds, "I'm using every manufacturer's microphones; there is not one company that I would hang my hat on. This is another paradigm that has to change: Front-of-house engineers in general get hooked on one specific manufacturer and only use that. If we publicize lists of numbers and models, that doesn't impress the public on the importance of why we're doing this."

In terms of microphone manufacturers, Price says:

"There is one company that I think is following in the footsteps of what I call the R&D evolution and are continually trying to push the envelope in their technology, and that is Earthworks [Audio]. My relationship is with Pedro Rocha [business development manager at Earthworks Audio], and the development of Earthworks mics for my show is what I look forward to in a partnership to make this march towards extraordinary audio that can compete with the greatness of a Patrick Woodroffe and Terry Cook. They are developing extraordinary new microphones that speak to the rigors of a live metal show."

Having a musician in the audience can be problematic Price says, "something that front-of-house engineers have nightmares about. Now the musician is out in front hearing exactly what that woman or man is doing to his sound. What does Zack [who plays in the audience] and his people say to me? He says 'I can be one foot away from my guitar cabinet or I can be 150' away, well past you Greg, and it sounds exactly the same. You have captured my guitar sound and reproduced it from the speaker to 200' feet away and I can't tell you how pleased I am with that'."

In the end, Price concludes, "You can't have a show



The set, fabricated by Tait, includes faux speaker cabinets illuminated by LED tape.

that has amazing visual excitement and have the audio fall by the wayside. The audio has to be spectacular like Terry's visual design. That's the focus."

Ozzy Osbourne's *No More Tours 2* wrapped up in the US in the middle of this month; it moves to Europe in 2019. 📶