

# prosound

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CHARLES SYKES/INVISION/AP

**'MEANT TO BE' INDEED:** On November 14, Florida Georgia Line marked the record-breaking 50th week of their collaboration with Bebe Rexha, "Meant to Be," sitting atop the *Billboard* Hot Country Songs chart by performing the hit at the Country Music Association Awards in Nashville, using third-generation Audio-Technica Artist Elite 5000 Series UHF wireless systems with ATW-C6100 hypercardioid dynamic microphone capsules.

## Audio Post Faces Raised Expectations, Falling Budgets

BY STEVE HARVEY

Benjamin Franklin famously wrote that nothing can be said to be certain except death and taxes. In the world of audio post-production, from commercials and television to major

motion pictures, two things are increasingly certain: budgets—or lack thereof—and Dolby Atmos.

Downward pressure on studio rates is a fact of life, and not just in audio post, of course. "Budgets are continu-

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## California Fires Hurt Recording Community

Three major fires raged through Northern and Southern California in November, taking lives and destroying an estimated 10,800 structures across more than 240,000 acres at press time, including the homes and studios of many in the music community.



## Studio Hits It Out of the Park

Ever daydream what it would be like to turn your attic into a studio if money was no object? One Major League Baseball player did just that, and the result is a jaw-dropping, TEC Award-nominated private facility called the Upper Deck.



## Companies to Watch in 2019

BY CLIVE YOUNG

The end of the year provides everyone with a golden opportunity to

stop, take stock of the year that was and look forward to the 12 months that lie ahead. Taking a moment to celebrate the year's successes,

big or small, and learn from them to better prepare for the future is crucial in all parts of life. With that in mind, we spoke with dozens of pro audio companies, manufacturers and organizations to find out their highlights of 2018 and, just as importantly, learn why the industry should keep an eye out for them in the coming year.

For Yamaha's Professional Audio Division, 2018 found the company "in a rapid growth mode," according to Alan Macpherson, general

manager, Professional Audio Division. "We are seeing big gains in almost all aspects of our business, but especially in our Commercial Installation Solutions (CIS), Nexo speaker systems and, of course, our Rivage, CL, QL and TF series of mixing consoles. The foundation of this growth is based on three factors: the best team in the industry, excellent products and, finally, that intangible 'safe harbor' theme that we hear so often from our many

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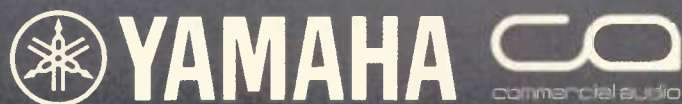
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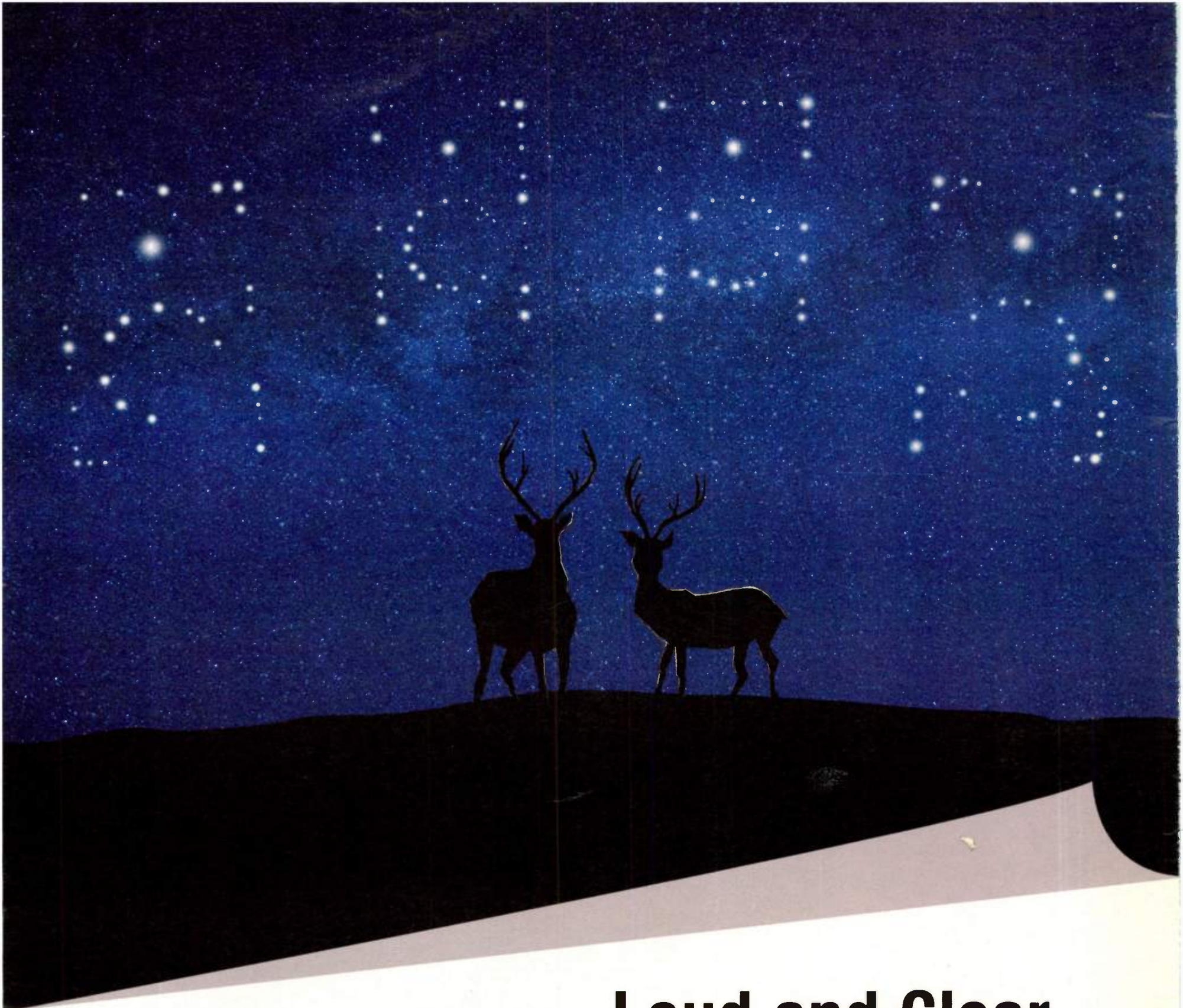
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# Music Community Devastated by California Fires

BY STEVE HARVEY

LOS ANGELES, CA—Three devastating fires raged through Northern and

Southern California in late November, taking lives and destroying an estimated 10,800 structures across more than 240,000 acres, including the homes and studios of many in the music community.

At the press time, the Woolsey Fire had devastated more than 98,000 acres in Malibu, Westlake Village and Thousand Oaks, and was just 55 percent contained. Three people had been reported dead as a result of the Woolsey Fire and 500 structures destroyed, with 57,000 considered to be under threat. By November 15, the Woolsey Fire Unified Commanders were allowing repopulation of some limited areas following extensive mandatory evacuations.

Film composer and record producer Richard Gibbs, former keyboard player with Oingo Boingo, lost his Malibu home to the fire. But video shot by a friend and posted on Gibbs' Facebook page on November 11 showed that his famed studio, featured in *PSN* in 2016, appeared to have made it through the blaze unscathed. "The Woodshed lives on," wrote Gibbs.

Producer and engineer Kevin "Caveman" Shirley reported via email, "We're all good, but still evacuated. I believe the studio survived—JUST!!! There's some damage; just hope the equipment is ok." Noting how lucky he and his family had been, he shared that he would be going to Australia to work in his studio there. "I'm just inconvenienced," he commented.

Fellow Australian Kevin Parker of the band Tame Impala was forced to flee his rented home, leaving behind his recording equipment, when the Woolsey Fire swept through his neighborhood. "RIP to all this gear (and someone's beautiful house) in Malibu," he wrote on Instagram. "I made it out with my laptop and the Hofner."

Producer and singer-songwriter Robin Thicke and his girlfriend, April Love Geary, lost their Malibu home. "It's just rubble. There's nothing left," he said in an interview on E!online.com.

According to *Billboard*, producer and musician Butch Walker wrote on Facebook that his house was "still standing. Yard and other structures are toast." Walker previously lost everything, including his recording studio, when a 2007 Malibu fire destroyed the house he was renting from Flea of the Red Hot Chili Peppers.

*Billboard* also reported that producer, engineer and composer Charley Pollard lost his house in Malibu. Pollard's Dragonfly Creek Recording



Film composer and record producer Richard Gibbs, former keyboard player with Oingo Boingo, lost his Malibu home to the fire, but his Woodshed Studio survived unscathed.

Studio, which has hosted sessions by Lady Gaga, Mark Ronson and Neil Young, is reportedly still standing.

Jazz guitarist Lee Ritenour's house in Malibu's Point Dume area was destroyed by the fires. Ritenour, who listed the house for sale in May 2017, wrote on Facebook, "Recently I found out that I needed to have a medical procedure that could not wait and resulted in canceling my recent tour to Japan, Hong Kong, Korea & New York.... Shortly after receiving that news, the fires began in California that have been devastating for so many people. Unfortunately, we lost our house of 40 years in Malibu along with my recording studio & everything with it."

Also affected was Mike Garson, pianist and longtime collaborator with David Bowie. "My family and I are safe. Unfortunately, my home and studio have burned to the ground and we are devastated," he wrote on Twitter.

Popular entertainers including Miley Cyrus, Neil Young and Gerard Butler lost their homes to the Woolsey Fire. Cyrus tweeted that she, her animals and "love of my life"—presumably a reference to her fiancé, actor Liam Hemsworth—were safe. "My house no longer stands," she tweeted, referring to the home that she bought in 2016 above Malibu's Paradise Point. Cyrus' house is next door to Hemsworth's home, which he purchased in 2014 from songwriter Matthew Wilder, who co-wrote "Girls Night Out" for the *Hannah Montana* TV series starring Cyrus.

Neil Young lost the Malibu home that he shared with wife Daryl Hannah. Young took to his website to rage against climate change deniers in an essay. "We are up against something bigger than we have ever seen," he

wrote. "I have lost my home before to a California fire, now another." Meeker Mansion, the Malibu home where Young lived and recorded albums including *Zuma*, was destroyed by an arsonist in 1978.

Within the Woolsey Fire burn area, large regions, including Bell Canyon, Oak Park, Calabasas and Topanga, were put under mandatory evacuation orders, causing an estimated 250,000 to flee. For a time, parts of Simi Valley and West Hills were also threatened, prompting voluntary evacuations.

Renowned producer and engineer Al Schmitt and his wife, Lisa, evacuated their home in Bell Canyon, and posted on Facebook on November 10, "Just to let everyone know our house is still standing, but we can't go in yet."

Michael Abbott, head of audio for the annual Grammy Awards telecast, fled his house with his family under the evacuation order. On November 10, he posted on Facebook that he was back in his home, but at 2:40 a.m. that night was awakened by fire trucks across the street, where one of two houses that previously caught fire had reignited.

Just a few miles to the west of the Woolsey Fire, the smaller Hill Fire between Thousand Oaks and Camarillo scorched 4,500 acres, destroying at least two structures, but had been essentially contained.

Meanwhile, the Camp Fire in Butte County in Northern California has become the state's most destructive and the deadliest on record. It has destroyed at least 8,650 homes and 260 commercial structures—with an additional 15,500 structures threatened across 125,000 acres—and killed 56, with 631 still missing at press time.

## briefs

### Yamaha Adds Audioversity

BUENA PARK, CA—Training seminars conducted by Yamaha Professional Audio ([www.yamahaproaudio.com](http://www.yamahaproaudio.com)) sales subsidiaries around the world will consolidate under a new "Audioversity" banner. Currently, more than 80 specialists at 19 regional offices around the world are available 24/7 to provide education and training for customers. They are also dispatched to dealers and event venues to conduct seminars that focus on practical training, and the company has been increasing the frequency of online seminars. According to Yamaha, through these types of activities, the company has reached approximately 100,000 people in more than 50 countries.

### Production Mentoring in Dallas

DALLAS, TX—Pro audio and AVL supplier Sound Productions ([www.sound-pro.com](http://www.sound-pro.com)) recently hosted technical arts training for members of Dallas Summer Musicals' High School Musical Program. This is the fourth time Sound Productions has held training for the group. The annual event is designed to boost individual knowledge and proficiency levels, and provide tools and resources for students looking to enter the AVL space after graduation. Attendees received tips and hands-on training from industry pros. Sound Productions contributed \$15,000 to establish the organization's first Technical Theater Scholarship, as well as to build two community programs. The scholarship awards \$5,000 to one student each year to be used toward their AVL pursuits.

### A-T Teams with Martin Audio

GERMANY—Audio Technica ([www.audio-technica.com](http://www.audio-technica.com)) has been appointed as the new Germany distributor for Martin Audio ([www.martin-audio.com](http://www.martin-audio.com)). There, A-T is currently a distributor of Allen & Heath and Clear Com, as well as its own brand. They remain separate entities in the United States.





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## Lost in Translation

Women currently make up roughly 5 percent of the pro audio industry, if even that much. Since that depressing statistic was calculated a few years ago, organizations including the Women's Audio Mission and the Audio Engineering Society have pushed to promote an industry that's more welcoming for people of all backgrounds. New initiatives like the EQL Directory continue to emerge (see page 15), and encouragingly, one of the most well-attended events at the recent AES Convention was the Diversity and Inclusion Committee Town Hall. These are all steps in the right direction, moving us toward a day when they become wholly unnecessary.

So it was against this backdrop of positive change in pro audio that word spread earlier this fall about a new product so out of step with the times that it seemed a little hard to believe. On October 11 at Prolight + Sound Shanghai, Chinese manufacturer MIDIPlus introduced Mirror, an I/O designed to look like an eye shadow case—because, as the company's website announced, it was “an audio interface specially for females.”

Other descriptions on the site only made the situation worse, with catalog copy in broken English that said Mirror would “be the new favorite of every anchor” (nice way to refer to your loved one) and appeared to imply that the company didn't want

to intimidate female users with “a formidable device,” so it made the I/O look like makeup.

Housed in a black clamshell box, the unit's top flipped open to reveal six flat, pastel-shaded knobs and a bright LED surrounding the titular mirror inside the lid. One look was all people needed to go off—and yes, that included *Pro Sound News*. On the PSN blog, we called it “culturally tone-deaf” and chided, “Clearly, acknowledging a problem [the lack of female representation in pro audio] is one thing, but reacting to it appropriately is something else entirely.”

Others got more to the point, posting full-on outrage: “It's not a screen. It's a mirror. A literal mirror. Because what I really look for in an audio interface ... is the ability to stare at myself while I try to figure out what the f this is for. It doesn't even have main outs,” tweeted one woman. Meanwhile, over on YouTube, commentary videos about Mirror began to appear with titles like “The Worst Audio Interface Ever Designed.”

The internet's verdict was swift and MIDIPlus' reaction was almost as fast: Mirror vanished from the company's website. And yet ... something felt off. Pieces of the puzzle didn't fit. Pro audio manufacturers have experimented with different user interfaces for years, so why was this different? Rip the lid off and paint

the knobs black, and it would just be another low-end interface. Also, the mirror and bright light were such unusual but specific design choices—why? And while many assumed the I/O was invented by clueless guys—that fit the narrative perfectly—surely some women saw Mirror prior to its debut and it came out anyway. There had to be more to the story.

There was. In mid-November, Mirror returned to the MIDIPlus website with all-new copy in clear English, pointedly extensive technical specs and a painfully sincere apology: “When our native English-speaking friends explained how our product launch had been interpreted, we were embarrassed and ashamed. We have no intention of offending anyone. We have the deepest respect for people of all genders, ages and orientation.”

The page went on to explain Mirror's intended use: to provide children and teens with audio and lighting for “Self-K”—livestreaming self-karaoke, a popular fad on Asian social networks. When seen in context as a simplistic, familiar-looking I/O designed for a pre-teen “anchor” (as in “TV host”) with no technical interest, the pieces of the puzzle fell into place.

Inevitably some will still say Mirror is insulting; perhaps so. At one point, I would have agreed, but now I wonder if western reactions to the unit may say more about ourselves than the interface itself, making the name “Mirror” more appropriate than MIDIPlus ever imagined.

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# Console Builds on Midland Theatre's Revitalization

BY CLIVE YOUNG

NEWARK, OH—Just outside of Columbus, OH, the Midland Theatre in Newark is a cornerstone of the region's entertainment scene. The coming months' packed schedule will see artists like the Oak Ridge Boys, America and Clint Black hit its stage, and with the holidays upon us, *The Nutcracker* and *The Polar Express* will likewise tread the boards of the venerable venue. Helping provide audio for a number of those productions will be the Midland's new house console, a DiGiCo S31.

"We purchased it at the beginning of this season," said house engineer David Eubanks. "Our space hosts everything from corporate events and meetings to children's events, local dance companies and national touring acts, so selecting a console for FOH that met the needs of the space was very challenging on our budget."

The desk replaced an 18-year-old analog Yamaha M2500 that was installed when the venue reopened after



House engineer David Eubanks (left) and technical director Robin Pickenpugh with the Midland Theatre's new DiGiCo S31 console

an eight-year, \$8.5 million restoration project. The need for such an extensive refurbishment is an all-too-familiar tale for many theatrical venues built during the Roaring Twenties.

Opened in December 1928, the Midland Theatre presented popular movies and stage productions for decades before falling into decline and eventually shuttering in 1978. Empty

for 14 years, the venue lost most of its roof and began falling apart at the seams. Before long, its orchestra pit was filled with stagnant rain water and debris. A local developer purchased the site in 1992 and began the lengthy process of bringing the venue back to life; now, the revitalized theater is well placed to entertain audiences for generations.

And the new console continues that commitment. "So far, we have used the console for numerous events," Eubanks told *Pro Sound News*, supporting not only regional productions but also touring artists such as Jacob Powell, who appeared there recently, opening for Tracy Lawrence. "Just this past weekend we hosted the Music of Cream 50th Anniversary Tour," said Eubanks. Given the venue's schedule, the desk will be kept busy for a long time to come.

Midland Theatre  
[www.midlandtheatre.org](http://www.midlandtheatre.org)

DiGiCo  
[www.digico.biz](http://www.digico.biz)

## Rethinking the Ryman's Sound Reinforcement

NASHVILLE, TN—The Ryman Auditorium is nothing short of sacred ground in music circles, and with good reason. Since opening in 1892, the theater has become a legendary must-play venue for artists of every genre, and has been on the National Register of Historic Places since 1971. But while the ambiance and vibes from generations of top-shelf performers permeate every inch of the venue, one thing that can't stay historic is the Ryman's audio system—which is why Opry Entertainment Group, JBL, Yamaha and AV integration firm Clair Solutions recently joined forces to overhaul it.

Given the sensitivity of the venue's historic interior, it was a tricky situation—the system had to respect the site's aesthetics and also had to be installed around the Ryman's packed performance calendar. "We installed the Ryman's previous sound reinforcement system over a dozen years ago," said Dan Heins, regional vice president at Clair Solutions. "The folks at Opry Entertainment Group are passionate about great sound, and they wanted to be sure that they would be getting the very best system for the space."

Given the venue's recent history with JBL VerTec, the audio team was leaning toward JBL's new VTX Series A12 System but wanted to hear the

system in place before fully committing to the installation. Clair Solutions developed an EASE model and optimized a design in collaboration with JBL engineers Raul Gonzalez and Nicholas Mourn. JBL, in turn, provided a demo system that Clair put in place on temporary lifts. "It was a real proof-of-concept," Heins said. "We learned a lot from the demo and decided to go from eight boxes a side to 10. Although the main system didn't change much from its original design, we learned from the demo that the under-balcony system needed a complete rethink. Given the particulars of the space, we ultimately went with a miniature line array with sub support."

Today, the new system consists of 10 JBL-A12 three-way line array elements and eight VTX-S28 subwoofers in a center hang. A pair of CSX-F35s provides side fill, and 10 VT4886 line array elements provide front fill. Three dozen VT4886s paired with eight VT4883 subwoofers provide audio under the balcony, and powering the entire system are Crown i-Tech series amplifiers with onboard DSP.

For the consoles, two Yamaha Rivage PM7 digital audio consoles were the preferred selection of the Ryman team based on their experience using the Yamaha PM10 console at the



Clair Solutions installed a JBL VTX PA inside Nashville's legendary Ryman Auditorium.

Opry House. "Based on our experiences with the PM10, we were confident about our decision to add the dual PM7 consoles, without a formal demo, due in part to Yamaha console familiarity and reliability," states Jeff Hatfield, director of technical services for Opry Entertainment Group.

"Finding a window in which to perform the installation wasn't easy because the Ryman doesn't really close," Heins said. "We only had four days to remove the old system and install the new system—a Monday through Thursday, with a show the very next day. We worked with the

Ryman engineers and did everything that could possibly be done ahead of time while the old system was still online. For example, we put in conduit and upgraded the electrical system. We started on Sunday to maximize the time we had to perform the installation. Things went smoothly, and we had the new system up and tuned in time for Friday's Opry at the Ryman show. Importantly, we made it all happen without upsetting any of the Ryman's historic interior or its sight lines."

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# A Star Is Born Doc Shares Ear Advice for Audio Pros

BY CLIVE YOUNG

LOS ANGELES, CA—Talk about getting typecast. When actor/writer/director Bradley Cooper shot the recent film remake of *A Star Is Born*, he hired William Slattery to play a hearing specialist. The role wasn't much of a stretch because Slattery is, in fact, the actor's real-life ear doctor. Brought in for a scene set at Coachella in which he tells Cooper's rock star character about hearing loss, the M.D. brought veracity to the moment, because as president of the House Clinic, a high-profile center for ear disease and neurological disorders in Los Angeles, he's treated audio engineers and musicians for decades.

"What we see among audio professionals is one of two things—either they are extremely anxious about their hearing and they come in anytime there's a change, or they're just the opposite: They're so busy that they tend to ignore it and not come in for their visit," he said. "The most important thing with hearing is evaluation and then protection."

While hearing preservation is key to the livelihood of anyone working

"A lot of times in the music industry and with sound engineers, people have this feeling that their hearing is much worse than it actually is," he explained. "The problem is that these are people who have spent so much time tuning their ears to be able to pick up subtle little differences in sound quality, and as a result, they are much more sensitive to any type of change within the ear. Because of that, many times they think there's some major problem and they're fearful, not just for their hearing but for their career."

Acknowledging that "probably the majority of people in the music industry have some issues with their ears," Slattery pointed out that gradual hearing loss comes from more than just exposure to high decibels. "In our 20s, we start to lose some of the very high frequencies, and that's normal—but because sound engineers work so hard to tune their ears, they can get anxious about that change. You tell them, 'Wait a minute—this is just the aging process,' and sometimes they're



Dr. William Slattery on the set of *A Star Is Born*.

Wearing hearing protection, whether earplugs or in-ear monitors, will help, as will avoiding loud noise when possible to prevent further damage. Another suggestion is to look into pharmaceutical treatments. "Is there anything that's on the market that I can say is proven to rescue damaged hearing? At this point and time, no," Slattery said, "but the advice I give to my sound engineers and musicians is that, while there is no product approved and no clinical trial that looks at protection long-term in the music industry, we can look at some interesting studies the military has done that can be helpful."

To that end, he cited an Israeli military study that gave magnesium supplements to people going through firearms training. "Those who had higher magnesium levels actually found that it was somewhat protective of their ears," he noted. Meanwhile, another study gave N-acetylcysteine (NAC) supplements to U.S.

Marines—a move that helped protect their hearing against noise exposure.

"That's not necessarily rescue," he quickly added, "but I tell people, 'Look, if you're going to be exposed to some loud noise for a while, you might want to consider a magnesium supplement and an NAC supplement, at least for a couple of days before you're going to be exposed to that.' Even so, you have to be careful about taking something like this on a long-term basis because it is a nutritional supplement, and that's another reason to talk to a hearing professional—so you can look at what are some possibilities that may be appropriate for you."

In Slattery's case, talking with a patient about hearing issues had one interesting side effect—he wound up in *A Star Is Born*. Cooper consulted with him to ensure that the script's medical content was accurate, and that led to inviting the doctor to essentially play himself. "Once I got to Coachella, I told Bradley I had my lines memorized, and he said, 'Don't worry. We're going to ad lib it,'" Slattery recounted. "It was funny because normally as a physician, you try not to be too technical with your discussion, because you want to make sure you're conveying complex ideas in a way that everyone can understand. Of course, we start filming and it's 'No, no, get more technical. This will be great for the movie,' so we started talking about 4 kHz and the noise notch and all that." Asked if he's now campaigning to win an Oscar, Slattery laughed: "Sure, I'm out to win the Best Supporting, Supporting Actor category."

House Clinic  
www.houseclinic.com

"A lot of times in the music industry and with sound engineers, people have this feeling that their hearing is much worse than it actually is."

William Slattery

in pro audio, not everyone is diligent about getting their ears checked. Perhaps it's the anticipation of bad news, or the mistaken idea that hearing loss is an inevitable occupational hazard and thus isn't worth getting tested for. However, Slattery shared, some pros may be in for a welcome surprise next time they get checked.

relieved to discover they haven't hurt themselves over the years, that they're actually doing a good job of taking care of their hearing. That's an important part, providing some reassurance along with 'here's where you're at and here's things that you can do to help it.'"

What are some of those things?

## Soundman Aids Soccer Legend

BY STEVE HARVEY

LONDON, UK—BT Sport sound engineer Simon Daniels was hailed as a hero after coming to the aid of soccer legend Glenn Hoddle, who suffered a heart attack and collapsed at a London television studio on October 27—coincidentally, his 61st birthday.

Daniels, a television and radio sound supervisor who has worked at BT Sport since 2013 and for seven years at the BBC before that, is also a special constable (a part-time police volunteer) with Thames Valley Police.

According to interviews in the UK press, he said that his first-aid training "kicked in" and he sprang into action, giving CPR and using a defibrillator on Hoddle as they waited for paramedics to get to the television studio.

"I'm not a hero. I was just doing what I was trained for," Daniels told BBC News. "I was just trying to preserve life. It didn't really cross my mind that it was Glenn Hoddle."

Hoddle, considered by many to be the best footballer of his generation, famously played for Tottenham—winning the 1981 and 1982 FA Cups

with the team—as well as Monaco, Swindon and Chelsea, the latter two as player-manager. He played 53 games for the England national team and, as manager, led them to the second round of the 1998 FIFA World Cup, where they lost on penalties to Argentina. Hoddle subsequently managed the Southampton, Tottenham and Wolverhampton teams before becoming a TV pundit. Since the heart attack, Hoddle underwent triple bypass heart surgery in mid-November and, at press time, is reported to be recovering well.



Glenn Hoddle



# EQL Directory to Amplify Women in Audio

NEW YORK, NY—Pro audio organization SoundGirls and streaming service Spotify have joined forces to launch the EQL Directory, a non-profit dedicated to expanding opportunities for girls and women in music.

It's estimated that less than 5 percent of audio professionals are women. The EQL Directory is a global database of professionals that seeks to amplify the careers and achievements of women working behind the scenes in music and audio. Any person around the world can add their name and claim their space, and any person looking to hire a more inclusive creative team can use the directory to find professionals in their area.

The project is among a number of initiatives Spotify has developed to support equity in the audio industry, according to the company. In August, Spotify created three full-time residencies in its Secret Genius and Spotify studios to support hands-on career development for female studio engineers; the Equalizer Project's success has continued with networking dinners and a recent Producer Camp in Sweden; and The SoundUp Bootcamp, an accelerator program for aspiring podcasters in underserved communities, has been launched in the United States, UK and Australia.

Spotify and Secret Genius have assembled a new EQL Advisory Board. TRAKGIRL, along with Lauren D'Elia, Jin Jin, Kesha Lee and Ali Tamposi, will help shape the future of the programs.

Visitors to the EQL Directory can find resources from initiatives and organizations like the Audio Engineering Society, Beatz by Girlz, Equalizer Project, female:pressure, Gender Amplified, Girls Make Beats, Instituto Criar, Secret Genius, shesaid.so, SoundGirls in Mexico, the 7% Series, Upfront Producer Network, Yorkshire Sound Women Network and the Women's Audio Mission.

"[We] face the myth that there are not very many women or [gender] nonconforming people working in audio, and because of this, people don't even bother to look," said Karrie Keyes, co-founder of SoundGirls and Pearl Jam's longtime monitor engineer. "The EQL Directory proves that this is not true."

TRAKGIRL, a producer who has worked with the likes of Jhené Aiko, Belly and Luke James, noted, "This is a great tool to create more opportunities for women. We have to continue the work and create more inclusion and diversity in male-dominated spaces; we have a lot of work to do, but this is an awesome start."

Anna Ingler, co-founder of the Upfront Producer Network, which represents more than 100 female and gender-nonconforming producers in Sweden, concurred, adding, "In order to make change, everyone has to agree there's a problem to solve in the first place."

"SoundGirls already had this



global directory of women in audio and production, and we came together to help them make it more beautiful, more useful, and more visible within the industry," says Kerry Steib, Spotify's director of social impact.

EQL Directory  
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## Swept Up in The Feeling on Tour

LONDON, ENGLAND—UK act The Feeling recently wrapped up a tour of its homeland with sound provided by SSE Audio and FOH mix handled by engineer Jon Lewis. Nightly, Lewis oversaw an Allen & Heath dLive digital mixing system comprising an S7000 surface on FOH and a DM64 MixRack on stage. Both FOH and monitors were mixed from the S7000, with the dLive's 128 input processing channels enabling duplicates of input signals to be made for discrete FOH-MON processing.

"The 128 processing channels and 64 buses were perfect for duplicating channels for monitors and band members who needed further processing in their IEMs. I never had to compromise on anything, giving the band what they needed on stage and what I needed out front," comments Lewis.

Several compressors from the DEEP Processing suite were used throughout. Lewis explains, "The onboard processing is just excellent. Whether it be the default compressors or the 'Opto' comp on my drum



Jon Lewis manned an Allen & Heath dLive system on tour with The Feeling.

group, they sound so good. The lead singer of The Feeling likes using the Neumann KMS 105, and with this being a condenser mic, it can get lively at times; the compressor helped

tame this immensely and allowed me to keep the vocal at the front of the mix at all times."

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## IK Multimedia Builds Plant, Recording Studio

MODENA, ITALY—IK Multimedia has built out a \$3 million manufacturing plant and recording facility on its company campus in Modena, Italy. The new construction will house in-house R&D, manufacturing and logistics departments, as well as the studio, which in turn will be used for sound design and sampling.

The facility was built with the intention of expanding IK's production and warehousing capabilities so that it could meet its goal of producing a majority of its products in-house. Touted as a "zero-kilometer supply chain," the initiative will also support the company's aim of achieving a more environmentally friendly manufacturing approach and smaller physical footprint.

Today, IK Multimedia has more than 140 employees and a worldwide network of dealers and distributors. In 1998, the company moved to the current campus in Italy, which now comprises three buildings that house all key functions, in addition to an



IK Multimedia's third facility in Modena, Italy, will house R&D, manufacturing and more.

expanded U.S. facility in Sunrise, FL, that opened in 2017.

IK Multimedia

[www.ikmultimedia.com](http://www.ikmultimedia.com)

## UK Music's Growth

BY STEVE HARVEY

LONDON, UK—Industry-funded body UK Music has published its annual "Measuring Music" economic study, revealing growth across almost every sector and a significant presence on the world stage.

According to a statement in "Measuring Music 2018" from Margot James, the UK's minister for digital and the creative industries, "The report demonstrates continued sustained growth, with the music industry now contributing £4.5 billion to the economy. Exports have risen to £2.6 billion and the sector employs 145,815 people."

The UK music industry grew by 2 percent in 2017, up by £100 million on 2016, to contribute £4.5 billion to the economy—a record. Strong sectors include recorded music, which grew 9 percent to £700 million, and music publishing, which increased by 7 percent to £505 million. Musicians, composers, songwriters and lyricists are credited with contributing £2 billion to the UK economy, an increase of 1 percent over the previous year.

The export figure of £2.6 billion signifies a 7 percent increase year-over-year. According to the report, recorded music exports accounted for £468 million (an 11 percent increase). Music publishing exports also grew 11 percent, to £719 million, and music representatives added £348 million, or a 9 percent increase, to total music industry exports.

The report breaks down those employment figures, which represent a 3 percent growth and a new high: 91,153 are musicians, 28,659 are employed in live sound, 13,029 are in the production sector, 9,642 are in recording, 2,884 are listed as representatives, and there are 1,049 employed in publishing.


James continues, "2017 was a very successful year globally for the UK music industry. 2018 is proving to be no different."

UK Music

[www.ukmusic.org](http://www.ukmusic.org)



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## Capturing at Zeitgeist

BY STEVE HARVEY

LOS ANGELES, CA—Producer Tony Berg moved his private Zeitgeist Studio this year into the legendary Sound City Studios, which he now occupies with producer, songwriter and musician Blake Mills. But before he relocated his facility, Berg produced *My New Moon*, a 10-song collection by Americana artist Amos Lee that *Billboard* has described as “the most personal and deeply felt” of all the artist’s albums.

Lee arrived with 40 songs, Berg reports. Those that made it onto this project, Lee’s seventh studio album, reference the impact of the February 2018 high school shooting in Parkland, FL, and the August 2017 protests in Charlottesville, VA, as well as his encounters with individuals he met through the Wounded Warrior Project and Musicians on Call.

“Among our biggest problems was determining which songs would constitute this record,” says Berg, a former A&R executive with Geffen and Virgin who signed Beck and At the Drive-In, among others. “But as opposed to the dread I normally get



Amos Lee (pictured) recorded his latest album, *My New Moon*, at Tony Berg’s Zeitgeist Studio.

when I hear that many songs, these were songs he had really invested himself in, heartfelt statements being delivered one after the other.”

Berg was initially drawn by Lee’s voice, he says, but more importantly, “I was struck by his intellectual curiosity, his commitment to what he does, and more than anything else, his sense of responsibility as an artist and a citizen. I know that sounds

highfalutin’, but it could not have been more sincere or more impressive. I loved him for it right off the bat, and things only got better.

“We had what I would describe as a great time. A challenging time, because he’s a demanding guy in the best way, but ultimately a very gratifying experience.”

Berg had been working with artists at Zeitgeist for 34 years, recording

hundreds, if not thousands, of songs. “It was a building in my backyard in Brentwood that I quietly turned into a serious place. It was a real destination for musicians in Los Angeles,” says Berg, now a resident of L.A.’s Eagle Rock neighborhood. Artists who have worked at Zeitgeist include Peter Gabriel, Squeeze, Ed Sheeran, Aimee Mann, Michael Penn, Moses

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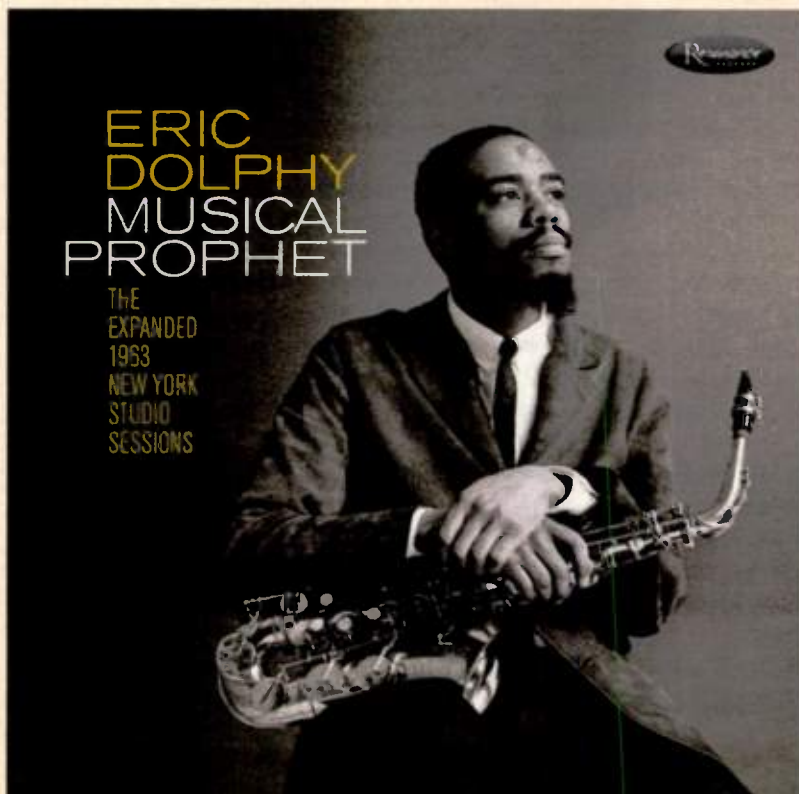
## Resonance Records Digs into Eric Dolphy

BY STEVE HARVEY

BEVERLY HILLS, CA—The great thing about jazz is that no two live performances, even consecutive takes in the studio, are ever exactly alike, providing a rich vein of material to be mined by record labels championing the art form. One such label, Los Angeles-based Resonance Records, is making 85 minutes of previously unavailable music by multi-instrumentalist Eric Dolphy available, releasing a three-disc set on 180-gram vinyl on November 23—Record Store Day’s Black Friday—and on CD in January 2019.

“We always look for these wonderful seminal modern jazz artists,” says George Klabin, founder and president of the nonprofit Rising Jazz Stars Foundation, which established Resonance Records in 2008. “He was one of the most important, and died quite young.”

Dolphy, who played saxophone, clarinet, flute and piccolo, came to prominence playing with bandleaders Chico Hamilton, Charles Mingus and John Coltrane. He died



Following restoration efforts by George Klabin, the newly released *Musical Prophet: The Expanded 1963 New York Studio Sessions* marks the first official release of previously-unissued Eric Dolphy studio recordings in more than 30 years.

tragically in Berlin due to a medical misdiagnosis after falling ill on tour

in June 1964, at the age of 36. But before he departed for Europe, Dolphy left some personal belongings with friends, including a suitcase containing tapes of two albums produced in July 1963 by Alan Douglas, who later famously worked with Jimi Hendrix.

Zev Feldman, an independent record producer who is also co-president and general manager of Resonance Records, eventually located the monaural tapes, which were in the possession of flutist and educator James Newton. “They sound really pretty amazing, almost like they would have been recorded today in a studio,” reports Klabin, noting that the engineer on the sessions was Bill Schwartau, who also worked with Bill Evans, Charles Mingus, and Peter, Paul and Mary.

The new set was mastered to vinyl by Bernie Grundman at his Hollywood mastering facility. “He does a great job,” says Klabin. “And we press at RTI, the best pressing company in this part of the world. We very carefully listen to the test

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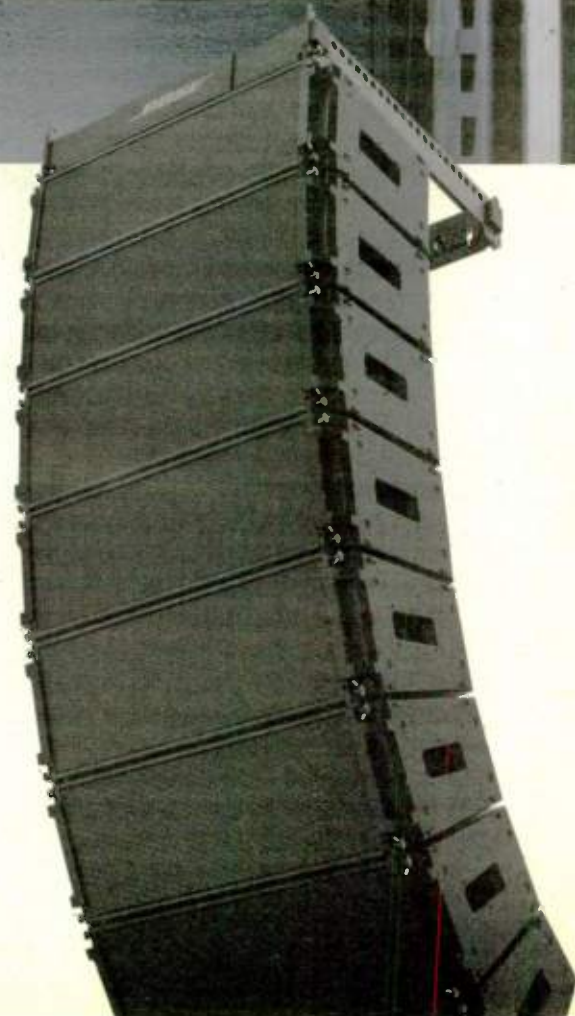
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## Private Facility Upper Deck Hits It Out of the Park

BY STEVE HARVEY

NASHVILLE, TN—He plays guitar and drums and is a fan of classic rock, but the owner of the Upper Deck—who wishes to remain anonymous—is a Major League Baseball player who spends his summer months on the diamond. A music hobbyist since his teens, he brought in Carl Tatz of Nashville's Carl Tatz Design to transform the upper floor of the home where he spends the rest of the year into a professional-grade control room and tracking space that would also house his guitar and amp collections.

"It was just an attic, framed out," Tatz recalls of his initial site visit. "I walked into the tracking room and said, 'Take these 9-foot joists out and we could take advantage of the 18-foot ceiling.'"

Incorporating several large, immovable beams, it was a Rubik's Cube of a space in which to design a studio, he says. "I would stand there, fold my arms and say, what the hell am I going to do with this thing? But ultimately I knew it was going to be a tremendous tracking room. It really sounds amazing—very neutral, which is what I go for."

There were more challenges. The house is in a residential area, so the studio had to be soundproof. Tatz's designs feature a room within a room, sandwiching a layer of 3/4-inch MDF and two layers of 5/8-inch sheetrock, a tricky proposition with the nooks and crannies of the high-ceilinged space.

"Because Nashville is booming, it was hard to get the drywallers to do it. These crews would walk into the middle of the room, look at the ceiling and go, 'Nope,' and they'd leave because they could make the same money doing an 8-foot bedroom. So it took a couple of months longer to get it done," Tatz reports.

Other people might have done less acoustically, he says, "but I have to remind people that you can't take reverb off—well, not in an easy or desirable way."

The intersection of the various



Above: The Upper Deck's Carl Tatz PhantomFocus control room sports a custom-built console based around a 16-channel Tree Audio Roots Generation II mixing desk.

Below: Inside the tracking room, three stereo pairs of Crown PZM microphones hang above the drum kit in the booth-like drum alcove.







The raw attic before construction. Today, the control room sits at the far end, the machine room and booth are near the stairs, and the most immediate area is now the tracking room.

planes of the multi-gabled roof enabled Tatz to create a permanent spot for drums. “The drum alcove sounds amazing. It almost acts like a booth.” Three stereo pairs of Crown PZM microphones—one pair above the drum kit and two in areas of the high ceiling—all come up on the patchbay.

Then there was the huge tracking room window. Tatz typically takes a more expensive route, using a single pane on the room side of the air gap, with no trim, because he prefers the cleaner look, even though it takes more finessing. The 3/4-inch-thick glass weighs 800 pounds, he reports, and took an \$1,800-a-day forklift and six white-knuckled guys to position it. One mistake, says Tatz, “and you’re going to lose a foot.”

The floorplan was an additional challenge. “There’s a stairwell between the control room and the tracking room. That became an entrance foyer, booth and machine room, so I had to make sure that anything in the rack was quiet.”

Tatz is known for his control rooms, which are built around his precision PhantomFocus System (PFS). “The monitoring is the whole thing for me,” he says. “I design the room around the monitoring.”

The Upper Deck’s system comprises a pair of Carl Tatz Design

PFM HD bi-amp monitors, a pair of PFM ICE Cube-12 subwoofers, a PFS 4800 digital processor, four PFM MonoBlock 2200 amps and PFS monitor stands. As with all Tatz PFS monitoring setups, it also includes a PF eChair recording engineer’s chair.

Why two subs? “If you put a pair of monitors on stands behind or on top of a console, it doesn’t matter what room it is or what monitors they are—they all drop off drastically—10 dB—at approximately 125

bass trapping in that room is unusually good,” he says.

Ordinarily the PFS equipment list would include a Carl Tatz Edition Argosy Console, but the owner had selected a 16-channel Tree Audio Roots Generation II mixing desk for the room, which features a prominent meter bridge. “I tried to get the console as low as possible because the mixing desk comes up so high; I hate that for monitoring,” says Tatz, who had Nashville’s Sound Construction and Supply

McEntire, has had Tatz build mix rooms for him at three different locations. Initially visiting the Upper Deck to check out Tatz’s latest studio design work, Bullock, who is also an educator, reports that he has spent time tutoring the location’s owner about music production.

“It’s a Carl Tatz PhantomFocus control room, which I’m very familiar with, which means it’s got extremely accurate imaging and all that,” says Bullock, “but the recording space is also very professionally done, with great isolation.”

The owner tracks to Pro Tools with live musicians rather than programming MIDI tracks, says Bullock, who has taken a similarly old-school approach to production for the past 25 or 30 years. “The client went with being able to record more organic sounds. There is some analog gear in there for the recording process to give you that hybrid of analog and digital recording and mixing,” he says, “and the desk sounds really good.”

Carl Tatz Design’s work at the Upper Room has been nominated for a TEC Award in the Studio Design category. The 34th Annual TEC Awards will be presented during the 2019 NAMM Show in January.

Carl Tatz Design  
www.carltatzdesign.com

“I would stand there, fold my arms and say, what the hell am I going to do with this thing? But ultimately I knew it was going to be a tremendous tracking room.”

Carl Tatz

Hz,” Tatz explains. “Then they come up to some degree at the low end of the speaker, around 40 or 50 Hz. There’s a Grand Canyon of missing information. The subwoofers fill in that dip.”

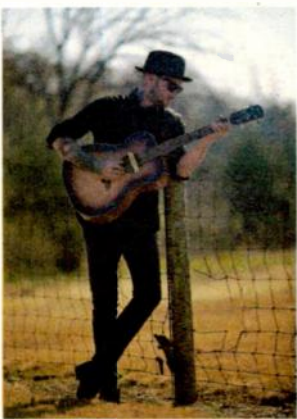
Carl Tatz Signature Series acoustic modules by Auralex are used throughout the facility. The control room further benefits from a cavity at the rear that provided a spot for Tatz’s axial mode absorber. “The

build a custom console.

The console rack space is well stocked with outboard recommended by the owner’s friend, including two API 500 series lunchboxes, a Bricasti M7 stereo reverb processor, Eventide H8000FW multichannel effects system and other goodies.

Bob Bullock, owner of Cool Springs Mix and an engineer and producer who has worked with Shania Twain, George Strait and Reba





**ARTIST:** CORY M. WELLS  
**ALBUM:** OUT FROM THE DARK  
**LABEL:** SELF-RELEASED  
**PERSONNEL:**  
**Produced by:** Cory M. Wells and Rob Tavaglione  
**Engineered by:** Rob Tavaglione  
**Studio:** Catalyst Recording (Charlotte, NC)  
**Mastered by:** Rob Tavaglione  
**EQUIPMENT NOTES:** Neumann KH310A, MOTU Digital Performer 9, Soundtheory Gullfoss



**ARTIST:** DELICATE STEVE  
**ALBUM:** THE CHRISTMAS ALBUM  
**LABEL:** ANTI  
**PERSONNEL:**  
**Produced by:** Steve Marion  
**Engineered by:** Joe Russo  
**Mix Engineer:** Steve Marion  
**Studio:** Woodlot Recording (Brooklyn, NY)  
**Mastered by:** Heba Kadry at Timeless Mastering  
**EQUIPMENT NOTES:** Dynaudio MKII monitors



**ARTIST:** JEREMY DION  
**ALBUM:** MORE LATELY  
**LABEL:** INNER VIEW RECORDS

#### PERSONNEL:

**Produced by:** John McVey  
**Engineered by:** John McVey  
**Studio:** Cinder Sound Studio (Longmont, CO)  
**Mastered by:** Airshow Mastering (Boulder, CO)  
**EQUIPMENT NOTES:** Neve 1073, API 512c, Warm Audio WA12, SSL 611EQ, Grace M103, Neumann KH 310 A, Avid Pro Tools



**ARTIST:** RICK MONROE  
**ALBUM:** SMOKE OUT THE WINDOW  
**LABEL:** THERMAL ENTERTAINMENT  
**PERSONNEL:**  
**Produced by:** JD Shuff, Rick Monroe  
**Engineered by:** JD Shuff, Chris James, David Hall  
**Studios:** First Avenue Sound (Home Edition)  
**EQUIPMENT NOTES:** Neve 1073, API, Martinsound Martech, GML and Demeter monitors, Avid Pro Tools HD Accel 3



**ARTIST:** PAM TAYLOR  
**ALBUM:** STEAL YOUR HEART  
**LABEL:** SELF-RELEASED  
**PERSONNEL:**  
**Produced by:** Pam Taylor  
**Engineered by:** Mark Williams, Eddie Z, Pam Taylor  
**Studio:** The Vault at The Playroom (Charlotte, NC)  
**Mastered by:** Dave Harris at Studio B  
**EQUIPMENT NOTES:** Neotek Elite II, Crazy8, AudioKinesis, Steinberg Nuendo 5.5, MCI JH-110B



**ARTIST:** MAX ATER  
**ALBUM:** SMALL TOWN EP  
**LABEL:** PRUDENTIAL RECORDS

**PERSONNEL:**  
**Produced by:** Karl Anderson  
**Engineered by:** Karl Anderson  
**Studios:** Anchour Studio (Windham, ME), Pearl Sound Studios (Canton, MI)  
**Mastered by:** Scott Hull at Masterdisk  
**EQUIPMENT NOTES:** Neve 55 Series, Universal Audio 2-610, Avid Pro Tools 12, Slate Raven MTI, M-Audio DSM2



**ARTIST:** PUBLIC MEMORY  
**ALBUM:** DEMOLITION  
**LABEL:** FELTE  
**PERSONNEL:**  
**Produced by:** Robert Toher  
**Engineered by:** Robert Toher  
**Studios:** Home studio (New Haven, CT)  
**Mastered by:** Rafael Anton Irisarri at Black Knoll Studios  
**EQUIPMENT NOTES:** MOTU 4Pre, KRK Rokit 6, Avid Pro Tools 12



**ARTIST:** JOEY DANGER  
**ALBUM:** LUST &

#### VULGARITY EP

**LABEL:** PARALEX  
**PERSONNEL:**  
**Produced by:** Joey Danger  
**Engineered by:** Joey Danger  
**Studios:** Home studio (New York, NY)  
**Mastered by:** Joey Danger  
**EQUIPMENT NOTES:** Mackie Hui, M-Audio BX5 and AV42, Avid Pro Tools



**ARTIST:** THE SAFETY  
**ALBUM:** QUEEN CITY  
**LABEL:** IMMINENCE RECORDS  
**PERSONNEL:**  
**Produced by:** The Safety, Rob Tavaglione  
**Engineered by:** Rob Tavaglione  
**Studio:** Catalyst Recording (Charlotte, NC)  
**EQUIPMENT NOTES:** Neumann KH310, Avantone Active Mixcubes, Millennia-Media STT-1, MOTU Digital Performer 9, Audio-Technica phones, Soundtheory Gullfoss, AMS Neve 4081



**ARTIST:** SHIM  
**ALBUM:** SHIM  
**LABEL:** BFD  
**PERSONNEL:**  
**Produced by:** SHIM  
**Engineered by:** SHIM, Dorian Crozier (live drums)  
**Mix Engineer:** Mark Needham  
**Studios:** Home studio (Los Angeles, CA)  
**Mastered by:** Marcussen Mastering  
**EQUIPMENT NOTES:** Yamaha NS-10, Avid Pro Tools

## notes

### Mackie Time for Miller

WOODLAND HILLS, CA—Composer, producer and session guitarist Jason T. Miller, who has co-written and produced tracks for Grammy winners Kanye West and Keyshia Cole and co-writer a song for Reba McEntire, credits his Mackie ([www.loudaudio.com](http://www.loudaudio.com)) Big Knob Studio+ monitor controller/interface with speeding up his workflow and enabling him to meet deadlines.

### Grey Noise Opts for Black

NEW YORK, NY—Christina Chirimbolo and Stephanie Conte, who set up Grey Noise Studios in 2017 in part of the Quad Studios facility in Times Square to serve New York's hip-hop recording community, have installed a Neve ([www.ams-neve.com](http://www.ams-neve.com)) Genesys Black G32 as the centerpiece of the studio, where clients include Goldlink, Smokepurpp and Lil Pump.

### SAE Adds Audient

LEIPZIG, GERMANY—The SAE Institute in Leipzig has started overhauling its Studio 2, replacing the room's aging console with a 36-channel Audient ([www.audient.com](http://www.audient.com)) ASP8024 Heritage Edition with patchbay and Dual Layer Control (DLC), chosen in part for the desk's microphone preamps and EQs.

### Belgian Studio Eyes Prism

BELGIUM—Michel Van Achter, founder and owner of Belgian record label Homerecords, has purchased three Prism Sound ([prismsound.com](http://prismsound.com)) Atlas audio interfaces to provide 24 mix preamps and 24 channels of conversion in the recording studio, and three Prism Sound Titan audio interfaces, which provide 24 analog outputs in the mixing and mastering room.



# The 145th AES Convention Anderton Awards



BY CRAIG  
ANDERTON

**A**fter the fiasco at last year's Anderton Awards banquet (to be fair, how were we supposed to know that salmonella wasn't baby salmon?), it was an uphill battle to find a venue for the industry's only virtual awards show. Fortunately, the long-abandoned Roosevelt Island Smallpox Hospital provided the perfect environment—so once again the Anderton Awards were ready to bestow a few column inches of recognition in this otherwise prestigious publication!

In an amazing coup for the awards, our celebrity presenter this year was none other than Tom Cruise! (And it wasn't easy to find someone with the same name as the famous actor on such short notice.) So please, Tom, without further ado ... the automation envelopes, please.

The Frank Sinatra "I Want to Be a Part of It, New York, New York" award goes to AES. Undeterred by hosting the convention in a city where the "6" in Motel 6 stands for \$600, but buoyed by the crowds, new exhibitors, and a super-positive vibe, next year's convention will again be hosted in the Big Apple.

iZotope garners the Just What the Doctor Ordered—Here Are Your Meds award for the aptly-named RX7, which fills the prescription for healing stuff—noise, hum, crackles, and now, "music rebalancing." Wish the bass or vocal had been a bit hotter? Was the percussion overwhelming? Move the appropriate slider to

fix it in the mix ... no invasive surgery required.

The Oxymoron in Marketing award goes to Soundtheory's Gullfoss, which is billed as "an intelligent EQ modeled on the human brain." But ... if it's modeled on the human brain, how can it be intelligent? Well, they must have found an intelligent person somewhere (perhaps Iceland?) because it does an effective job of increasing clarity and depth.

Alters picks up the Put Some Fiber in Your Diet award for enhancing the Alters GTX 6.5 GHz Ultra-Wide-Band digital wireless microphone system with a direct-to-fiber extension. The Who said "I can see for miles"—well, now they can send audio over miles, too.

The Tie a Yellow Ribbon 'Round Your Brain award goes to the RAAL Requisite SRH-1A ribbon headphones. Yes, ribbon headphones. They sound great, but they'd better—they'll set you back \$3,500.

Taking its name from the infamous Stormy Daniels tweet, the Game On, Tiny! award goes to DPA Microphones for its 3 mm mic capsule that features CORE technology. Although only nearsighted people could actually see it, it really was there.

Once again, Zynaptiq wins the Best Reverse Engineering of Alien Technology award—this time for Wormhole, a plug-in that's been a staple of Alpha Centauri's movie industry to create special effects and soundtracks. This year, it finally made its terran debut.

The Keith Richards "I Love My Connection!" award goes to ... well, just about everything at AES. Here's a complete list of products that didn't

include networking ports: large mic stands, contact cleaner and pop filters. Oh ... small mic stands, too.

DiGiCo wins the More Channels than DirecTV on Methedrine award for the SD7 Quantum engine, which expands the SD7 to over 640 channels of processing at 96 kHz, and can also connect to the outside world for almost 3,000 potential I/Os.

The So Fast, It Goes Backwards in Time award goes to Universal Audio for its Thunderbolt 3-based Apollo X interfaces. UA seems determined to spell "l-a-t-e-n-c-y" as "l-e-g-a-c-y."

Genelec earns the James Brown Memorial "Say It Loud" award for its high-SPL Smart Active Monitors. AES insiders, who spoke on condition of anonymity, confirmed that the convention backed out of Los Angeles for 2018 because of fears that demos of the 7382 Smart Active Subwoofer would trigger earthquakes along the Newport-Inglewood fault line, as almost happened in 2016 during the AES subwoofer demos.

Sennheiser and Neumann pick up the "Cutting the Cable" Isn't Just for Getting Rid of Comcast award for bundling the G4 mic system with Neumann's KK 205 true condenser capsule. Pretty soon the only place where things will be wired is Starbucks on Monday morning. And people attending AES.

And that just about wraps up the Anderton Awards! As the curtain falls (it really should have been attached better to the curtain rod), please remember that you signed a release form when you arrived. So we hope you liked the salmon dinner, there won't be any more

of those silly lawsuits, and we'll be back again in 2019!

Craig Anderton's new book series, *The Musician's Guide to Home Recording*, is now available from Hal Leonard in soft-cover, and at Reverb.com as a series of ebooks. Please visit [craiganderton.com](http://craiganderton.com) for more news.

## Whose Job Is This Anyway?

BY LISA JOHNSTON

NEW YORK, NY—When it comes to the question of who carries the responsibility of properly archiving masters—the engineer, the label or the artist—does it become a technical, a financial or a legal matter?

The answer, according to the "Archive This! How Mastering Engineers Have Become Default Guardians of Audio Assets" panel at the AES Convention in October, is all three.

Michael Graves of Osiris Studio, Andreas Meyer of Swan Studios NYC and Meyer Media, and Cheryl Pawelski of Omnivore Records discussed the balancing act that mastering engineers encounter when it

comes to archiving assets.

It's a conundrum that has confronted the industry since the beginning of recorded music's time, noted Andreas, and there are no easy answers. As technology has advanced and assets have evolved into digital form, the challenges have grown. Digital material carries its own set of challenges, including how and where to store it—with multiple levels of local storage recommended, as well as cloud.

Even the level of detail required for proper archiving can be up for debate. While all agreed that starting the documentation process accurately from the very beginning is always best, whether you need to record the name of the guy who ran out for cof-

fee is another question. (Meyer says yes; Pawelski says no.) The value of the client can also play a role, with a high-value client potentially warranting analog backup.

All of this raises the question, Is this really the mastering engineer's responsibility?

To be sure, it's a gray area, one that is further muddled when an artist or label phones and asks the engineer if he or she still has the masters or the additional session material. While the engineer may not even be legally permitted to house the assets, this issue is often overlooked in the client's extreme desire to obtain their work.

AES  
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## Zeitgeist

(continued from page 18)

Sumney and Ted Hawkins.

"I had the API console from Record Plant in New York, from 1970, and maybe 400 instruments—a lot of stuff," he says. "What I've done is transplant the entire studio into Studio B at Sound City."

Lee's song demos were stripped down, Berg recalls, but that dovetailed with his collaborative spirit. "I have such a strong opinion about harmonization, lyrics, subtext and sonic footprint that the pre-production process is as important for me as the production itself."

He continues, "I like the immersion, the three-month period of pre-production, then casting musicians, rehearsing, going in a room. That was a little more difficult at my home studio, but now that I'm in Sound City, I'm able to do that with a band as often as I like."

Berg brought in some of his first-call collaborators to flesh out the songs, including multi-instrumentalists Ethan Gruska—with whom he is now recording an album—and Blake Mills, keyboard players Ben-

mont Tench and Patrick Warren, Greg Leisz on pedal steel and Rob Moose on strings. "And Chris Dave is a drummer like no other," Berg marvels. "We did a day with him that was mind-blowing for everyone involved."

Working with Lee for the first time on the record was a revelation. "You discover an artist's strengths as you begin to work together. Aside from this voice that is just so powerful and uniquely his own, he has this incredible skill at building background

project, says Berg, "I had three or four engineers and recordists who participated and were just extraordinary. David Boucher and Joseph Lorge are great engineers, and Tchad Blake is, for me, among the finest mix engineers who ever lived. Then I had Bob Ludwig master it; if there's someone better, I'd like to know who it is."

Berg is decidedly old school when it comes to gear, but he's also flexible. "Every project tells you what is

I think, what I really like is something with a sonic imprint. That's why we like LA-2As and 1176s and APIs—they have color. Pro Tools is the neutral factor."

He tends to use Pro Tools primarily as a recorder. "My skill set derives more from using old boxes. I find that a preponderance of plug-ins creates a fatigue in the listening experience that I can't quite explain. It's something I've always been aware of, so I am cautious when I see 10 plug-ins stacked on top of each other."

Berg has come to be more flexible as a producer, he says. "When I was younger, I might have been a little more dictatorial. The more I've done this, the more I've realized that it's not my album. It's the artist's album, and it's my job to help the artist achieve what he or she might be after, and maybe even go beyond what the artist had hoped for. And Amos could not have been a better collaborator."

Ultimately, he says, "What I really believe is that there's no [single] system and one should never adhere to an orthodoxy. I think every album should be treated as unique—because every album must be unique. Otherwise, what are we doing?"

Amos Lee

[www.amoslee.com](http://www.amoslee.com)

"I think every album should be treated as unique—because every album must be unique. Otherwise, what are we doing?"

Tony Berg

vocals, almost like no one I've ever worked with. He goes boom, boom, boom and suddenly you've got this sound that is irresistible. That was a great experience, working with someone as adept and creative as he is."

Zeitgeist was something of an incubator for engineering talent—Shawn Everett, now a Grammy-winner for his work with Alabama Shakes and the War on Drugs, spent 12 years working in Berg's backyard. On this

appropriate. In this case, Pro Tools was the way to go," he says.

Not that he won't occasionally rack up a reel of 2-inch: "I have a Studer 827 that I love, and I produced an Andrew Bird album two years ago that we did on tape."

There's a reason why he collects and favors vintage gear, he says. "The color that gear brings is what I'm most enamored of. When I hear people talk about transparency of sound,

## Resonance

(continued from page 18)

pressings. They're the best at cleaning things up."

Marking the first official release of previously-unissued Dolphy studio recordings in more than 30 years, *Musical Prophet: The Expanded 1963 New York Studio Sessions* is being released in partnership with the Eric Dolphy Trust and the Alan Douglas Estate. The set includes Dolphy's studio albums *Conversations*, released in 1963, and *Iron Man*, released posthumously, plus numerous alternate takes and two previously unreleased pieces, one from a WUOM Michigan Radio session. It also features a 96-page booklet of photos and essays.

Klabin opened Sound Ideas, his first studio in Manhattan, in 1969; then, in 1973, he moved to Capitol's former facility on West 46th Street, where he recorded James Brown, Luther Vandross and Paul Anka, among many others. Subsequently relocating to California, he set up the Rising Jazz Stars Foundation in 2005 in response to the scarcity of suitable jazz venues in the Los Angeles area. "It was hard to find good jazz to listen to, so I purchased the house next door and outfitted it as a studio for

recording and for concerts with up to 60 or 70 people," he reports. When record labels proved indifferent to releasing his productions with lesser-known jazz artists, he launched Resonance in 2007.

The label began by releasing historically important archive recordings by virtuosic mainstream jazz musicians such as pianist Gene Harris and former Bill Evans bassist Scott LaFaro, who also died young. Unreleased material was becoming harder to find when Resonance hit pay dirt with a Wes Montgomery collection, *Echoes of Indiana Avenue*. "We did such a beautiful job of packaging and restoration of the sound that I knew we would find material. And things started to come to us," says Klabin.

Although the type of material can vary tremendously, he says, "We essentially get mono or stereo quarter-inch tapes. Occasionally they come from the late '50s, but mostly they're from the '60s, and some from the '70s."

Newer tapes may suffer from sticky-shed syndrome. "We have the dreaded problem with tapes from the '70s where we have to bake them, sometimes over and over. It's easy to determine—you can just look at the tape and tell."

As for sound quality, there is always tape noise and hiss, says Klabin,

as these tapes typically date back to before the introduction of Dolby noise reduction. "There are also sometimes spurious noises, like microphones being moved. Then there are issues with the balance, the presence, frequency response or distortion," he adds.

"We're able to remedy or greatly improve all these problems. Distortion is the most difficult, but occasionally we can reduce it to an acceptable level. But we don't normally put out something that is distorted, unless it's very important, and [the distortion affects] only a small section."

Resonance's principal restoration tool is iZotope's RX software suite, Klabin reports. "We have had good fortune in having most of our recordings come to us usable. They just need cleaning, balancing within the frequency spectrum and drop-out repairs, all done with RX."

"We also use [Celemony] Melodyne, which is a very interesting tool," he says, as it essentially breaks a recorded track into its constituent instruments. "You can manipulate a note, if you have to, in ways that can be done only with that program, that I know of."

Klabin uses Melodyne judiciously, he says, only fixing the odd clam that would have resulted in a retake in the recording studio. "It's not fair to

put out something where there's a mistake just because that's the way it happened. How does that benefit anyone?"

His go-to equalizer is a plug-in from German developer Hofa. "I've used many EQs, but the one that I like the best is the Hofa. It has a real-time analyzer. It's intuitive and easy to use, and it's been my favorite EQ for a few years."

If the drums are light in the recording, he says, "We sometimes find that if you put a little bit of limiting—not compression—on the final sound, you can create a better sense of presence with the drums versus the rest of the band." That said, drums recorded too loudly are another matter. "Sometimes if there's too much drums, there's nothing you can do; you have to reject it."

As Resonance Records celebrates its 10-year anniversary, the label is preparing to dip a toe into streaming, making curated compilations of tracks from its historic and current catalogs available across multiple digital platforms beginning in February 2019. "We hope that will bring more awareness to our recordings," says Klabin.

iZotope

[www.izotope.com](http://www.izotope.com)

Resonance Records

[www.resonancerecords.org](http://www.resonancerecords.org)



briefs

## Getting Together with Lectrosonics

BURBANK, CA—Los Angeles-based sound mixer and Full Frequency Media founder Bryan Sol Aponte is using a cart full of Lectrosonics ([www.lectrosonics.com](http://www.lectrosonics.com)) wireless equipment on the ABC-produced comedy TV series *Splitting Up Together*, including SM Series transmitters, wireless HMs and IFBT4 IFB transmitters with 14 IFBR1a receiver packs, plus a Venue receiver.

## Calrecs Set Sail for University

WINTER PARK, FL—Full Sail University has added Calrec Audio's ([www.calrec.com](http://www.calrec.com)) Artemis and Brio36 consoles, connected over a Hydra2 network and offering analog, AES, MADI, Waves SoundGrid and Dante support, to its Full Sail Live performance venue, where they join a Summa console on the show production degree program and a Brio console on the film degree program.

## NFTS Educates with Nugen Audio

BEACONSFIELD, UK—The National Film and Television School, a film, TV and game sound design school, uses Nugen Audio's ([www.nugenaudio.com](http://www.nugenaudio.com)) Loudness Toolkit, including VisLM, ISL and LM-Correct, to help educate its students on loudness measurement, analysis and correction for television and streaming media.

## DPA Captures Magic Music

BOULDER, CO—When veteran TV writer and producer Lee Aronsohn persuaded a band from his college days, Magic Music, to reunite for a final concert, production sound mixer David Griesinger deployed DPA ([www.dpamicrophones.com](http://www.dpamicrophones.com)) d:screet 4061 lavaliers, d:dicat 4017B shotguns and d:imension 5100 mobile surround microphones to document the event.

# From Elektra to Electric Entertainment

BY STEVE HARVEY

WEST HOLLYWOOD, CA—The address—962 N. La Cienega Blvd.—is iconic, instantly familiar to anyone who has ever pored over the album credits for releases on the Elektra or Asylum Records labels during their early years. The labels have long since moved out, but the legendary facility where The Doors, The Eagles, The Stooges and so many others recorded lives on. It's now occupied by production, distribution and post-production company Electric Entertainment.

Electric relocated from its previous Hollywood facility to the 20,000-square-foot, two-story building—two adjacent buildings on one lot—a couple of years ago after purchasing it from Discovery. After some rejigging of the interior, which had been configured by Discovery for its post-production needs, Electric most recently brought its 7.1 Dolby-certified mix stage and 16-seat screening theater online, which is equipped with an Avid S6 console suitable for single- or dual-operator use. The room is outfitted with JBL M2 Master Reference speakers at the screen



Supervising sound editor and mixer Hugh Waddell mans the Avid S6 console inside the 7.1 Dolby-certified mix stage and 16-seat screening theater at Electric Entertainment.

with 7 Series speakers for surrounds.

"Setting the S6 up or changing it over is so easy," says supervising sound editor and mixer Hugh Waddell, whose extensive credits include *Titanic*, *Kill Bill: Vol. 1* and *Vol. 2*, and *Shrek* and who joined the company in 2010. "I mix by myself regularly, but then I'll bring someone in to handle effects or Foley and—boom—it's set up and ready to go."

Head engineer Bill Ritter chimes

in, "You just decide early on what resources you want for the people coming in to use it: one source, or two sources and a recorder. Ultimately you need a piece of it for the recorder if you're going to use record control."

Workflow is critical at Electric Entertainment, which operates as a mini studio lot, principally shepherding projects by CEO Dean Devlin, the producer and co-writer behind such

(continued on page 27)



# Sound for Film Takes Center Stage

BY STEVE HARVEY

CULVER CITY, CA—*Mix* magazine's Sound for Film & Television symposium at Sony Pictures Studios in Culver City, CA, attracted more than 550 audio post professionals to this year's fifth annual event. The full-day program extended from the opening keynote by award-winning film and game sound designer Scott Gershin

to the final fade of the last clip in the Sound Reel Showcase—a reminder of the traditional Oscar "bake-off"—that evening in the William Holden Theater.

Gershin kicked off the day with a history of sound that came to focus on the worlds of games and virtual reality, reflecting his recent move to Keywords Studios in Burbank, CA, where he and his former Technicolor

team have set up Sound Lab to offer sound services for movies, broadcast, streaming, videogames and immersive entertainment. On interactive platforms, "audio is no longer post-production, but is actually a production tool, woven into the script," he said. What sounds play, or don't play, can be used to focus the player, he added.

The first *Mix* panel in the Burt Lancaster Theater, "Sound Editing for Animation," highlighted the topsy-turvy world in which dialogue is recorded first, and production often stretches over years. The story constantly evolves and last-minute changes are inevitable, panelists reported.

Indeed, the young lead on *The Boss Baby* went through puberty during production, explained sound designer/supervisor Paul Ottoson, making later recordings tricky to match. As the panel also revealed, the director and crew will often record temp dialogue, bringing in the celebrity voice artists later.

Eileen Horta, who supervises voice recording, said of the process, "It gives you the time to be very creative; you get to play a lot." She added, "You have a huge impact," since

(continued on page 26)



The annual Parade of Carts & Bags remained as popular as ever.

DAVID ZENTZ PHOTOGRAPHY



# Getting Invisible On Screen

BY KATIE MAKAL

NEW YORK, NY—In an Audio for Cinema presentation at the AES Convention in October, re-recording mixer Tom Fleischman illustrated some of the differences between film and episodic television sound mixing by showing clips from his work on a single project: the Martin Scorsese television series *Boardwalk Empire*. The first episode of the high-profile HBO series had a two-hour runtime and a post-production schedule similar to that of a feature film, while subsequent episodes were posted in a television-standard five days.

Fleischman summarized the role of the rerecording mixer as a bit of

a magic act, noting that he is responsible for combining all of the sound elements that make up the soundtrack—dialogue, music and sound effects—but he has to do it invisibly so that no one in the audience even knows he was there.

“What we’re doing is telling a story,” Fleischman said. “The whole idea of preparing a final track for the film is to make it completely transparent. I do not want anyone in the audience thinking about the sound in any way.”

Fleischman said of the two-hour *Boardwalk Empire* pilot, which was directed by Martin Scorsese and edited by Thelma Schoonmaker, “They really treated it like one of their feature

films.” He continued, “Generally on a network TV show, you might have two or three days to mix a 42- or 45-minute episode. On *Boardwalk Empire*, we took four weeks on the pilot. And then every episode after that we had four days to mix, a fifth day for playback, and if we were lucky, I would get a sixth day to do the M&E track,” a version with music and effects but no dialogue that’s used for international distribution.

The challenge, he said, stems from the fact that “you can’t use the same kind of workflow [as on a feature] on an episodic show like this where you need to turn over an episode every week. It’s got to get done. It’s going on the air, there’s a hard deadline.

There’s no time for subtlety.”

A re-recording mixer has to cut some corners to get his work done in the compressed time frame of episodic television, but he has to figure out the right corners to cut that won’t affect dialogue intelligibility or pull the audience out of the story. “The main goal is to make it seem as natural as possible to the audience. I don’t want anyone thinking about what a great job I did. I don’t want them to think that I did a job at all.”

He added, “I don’t want people saying, oh, what a great soundtrack that is. No, I want them to say, what a great movie that is!”

AES

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## Sound for Film

(continued from page 25)

subsequent animation is based on those recordings.

Asked to provide advice for anyone getting into the animation world, supervising sound editor Geoffrey Rubay said, “Don’t call them cartoons,” to laughter from the audience.

“Mixing Dialogue: The Audio Pipeline” took a deep dive into the process, from capture of production dialogue through delivery to the editor to mixing on the stage. “Dialogue is the key to the whole track,” said re-recording mixer Andrew DeChristofaro.

“There’s always resistance to ADR, but I’ve seen magic happen,” he said, citing a scene from *Unbroken* where the team played director Angelina Jolie an example mix of production dialogue, then one of the looped dialogue, which convinced her to record ADR. “You went from watching it to being there with them,” DeChristofaro reported.

Mathew Waters stressed communication between departments. As a re-recording mixer on *Game of Thrones*, he has worked with the production sound team for years. “But they have also worked with the costumers,” he said, in response to problems with the dialogue tracks caused by the outfits or lav mic placement. “Everybody loves to do great work, so they love to hear feedback.”

Avid, in the Cary Grant Theater, held S6 console demos throughout the day between panel sessions, which included “The Sound of Streaming Content” and “The Future Is Female,” in which leading female composers in TV, film and videogames discussed their projects.



In the Burt Lancaster Theater, a panel on mixing dialogue packed the house.

“There’s always resistance to ADR, but I’ve seen magic happen.”

Andrew DeChristofaro, re-recording mixer

Each played a clip and offered insights into their scores.

Ronit Kirchman, composer for USA Network’s *The Sinner*, talked about a key hypnotic metronome sound. It became part of the score “because it holds such a metaphorical weight in the show,” she said. Kirchman created “17 or 18 different metronomes” from which the production could choose before delivering a multilayer sound to the stage that could be manipulated as needed.

Joanne Higginbottom recounted how, for spotting sessions on the animated series *Samurai Jack*, executive producer Genndy Tartakovsky would “do absolutely everything with his mouth—footsteps, gunshots, a motorbike. At the same time, he would do the musical moments, too.” That meant Tartakovsky had to pick

whether something was a sound effect or musical moment, ensuring one wouldn’t step on the other. Higginbottom would record the spotting sessions, put them into Pro Tools and frequently created a literal translation of his musical ideas, she revealed.

The final Mix panel, “The Business of Immersive,” offered advice from industry experts about building a Dolby Atmos mix room. The increasing trend is for smaller rooms, according to George Adjieff, CEO of Westlake Pro, often around 600 to 800 square feet—or even smaller. A significant challenge, especially in those rooms, is ceiling height, allowing no space for acoustic treatment, he said. “It doesn’t matter what speakers you put in there if the room isn’t treated properly.”

Retrofitting rooms is especially tricky in older buildings. “A lot of the

rooms I deal with have crazy ceiling treatments. You have to sacrifice some aesthetics” to get these new formats into older rooms, suggested Formosa Group engineer Eric Beam.

Jeremy Davis from Sony Pictures Post Productions Services warned, “You have to consider the ceiling architecturally because it has to support speakers and wires. There’s a whole set of considerations that you’ve not had before.”

On the Barbra Streisand Scoring Stage, the Cinema Audio Society offered a program including the always-popular Parade of Carts & Bags, each detailed by their production sound mixer owners. An afternoon panel session discussed the return of 3D ambisonic recording methods and their place in cinema sound.

In the Anthony Quinn Theater, the Composers Lounge, sponsored by Soundworks Collection, offered a succession of informal, living room-style presentations, including “The Sound and Music of *First Man*” and “The Sound of *A Star Is Born*.” (Read more about *A Star Is Born* on page 14.)

Dolby’s demos in Sony’s new Theater 1 included mixer and supervising sound editor Will Files playing back tracks from his latest project, *Venom*. Yamaha/Steinberg showed off Nuendo 8.3 and related software in one of Sony’s Dolby Atmos sound design suites. Meyer Sound demonstrated an immersive Acheron speaker system in one of Will Files’ rooms and temporarily installed its new Bluehorn System in another room.

The event’s sponsors also included Audionamix, Formosa Group, iZotope, RSPE Audio Solutions, and first-time exhibitors Sound Particles and Tonsturm.

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## Electric

(continued from page 25)

films as *Stargate*, *Godzilla* and *Independence Day*, from inception to screen.

"We own the building and the machines, so it's just about bringing in the talent," says Ben Raymondjack, vice president, post-production. "We can ebb and flow and make it scalable."

The fact that Electric handles all post processes on a single site is key to its success, says Waddell, and encourages collegial harmony between departments. "The integration allows us to cut many corners, as opposed to the regular way it happens in a studio. I can just walk over to a VFX artist and ask him what is going to happen" in a certain scene, for example.

That integration has been driven by Devlin's preferred workflow. During the post process on *Bad Samaritan*, for instance, updated audio tracks were handed off to the picture department weekly, sometimes daily.

That workflow is something of a break from tradition and different than that of many other post houses around town. "A lot of people say they're in-the-box, but they're still using the old workflow where they have to go through a pre-dub stage. We're just constantly updating from day one," Waddell points out. "And most of the time we're working with mock-ups of the final music, so we don't even need temp music."

The well-equipped core room, which houses 280 TB of Quantum media storage, supports the finish-as-you-go workflow. "We have fiber-connected storage as well as NAS," Raymondjack elaborates. "The sound department and picture share the same storage," enabling easy handoff of updated media.

Electric was formerly an Apple house, based around Xsan and Final Cut Pro. "The industry changed and we adopted Avid," says Raymondjack. Rather than also adopting Avid's copper-based Nexus storage platform, the house has implemented SAN Fusion from Chesapeake Systems, which allows Avid project bin-locking between Pro Tools and Media Composer. "We have fiber channel speed with the entirety of the SAN space," he adds. That also allows producers and directors on the mix stage to see the final color version instead of a less finished copy.

The picture department, encompassing seven offline edit bays, a color grading suite and a VFX bullpen, is largely housed in the original Elektra building, in which Jac Holzman built the famed recording studio (the live room is now a conference and picture review room) in late 1950. The

second building, which was added later, features four Pro Tools-equipped sound editing suites, two sound design rooms—one inhabited by Waddell, with attached VO booth—outfitted with Avid S3 Pro Tools rigs, an ADR studio, a Foley closet and the re-recording stage, which occupies the former Asylum recording studio space.

The mix stage is also used for ADR and loop group work, for which it is equipped with Focusrite Red and

Avalon mic preamps. "I use those to record podcasts," says Ritter, who produces several such shows each week, including *Inglorious Treksports*, for *Star Trek* aficionados.

But pride of place goes to the Avid console. "The S6 is beautiful, and so intuitive," says Waddell. "I come from an editorial background, so I'm used to reacting to the tracks in a certain way. I tend to be more Pro Tools-based on every single last thing, using it from

an editorial standpoint, but mixing at the same time. Whereas an old-school mixer doesn't have to look at the screen and can just put his hands on the faders and take it from there. It depends on what you're used to—which is why I love this machinery."

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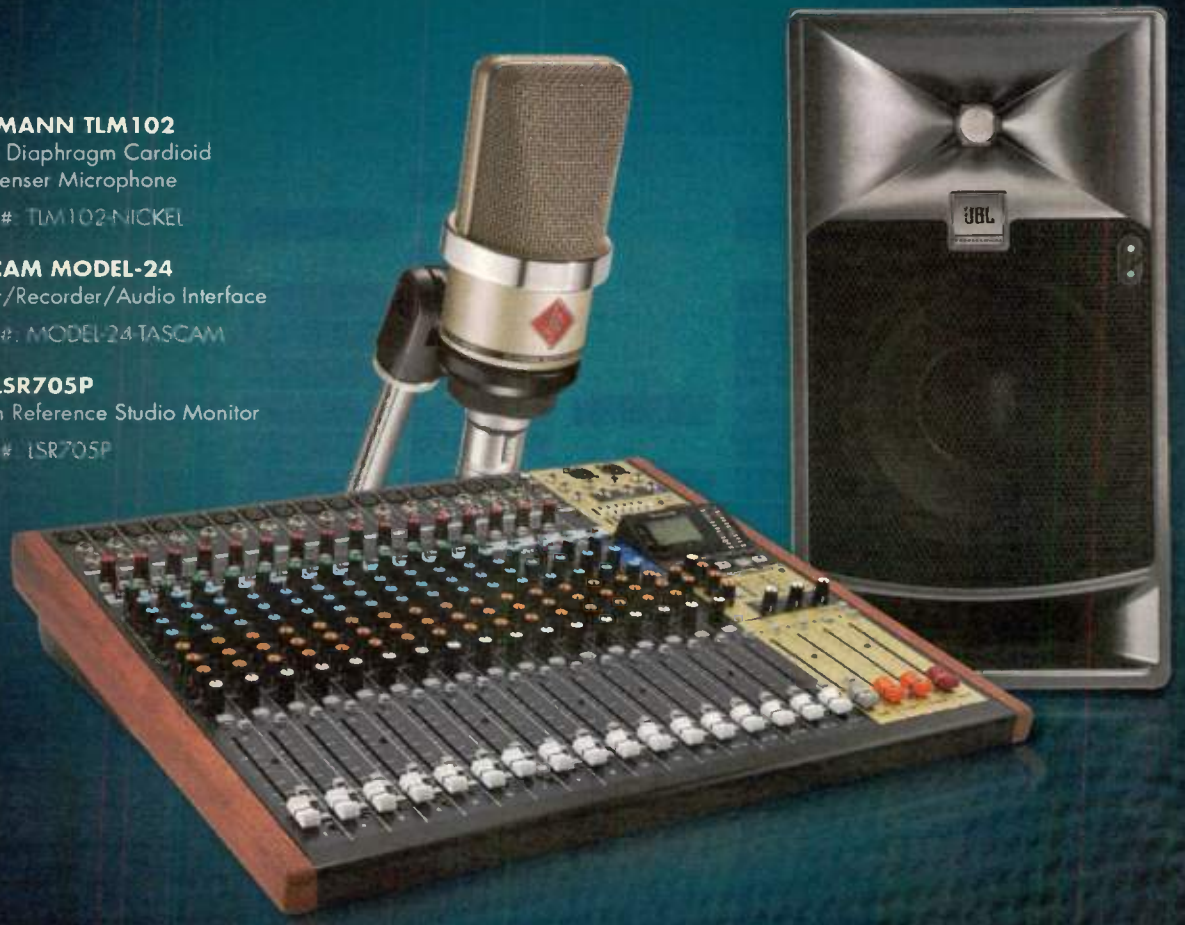
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## Companies to Watch

(continued from page 1)

partners in all of the vertical markets we serve. In an industry roiling with upheaval—financial restructuring, consolidation and even a few dubious takeovers—Yamaha offers consistent professionalism, world-class training and support, and an expanding system-oriented approach to our quality product lineup.” As for 2019, Macpherson hinted at “interesting new items in the pipeline,” including “something that is both portable and powerful,” adding mysteriously, “We don’t think that a ‘safe harbor’ needs to be boring.”

Want some advice for the future? “Don’t get rid of your racks,” suggests Eventide president Tony Agnello. The reason for that is one of Eventide’s high points of 2018—its next-generation Harmonizer, the H9000—and it points the way to 2019 for the company as well. Agnello said Eventide will prove that multi-effects hardware processors have a secure role in the plug-in age; the company will continue its near-50-year, “unbroken tradition of delivering industry-leading signal processing power to the pro audio community.” Appropriate for applications spanning broadcast, studio and live production, and for performing musicians, the unit includes effects from Eventide’s catalog of 1,600+ algorithms and new processes that were “previously unimaginable.” Users can also select from 500-plus available presets, and the unit offers the ability to build FX chains of up to four complex effects. So about those racks? “The H9000 is proof that hardware processors are not only viable, but highly desirable in the years to come,” he said. “You’ll want a place to bolt this in.”

QSC did a fair share of looking back this year itself. “QSC celebrated its 50th anniversary in 2018, which allowed us the opportunity to reflect on the tremendous growth and innovation in this company while forging ahead with our eyes on the future,” said Chris Humphrey, vice president of marketing. “Over the past 50 years, QSC has grown from a small amplifier company to a leading provider of a complete ecosystem of audio, video and control solutions. This year alone, QSC introduced some of its most innovative solutions in our history, including the CP Series of compact powered loudspeakers; launched new Q-SYS Control capabilities ... and Premium Business Music solutions. QSC also expanded our reach worldwide with a new EMEA headquarters in Germany, a new training



For a company involved in soundproofing, Auralex had a loud year.

and showroom facilities in Boulder, CO, and the UK. It also increased sales and support capabilities in India and APAC.”

Think you got a lot done this year? Congratulations! Just do yourself a favor and don’t compare your 2018 to that of Jim Odom, president and chief strategy officer at PreSonus. “In 2018, PreSonus launched 32 new products for live sound, music production and commercial installations,” he said. “Especially noteworthy was our AVB network platform, which was fully realized with over a dozen products and software applications, including our StudioLive Series III range of digital mixers, NSB-series AVB-networked stage boxes, EarMix16M AVB personal mixers, and SW5E AVB switch. We also launched Studio One 4, the latest version of our digital audio workstation application.” The end result is that PreSonus now has a complete networked solution for both studio and live sound using an industry-standard protocol (AVB). How do you follow up a year like that? “We will continue to add to our AVB-compatible software and hardware products throughout 2019,” Odom reported—and that will definitely be a story worth keeping an eye on in the coming year.

In 2018, Audio-Technica continued to focus on industry trends in connecting data networks for both audio and control communications. As the industry moves toward more comprehensive implementation of protocols such as Dante and AES67, A-T refined its ATND series of Dante/AES67 microphones. The company also introduced the 5000 and 6000 series wireless systems for critical performance applications, and saw adoption of its ATDM digital audio mixers, which are controlled via web browsers. In the studio market, A-T’s flagship AT5047 cardioid condenser studio microphone continued to be used by prominent engineers and producers (for more, read this month’s METAL-

liance Report on page 32), while ATH-M60x on-ear professional monitor headphones were embraced by audio professionals in the studio, broadcast and mobile sectors. Last month, A-T expanded its headphone offerings by introducing ATH-M50xBT wireless over-ear headphones, which bring Bluetooth wireless technology to the ATH-M50x. While A-T wouldn’t reveal specifics, execs noted that 2019 will see a number of important product debuts from the company—so we’ll be watching.

2018 saw d&b audiotechnik unveil two significant products: the d&b Soundscape and the SL-Series’ GSL system large format line array. The d&b system approach now extends beyond loudspeaker boxes and amplifiers into the realms of sophisticated digital signal processing and networking solutions, and this month’s Live Sound Showcase story, profiling the recent Thomas Rhett tour (page 40), inadvertently highlights all those aspects in real-world use. Meanwhile, d&b Soundscape adoption has grown, with uses in multiple musical performances, churches, professional sports arenas, rock venue installations, electronic music tours, outdoor open-air events and a spinning gym. For 2019, d&b is set to launch the KSL System, a little brother to the GSL, and the company teases that installers and integrators in particular should keep an eye on the company as it debuts new tools to design, control and manage audio systems.

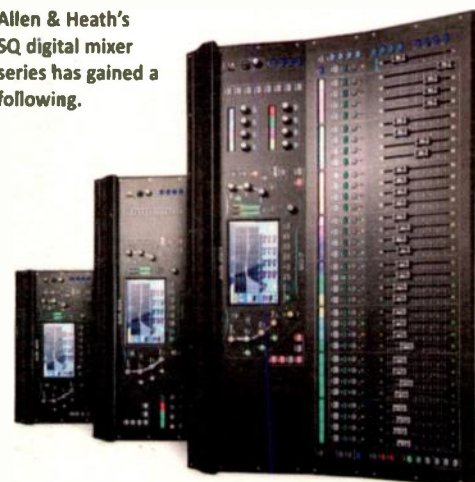
For Shure, 2018 was about many things: a return to its downtown Chicago roots, new products, several executive promotions, and other moves that are paving the way for the longtime pro audio manufacturer to make the most of the coming year. Opening its new downtown Chicago office in the National Building, the company focused on the sig-

nificance of its Chicago heritage and created an Experience Center within the new office space. Meanwhile, the Axient Digital wireless system was used for high-profile events like the MLB All-Star Game, Tony Awards, ACM Awards, Super Bowl, Grammy Awards and more. Shure also added a multitude of connectivity offerings for its SE Sound Isolating Earphone line, the result of product research and development. While all that sounds like a lot for one year, Shure was honored as a 2018 Top Workplace by the *Chicago Tribune*, while *Crain’s Chicago Business* named Shure president and CEO Chris Schyvinck one of the Most Powerful Women in Chicago Business.

“2018 has been really exciting,” said Ella McClary, marketing communications executive at Allen & Heath. “We’ve seen our SQ digital mixer series [launched in late 2017] quickly gain a huge following and dLive continue to go from strength to strength in live sound and installation. Alongside the countless awards and nominations for SQ, what’s really cool is just how widespread the adoption of the console has been, from houses of worship through to international touring bands. It’s also just become one of the first mixers to have optional plug-ins available via an online store, letting users build their own custom toolbox of processing options. But, as exciting as 2018 has been, it’s 2019 that we’re really looking forward to.”

Allen & Heath’s parent company is Audiotonix, which also owns brands like DiGiCo, distributed in the U.S. by Group One. “Group One had a banner year of double-digit growth across the board in 2018, and we’re only increasing that momentum as we head into the new calendar year,” said Jack Kelly, president. Group One also distributes Audiotonix’s Calrec, as well as brands like KLANG:technologies, Blue Sky, XTA and MC2. “DiGiCo’s highly-anticipated SD7 Quantum engine started to ship this quarter, and combined with the 32-bit DAC and new software revisions across the rest of the platform, the SD-Range is proving once again why it continues to

Allen & Heath’s SQ digital mixer series has gained a following.







d&b audiotechnik has plans to launch new tools to design, control and manage audio systems in 2019.

be the top rider-requested console. Furthermore, the recent launch of the 4REA4 network system has given DiGiCo new market penetration with both live and install projects, and the product already looks to be a huge growth engine for 2019." With that in mind, Group One is looking to expand its executive and sales teams for DiGiCo and KLANG, as well as support teams for all its brands. Said Kelly, "With the right combination of stellar people and products, 2019 will be our best yet."

Looking back at 2018, Kevin Ivey, general manager for Peavey Commercial Audio, could pinpoint exactly what his company had been up to: "We focused development in 2018 to bring Crest Audio back into the center of the pro-audio market and to expand our offerings for the smaller and simpler contracting and installation projects." Part of that initiative saw Crest Audio introduce the Versarray Pro powered and networked line array system with onboard DSP for processing line array functions. It includes networked 215 and 218 powered subwoofers and comes in passive and fixed installation versions. Also on the agenda was shipping the Tactus Digital Mixing System, introducing XD Series rack-mounted digital mixers, and debuting two new power amplifier series (ProTOUR Series and C1 Series). "We made great strides in putting Crest back on the road again with an entire range of pro audio products," he said. And why you should watch them in 2019? Try the next generation MediaMatrix platform, which will include a completely new processing core and DSP complement. "Look for a complete overhaul of the MediaMatrix offerings," said Ivey, "retaining the flexibility and expandability that the market demands, but at new price points to open these products to a broader market."

While Neutrik unveiled its Xirium Pro Wireless Cable Replacement System before 2018—Xirium simplifies system connections by eliminating the cables, making long-distance cable runs a thing of the past—this year saw Xirium Pro used by Know:Audio of Emeryville, CA, for Intel's high-profile 50th anniversary celebration, which was spread over several city

blocks. Rather than run a mile or so of cable, Xirium Pro was used to wirelessly send audio to two separate locations. Pascal Pincosy, owner of Know:Audio, commented, "Even though we barely had line of sight between locations, we experienced no dropouts. After a couple of hours of testing and careful monitoring, it became quite clear that the audio link was the least of our worries at this event. Throughout a week of shows, there wasn't a single hiccup!" Perhaps unsurprisingly, Neutrik expects to see Xirium Pro adoption continue to grow in 2019.

One of the biggest stories of 2018 was Transom Capitol's strategic divestments of the LOUD Audio portfolio brands (Ampeg, EAW and Martin Audio), allowing Mackie to operate once again as a focused, standalone business—and yet that was hardly the focus of Mackie's year. In 2018, Mackie released several products, ranging from wireless live sound solutions to studio gear to consumer devices. Products like the new Thump Series made their way into the market in large numbers, including new Boosted models with wireless features like streaming, wireless linking of two speakers, and total wireless control. (Expect a review soon in *Pro Sound News*.) Mackie entered a record number of new product categories, including in-ear monitors, headphones, ear buds, portable Bluetooth speakers and audio tools. The brand also extended the DL Series wireless digital mixers into a stagebox design. With the company about to celebrate its 30th anniversary, the folks at Mackie teased that they plan to "kick off 2019 in a big way." We're guessing that means a NAMM Show visit is a must.

This was a landmark year for the LOUD Audio companies that were divested as well. In one of the boldest moves in Martin Audio's 47-year history, it partnered with mid-market private equity investor LDC for a management buyout. This move will enable the business to continue to expand its line of high-end loudspeakers,

improve its sales and marketing capabilities via the expansion of its global distribution network, and enhance its digital infrastructure through software development. Part of the impetus for the move was the accelerated product development schedule that led to 35 new products in 24 months. Building on that momentum, 2019 will continue to see new product introductions across all loudspeaker categories. In addition, Martin Audio will be promoting Sound Adventures, a 3D immersive sound experience developed in cooperation with partner Astro Spatial Audio.

Royer Labs had an outstanding 2018, according to Rick Perrotta, company president. Its ribbon mics were used on films such as *Black Panther*, *A Simple Favor* and *Ant-Man and The Wasp*, while the R-121 was deployed on large ensembles such as the Mormon Tabernacle Choir, not to mention pre-records and in the orchestra pit for the Academy Awards broadcast. The R-10, a new ribbon mic designed for both the studio and live sound applications (see story on page 30), landed on several tours, including in the live electric guitar cabinets of Foo Fighters, Sam Smith and Lana Del Ray.

According to sources at Waves, in 2019, we will be seeing "a new product encompassing one of the most unique, workflow-enhancing and groundbreaking technical achievements that the prolific relationship between Waves and AR has ever produced." That's no small order, but it's said by a company that had a banner year in a variety of market sectors. While introducing new plug-ins for the studio and live markets, work-

machines and signature effects. Waves added to the list in 2018 by releasing Abbey Road Chambers and Abbey Road TG Mastering Chain plug-ins.

For a company involved in soundproofing, Auralex had a loud year. Following its 40th anniversary in 2017, Auralex introduced the MAX Kits line of portable and freestanding acoustical treatments designed for use in recording and performance applications. As they took off immediately, according to the company, Auralex plans to introduce additions to the line. Looking toward 2019, Auralex has ported its RLX: Room Layout eXpress acoustical treatment software to a standalone app that will be available in the Apple and Android app stores in January. The RLX app will give recommendations for various small room types, providing acoustical treatment suggestions. Auralex aims to remove much of the guesswork from determining what is the best and most effective acoustical treatment solutions for a specific space.

2018 was big for pro audio in general, so it's only fitting that it was likewise a banner year for the organization that encompasses virtually all of pro audio itself: the AES. While it celebrated its 70th anniversary, the Audio Engineering Society remains focused squarely on the future. In addition to the recent convention in New York City, there was the first-ever international convention in Milan, Italy; the sell-out conference on Audio Archiving, Preservation & Restoration held in partnership with the Library of Congress; hit conferences on spatial reproduction and virtual and augmented reality; and the inaugural AES@NAMM Pro Sound

Symposium: Live & Studio held during the 2018 NAMM Show. As a result, the year was spent fulfilling the organization's mission of educating on both the fundamentals and new horizons of professional audio, but looking ahead, 2019 will be just as busy. AES@NAMM 2019 is next month, followed by the AES Dublin 2019 Convention and a number of topically timely conferences leading up to AES New York 2019. AES Standards work,

too, familiar from such venerable standards as the 1991 introduction of MADI to the AES67 "Rosetta Stone" for AoIP networks, continues to address new technologies and emerging production workflows with new and pertinent standards on track for release in the year ahead.

For even more companies to watch in 2019 and beyond, see our extended coverage online at [www.prosoundnetwork.com](http://www.prosoundnetwork.com).



Neutrik's Xirium Pro makes long-distance cable runs a thing of the past.

ing with leading artists on signature plug-ins, expanding its hardware offerings, and leveraging Waves Nx technology into the consumer market, Waves continued to grow and expand globally. Its collaboration with Abbey Road Studios has continued in earnest, with 10 plug-ins now included in the Waves Abbey Road Collection; launched in 2011, the collection models the studios' legendary rooms, microphones, consoles, tape



# innovations: the manufacturer's view

## Responding to Market Conditions

### ROYER R-10 RIBBON MICROPHONE

BY RICK PERROTTA

It was more than 20 years ago that Royer Labs set out on a simple mission. Our goal was to bring the ribbon microphone from obscurity back to prominence by incorporating new technologies and broadening the application possibilities of this venerable classic.

We were determined to build products of the highest quality and provide superlative customer service. We developed a new transducer design (introducing our patented offset ribbon and our direct ribbon corrugating method) and utilized neodymium magnet materials and toroidal transformers to improve overall performance.

The result was the first compact high-SPL ribbon mic, the R-121, and the ultra-compact SF-12 stereo microphone. Both products were a success and the company flourished. The R-121 is now ubiquitous in studios around the world and continues to be a flagship product for us.

Over the years, we continued to innovate by introducing the world's first phantom-powered ribbon microphone and the first vacuum tube ribbon microphones. More recently, we have broadened our scope to include shockmounts that have done away with elastic materials altogether, enabling the product to be serviceable for a lifetime without maintenance or degradation. We were awarded a patent for this development.

"Being open to changing market conditions instead of fearing them provided a rare opportunity for our company."

—Rick Perrotta

Our line of products continued to grow, resulting in a series of microphones designed for a wide variety of applications. In 2013, Royer Labs was awarded a prestigious Technical Grammy Award for our contribution to the advancement of the recording field and making the ribbon microphone relevant again. In their award statement, the Recording Academy noted that our ribbon microphones brought an analog sound, feel and musicality back to the recording pro-

cess that had been lost when tape machines were replaced by digital recording devices.

Our company enjoyed unencumbered growth for many years and has become a highly respected brand. Along with that coveted reputation, Royer also became known as a company that manufactured only handcrafted, high-end and expensive products.

That's where things got interesting for us. In the beginning, there was little competition and our core buyer was your typical professional studio that had no problem purchasing top-flight gear. About 10 years ago, things started to change—and quickly. Pro studios started disappearing and the ones that were left were no longer freewheeling with their purchases. We also started to see a shift in industry demographics. Large studios started to give way to the home studio, and artists were relying more on live performances than record sales for their income.

Simultaneously, as the ribbon microphone market matured, competition started to come from everywhere. Major manufacturers—and especially companies from China—started offering ribbon microphones. A slew of inexpensive, cheaply made offshore mics started to proliferate in this emerging market. A cottage industry developed that included do-it-yourselfers and mic modifiers who improved some of the cheaper offerings.

As this dynamic emerged, we started hearing things like, "I would

love to own a Royer, but they are simply out of reach for me."

We decided to apply our skills, experience and leadership position to create products specifically for this new market. We were determined to produce a product that met our high standards, but that was more affordable considering the market conditions.

The first thing we did was identify the type of customer we needed to satisfy. Then we examined the type of

Royer R-10 ribbon mic



applications this mic would need to excel at—everything from home and professional recording and live stage performance to loud guitars and vocals.

Lastly, we had to determine a target price.

In the design phase, we addressed the requirement for a high SPL. This led to the development of a large transducer cavity with a triple-baffle windscreen. The transducer was isolated on silicone buffers for high shock resistance.

Electrically, we designed a special impedance-matching transformer with a slightly lower turns ratio than our R-121, which gave the new design a very high overload threshold, while minimizing the likelihood of overdriving the intended preamplifier. To be able to meet our target price, we relied on an offshore contractor to machine the parts for us and incorporated a powder-coated finish instead of our usual and expensive electroless nickel finish.

We created numerous prototypes

and beta-tested myriad ideas. Finally, after almost two years of R&D, we had a design we felt would be the perfect fit for this new market—and it was still every bit a handcrafted Royer product.

The R-10 was born.

The new ribbon mic was readily accepted and, for the first six months, we had difficulty keeping ahead of orders. Our meticulous assembly procedures meant that some customers often had to wait several months to get stock. Sales have been brisk, but we finally have production running smoothly, with no delays. The R-10 has been well received and we are proud of our achievement.

In retrospect, being open to changing market conditions instead of fearing them provided a rare opportunity for our company. Circumstance proved to be a great incentive for us and resulted in broadening our overall market position.

Rick Perrotta is president of Royer Labs.

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## THE METALLIANCE REPORT: Choosing the Right Microphone



At a METAlliance "In Session with the Guys" event, Frank Filipetti explains the reasoning behind setting up four mics to have the singer sing equidistant from each of the capsules.

BY FRANK FILIPETTI AND GEORGE MASSENBURG

After Frank Filipetti's earlier column where he mentioned his favorite mics, the METAlliance has gotten a lot of questions from readers all essentially asking the same thing: What's a good way to compare and evaluate mics when trying to choose what's best for the application and artist? Here's one of a number of methods as used by Frank and also George Massenburg, who comments here.

The important thing to consider before you start is to ensure that the test is truly fair, and that means you have to compare the mics using the most similar audio path possible. You can spend 10 minutes setting up mics and listen for an hour and not understand what you hear. Spending more time making sure you have a valid comparison, and then listening will usually be more productive.

How does one test microphones?

We've seen folks line up four or five mics in a row, and then have their singer sing into each one. The problem with this approach is that you are combining the mic's performance with the singer's performance. A great emotional line on a so-so mic will trump a so-so line on a great mic.

**Step One:** Line up the capsules on, say, four mics and have the singer sing equidistant from each of the capsules. That way, it's four mics and four tracks, but one performance.

**Step Two:** You have to ensure you have exactly the same signal chain.

Keep it simple—go with maybe just a preamp, and remember, you are not auditioning preamps. The best way to guarantee that all four preamps are identical is measure each of them, or maybe even use a digital mic pre-set to the named gain. Right now, you're only interested in the difference between the mics, not the pre.

**Step Three:** Record the performance on all four microphones simultaneously. Look for the record level on all four to be within a decibel or so of each other—and if they're not equal, now's the time to adjust playback levels, not mic pre gain. They don't have to be

precisely identical (at least not yet).

**Step Four:** Select the recorded lines you want to use. It's best if you use a fairly soft and a fairly loud section.

**Step Five:** Place an LUFS meter across each section and make sure all four mics play back at identical levels. Frank generally uses -24 as his reference on the soft vocal and -16 on the loud, but use whatever you wish, as long as all four selections are within 0.1 dB. You can accomplish this using your playback gain controls, or if you're in Pro Tools, maybe use clip gain.

**Step Six:** Select a short region—a line or two—to listen to. We find it



Here the METAlliance compared (clockwise from top right) a Telefunken ELA M 251, Audio Technica AT5047, a Neumann U 87 and an AT4060.

**METAlliance®**  
MUSIC ENGINEERING & TECHNOLOGY  
Advancing Excellence and Integrity in Music Technology

The METAlliance—A Schmitt, Chuck Ainlay, Ed Cherney, Elliot Scheiner, Frank Filipetti and George Massenburg, along with the late Phil Ramone—has the dual goals of mentoring through our "In Session" events, and conveying to audio professionals and semi-professionals our choices for the highest quality hardware and software by shining a light on products worthy of consideration through a certification process and product reviews in this column. Our mission is to promote the highest quality in the art and science of recording music.

best if you keep the selection short, while giving a second or so to rest between playbacks. This clears the mental "palate," so to speak, and allows the performance to sink in.

**Step Seven:** By the way, now's the time to invite the artist to listen to the different mics with you. While listening to each track, you will try not to listen so much "analytically" (as an engineer), but emotionally (as a producer). If you listen analytically, you are going to miss the emotional picture, and in the end, that's what we are trying to capture. (Also, George always rarely ignores the artists' choice.)

Multiple Grammy-winner Frank Filipetti's credits include Number One singles as Foreigner's "I Want to Know What Love Is" and "I Don't Want to Live Without You" (which he also produced), KISS' "Lick It Up" and The Bangles' "Eternal Flame." He's worked with acts ranging from Korn and Fuel to Barbra Streisand and Elton John, and has also produced, recorded or mixed albums for Carly Simon, George Michael, Dolly Parton, Rod Stewart, Luciano Pavarotti and James Taylor, among many others.

Grammy and TEC Award-winner George Massenburg is a producer, recording engineer and designer of audio equipment who has participated in the creation of more than 450 albums. He has won Grammys as both a producer and as an engineer, and in 1998 was awarded a Grammy for Technical Achievement for a lifetime of contributions to the art and science of recording. Massenburg's discography includes seven Little Feat albums; seven Earth, Wind & Fire albums; 13 Linda Ronstadt albums; and albums with Journey, James Taylor, Jennifer Warnes and Ricky Skaggs, among others. He also created that mainstay of the recording process, the parametric equalizer.

METAlliance  
www.metalliance.com



# 2018 Holiday Gift Guide

BY RUSS LONG

Another year has gone by and it's time to start holiday shopping for your favorite music maker. This year brings a host of great options.

## BLUE YETI NANO

The Yeti Nano, BLUE's latest USB microphone offering, is designed to handle broadcast-quality podcasting, YouTube production, game streaming, Skype/VoIP calls and voiceover work. The \$99 mic has a beautiful finish (with four color options) that looks great on camera and includes a no-latency headphone output. The mic includes a desktop stand; the optional Radius III shockmount allows the mic to be used with standard mic stands.

While affordable broadcast is its forte, the Yeti Nano is well suited for music production; therefore,

budget-conscious music creators should give this mic top consideration. The mic includes BLUE's Sherpa desktop app. Software controls include polar-pattern and sample rate selection, mute and gain. I've had impressive results using the mic to record an acoustic guitar/vocal song demo and multiple voiceovers.

Potential buyers should note that BLUE is currently offering the Black-out-Yeti Studio and Yeticaster Studio holiday microphone/software bundles built around the higher-end Yeti mic bundled with software from PreSonus and iZotope.

[www.bluedesigns.com/products/yeti-nano](http://www.bluedesigns.com/products/yeti-nano)

## TRIAD-ORBIT MOUNTS

I've been a dedicated Triad-Orbit user since I first encountered the

company's stands several years back. I never thought I would consider a microphone stand revolutionary, but that's the case with Triad-Orbit. The beautifully constructed Triad-Orbit stands often remind me of a finely crafted automobile, and their precision often equals that of the microphones they hold. They are expensive compared to most mic stands, but they are worth every penny.

Not only does Triad-Orbit manufacture what I believe are the finest microphone stands ever made, the company is constantly releasing innovative new products. After spending the last couple of months using the Synergy Series Grip Clamp and Spring Clamp, I can say both are amazing additions to the Triad-Orbit System. It truly is a system, too, as the entire line of Triad-Orbit products incorporates the proprietary IO Quick-Change Coupler that allows booms, mic arms, iPad mounts and more to be interchanged between Triad-Orbit stands and other manufacturers' mic stands retrofitted with IO mounts.

The Grip Clamp (\$103) is an exceptionally strong articulating jaw clamp fitted with an IO receiver that will securely attach to any truss, rail or stand up to 2 inches in diameter. I've used it in a variety of situations, including attaching an iPad holder to a mic stand and positioning a pair of Audix SCX-25 microphones on a grand piano. The Spring Clamp (\$83) is a similar device that uses a torsion spring rather than a manually tightened design for mounting. The grip is quite strong, and between the spring tension and the rubber-covered jaws, the device has an incredibly solid grip. I've used it to attach the snare bottom mic onto the snare stand, a hi-hat mic onto a cymbal stand, and a guitar amp mic onto the guitar cabinet. In most instances, the clamps are interchangeable, but the Grip Clasp does have a slightly stronger grip potential. The uses are endless.

[www.triad-orbit.com](http://www.triad-orbit.com)

## IK MULTIMEDIA UNO SYNTH

IK Multimedia released its first-ever hardware synthesizer, the UNO Synth, earlier this year. Priced at \$199, this monophonic analog synth is quite the powerhouse. Its petite size and low weight make it ultra-portable; it can be powered by battery or USB. MIDI in and out connectivity enables connection to any MIDI equipment, and the synth can integrate directly with a DAW via USB MIDI without additional hardware.

Designed by IK's synth guru,



IK Multimedia Uno Synth

Erik Norlander, who was one of the brains behind Alesis' legendary Andromeda synth, the UNO Synth provides a broad palette of highly usable sounds, as well as the ability to easily modify presets or program entirely new sounds from the ground up. The UNO Synth comes with 100 presets, 80 of which are rewritable.

The UNO Synth's small size and lack of a traditional keyboard might make some pros shy away, but the analog synth is actually quite powerful, and it sounds stunningly good. UNO incorporates an all-analog path, including two VCOs, a noise generator, a resonant multimode VCF and VCA, and two independent VCOs with Saw, Triangle and Pulse waveforms with continuously variable shape including PWM of the square wave plus a separate white noise generator.

Included with UNO is a powerful editor/librarian that incorporates a full-size GUI and the ability to function as either a standalone application (Mac/PC/iOS) or an integrated DAW plug-in (Mac/PC). The editor provides flawless control of every parameter and full preset customization.

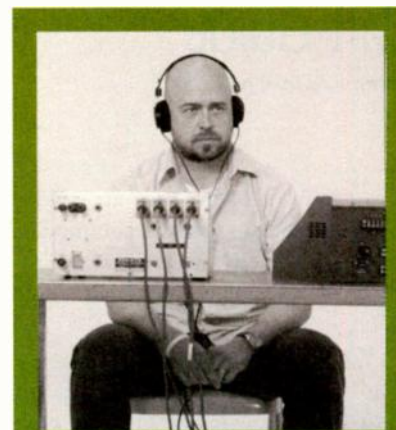
UNO has a 27-note, multitouch, capacitive-sensing keyboard that provides over two octaves of sound control as a chromatic keyboard or as a predefined scale keyboard with 13 available scales. The synth incorporates a complex arpeggiator with 10 modes and a four-octave range, as well as a built-in delay effect and five instant performance modulations (Dive, Scoop, Vibrato, Wah and Tremolo) allowing musicians as limited as myself to give Giorgio Moroder a run for his money.

[www.ikmultimedia.com/products/uno-synth](http://www.ikmultimedia.com/products/uno-synth)

## GIG GEAR TWO HAND TOUCH

Gig Gear's latest offering is the Two Hand Touch Harness, an innovative wearable case that frees up both hands while holding an iPad or Android tablet in the optimum mixing/working position, making portable touchscreen devices faster, more ergonomic and more efficient.

Many of today's console manufacturers offer companion apps that provide remote mixing capabilities on an iPad, making it easy to make



BY RUSS LONG

Russ Long lives and works in Nashville, engineering and producing a wide variety of music and film projects. [russlong.ws](http://russlong.ws)

system and/or mix adjustments anywhere in the venue. The majority of these applications incorporate multitouch features that can only be used if both hands are available to simultaneously touch the tablet's screen. That typically isn't the case if you are walking around a venue. Two Hand Touch secures the iPad to your chest, leaving both of your hands free to interface with the applications necessary during live production; when you don't need the iPad, Two Hand



Gig Gear Two Hand Touch

Touch allows it to be folded up, out of the way.

Two Hand Touch comes in two sizes: Two Hand Touch 9 and the Two Hand Touch 12 (\$49 and \$59, respectively). The models correspond to the standard iPad 9.7-inch model and the larger iPad Pro 12.9-inch size. The harness includes multiple elastic bands in various configurations so the case can hold multiple tablet and phone sizes. I have both 9.7 and 12.9-inch iPads, so I bought the larger version of the harness as it can perfectly hold both of my tablets. When not in use, the case flattens up against the harness. This not only keeps it out of the way, it ensures it is always easily accessible. Built

(continued on page 34)



Triad-Orbit Spring Clamp



## Gift Guide

(continued from page 33)

into the front of the case are several pouches that can easily accommodate frequently used tools, pens, microphones, gaff tape, cables, radios and so on.

While I'm no stranger to using my iPad to assist with live mixing, the Two Hand Touch has made it easier than ever. Being able to put both hands on the iPad's surface simultaneously drastically improves workflow, and keeping the iPad on my body ensures that I'm not going to have to run back to front of house to grab it when I need it.

Not only is the device great for engineers, it is also a godsend for stage managers, production managers or any other show personnel who spend the majority of their time running around and need to make sure they have immediate access to Showflo or another event software package.

[www.gig-gear.com/products/two-hand-touch](http://www.gig-gear.com/products/two-hand-touch)

### KB COVERS KEYBOARD

KB Covers' custom keyboard covers and keyboards are fantastic holiday gift options. The covers, which are priced so reasonably that it's affordable to buy several, are manufactured for all major DAW, photography and



KB Covers Keyboard

video editing software applications and are sized to fit all current and recent Apple keyboards and Mac laptops.

They have a dual purpose: they make it easy to see all of the primary commands and shortcuts for a specific application, and they protect your keyboard from spills. They are so comfortable to use that I actually keep one on regardless of whether I'm using a DAW or not. Like most music pros, I routinely switch between DAWs, so I love having separate keyboard covers for Pro Tools, Studio One and Cubase.

The company's custom keyboards are also fantastic. I've been using the PC version of the backlit Cubase Keyboard with my Sweetwater PC



Focusrite Clarett 2Pre USB Interface

and it's been fantastic. As with the keyboard covers, the keyboard provides immediate access to every Cubase shortcut in a color-coded layout.

[www.kbcovers.com](http://www.kbcovers.com)

### FOCUSRITE CLARETT 2PRE USB INTERFACE

Music makers regularly ask me to recommend an interface that will provide portable, professional quality performance without breaking the bank. Focusrite's Clarett 2Pre USB interface clocks in at just under \$400 and is a perfect option. The 10-in (two analog, eight digital), 4-out interface provides fantastic conversion along with two quality mic preamps in a portable box. Also included are MIDI in and out ports.

The interface includes USB-C to USB-C and USB-C to USB-A cables, ensuring compatibility with both current and older PC and Mac computers. Software bundled with the interface includes Ableton Live Lite, XLN Audio Addictive Keys, Focusrite Red Plug-In Suite, Softube Time and Tone Bundle, 2 GB of Focusrite Drum Tracks and 2 GB of Loopmasters sample libraries. Product registration provides the user with a Focusrite Plug-In Collective membership, with bimonthly deals, discounts and giveaways from a variety of software manufacturers.

The 2Pre USB has impressive build quality, utilizing more metal (an attractive brushed metal) than plastic, and quality components throughout.

I've recorded many instruments and vocals during my review process and have continually been impressed with the box's performance. The preamps are extremely clean and uncolored, resulting in a smooth, natural sound. The preamp's Air feature adds an analog emulation of the classic Focusrite ISA preamp, which delivers a more colored yet extremely musical performance. In almost every instance I prefer the preamp with the Air circuit engaged.

I utilized the 2Pre USB with an older MacBook Pro (from 2008!) and a newer model, and both worked perfectly. The interface is driverless, so it works out of the box, but the included Focusrite Control software is necessary to optimize operation.

[www.focusrite.com/usb-c-audio-interface/clarett-usb/clarett-2pre-usb](http://www.focusrite.com/usb-c-audio-interface/clarett-usb/clarett-2pre-usb)



Ultimate Ears UE Cable

### ULTIMATE EARS UE CABLE

UE's entire IEM line has been updated with the new IPX Connection System that, along with the SuperBax cable type, is more reliable and strong enough to hold more than 12 pounds, but is still more flexible than its predecessor. The cable system actually improves the sound quality as well.

I've been fanatical about the sound of my UE Reference Remastered IEMs since their release a few years back, so I was excited to get a second set of the monitors with the upgraded cables to compare the sonic differences. I was pleased to find that the difference between them is substantial, and it is as apparent when monitoring through high-end Grace or Benchmark headphone amps as when listening through an iPod or iPhone. The new cables improve the low-frequency clarity and provide a slightly smoother top end. The connector between the IEM and cable has also been upgraded, drastically improving durability. The upgraded cable and connector is standard on all new UE IEMs or is available as a \$300 upgrade to current owners. There is also a \$400 SuperBax/Bluetooth cable combo upgrade, which is worth a look. The upgrade, which requires owners to return their current IEMs to UE headquarters, can be coordinated at [pro.ultimateears.com/ipx-upgrade.html](http://pro.ultimateears.com/ipx-upgrade.html).

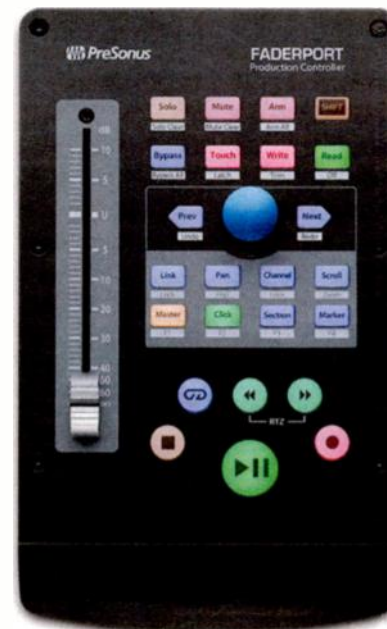
It's also worth noting that Ultimate Ears added two impressive new IEM models this year: the Ultimate Ears LIVE (\$2,199) and the Ultimate Ears 6 PRO (\$699).

<https://pro.ultimateears.com>

### PRESONUS FADERPORT

PreSonus released the original and arguably revolutionary FaderPort over a decade ago. It was a fantastic product; I have two engineer friends who actually mounted the box that housed a single touch-sensitive fader into their console to simplify its access. PreSonus has now updated the surface (still called the FaderPort) and it's better than ever—and with a price tag of only \$199, it's quite the bargain.

As with the original FaderPort, the new model incorporates a 100 mm touch-sensitive moving fader, but the new FaderPort has improved integra-



PreSonus FaderPort

tion with other DAWs. By holding a specific button while powering up, the fader can be automatically configured to work with Studio One, Pro Tools, Logic Pro, Cubase or Ableton Live. With the exception of Ableton Live, I've used it with each of the DAWs can attest that it works perfectly.

The new FaderPort adds several features, the most impressive being the session navigator that provides functionality including pan, scroll, nudge regions, drop markers, and link adjacent channels. All of the standard transport controls are also incorporated, including play/pause, stop, return to zero, record, cycle, fast-forward and rewind, as is the ability to solo, mute, record arm and change the automation mode of the selected channel. A footswitch input allows the user to easily punch in and out of record while playing. As an added bonus, FaderPort includes the Artist version of the powerful PreSonus Studio One DAW.

[www.presonus.com/products/FaderPort](http://www.presonus.com/products/FaderPort)

### IK MULTIMEDIA IRIG KEYS I/O 25

The IK Multimedia iRig Keys I/O 25 is a 25-full-size-key, portable, affordable (\$199) keyboard controller that includes a built-in audio interface. The keyboard is also available in a 49-note version (\$299). The low-profile MIDI controller includes eight multicolored, LED-lit, velocity-sensitive pads for





IK Multimedia iRig Keys 1/0 25

rhythm input, along with several buttons, knobs and sliders for virtual instrument and DAW control. While the Mac/PC/iOS compatible keyboard is bus-powered, it can alternatively be used as a standalone device by utilizing battery or AC power. Line, instrument or mic input is via a combo input jack. The phantom power-equipped, Class-A mic pre sounds surprisingly good. The device supports 24-bit audio up to 96 kHz and includes balanced stereo and headphone outputs. Over the past several weeks, I used it to record vocals and guitars to both a Mac and an iPad, and have had impressive results in every instance. The iRig Key I/O 25 can effectively act as a studio's core, easily providing a path to walk a song from creation to completion.

The iRig Keys I/O 25 is Apple-certified MFi hardware (Made for iPhone and iPad), so it works right out of the box with every Lightning port-equipped iOS device. The keyboard includes a Lightning cable for iOS connection and a USB cable for Mac and PC computer connection. The keyboard works flawlessly with most popular DAWs. Bundled with the keyboard are Ableton Live 9 Lite, IK's SampleTank 3 sound and groove workstation, T-RackS 4 Deluxe mix and mastering suite, and the Pro-V vintage synthesizer.

[www.ikmultimedia.com/products/irigkeysio](http://www.ikmultimedia.com/products/irigkeysio)

#### SONIC PRESENCE VR15-USB SPATIAL MIC

Giving you the perfect excuse for late gift giving, the Sonic Presence VR15-USB Spatial Mic is an extremely mobile microphone that makes it simple to capture extremely high-quality stereo recordings directly to an iOS/Android device or a computer. Shipping in early 2019, the \$150 VR15 is designed to be worn on your ears. It's made of a malleable material, so it can easily be shaped to comfortably fit any ear. The waterproof, shock-proof mic is comfortable, easy to slip on and off, and very discreet. The mic terminates into a USB Type-A connector, so recording to an iOS or Android device requires an adapter. The microphone's sound quality is simply stunning. I've used it to capture everything from a noisy downtown street to a violin playing in a living room and have had stunning results in each instance.

The mic boasts a 110 dB dynamic range, and while it supports recording up to 24-bit, 96 kHz, the bit depth and sample rate are limited by some applications. The VR15 owner's manual does an excellent job of providing the positives and negatives of most major iOS applications, including record quality, ease of use, metering and so forth.

In addition to the VR15-USB, there are two other variations of the

mic. The VR15-GP is designed to be used with GoPro cameras and includes a 10-pin mini USB connector. The VR15-XLR is equipped with XLR connectors, making it compatible with any standard phantom power-equipped mic pre. I've been so thrilled with the results I've achieved using the USB version with my phone that I can't wait to try the XLR version in the studio. Having the conductor wear a set while con-



Sonic Presence VR15-USB Spatial Mic

ducting a string section or having the drummer wear a set during a tracking session—I think both will yield exciting results.

[www.sonicpresence.com](http://www.sonicpresence.com)

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## NA2-IO-DLINE

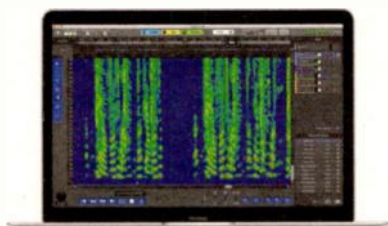
Connect your legacy audio gear to the Dante® world. The NA2-IO-DLINE Line I/O Dante Interface is a 2-channel end-of-network device that simultaneously converts analog signals to Dante and Dante to analog signals. Professional-level connectivity is provided via lockable NEUTRIK XLR and etherCON® connectors. Designed for both harsh stage conditions and fixed installations. For more information visit [www.neutrik.com](http://www.neutrik.com)

NEUTRIK



## AudioSourceRE DeMIX Pro

DeMIX Pro audio source separation software combines sound isolation algorithms with a spectral audio editor and built-in multichannel mixer to enable users to isolate vocals, drums and other instrument stems from any mixed audio for remixing, upmixing, remastering and post-production applications. DeMIX Pro offers unlimited nondestructive track separations and merge tracks functions. AudioSourceRE also offers DeMIX Essentials, an entry-level tool that separates vocals, drums and other instruments to create up to four separate audio stems. It is aimed at DJs, producers, musicians and educators who want to create a cappella tracks, backing tracks, isolated drum tracks and samples from existing audio mixes.



## Avantone Pro CLA-200

Developed in partnership with Grammy Award-winning mix engineer Chris Lord-Alge, the Class A/B CLA-200 Studio Reference Amplifier is housed in a standard 2U rackmount chassis. It can generate more than 200 watts per channel into an 8 ohm load and can reportedly run at one-third power without thermal fault, making it appropriate for medium to large speakers. The convection-cooled unit is designed for use in a studio environment requiring high power output with no fan noise. The amplifier is listed as offering a 20 Hz–20 kHz  $\pm 0.5$  dB frequency response; 200W at 8 ohms, 300W at 4 ohms, or 500W bridged into 8 ohms output power;  $<0.05\%$  distortion;  $>94$  dB signal-to-noise ratio; 20 K (balanced) and 10 k (unbalanced) input impedance; and a 28 V/ $\mu$ s slew rate (at 1 KHz). The CLA-200 Studio Reference Amplifier is expected to ship in late December.



## CEntrance MixerFace R4R

CEntrance has released a new edition of its MixerFace mobile interface. Updating the original MixerFace R4 released earlier this year, the MixerFace R4R adds a built-in audio recorder. Like the R4, the R4R is intended for podcasting, live streaming, songwriting and similar applications. Both units sport a pair of mic preamps with true 48V phantom power, Neutrik Combo input jacks with the Hi-Z feature to accommodate guitars and other instruments, and a rechargeable internal battery. While the MixerFace R4 sends signals to a smartphone for recording or delivery, the new R4R provides one-button recording with the addition of a stereo microSD card recorder. MixerFace R4R may be used standalone; alternately, users may record audio to microSD card while using a smartphone to livestream. MixerFace R4 and R4R are available now.



## Rupert Neve RND 5211 Mic Pre

At the AES Convention in October, Rupert Neve Designs unveiled the 5211 two-channel microphone preamplifier, which is described as an update of the company's first product, 2005's 5012 Duo Mic Preamp. Each channel has 72 dB of gain, sweepable highpass filters, variable Silk output saturation, and dual-tap output transformers that provide both high-headroom and  $-6$  dB low-headroom outputs, allowing the user to fully drive the output stage without clipping converters and increasing the unit's possible tonal variations. The 5211 sports a 19" width, Sheldford-style faceplate color,  $\pm 21$ V rails and an internal auto-switching power supply. According to the company, the variable Silk circuit "saturates the class-A output stage to dial the harmonic content up to and beyond that of Rupert's classic designs, while still providing the option of a pristine, open and modern sound when disengaged."



## firstlook

### ATC SCM12i Monitor

TransAudio Group, the U.S. distributor for ATC, introduces the ATC SCM12i compact monitor for permanent installations. A follow-up to the passive SCM12 Pro launched two years ago, the SCM12i uses the same two-way topology and driver technology but places it within a cabinet that is purpose-built for permanent installation in recording and post studios. The new monitor's mounting points are compatible with popular mounting strategies and standardizations. The ATC SCM12i uses the same hand-built drivers found in other ATC models, and sports a 1" dual suspension Soft Dome tweeter. An ATC 6" Constrained Layer Damping woofer handles mid- and low-frequency content with proprietary technology. The monitor offers a frequency response of 80 Hz–16 kHz ( $\pm 2$  dB),  $\pm 80^\circ$  coherent horizontal and  $\pm 10^\circ$  coherent vertical dispersion, and 108 dB continuous SPL per pair at 1 meter. The SCM12i Pro is expected to begin shipping by the end of 2018.



## sE Electronics DM1 Dynamite Preamp, sE7 Condenser Mic

sE Electronics' slate of introductions at October's AES show included DM1 Dynamite, an inline preamp for dynamic or passive ribbon microphones, and sE7, a small-diaphragm condenser microphone. The DM1 Dynamite is an active inline preamp intended to be inserted between a dynamic or passive ribbon microphone and a microphone preamplifier. The DM1 reportedly provides  $+28$  dB of discrete class-A gain and sports a dedicated output buffer amplifier. The sE7 is a back-electret, small-diaphragm condenser microphone intended for use capturing acoustic instruments. The mic has discrete class-A circuitry, attenuation and low-cut switches and a transformer-less output.



## STL Tonality Howard Benson Plug-In Suite

STL Tones has released the STL Tonality Howard Benson Guitar Plug-In Suite, a collection of guitar tones based on the private amp collection of Grammy Award-nominated producer and multi-instrumentalist Howard Benson and engineer/mixer Mike Plotnikoff. The VST/AU/AAX plug-in provides vintage overdrive, delay and reverb effects, as well as 40 presets created by Benson, Plotnikoff and STL. The collection focuses on five amps from Benson's collection, as well as the production duo's personal array of cabs, mics and speakers.



## Universal Audio Lexicon 480L Plug-In

The Lexicon 480L Digital Reverb unit has been a mainstay of studios and FOH areas since it debuted in 1986. Now a Lexicon-approved plug-in emulation is being released by Universal Audio for use with its UAD hardware and UA audio interfaces. The Lexicon 480L Digital Effects System and its fader-driven remote control have long been used to create reverb and effects textures, so the plug-in is based on that familiar controller form factor. The unit was updated over the years, so the reverb and effects provided with the plug-in are derived from the final software version 4.10, with offerings including Plate, Hall, Room, Random, Ambience and Twin Delays and algorithms. Additionally, the Lexicon 480L's random time-varying Effects algorithm provides reverse, doubling, tremolo and chorus sounds. To provide a head start for users, the plug-in comes with more than 100 presets from artists including Spike Stent, Chuck Zwicky, Eli Janney, Ian Boxill and Jackknife Lee.





## firstlook

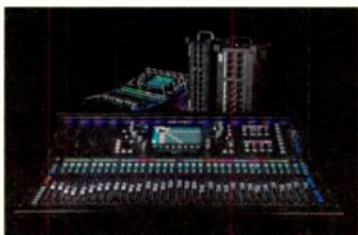
### 64 Audio A2e Custom IEM Update

The recent update to 64 Audio's A2e custom in-ear monitor adds the proprietary Linear Impedance Design technology and augments the IEMs' sound signature in the high-mid and high ranges. Launched in 2016, the A2e custom in-ear monitor sports two balanced armature drivers in a single package and makes use of 64's apex (air pressure exchange) technology, which relieves air pressure caused by a sealed ear canal. The A2e also includes 3D Fit technology, 64 Audio's proprietary 3D shell printing process for a personalized fit. The hand-built A2es have a reputed frequency response of 20 Hz–18 kHz and integrated 2-way passive crossover. The sound signature has been enhanced by employing a single-bore design that refines the upper-mids.



### Allen & Heath SQ v1.3

Allen & Heath's SQ series of live mixing consoles has received a firmware update (v1.3) that includes a number of changes intended to improve the user experience for monitor engineers. SQ v1.3 adds a Listen bus, enabling the engineer to patch PAFL to an IEM system, stereo nearfield monitors or a mono listen wedge, with the option to control the Listen level with the master fader. The addition of an External Input to PAFL is also expected to improve communication between FOH and monitor engineers. The update includes changes that take advantage of Allen & Heath's new SLink card, aiding FOH/monitor splits and remote I/O, or combinations of either of these with an ME personal monitoring system. Digital splits are further facilitated by new Tie Lines, connecting input and output sockets without running through an SQ's processing.



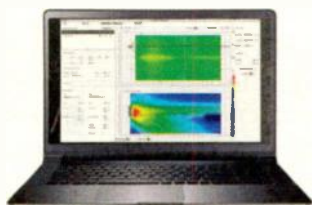
### Attero Tech D2FLEXio

Attero Tech's new series of networked AVC products, the Axon family, launched with the D2FLEXio, an analog audio I/O for installed AV systems. The unit features an installer-selectable switch to assign input or output audio connectivity, providing analog audio conversion to and from any Dante or AES67 system. The D2FLEXio includes a dual analog flex I/O with slide switches for selecting the preferred I/O configuration, retrofit connectivity for legacy equipment to and from Dante/AES67 networks, and Dante Domain Manager support. Attero Tech sees the D2FLEXio being used for connecting power amplifiers and powered speakers, wireless mic receivers, in-ear monitor transmitters, and consumer-level DJ equipment and electronic instruments.



### Bose Array Tool

Bose Professional has released Bose Array Tool, software for creating system designs using Bose Pro products. The initial edition supports designing with the Panaray MSA12X loudspeaker; additional models will be added to future versions of the software. Bose Array Tool uses a direct-field calculation engine that lets system designers audition different loudspeaker models, placements and formations for a venue's system. The software provides drawing tools to manipulate room surfaces and loudspeakers dynamically, allowing users to visualize the speakers' coverage effect in near-real time. Ordering lists, rigging and array information can then be exported. Bose Array Tool is now available for download at Bose Professional's website.



### L-Acoustics Q-SYS Intetroperability Plug-In

L-Acoustics has aided integration between its P1 processor and the Q-SYS Platform from QSC with a plug-in that allows users to control and monitor P1 through Q-SYS. The plug-in is intended to help system designers use the P1 processor when creating AV environments using Q-SYS Designer Software for sports facilities, conference halls, houses of worship and similar venues. The L-Acoustics P1 plug-in for the Q-SYS platform can be found on the L-Acoustics website.



### Peavey SP 2P Loudspeakers

Peavey's SP 2P powered speaker system, intended for public address, karaoke and musical playback, is based around two switching power amplifiers that provide 1,000W peak available power into the 4 ohm load of the woofer and 500W peak available power into the 8 ohm load of the tweeter. The power supply for both amps is a switch mode type, and both have Peavey's DDT compression technology to prevent clipping. The SP 2P has a 15" Black Widow BWX series woofer, but is outfitted with a long-throw voice coil. A 2" RX22CT titanium diaphragm compression driver is coupled to a quadratic throat waveguide and has a coverage pattern of 100° horizontal by 50° vertical. On the back panel, two independent mixed input channels can be found, each providing a balanced input to the preamp/EQ electronics and a level control. A line-out section has male XLR connectors, and the Thru outputs allow linking of additional speaker systems or feed of the signal to a powered subwoofer.



### PK Sound Trinity 10

Trinity 10 is a midsize line array from PK Sound that follows in the footsteps of the full-sized Trinity Advance Robotic Line Array. Trinity 10 uses the same high- and mid-frequency components and waveguide design as the original Trinity to ensure integration when both models are used together. The Trinity system's calling card remains its remote configuration, which provides control over the vertical and horizontal polar directivity of the entire array. Each Trinity 10 module features a Coherent Midrange Integrator (CMI) to combine mid-high-range frequencies, as well as precisely spaced low-frequency apertures to aid directivity. The CMI waveguide is variably adjustable from 50° to 120°, both symmetrically and asymmetrically. Trinity 10 sports dual bandpass loaded, 10" transducers and two 6.5" mid-range transducers coupled to a CMI waveguide through phase plugs. PK Sound's Kontrol software lets users access the internal functions of each module remotely so that each array can be flown straight and adjusted in the air.



### Waves SoundGrid Extreme Server-C

SoundGrid Extreme Server-C is a DSP unit for real-time plug-in processing in studio and live environments. Based on an Intel Skylake i7 CPU and 8 GB of RAM, the unit's latency reportedly can run as low as 0.8 ms at 44.1, 48, 88.2 and 96 kHz. The unit is compatible with all SoundGrid interfaces, including DiGiGrid I/Os, and also can be used with non-SoundGrid ASIO/Core Audio-based I/Os via SoundGrid Connect. The server sports a Neutrik etherCon SoundGrid port connector. The chassis comes in a half-rack width, 2U rack-mountable configuration, allowing multiple redundant units to be housed side by side if needed.



There's more information on all the products featured at [prosoundnetwork.com/dec2018](http://prosoundnetwork.com/dec2018).





## Simple Minds Didn't Forget About You

BY CLIVE YOUNG

NEW YORK, NY—Simple Minds is best known in the United States for the eternally omnipresent “Don’t You Forget About Me,” but the band hadn’t played a full-fledged tour here since the ’90s. That changed this past fall when the group hit the road hard for a seven-week, 31-show run, playing 3,000- to 4,000-seat venues across the continent.

Making up for lost time, the six-member band, led by remaining original Minds Jim Kerr (vocals) and Charlie Burchill (guitar), brought muscle to the group’s epic ’80s sound, aided nightly by longtime Belgium-based FOH engineer Olivier Gerard and monitor man Mikey Gibbard, who looked after control gear and monitors provided by Clair Global’s UK arm, Britannia Row.

Gerard switched to an SSL Live L200 console in 2018. “I had a month at home and I said, ‘Well, let’s try to understand it,’” he recalled. “I worked with my multitracks and it sounded amazing straight away. I went from one song to the fifth song to the tenth song and I didn’t have to change my faders much; it sounded



The audio team behind Simple Minds’ U.S. tour, seen here with the SSL desk in monitorworld inside New York City’s Beacon Theatre, included (l-r) Mikey Gibbard, monitor engineer; Oliver Gerard, FOH engineer; and Dan Ibanez, audio chief.

‘already there.’ It’s an amazing desk once you’ve got it in your head.”

Snapshots for 60 songs reside in the desk—a necessity to ensure the tunes are presented properly. “The music in the ’80s was very produced, so all the reverbs and effects must change to match the sound of that particular era,” he said. “Whenever the song starts, people are brought back to where they were listening to the song back then, so I keep the energy that the band is bringing live,

but I try to be very faithful to the record.”

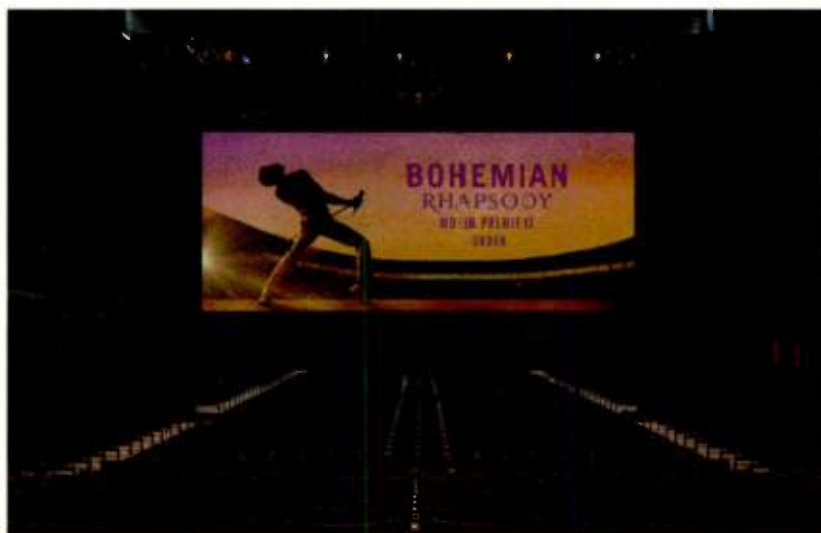
While opting for mostly internal effects, he uses some outboard gear—a TC Electronic R4000 on the drums, a Bricasti M7 on vocals and a Lexicon 300—to replicate the sound of an era that leaned heavily on reverb. “I program at home on my monitoring and get the songs right, and then when I come here, I have to match what is coming out of my

(continued on page 43)

Arena-Sized Sound for *Bohemian Rhapsody*

WEMBLEY, UK—The Queen biopic *Bohemian Rhapsody* took eight years to produce, but it cleaned up when it finally debuted at the box office, raking in \$141.7 million worldwide on its opening weekend. That tally included a \$12.2 million opening in the UK—to help ensure that strong showing, the film’s world premiere was held in the SSE Arena, Wembley, with audio provided by Britannia Row. Staging the event proved to be a challenge, requiring not only an extensive reconfiguration of the venue’s acoustics but also the creation of a brand new audio mix of the film, which was used solely at the premiere screening.

While covering all 7,000 seats at the premiere, Brit Row needed to ensure that the reverberant venue wouldn’t affect the film’s acoustics. The catch was that Paul Massey, re-recording mixer for the soundtrack,



The show must go on—and it did as Britannia Row provided 7.1 audio for 7,000 moviegoers at the world premiere of the Queen biopic *Bohemian Rhapsody* inside the SSE Arena, Wembley.

pointedly added reverb and even hints of slap-back to the soundtrack to reproduce the authentic 1980s Queen concert experience for cinema-goers. “But of course, when staging such a premiere in a room like Wembley, using a huge 7.1 audio system from Britannia Row Productions, the last thing you want is added reverb and slap-back,” said audio consultant Colin Pink.

Technical producer Andy Peat, of Andy Peat Associates, began work on this event with James MacFarlane, senior technical manager at 20th Century Fox, in early summer. The first

consideration was screen size, as that would help determine audio logistics.

“We worked with projection specialists Motion Picture Solutions to define how large a screen could be used. Obviously, for an arena-scale show, everyone wanted it to be as large as possible while still fulfilling the role of being of the highest technical quality,” said Peat. “At 28 meters [wide] by 11.7 meters [high], the 1.4 Perlux gain screen was enormous. Made by Harkness at their French facility, the only factory large enough to produce such a sprayed screen,

(continued on page 43)

## briefs

## Outfitting the Big E

WEST SPRINGFIELD, MA—The Eastern States Exposition (aka the Big E) hosted 200 shows on five stages over 17 days this past summer; MA-based SCL Sound Systems used RCF ([www.rcf.it](http://www.rcf.it)) speakers on all of them. The Xfinity Arena stage used HDL50-A line arrays with TTS36-A subs, with HDL30-A cabinets for front fills and out-fills to provide audio for the Beach Boys, Casting Crowns and Ice-T, among others.

## PK on a Mountain High

NEW YORK, NY—Dierks Bentley’s Mountain High Tour played 60-plus dates this year, all with a massive PK Sound ([www.pk-sound.ca](http://www.pk-sound.ca)) Trinity line array bolstered by Gravity subwoofers. The tour usually had hangs of 16 Trinity boxes left and right of the stage, plus a dozen Trinity 10s for side hangs and front fills, per side. Six Gravity 218 subwoofers were flown per side, with an optional six per side on the ground as needed.

## Mo’ Yamaha for Mohegan

UNCASVILLE, CT—The 10,000-seat arena at Mohegan Sun Casino in Uncasville, CT, is a regular stop for tours, hosting the likes of Justin Timberlake, U2, the Dave Matthews Band and countless others. Not every act that plays the arena carries its own production, however, and for those artists, the venue recently acquired a Yamaha ([www.yamahaproaudio.com](http://www.yamahaproaudio.com)) Rivage PM10 console, adding to the two CL5 digital consoles in the adjacent Wolf Den, as well as a Yamaha QL5 and two QL1 mixers that float around the campus.

## Penner Plays Yorkville

CANADA—A Yorkville Sound ([www.yorkville.com](http://www.yorkville.com)) P.A. composed of Elite Series EF15P over Paralane Series PSA2S dual 15-inch subs brought the songs of classic Canadian children’s television host and multi-Juno Award-winner Fred Penner to a packed crowd when he recently played at the Cicada Festival in St. Catharines, Ontario.



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## Rolling with Thomas Rhett's Road Show



Life changes, but ensuring the sound didn't were (l-r): Chris Clark (FOH systems engineer/crew chief), Jeremy White (monitor tech), Trey Smith (FOH engineer), Wesley Crowe (monitor engineer), Ashley Burns (patch), Shawn Eacott (P.A. tech)

BY CLIVE YOUNG

Thomas Rhett took it easy this year, only headlining dozens of packed arenas across the country and appearing as the direct support for Kenny Chesney on 18 stadium shows. "We're probably going to be just over 50 shows," said Wesley Crowe, Thomas Rhett's monitor engineer since 2014. "It's been a light year for us."

That's not a joke, believe it or not. Crowe would know, having had a stage-side view of Thomas Rhett's career the last few years as it took off in part due to a strenuous touring schedule. When Crowe joined the artist's team, "it was two buses and a truck back then; now we're at six buses and eight or nine trucks on this fall tour, with a crew of 40 or so. I've seen it grow a lot in the years I've been out here."

Reflecting that growth, the fall leg on Thomas Rhett's Life Changes tour saw engineer Trey Smith join the crew, taking over the FOH spot from production manager Kevin Twist, who previously juggled both titles. The change at the house mix position also meant a switch of the house desk to a DiGiCo SD5, the same model overseen by Crowe in monitorworld. The swap allowed the production to carry an Optocore network that interfaced between mix positions and the stage inputs, doing away with the need for a split and separate stage racks, instead allowing FOH to use the gain structure set in monitorworld as its base.

Joining a production mid-tour is

never easy, but Smith had done it before for OneRepublic and found the Thomas Rhett camp welcoming. "It's gone very smoothly, and everyone's helped make it happen and be successful," said Smith. "We worked

with pre-recorded shows in a mix-room scenario with nearfields and the FOH package before the tour, so I was able to start dialing up mixes and get a head start."

A week's worth of rehearsals with

Thomas Rhett, musical director David Cook and the band shaped the mixes further: "Thomas would come out and tell me about what he wanted and what his vision was, so it was a cool team effort, and people were and are excited to make it the best we can. I'm all for that—what's better than to have the artist explain how they want the show to sound and feel? Every artist and camp is different, and your job is to please the artist, so if they can be real with you and tell you what they're looking for, it makes your job a lot easier, honestly."

Thomas Rhett's music has been known to bring elements from EDM and other genres into the country realm, so Smith likewise drew on his varied background, having mixed everything from Little Big Town to pop artists like Sara Bareilles to traditional Irish act The Chieftains. "Thomas' music, especially his newer stuff, is definitely more 'pop country,' if you will; it has that kind of feel. It is a lot of fun to mix and try some tricks at FOH," said Smith.

One of those tricks, it turned out, was to "get that analog sound and treatment, but still have the flexibility and recall of the digital realm," he explained. "I have a series of different compressors for some of the inputs, like his vocal, drums and bass guitar. Then, for my summing of the stereo mix going to the P.A., I'm sending out different groups into a Neve 5059 Satellite Summing Mixer, summing together the different elements of the band and vocals,

(continued on page 42)



d&b's Array Calc was used daily for setting up the GSL system.



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## Thomas Rhett

(continued from page 40)

and treating them out of the console with some analog pieces. Then we go into a multiband compressor into an A/D converter, and out of that, Dante into the Lake LM44, going into the P.A. from there. That way, I can have the 'analog sound' with a digital console—so it's the best of both worlds."

Bringing that mix to the crowds was a d&b audiotechnik GSL line array system from Thomas Rhett's longtime audio provider, Nashville-based Spectrum Sound. While Smith had mixed on a GSL system once before, the tour provided an opportunity to learn the box's characteristics and discover how it integrated with d&b's Array Processing software. "Array Processing is a tool that will calculate the room you're in and make the P.A. do some amazing things," he explained. "You can avoid different areas of the room or walls that you don't want covered; you can change the tone in how the boxes are voiced by adjusting the temperature and humidity, and lots more. What I've really enjoyed with the GSL is having a P.A. that was specifically designed to work with Array Processing—I've seen the finesse that you can have with it and the ability to have the P.A. do exactly what you want, no matter what room you're in."

Smith also noted the P.A.'s rear rejection ("incredible") and SL-Subs, which he characterized as having the tonal qualities of both d&b's J-Infra Sub and J-Sub. "With this show, we have a lot of low 808-type



Spectrum Sound fielded a d&b audiotechnik GSL line array for the Thomas Rhett tour this fall.

Both engineers mentioned the system's rear rejection, which ironically changed things for Crowe in monitorworld. "The GSL P.A. makes for a quiet stage, which can be a double-edged sword because the main thing I fight from day to

arrangement of JH Audio Roxanne earpieces and Shure PSM 1000 wireless systems. "They're pretty much the best thing I've found out there, just the audio quality and the stability of RF," he said.

Also helping keep the stage quiet was a lack of guitar amplifiers. Crowe said, "All of our guitars and bass are direct out—guitars go to Kempers and the bass is through a Line 6 Helix pedalboard, so we don't have a lot of mics." Smith chimed in, "That means literally every song, we can change the tone with those devices—you can choose an amplifier and a combination of pedals on a song, and then MIDI fires off changes to their pedalboards for each one. We spent so much time getting their tone right ... to where it fits well within the whole mix that's coming out of the speakers." There were a few mics on stage, of course, from the sE Electronics V7 capsule on a wireless transmitter for Thomas Rhett's vocals, to the selection of Shure, Sennheiser and Audio-Technica mics on the drums, but everything else went direct.

If 2018 was busy for Thomas Rhett and his retinue, next year will

"It was two buses and a truck back then; now we're at six buses and eight or nine trucks on this fall tour, with a crew of 40 or so. I've seen it grow a lot in the years I've been out here."

Wesley Crowe, monitor engineer, Thomas Rhett

hits and different effects that we do where we are going down into 30 Hz, so the ability to have a box that can reproduce something like that has been awesome," he said. "That brings up another point: Typically, I fly subs in the air to go along with the P.A., and here we don't need to because the GSL boxes go down so low. We've been able to have one signal source for all of the content coming from the air, and it's really tightened up the mix."

day is the rooms sounding different," said Crowe. "Even though we're on in-ears, we're still in a space that has character. It changes the feel, so having a quieter stage can almost accentuate that, make it a bigger deal. Not that it's a problem—I think it's better to have a quiet stage!"

Each show found Crowe looking after mixes for Thomas Rhett and the five-piece band, as well as for six techs, numerous guest mixes and his own cue, with everyone on the same

## VITALstats

### Thomas Rhett

Spectrum Sound (Nashville, TN)

#### FOH Engineer:

Trey Smith

#### Monitor Engineer:

Wesley Crowe

#### Crew Chief/Systems

#### Engineer:

Chris Clark

#### Monitor Tech:

Jeremy White

#### Patch:

Ashley Burns

#### P.A. Tech:

Shawn Eacott

#### Production Manager:

Kevin Twist

#### FOH Console:

DiGiCo SD5

#### Monitor Console:

DiGiCo SD5

#### House Speakers:

d&b audiotechnik GSL, SL-Subs

#### Personal Monitors:

Shure PSM 1000; JH Audio

Roxannes

#### House Amplifiers:

d&b audiotechnik

#### FOH Equipment/Plug-Ins:

Eventide H3000; SSL XLogic;

Rupert Neve Designs 5059

Satellite; API 2500; Tube-Tech

SMC 2B; Burl B2 Bomber ADC;

Overstayer 3722, M-A-S 810; Buzz

Audio; dbx 160x; Empirical Labs

EL8; BSS DPR-901 II

#### Microphones:

sE Electronics V7; Shure KSM313,

SM57, 91A, KSM181; Sennheiser

421, e904; Audio-Technica; beyer-

dynamic M88

find them still on the move. Spring tours through Australia and Canada are lined up, and some U.S. dates have already started to get announced as well, all of which means the country star and his audio team will be busy for some time to come.

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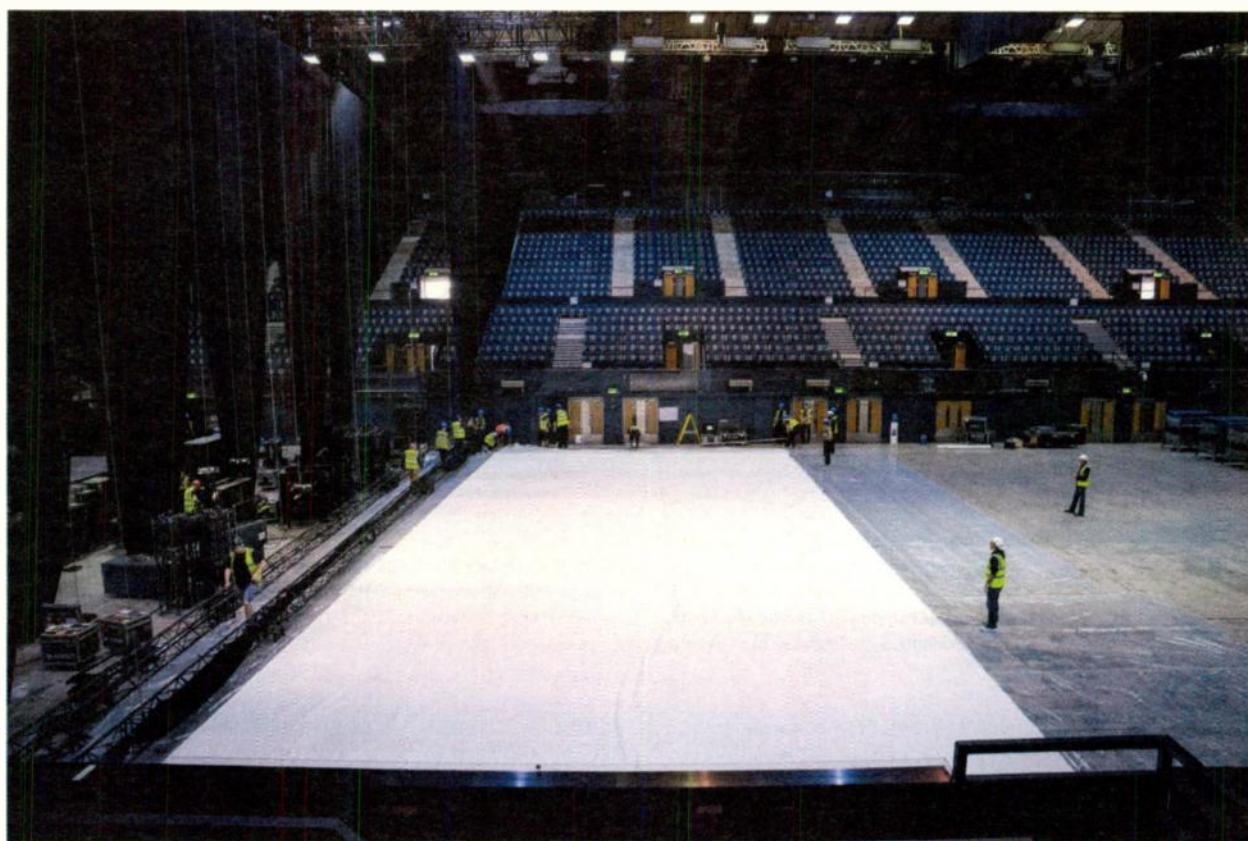
## Bohemian Rhapsody

(continued from page 38)

it was rigged by Blackout, who also took care of the multiple P.A. points. It was slightly angled back from vertical by 3 degrees so the light reflected back directly onto the audience. The angle makes a big difference to how bright the audience perceives the image to be."

While it was inevitable that the film's audio would be presented loudly, it was critical that vibrations from the audio not affect the projectors, as the slightest shake would be obvious on a screen that large. Accordingly, the projection booth was built and installed by Steel the Scene and lined with 120 mm thick acoustic panels to isolate any sound from the booth to the outside. The projector module also sat on an isolation island so the projectors themselves were unaffected by the vibrations of operators moving within the booth.

Nonetheless, the main audio concern remained that the film had to sound like it was being presented in an intimate screening room, not a massive arena. As Peat noted, "With regard to sound, Colin had flagged the reverb issue early. He has done several film premieres with 20th Century Fox, as has Brit Row, and the team there likes them both. 20th Century Fox made sure the technical conversations between Colin, Brit Row and the filmmakers' sound team took place."



L-Acoustics K2 arrays wait to be flown at left while workers prep the massive cinema screen.

Perhaps the key conversation was the one that led to a special mix of the film being created just for the premiere screening. "For me, the most significant thing was to persuade the film mixer, Paul Massey, to make a different mix for the premiere," said Pink. "There is a great deal of live sound concert-style music in the soundtrack and naturally they have added effects to create the atmospheric experience of arenas and stadia, including lots of reverb. I talked this through with Paul and he in turn convinced Fox.

They went away and removed all those effects—no small undertaking on their part—recognizing that the room with a full-on rock power P.A. system would reapply those effects quite naturally."

Josh Lloyd from Brit Row handled system design, which comprised three hangs of L-Acoustics K2s behind the screen L/C/R, with a central hang of KS28 subs as well. There were two hangs of Kara L/R at the rear of the arena. To complete the surround system, there were three flown hangs of Kiva down each side of the arena

floor. "Having three main hangs instead of two makes a big difference because you distribute the energy—you control the room better," said Pink. "With the precise calculated vertical control of the L-Acoustics system and using only a central flown cardioid array of flown subs, Josh's design meant no energy went into the roof; that allowed us to maximize vocal intelligibility. It all worked a treat; in fact, it was the best sound I've ever heard in there."

Britannia Row  
www.britanniarow.com

## Simple Minds

(continued from page 38)

board to the system and the acoustics of the venue," said Gerard. "One out of 15 times, you get a really good P.A., a really good room and everything sounds how you would like it to sound. Most of the time, though, you have to battle against the elements to get it the best you can—and that's the challenge of mixing live."

DPA mics have graced the band's stage since an acoustic tour in 2017, with drums surrounded by 2011s and a Shure 91 in the kick to capture Cherisse Osei. "She drums hard! She's an unbelievable musician," Gerard noted. Most of the instruments are DI'd through Radial J48s to units like Two Notes Torpedo Loadboxes and such. Linear DPA d:dicat 4018s are used for backing vocals, but Kerr sticks with a Beta58 capsule on a Shure digital wireless.

Gerard laughed, "I tried to change it, but he said, 'I've used this for 40 years. Why do you want me to change now?' Which is fair enough." Later, he explained, "If something sounds good but messes up their comfort, I'd rather not have it because I want them to feel the very best they can. You can have a brilliant sound, brilliant balance, brilliant mix, but if

vert: "It's like black magic, what goes on inside; the stereo summation of this board is unbelievable. I've never heard anything sound so close to an XL-4 in terms of how pure the sound is. Whatever band I work for, as long as the budget's there, I'll be going for this for sure."

Looking after 14 stereo mixes for band and crew, he mostly uses

snare, so I punch that in and out as needed."

Burchill's monitors are strictly d&b audiotechnik M2 wedges—"He does like it loud"—and a kicker and stray monitor can be found elsewhere on the stage, but by and large, the group sports Ultimate Ears UE18 ear buds on Sennheiser 6000 wireless packs.

Despite the pressure to deliver after so many years away from the United States, the mood was calm and assured. "I am very lucky to work with them because Simple Minds is a live band," mused Gerard. "They don't need to do this anymore; they are rich. If they do this, it's because it's their thing—they want to enjoy and entertain people. They have the right mindset, and because of their experience, they also know, 'Oh, I know the hall here. Don't worry too much, it's going to be ok.' They're very cool to work with."

SSL  
www.solid-state-logic.com

"Simple Minds is a live band...If they do this, it's because it's their thing—they want to enjoy and entertain people."

—Olivier Gerard, FOH engineer

they're not into it, you've missed it. On the other hand, if they are very good but the sound isn't, it's still going to be a good gig."

At stageside, Gibbard likewise is focused on keeping the band in the zone. This year marked his first time on an SSL L500, and he's now a con-

stock effects, and only very occasionally a TC Electronic M4000: "I've got quite a lot of reverbs—10 reverbs, two delays. Everyone's got their own reverb for vocals, two different reverbs for drums, I've got delay on Jim plus a plate, and there's one song that requires a sort of tape delay on the



# centerSTAGE TOP 10 TOURS OF THE MONTH

ACT / STATISTICS	CREW	EQUIPMENT
1 BRUNO MARS   CLAIR GLOBAL	Chris Rabold (be); Ramon Morales (me); Chris Sullivan (cc/se); Scotty Megrath (ae); Paul Tobey (cc/rf tech); Jacob Caples, Matt Gallagher (techs)	HC: DiGiCo SD7 with SD Racks; MC: DiGiCo SD7 with SD Racks; HS: Clair Cohesion CO-12, CP-218; MS: Clair CO-8, CM-22, CP-118; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure SM 81, 91a, 52a, Beta 181, SM 58, 57; AKG C-414, 45; Sennheiser MKH 451EB, MD 421, MD 409; Beyer M 88 TG; Audio-Technica; Telefunken M80, M60, TK62 capsule; Radial J48, SW8, EXCT-SA, X-Amp Reamp; Countryman DI; WIRELESS MICS: Sennheiser 9000 with 9235 handhelds; FOH EQUIPMENT: Waves Mercury Bundle, SSL Bundle, Abbey Road Bundle; Bricasti M7; Empirical Labs EL-8 Distressor; Midas XL42; Chandler TG1; TC Electronic 2290; MONITOR EQUIPMENT: Waves SSL 4000, API Bundles
2 PEARL JAM   RAT SOUND	Greg Nelson (be); Karrie Keyes (me); Bjarne Hemmingsen (cc); Andrew Gilchrest (FOH/sys tech); Peter Baigent, Tom Carliso, Alex Boytsov (m techs); Jim Lockyer, Kyle Rogan, Taka Nakai, Mike Gazdziak (sys techs); Liz Burns (pm); Mark Smith (tm)	HC: DiGiCo SD5; MC: DiGiCo SD5; HS: L-Acoustics K1, K2, Arcs II, Kara, 108P, SB28, K1-SB; MS: EAW MicroWedge 12 II, MicroSub 15; Rat S wedges, Rat Trap side fills; HA: L-Acoustics LA-Rak; MA: Lab.gruppen; HARDWIRED MICS: Audix OM7; AKG 414, 460; Audio-Technica AT4050; Beyer Opus 87; DPA 4061; Heil PR40; Neumann BCM705; Sennheiser 421, e609; Shure Beta 52, Beta 56, Beta 57, Beta 91, SM57, SM58S, VP88; Radial J48; WIRELESS MICS: Shure SM58 capsule on UR2 handheld transmitter, UR4D wireless receiver, UA870WB antenna; FOH EQUIPMENT: Lake LM44; UA Live Rack; Brainworx Plug-Ins; Focusrite RedNet D16R; Riedel RockNet; MONITOR EQUIPMENT: Lexicon PCM 60
3 DRAKE   EIGHTH DAY SOUND	Chris Fisher (he); Demetrius Moore (be); Sean Sturge (me); Noah Gary (mtech); Joey Armada, Chan Howard, Charlie Southward, Nathiel Stutz, Sean Tingle (tech)	HC: DiGiCo SD7; MC: DiGiCo SD5; HS: Adamson E15; E12; S10 E119; MS: d&b audiotechnik J8, B22; IEM: Sennheiser; HA: Lab.gruppen; MA: d&b audiotechnik; HARDWIRED MICS: Sennheiser; Shure; Radial SW8; WIRELESS MICS: Sennheiser; FOH EQUIPMENT: Eventide H3000; TC Electronic 2290; MONITOR EQUIPMENT: Waves
4 ED SHEERAN   MAJOR TOM	Chris Marsh (he/me/pm); Charlie Albon (s tech); David White (ae); Brian Thorene, Parker Vandenberg, Dave Poynter, Adam Wells (pa techs)	HC/MC: DiGiCo SD7; HS: Meyer Sound Leo, Milo, Leopard, Lina, UPA-1P, 1100-LFC; MS: Meyer Sound MJF-212a, 900-LFC; IEM: Sennheiser 2000; WIRELESS MICS: Sennheiser 9000 Series Digital mics/instrument packs; EQUIPMENT: Avalon 737; Bricasti M7; Waves Max BCL; JoeCo BlackBox; Eventide Eclipse; API 2500; Meyer Sound Amie; Radial SW8
5 JUSTIN TIMBERLAKE   CLAIR GLOBAL	Andy Meyer (he); Paul Kilmson (me); Phil Kriz, Justin Lenards (se); Hugo Gudino Jr., Elliott Wiley (mse); Paul Manuel (ae); Dustin Chrysler, Carlos Lopez-Olavarria, Rachel Rozzi, Nathan Sonnenberg (techs); Kevin Leas (RF tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Clair Cohesion CO-12, CO-10, CP-6, CP-118, CP-218; HA: Lab.gruppen PLM 20000Q; MA: Lab.gruppen PLM 20000Q; OTHER: Radial JX44, SGI44
6 PHIL COLLINS   3G PRODUCTIONS	Michel Colin (he); Alain Schneebeli (me); Neil Rosenstock (cc); Ben Phillips (se); Jim Brightenfield (m tech); Josh Driscoll (rf); Bill Blackstone, James Wizner (pa techs)	HC: Avid S6L-32D; MC: Avid S6L-32D; HS: L-Acoustics K1, K2, K1SB, KS28, KARA, SB18, ARC-II, X8; MS: L-Acoustics; IEM: Shure PSM-1000; JH Audio; Future Sonics; Westone; HA: L-Acoustics LA8, LA12; MA: L-Acoustics; HARDWIRED MICS: Shure SM57, KM184, KSM8, Beta52, SM9; AKG C414; Sennheiser ME 64; Klark-Teknik DI; FOH EQUIPMENT: TC Electronic System 6000; Stock, Sony Oxford Plug-Ins; Waves server; MONITOR EQUIPMENT: Stock, Sony Oxford Plug-Ins; OTHER: Radial SW8, ProD8, JR2 foot switch, Tonebone Hot British, Tonebone North Star, Tonebone Direct Drive, J48, JDI
7 TAYLOR SWIFT   EIGHTH DAY SOUND	David Payne (be); Jordan Kolenc (Swift me/cc); Scott Wasilk (Band me); Dan Bluhm (se); Eoin Collins (mtech); Chase Usry (ae); Ike Zimbel (rf coordinator); Turner Pollari (rf tech); Andy Dudash (rf comms); Liam Von Elbe (lead pa tech); Sam Balk, Mike Vultaggio, JP Kearney (pa tech)	HC: DiGiCo SD7; MC: (2) DiGiCo SD7; HS: d&b audiotechnik J Series Array Processed, J-Sub, B22, V8 front fills; IEM: Shure PSM 1000, Wisycom MTK952; HA: d&b audiotechnik D80; HARDWIRED MICS: Telefunken; Shure; Sennheiser; WIRELESS MICS: Sennheiser Digital 9000, 6000; Shure Axient Digital; FOH EQUIPMENT: Neve Portico, Masterbuss; Lexicon PCM 92, Bricasti M7; Waves; Soundcraft Realtime Rack; MONITOR EQUIPMENT: Eventide Eclipse; TC Electronic System 6000; SPL TD4; Waves; Soundcraft Realtime Rack; OTHER: Radial JS2, JS3, J Rak 4, Tonebone Mix Blender
8 EAGLES   CLAIR GLOBAL	Tom Evans (he); Ricky Leon, Charlie Hernandez, Jr. (me); Jared Lawrie (cc/se); Erick Ruiz (rf/stage e); Jen Smola, Matt Patterson, Dustin Andersen (techs)	HC: SSL Live L500; MC: DiGiCo SD5; Avid S6L; HS: Clair Cohesion CO-12, CO-8, CP-6, CP-218 subs; MS: Clair Cohesion CM-22; Clair 12am, ML-18; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure Beta 87, Beta 57a, Beta 91a, SM58, SM58s, SM81, Beta 56, Beta 58a, SM48; Audix D6, SCX25a; AKG 451; Audio-Technica AT4050; Telefunken M80, M80SH, M81, M81SH; Sennheiser e904, e906, MD409, MD421; DPA FA4018V, 2011C; Radial JDI, J48, SW8, DM1, JX44 switcher, Tonebone Headbone VT amp switcher, North Star overdrive, AC Driver acoustic preamp; WIRELESS MICS: Shure Axient; FOH EQUIPMENT: Bricasti M7; Waves Live; MONITOR EQUIPMENT: Neve 5035
9 THE ZAC BROWN BAND   CLAIR GLOBAL	Eric Roderick (be/pm); Andy Hill (me); Alex Moore (cc/se); Rich Thompson (se); Scott Fodor (me); Jake Bartol (rf); Frank Sadler (Pro Tools/IT)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Clair Cohesion CO-12, CP-218; MS: Clair Cohesion CM22; IEM: JH Audio; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Sennheiser; Radial DM1, J48, JDI, Relay XO, Phaser, Firefly & JR1 foot switch, Powerhouse 500 series rack, Tonebone PZ Pre, Tonebone JDX Direct Drive, Tonebone Elevator boost, OX8; WIRELESS MICS: Sennheiser; FOH EQUIPMENT: Waves
10 SHAKIRA   CLAIR GLOBAL	Tim Colvard (be); Ed Dracoules (me); Tom Cossoviich (cc/se); Roger Neiderberger (stage e); Sarah Blakey, David Enderle (techs)	HC: DiGiCo SD7; MC: Avid S6L; HS: Cohesion CO-12, CO-10, CO-8 Frontfill, CP-218 Sub-lows; MS: Clair 12AM, R-4III, ML-18HP; IEM: Shure PSM-1000; HA: Lab.gruppen; MA: Lab.gruppen FP2400Q; HARDWIRED MICS: Shure Beta 58, Beta 98, Beta 98AMP, Beta 52a, Beta 91a, SM57, PG58; AKG C414B; DPA 4099; Sennheiser e945; Audio-Technica AT4050; Radial DI; WIRELESS MICS: Sennheiser 5200, 9000 series; FOH EQUIPMENT: Avalon VT737-SP; Eventide H3000; Yamaha SPX2000; dbx120a; Lexicon 960L; Aphex 622

**LEGEND:** (he) house engineer. (ahe) ass't house engineer. (be) band's house engineer. (me) monitor engineer. (ame) ass't monitoring engineer. (bme) band's monitor engineer. (se) systems engineer. (ae) ass't engineer. (tech) technician. (cc) crew chief. HC: house console. MC: monitor console. HS: house speakers. PMS: personal monitor systems. MS: monitor speakers. HA: house amplifiers. MA: monitor amplifiers.

Top 10 grossing tours according to *Billboard*. Some tours did not report grosses for all shows; rankings may be affected as a result. Equipment and crew information are provided by the respective sound reinforcement companies.





## JANET TUFO

Neutrik

**Q:** What is your new position, and what does it entail?

**A:** My new position is marketing director for Neutrik USA. I am responsible for all aspects of marketing and brand activities in the United States and will support our global message to effectively make a great brand even better. I am already our biggest cheerleader;

now I will take that to a new level

**Q:** How has your background prepared you for your new role?

**A:** Years of experience as a business owner prepared me well for this position. It gave me a broad understanding of how business works, how to go to market and the challenges encountered on a daily basis. Over the past six years at Neutrik, I put all of my passion into my work. As a result, I had the chance to get involved in many departments and projects. These years also helped me understand the AVL market and how our users get their information, which is key in today's digital world. I have developed a good sense of where we need to go in the future.

**Q:** What new marketing initiatives are we likely to see from the company?

**A:** Our initiatives will look to make sharing content about Neutrik products and applications more efficient and portable. We need to adapt and improve our content available to the end-user. Our strategy will continue to be geared toward our distributor partners and their channels to the market. The tools we provide them will be expanded. There will also be more focus on the vertical markets Neutrik supports. We want to provide information and expertise to every end-user who needs it in our verticals.

**Q:** What are your short- and long-term goals?

**A:** My short-term goal is to ensure brand consistency across all media. My long-term goals include expanding our reach into our vertical markets. I want to provide more value. I also want to work with our customers to help them use our brand to more effectively leverage the value of their brands. Along the way, I know I can help bring new products and ideas to all our existing customers to help them improve their products.

**Q:** What is the greatest challenge you face?

**A:** A complicated and changing world. There are trends like consolidation in our existing customer base and new channels to the market that change very fast. The way information is consumed has already changed faster than many people expected. I want to work with all of our partners to make sure we keep up. That is much easier said than done, but I am passionate about making it happen.



Bradley Watson

Martin Audio has promoted **Bradley Watson** to the new position of international sales director. One of the company's longest-serving executives, Watson helped build domestic sales during the first decade of the millennium before leaving in 2010. Rejoining the company in September 2016, he became sales manager, EMEA. In the new role, he will work to influence and develop business alongside territory managers throughout the UK, EMEA, APAC and LATAM.

Powersoft has announced the appointment of **Gary Pace** as sales manager, OEM, North America. Pace will be responsible for connecting Powersoft technologies to North American-based audio engineering teams. Pace has more than 20 years of experience in the industry, interfacing with equipment manufacturers, engineers, sys-



Gary Pace

tem integrators and retailers. His resume includes roles as sales manager at beyerdynamic, systems integrator at Advanced Lighting & Sound, national sales manager at Dynacord brand, and global sales and marketing manager at Littlite.



Marie-Josée Primeau

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**Marie-Josée Primeau** has been named business development director of Solotech. In this role, Primeau works closely with the management of the sales and integration division to identify and develop new business opportunities. She holds an international business and marketing degree from McGill University and a bach-

elor's degree in business and marketing from California State University, Long Beach. She has held multiple roles in sales teams over the last 25 years at Canon Canada and Telus.



Patrick "Paddy" Steading

Wisycom USA has named **Patrick "Paddy" Steading** as the company's newest sales liaison. In his role, Steading will help expand the company's presence throughout the Americas. Steading's previous experience includes sales positions at DPA Microphones, Sennheiser and Sweetwater, as well as positions with EDTS, EDTS Cyber, HWP Co. and Millar Electronics. He has long worked in the house of worship, corporate, government, education and broadcast markets.



Chuck Larson

Symetrix has promoted **Chuck Larson** to product manager, reporting directly to Symetrix owner and COO Julie Ogden. Larson joined Symetrix in 2014 and most recently served as a technical sales engineer. He will continue to assist with technical support while a new person is hired and trained to take over his former responsibilities. Larson's wide-ranging career includes time spent engineering for the Seattle Mariners at Safeco Field, building the first wireless data infrastructure in Eastern Washington, and touring the world at age 7 as a founding member of the Columbia Boys Choir.



Endi A. Maricevic

Riedel Communications has appointed **Endi A. Maricevic** as service manager for North America. Based in Riedel's Burbank, CA, office, Maricevic is providing dedicated customer support and managing Riedel's service operations. Maricevic joins Riedel from Fox Networks, where he served first as senior broadcast engineer and then was later promoted to associate manager of engineering and operations. Prior to that, he was West Coast service manager for Evertz Microsystems. He also previously served as director of North American customer service and project manager for Harris Corp./Leitch.



Luke Smith

PMC has brought on **Luke Smith**, who joins the company as sales manager New York, charged with representing PMC's pro audio product range. Smith's background includes work as a musician, producer and engineer; he began his career as an assistant engineer at Clinton Recording Studios before moving through various senior sales, marketing and technical positions at Euphonix, Avid and Waves Audio. He also leads his own company, S.A.S Audio, which offers recording, mixing and production services to New York-based bands.



Reto Brader

Barix has promoted **Reto Brader** to CEO from his former role as vice president of sales and marketing. Before joining Barix, Brader held business and technical roles at Hewlett Packard, Pixelmetrix, Utah Scientific and Alcatel. He has a degree in electrical engineering and an MBA.



Peter Cedmer

Dirac Research has appointed **Peter Cedmer** as head of product management, XR Audio. Cedmer will be responsible for managing the company's current XR product portfolio and developing future product roadmaps. Cedmer spent 11 years at Jays Headphones, where he worked his way up from project manager to chief product officer and, most recently, chief technology officer. Before that, he served as technical manager at ANOVO. Cedmer earned a bachelor's degree in engineering and electronics from Karlstad University.



David Belawski

Professional Wireless Systems has appointed **David Belawski** to the role of technical project manager, where he will be responsible for coordinating all aspects of client projects, including managing communications between clients and PWS team members.



# PK Performance

JEREMY BRIDGE, CEO/CHIEF ENGINEER, PK SOUND

BY CLIVE YOUNG

"My current title is CEO and chief engineer. I also make sandwiches." That's how Jeremy Bridge, CEO of PK Sound, introduced himself for this interview—pretty unconventional, but that in and of itself tells you a lot, because PK as a company is also pretty unconventional. And while he was making a joke, the statement inadvertently reveals that the CEO isn't above getting his hands dirty. You're as likely to find him in the back of the company's Calgary, Alberta, HQ making loudspeakers as in the front, mapping out the company's future. That's not due to a lack of manpower, either. "We have a total of about 70 full-time, part-time and contractors working at PK," he said. Rather, it's just what he's always done: "I started making loudspeakers when I was 14, and I've had a passion for all things related to engineering and audio throughout my entire life."

That passion was matched early on by an entrepreneurial spirit, as Bridge founded the company while at college, earning a degree in engineering. "I started PK Sound as a hobby and as a way to help put myself through school," he noted. "From the very start, we built our own loudspeakers, and we grew that business by remaining intimately involved in the growing music culture."

All engineers analyze systems to note what works and what can be improved. It was that process that led to PK Sound's current structure. "When I started my career, I worked for a local company called Spartan Controls," explained Bridge. "That company shaped my vision for PK because it was owner-operated; everyone in the company worked and treated their customers like they were owners, because they all had a stake in the company. I modeled PK after that."

As a result, all PK employees are part owners, and Bridge readily admits it sets the tone within the company. "PK is a very tight knit-group of passionate people, and we are really like a big family," he said. "Our employee-owned mentality shapes the passion and care that we each devote to the business. I fit into the team in a very similar way as everyone else: I do what needs to get done, and I believe that is how we all think as a culture. We have a flat organization, and if a certain team member needs help, everyone helps. If I need to build speakers, then that's what I do; if I need to do sales, then that's what I do—but my passion lies in loudspeaker design

and business strategy."

Strategy has certainly been part of the story, as has a touch of being in the right place at the right time. "We started in a garage," he recalled. "Artists who were our close friends practicing in their parents' houses became international touring acts. We grew together and helped each other along the way and forged long-lasting relationships."

Starting as a rental company that made its own loudspeakers, PK Sound opened a warehouse in San Francisco in 2011 to serve the

"We have a flat organization, and if a certain team member needs help, everyone helps. If I need to build speakers, then that's what I do; if I need to do sales, then that's what I do—but my passion lies in loudspeaker design and business strategy."

Jeremy Bridge

West Coast festival market, and the brand began to spread across North America. "The phone started to ring and more people wanted to buy our loudspeakers because of shows they heard them on, so we needed to scale the manufacturing area of our business, which started to really take off," Bridge said. The result was that PK boxes can now be found supporting productions like Dierks Bentley's recent tour, Electric Daisy Carnival and the touring edition of *Hamilton*.



Jeremy Bridge, CEO/chief engineer, PK Sound

In Canada and the United States, the company sells its offerings directly rather than using reps, but it has been building a global partner network over the last few years. "We provide products directly to the customer because we prefer really close relationships with the people using our equipment," said Bridge. "Globally, we are building our partner network in a very selective way—it is so important that these partners have the same values, drive and passion that we do because they are not just resellers to us. They are an extension of our brand and will make or break

was obvious that loudspeaker technology had become so dated and there hadn't been much innovation to the loudspeaker itself," said Bridge. "It never made sense to me that the line array could not respond to changing conditions or have variable directivity. I came up with the idea to incorporate robotics into loudspeakers so that they could provide variable directivity in both the horizontal and vertical planes, and Trinity was born."

The Trinity 10 loudspeaker, then, takes that technology and expands on it—ironically, by getting smaller: "Since we released Trinity, many people asked, 'Will you be making a smaller one?' After three years, we finally have it. Scaling the technology into a smaller package was very challenging; we really wanted to keep the box light, but also versatile and powerful. One of the key design constraints was to have it voice as closely to Trinity as possible."

While Bridge is excited about the new Trinity offering—"I think it's going to be a great year for this loudspeaker"—it's ultimately just the latest step in a much longer journey that he and everyone at PK Sound is on together. "I love thinking about the company's strategic vision, where we will be in 10 to 20 years, and how we will get there," he shared. In fact, the only aspect of the future that might be termed disappointing is that it still holds only so many hours in a day. "I have a little sketchbook that is full of more loudspeaker design ideas than I think PK will ever make in 20 years!"

PK Sound  
www.pksound.ca



# Dealing with Adversity

BY PETER JANIS

Owning a business is mostly about managing adversity. The most common reactions to adversity are getting upset, losing your cool or simply getting really mad. Over the past 40 years, I can recall so many such situations; one of the earliest was doing business with a fellow named Richard in Montreal. We had just started out and Richard had a high-tech studio supply shop and a sales guy named David, who was a huge ambassador. The problem was that Richard was always slow at paying his bills. I recall our having to stop shipments often until money was sent—but as a new company, we felt we had no choice but to work with these types of customers.

One day they needed some products shipped rush-rush, but they owed us more than \$30,000, so we held the order. David pleaded with us to fill it as this would close a deal that would enable them to make good on the money they owed us. We relented, and a couple of days later Richard declared bankruptcy. A few months after that, he opened a brand new business.

According to David, Richard was running two sets of books and using the money that he did not pay creditors to start his new venture. For a small company, \$30,000 was huge. I was hurt both emotionally and financially. How could a guy who I supported do this to me? The aha moment here was security: sometimes you have to say no and forfeit a sale even when revenues are badly needed. The only solace is karma.

A few years later, we were importing a boutique microphone brand from Eastern Europe and managed to get a number of wonderful retailers on board, including Washington Music and Sweetwater. Our “problem child” was a smaller retailer. With

the internet now alive and well, and MAP pricing the accepted standard, we worked very hard at keeping price parity online, but this retailer would not follow suit and would price the mics on his site below MAP.

As it was a high-end brand, I suggested the retailer find other ways of swaying customers. I insisted it had to maintain MAP pricing or we would have no choice but to cut them off.

“I think it is human nature to always think of the worst, when in fact things are usually not as bad as they seem.”

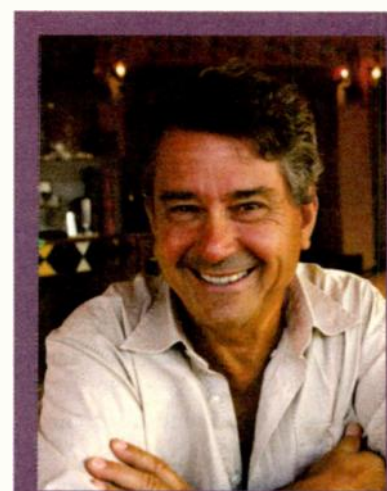
The retailer ignored us, so we cut them off. We soon discovered that the retailer was still delivering mics, yet wasn’t buying them from us. We contacted the microphone manufacturer, who said they had no idea where he was sourcing the mics—so we set up a sting. We’d catch the culprit by having someone order a mic from the retailer that could only come from the factory. The mic was delivered and we caught

the manufacturer red-handed.

We abandoned the brand immediately, of course, as we could not do business with an unethical company. It is worth saying that the manufacturer, under the thumb of Russian control, had learned to do business differently. The black market was thriving, which surely created a different mindset about right and wrong. We moved on.

As an importer and distributor, the reality is that you will gain brands and lose them. You have to accept that products come and go, as do brand managers. You may believe that you are doing well, and one day you’ll get a call that things have changed and the line has been pulled. The aha moment was realizing that this is all part of doing business.

I think it is human nature to al-



BY PETER JANIS

Peter Janis, former CEO of Radial Engineering, is a 40-year veteran of the music industry. Exit Plan, his consulting firm, assists business owners on building their companies and preparing them for eventual sale

ways think of the worst, when in fact things are usually not as bad as they seem. One day I got a message that Chick Corea’s management urgently had to speak with me. My first reaction was, What did we do wrong? Chick, being one of the most renowned keyboard players on the planet, was an important endorsee, and I was concerned that they wanted to abandon us. We never paid artists to use our products. I gathered the courage and called. Turns out they didn’t like the images we were using and merely wanted to send fresh photos. Ever since then, I call this natural reaction the Chick Corea Effect. The aha moment: stop, take a deep breath and realize the sun will come up tomorrow.

## AIMS Board Welcomes Görner

BOTHELL, WA—The Alliance for IP Media Solutions (AIMS) has announced that all existing board members have been re-elected to their positions for 2018-19; they are joined by newly elected board member Larissa Görner of Net Insight.

Together with Görner, AIMS board chair Michael Cronk (Grass Valley), deputy board chair Steve Reynolds (Imagine Communications), chief financial officer Andreas Hilmer (Lawo) and board member Andy Warman (Harmonic) will lead the organization’s effort toward a standards-based IP infrastructure for professional media.

Görner currently serves as the strategic product manager and head of live and remote production solutions at Net Insight, working closely with the company’s broadcast customers in their transition



The AIMS board: (l-r) Michael Cronk, Steve Reynolds, Andreas Hilmer, Andy Warman and Larissa Görner.

to IP-based technologies. With her extensive experience with IP-based technologies and production workflows, Görner has reportedly helped customers get the most out of their transition to IP.

“AIMS board members are committed to a common set of standards for IP media transport in the media

and entertainment industry. Along with AIMS members and our colleagues in like-minded organizations, we work tirelessly to achieve this goal,” said Michael Cronk, AIMS board chair.

“The transformative power of IP in our industry is clear, and it’s an honor to be part of such a dedicat-

ed group of people. I’m especially happy to have Larissa at the table, and I know that she’ll bring a fresh perspective and valuable insight and experience to our efforts.”

AIMS board members are selected annually. AIMS is an industry consortium led by broadcast engineers, technologists, vendors and business executives dedicated to an open-standards approach that moves broadcast and media companies from legacy SDI systems to a virtualized, IP-based environment. AIMS’ efforts build on those of standards bodies such as the Video Services Forum (VSF), the Society of Motion Picture and Television Engineers (SMPTE), the European Broadcast Union (EBU) and the Advanced Media Workflow Association (AMWA).

Alliance for IP Media Solutions (AIMS)  
www.aimsalliance.org



## Post Trends

(continued from page 1)

ally shrinking,” says Peter Holcomb, mixer, sound designer and founding partner at Manhattan’s Sound Lounge. “Cost consultants make up their own numbers now. Triple-bidding is huge. No one has any money, even if they’re a Fortune 500 company or a luxury brand. And clients always think social or digital should cost less than their TV commercials, when it’s exactly the same work.”

Consequently, says Holcomb, “You try and shave a couple of hours off; it’s going to take six hours, but I’m going to get it done in four. What else are you going to do?”

Software from iZotope helps, he says. “They continually improve their plug-ins, and they are fantastic. What used to be an unusable dialogue track is now completely usable. It has saved so many mixes.”

Even in the million-dollar movie world, purse strings are tight. “We’re definitely feeling the pinch, with less time, less money,” reports re-recording mixer Ron Bartlett. Yet client expectations are not diminished. “We have to constantly build a better mousetrap. You don’t say, ‘We only have this much money, so we can only do it this well.’”

Full-service post sound company Formosa Group—for whom Bartlett and mix partner Doug Hemphill work—is always working toward that



Sound Lounge expects to begin mixing in Dolby Atmos by the beginning of 2019.

in our custom speaker management and monitoring system on stages has afforded us incredible ease for switching between multiple ranges of products being serviced,” he says.

These days, the 800-pound gorilla in the room is Netflix, for whom everybody, it seems, either works or wants to. “Netflix has specified Dolby Atmos for its original content, so a year ago we upgraded our film mix room,” says Holcomb.

Bartlett recalls having to jump through hoops to create a Dolby Atmos mix for *Life of Pi*, one of the first films released in the format. Avid’s updates this year, incorporating the necessary panning and busing capabilities, have made things much easier, says Shimiaei: “That has removed a layer and allows the mixers to work in a more fluid and natural environment.”

Dolby Atmos is not necessarily well understood on the post side, says Shimiaei. “People tell us they need the Dolby Atmos DAMF file, the ADM and the Pro Tools Record session. Well,

home theater. Happily, says Bartlett, Formosa’s new stage at 959 Seward in Hollywood can handle both, following consultations between engineering staff and Dolby Labs. For Netflix’s *The Christmas Chronicles*, “We could do all of our formats in one room. That’s one of the few rooms that can do that.”

Sound Lounge is seeing a panoply of projects, says Holcomb. “We’re working with a giant outdoor brand, we’ve been doing two or three little films a week. They’re a nice break from the usual 30-second spot.” In fact, branded content—three-minute films, on average—come through at the rate of up to five a week, he says.

At the opposite end of the budgetary scale, he reports, “I did six spots the other day that were shot entirely on iPhone—audio and video. I saw one on-air the other night; it sounded fine.”

In the movie world, says Bartlett, the middle has dropped out of the market in the past decade. “There are a lot of lower-budget independent films, then there are a few tentpole movies. Our bread and butter was the middle ground, \$60 million movies. A lot of those have gone away.”

Bartlett was an early adopter of Avid’s S6, which he also rents out, and has an S3 in his home studio. “That’s been one of the biggest changes of the past few years—studios are taking out their big consoles or putting an S6 on top of them.”

Most post pros are now working virtually, he continues. “With the schedules and the budgets, you have to work as efficiently as possible, and be able to recall mixes and conform them instantly and just keep going, from the temp dub on.”

As a result, perhaps, “A lot of the rooms are trending a little bit smaller,” says Bartlett. “It’s great to be in a big room. On a big show, you want to push some air.”

Yet even with today’s advanced tech and support for every format imaginable, Shimiaei observes, “We still have to keep up with some of the older tech. We just finished a project that required Dolby E deliverables on HDCAM SR at both 24p and 1080i tape formats. We always have to be ready for what the customers’ needs are.”

“No one has any money, even if they’re a Fortune 500 company or a luxury brand. And clients always think social or digital should cost less than their TV commercials, when it’s exactly the same work.”

Peter Holcomb

better mousetrap. “Formosa is an avid adopter of the Dante environment, using Focusrite interfaces for the majority of DAWs on our stages,” says Danial Shimiaei, director, operations, at Formosa NoHo.

Formosa’s workflow enables mixers to move seamlessly between formats, says Shimiaei, recalling a recent DTS:X project. “We had our initial setup day, which requires DTS to tune, calibrate and lay out the arena. Once we did that, I didn’t have to change anything in my setup. The environment is tremendous; it just works.”

There has been an uptick in work for social media platforms, he reports, which have completely different needs and specs than feature films or TV. “Formosa’s investment

they’re all the same product in different containers and formats. There’s a lack of clarity about what is truly required.”

While Dolby Atmos holds the promise of being that one format to rule them all, scaling to play back according to any system’s capabilities, from mono to immersive, we are still a long way from that utopian ideal. “There are films where I’ve spent more time on deliverables than on the final mix,” says Bartlett, enumerating some of the formats—Atmos, 7.1, 5.1, Auro, IMAX, foreign language versions—that must often be generated and QC’d. “We did two weeks on *Blade Runner 2049*,” he says. “It’s very time-consuming.”

There are also differences between Dolby Atmos for the cinema and the

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# The Best and Worst of Times

BY JACQUES SONYIEUX

Mancunian band James is still not as well known in the United States as it deserves to be, despite more than three decades of pouring out fresh, thoughtful and creatively challenging material. Last August, the band released its 15th studio album, *Living in Extraordinary Times*. Created in partnership with producers Beni Giles and Charlie Andrews, the album has the impact of both a soothing hand and a punch in the gut. *Pro Sound News* spoke with band leader Tim Booth about how being both optimistic and fatalistic about modern times served as the creative cauldron in which the record was prepared.

## ON THE COVER ART

I was being really difficult—every time a cover was presented to us, I would say, “No, that’s not it.” And then finally our manager found this great artist, Magnus [Gjoen], who had these fantastic images of a hand grenade with flowers growing out of it. And I thought, “That’s it! That’s living in extraordinary times! You have the poison with the medicine growing out of it. So that was the image we chose. It was a month overdue and more expensive than we wanted it to be, and the record company wasn’t very happy with us, but it is the perfect image for the record.

## ON AMERICA’S INFLUENCE

I think when you move to a country, you see it in a different relief—against a new backdrop. So it makes things like government, which has never been my interest in the past, really stand out. It has been shocking coming to the States and really starting to see how there isn’t a democracy here. There are so many different forces undermining democracy, all to do with wealth and



The band James’ 15th album is *Living in Extraordinary Times*.

power. Generally I am not a political person, but I am somebody who gets pretty outraged at unfairness and inequality. I guess that is what motivated the two political songs on this album, and there are only two. “Hank” is one of the two, and we wanted to make it as angry, as marshall and as violent as James go.

## ON BALANCING EXTREMES

We are working with two great producers: Beni Giles, who really helped with the drums and the ideas, and then Charlie Andrews, who is alt-J’s producer. We wanted “Hank” to be as brutal as we can make it. James has always gone through extremes—in this country, we were known for the album *Laid*, which was almost an acoustic album. But at the time, we wanted it released with *Wah Wah*, which was a kind of ambient, electronic album. We wanted it to be a double album so they would come out together, but the record company wouldn’t let us because they thought the two albums were too different and that it wouldn’t work. So we’ve always been into not really having a “sound,” but rather serving the song. You get the sound that serves the song—and that’s what we’ve gone for on this record. We’ve been lucky enough to have brilliant producers who could manifest that for us.

## ON OLD-SCHOOL JAMS

We create every song through jamming. Then one of us will take that jam, if we think there is potential in it, and we’ll start working on it. I get an engineer in and chop up the jam and structure it into a vague idea of what I believe should be a song. The first stage is taking the jams and editing them into potential songs. Then I might add lyrics, and people might work on instrumentation. And then the producers come in and they start

helping with the drums—because we jam to drum machines, which makes it really easy to keep time and to edit. The exciting thing about it is you never know how the song is going to turn out, and no one person has control over it—the song goes on a kind of journey. It is the journey that is the creative process.

## ON “EXTRAORDINARY TIMES”

The album encapsulates the rise of nationalism, Brexit and countries all over the world retreating into that “me first” mentality—all based on fear, and essentially coming out of the financial collapse that took place around a decade ago. And yet, in the backdrop, there is a thing called global warming, which is an issue that has to be solved globally or we are all [in trouble]. But people are not putting this first; they are putting their own national self-interests first, and we’ve got to come together because time is running out. So there is that aspect, but culturally there is a fantastic healing response that is going on—all the women that got voted in [to office] in the recent midterms, for example. The women are coming, and thank God, we need them! We are living in a really potent time of huge transformational possibilities, but also possibilities of huge destruction. I think these are the “extraordinary times” I am talking about.

## ON GENERATIONAL SHIFTS

What’s happened over the last couple of decades is that music has become devalued because now it is virtually free. And to some degree people do not value what they do not pay for. This is not so great for musicians, but it is great for music fans because the younger generation doesn’t care where the music comes from. They might be into The Doors, or they may be into a contemporary rapper. Their tastes seem to span more widely and it is less tribal than it used to be. As a result, we are getting younger and younger people coming to our gigs. Our concerts are selling better than we’ve ever sold, even than during the ’90s when we had hit records. And it is a really mixed audience—from 60 to 70 year-olds, right down to teenagers. As we are witnessing that change, we are loving it.

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