

PRO SOUND

METAlliance ON
Studio Aggravations
PAGE 28

NEW

Volume 41 No. 7

www.prosoundnetwork.com

July 2019



BENNY GAGLIARDI

JUST WHAT THE ROCKSTAR ORDERED—Sum 41 frontman Deryck Whibley recently recorded and mixed the band's latest album, *Order in Decline*, at his well-appointed personal studio in Los Angeles. A gearhead's gearhead, he excitedly divulges all the equipment and cool tricks brought to bear on the project on page 18.

Pro Audio Weighs the Troubles with Tariffs

BY STEVE HARVEY

With the threat of tariffs on an additional \$325 billion of goods imported from China hanging over the United States, representatives from manufacturers, retailers, trade associations, labor organizations and other interested parties went before the Office of the U.S.

Trade Representative (USTR) at the end of June to plead for relief. Meanwhile, as the three previous rounds of tariffs start to bite, U.S. pro audio product manufacturers are eyeing potential price increases as they see their already slim profit margins being eroded.

"Our metalwork is all made in Texas," says Josh Thomas, *(continued on page 49)*

\$835M Drug Bust in Fake Loudspeakers

Australian border police recently discovered 1.8 tons of methamphetamine and heroin smuggled inside a cargo shipment of counterfeit loudspeakers from Thailand.



AUSTRALIAN BORDER FORCE

InfoComm Draws Crowds, Loudspeakers

BY CLIVE YOUNG

ORLANDO, FL—InfoComm is many things to many people. Depending on why they at-

tend the annual convocation, they might say it's a digital signage show, a networking show, an installation show or something else. One thing

InfoComm most certainly is, however, is a magnet for AV industry movers and shakers across a variety of industries, all looking for solutions, opportunities, education and connections. This year's edition, held in June in Orlando, provided all of that for attendees and more.

Filling the aisles of the exhibit floor and seats in the educational and networking sessions were 44,129 registered attendees. Breaking down that number, 37 percent of InfoComm visitors

were attending for the first time, and 18 percent traveled to Florida from one of 117 represented countries.

"I think one of the aspects that's most exciting to me every year is the number of new attendees we have at the show," said David Labuskes, CEO of AVIXA, the organization behind the InfoComm conference. "There's always going to be new technologies, new protocols, new alliances and new exhibitors, but one of the greatest as-

(continued on page 48)

Eavesdropping on the Cold War

How do you get a theater audience to experience the paranoia and suspicion of East Berlin in 1968? For the sold-out London run of *Anna*, it meant putting headphones on every spectator and using a binaural live mix to direct attention throughout the play's overlapping scenes.



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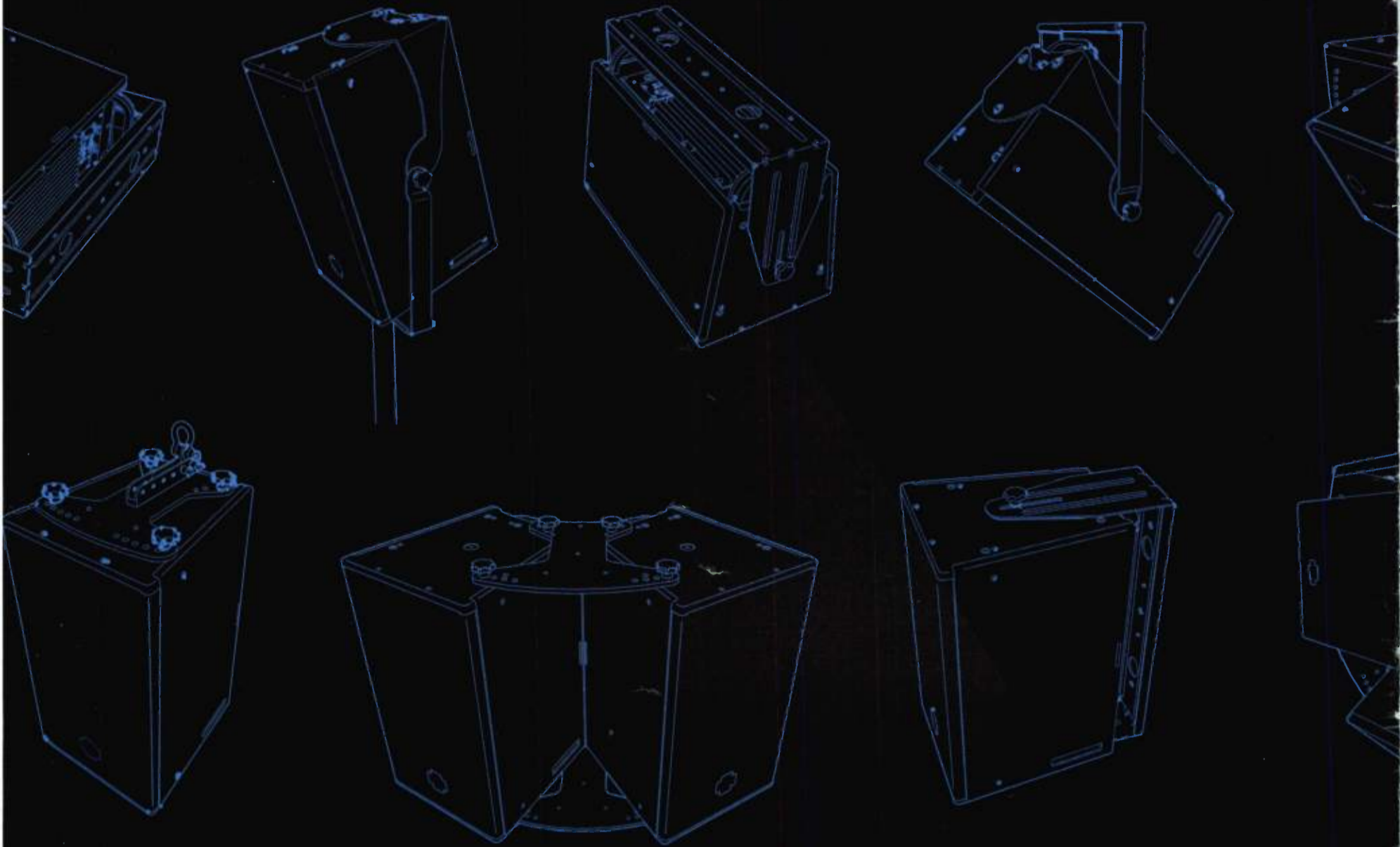


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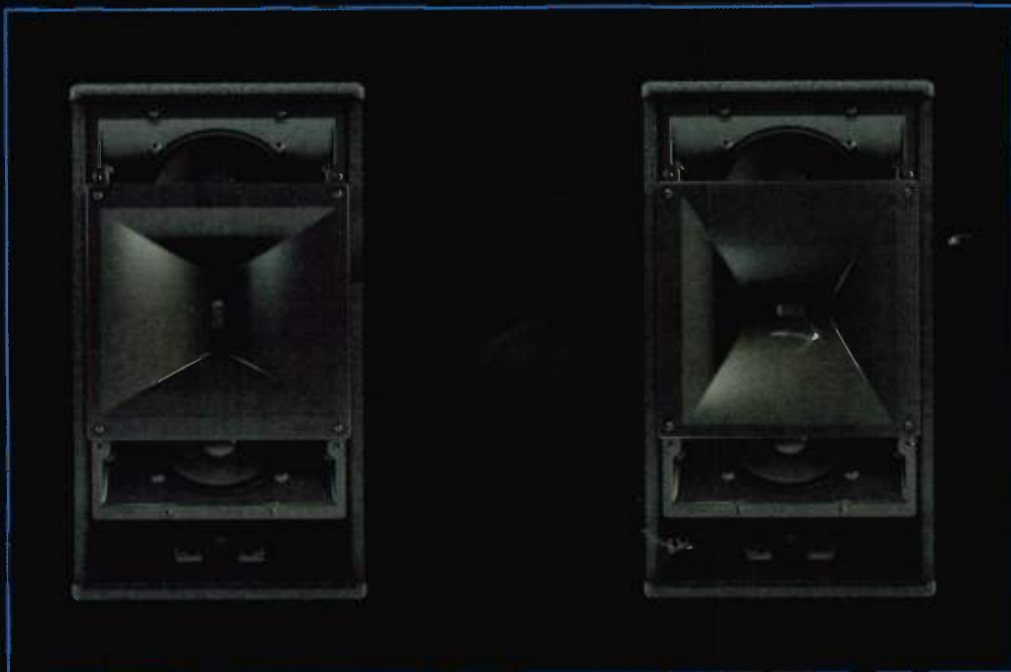
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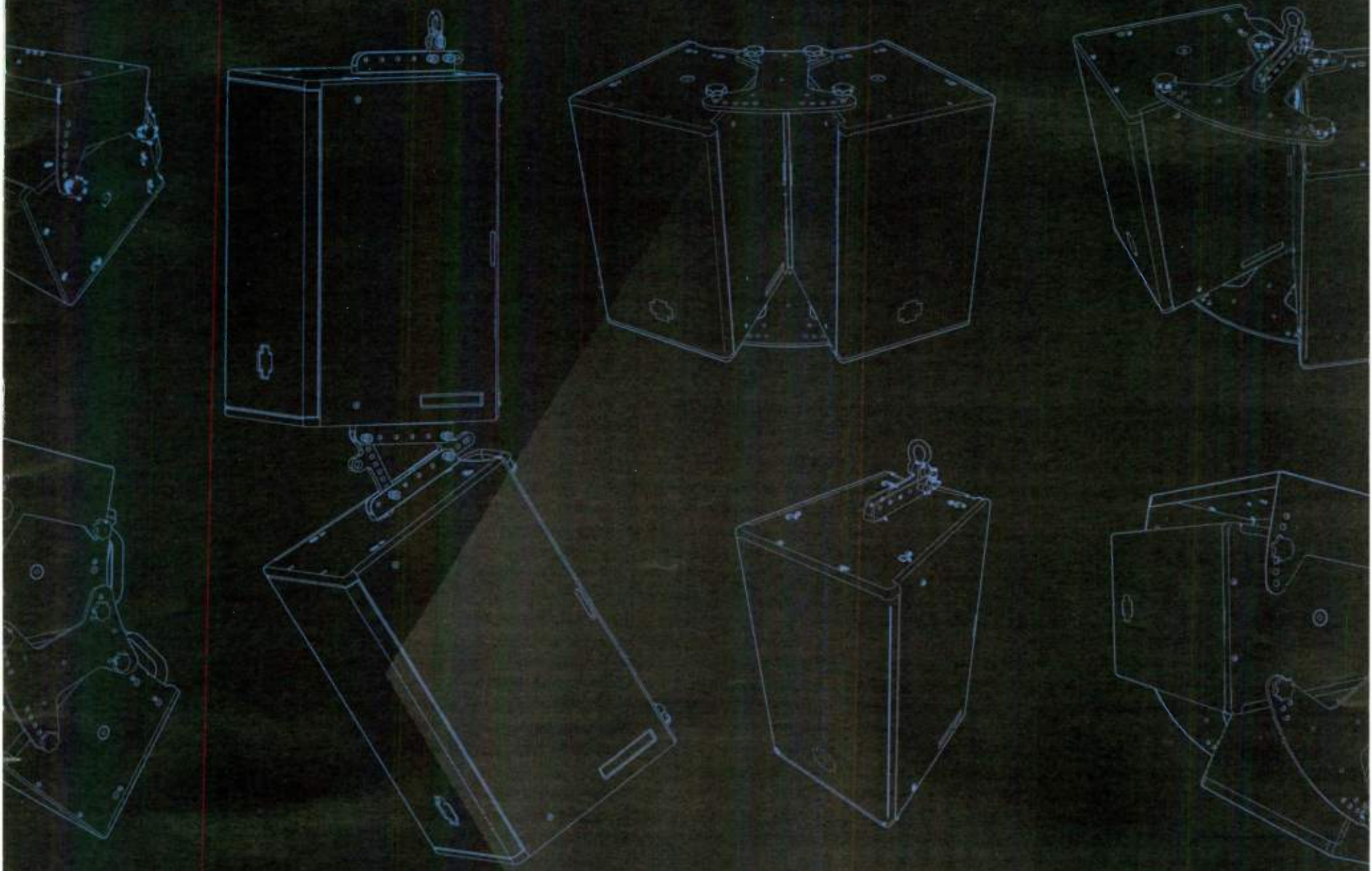
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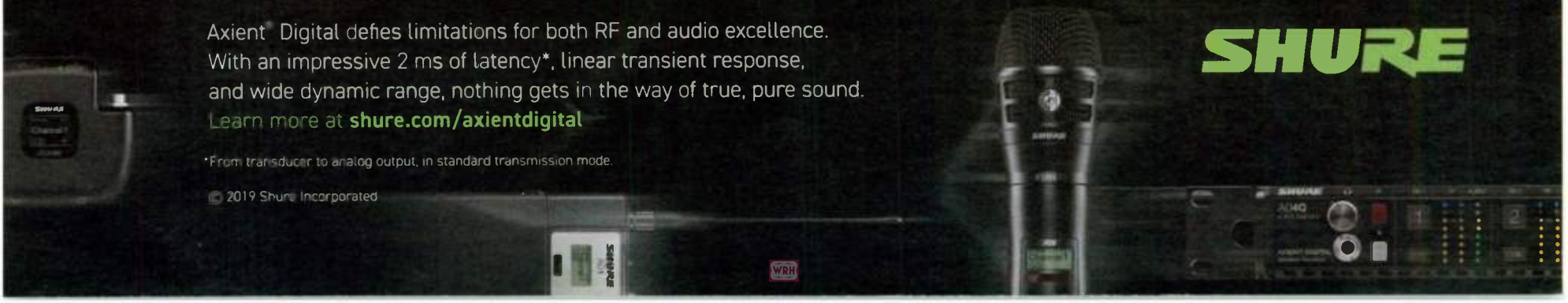


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WRH

Police Seize 1.8 Tons of Meth, Heroin Smuggled in Counterfeit Loudspeakers

BY CLIVE YOUNG

MELBOURNE, AUSTRALIA—The Australian Border Force has seized a cargo



Australian police discovered nearly \$835 million worth of meth and heroin inside a cargo shipment of counterfeit Nexo loudspeakers.

shipment of counterfeit Nexo loudspeakers used to smuggle nearly 1.8 U.S. tons of methamphetamine and an additional 82 pounds of heroin into Australia. The shipment, worth an estimated \$835 million U.S., “is the largest meth bust we’ve ever seen in this country,” said Craig Palmer, ABF regional commander, Victoria.

The drugs were shipped in pallets that appeared to contain Nexo loudspeakers, and ABF investigation photos show the drugs packed inside fake PS15-R2 loudspeakers. The shipment, which originated from Bangkok, Thailand, was pulled aside for additional inspection at the Melbourne Container Examination Facility; when it was x-rayed, “anomalies within the speakers” were detected, according to authorities. Once the shipment was taken apart, investigators discovered vacuum-packed bags of heroin and crystal meth, commonly referred to in Australia as “ice.”

Jean Mullor, CEO of Nexo, told *Pro Sound News*, “Nexo would like to point out these are not our products. The enclosures are clearly iden-

tifiable as Chinese copies of our famous PS design, cheaply available in Asia despite our ongoing attempts to combat counterfeiting. Without the audio components inside, these fakes can be regarded as nothing more than wooden boxes.”

Many pro audio manufacturers have been fighting a rising tide of phony product in recent times, as evidenced by a factory raid in Enping City, China, in October 2018 that uncovered fake Yamaha, Shure, Sennheiser and Harman gear being produced.

For the ABF, the seizure represents a major win in Australia’s war on meth, as the shipment would have been broken down into roughly 16 million drug deals. According to Palmer, the drug bust “demonstrates not only the brazen nature of those involved in this criminal activity, but the resolve of the ABF in Victoria and around the country to stop these imports.” Last year, the ABF captured more than 13.2 U.S. tons of drugs across 43,000 detections, so the seizure is equal to more than 13 percent of the total drugs seized last year.

It’s not the first time smugglers have tried to use loudspeakers to get meth into Australia. In January 2019, customs officials at the Port of Long Beach in California intercepted the United States’ largest meth shipment ever when they seized nearly 1.9 U.S. tons of the drug—worth an estimated \$892 million U.S.—being exported to Australia, reportedly inside Audiobahn and Alphasonik enclosures.

According to the Australian Crime Commission, the country is in the midst of an epidemic of ice usage, fueled by organized crime. In 2015, the ACC reported that more than 60 percent of Australia’s highest risk criminal targets on the National Criminal Target List were involved in the illicit ice market.

briefs

Yamaha, Audinate Team on IP Apps

BUENA PARK, CA—Yamaha Corp. (www.yamahaCA.com) is adopting Audinate’s Dante AV Product Design suite for its upcoming series of products targeted for audio/video over IP (AVoIP) applications. Yamaha and Audinate began collaborating nearly 10 years ago; the first Yamaha product to support Dante audio network technology was the Mini-YGDAI card, DANTE-MY16-AUD, released in 2010. “Taking advantage of Audinate’s expertise in digital networking has transformed networked audio, and we anticipate Dante AV will deliver the same benefits for networked video in the pro AV industry,” said Yoshi Tsugawa, senior general manager, Yamaha Audio Business division.

Arista Nets New AV Website

FREMONT, CA—Arista Corp. has unveiled a new website, www.aristaproav.com, to better address the AV market and reflect the company’s commitment to it. “Our goal is two-fold: to expand our presence in this market segment while at the same time helping AV pros identify the best solution for their requirements,” said Paul Shu, president. The computers area of the site includes Arista’s Stealth Silent Audio Workstation, while in the Dante area, visitors will find the Apollo Duo, Duo+ and Apollo Myriad product lines.

Hooke Hooked on Live Sessions

CHICAGO, IL—Hooke Audio (www.hookeaudio.com) has announced the Hooke Live Session Chicago Series, a run of concert video releases recorded in 3D/360-degree audio using the Hooke Verse wireless, dual-channel, 3D audio microphone system, which is capable of recording lossless binaural, 360-degree audio (reviewed in *PSN* back in October 2017). The series will feature new artists and songs in a variety of genres. Episodes will be released weekly.

Can Music Row Be Saved?

NASHVILLE, TN—Once home to dozens of studios and music industry businesses, Nashville’s Music Row put the city on the map, and now it’s in danger of being wiped off the Earth. As a result, the National Trust for Historic Preservation has named Nashville’s Music Row to its 2019 list of America’s 11 Most Endangered Historic Places.

The annual list spotlights what the organization considers to be important examples of the nation’s architectural and cultural heritage that are at risk of destruction or irreparable damage. More than 300 places have been listed in the 32-year history of the National Trust for Historic Preservation. In that time, fewer than 5 percent of listed sites have been lost.

In a written statement accompanying the list, the organization observes that despite Music Row’s critical role in the identity, economy and culture of the city, and Nashville’s international reputation as Music City



Seen here, the National Trust for Historic Preservation announced in February 2015 that it had narrowly saved the famed RCA Studio A on Music Row from demolition. Now it has named all of Music Row as one of America’s Most Endangered Historic Places.

for more than 60 years, vital pieces of its historic fabric are being lost to growing pressure from Nashville’s rapid pace of development. That trend is most famously—but certainly not only—evidenced by the narrowly avoided demolition of RCA Studio A.

Studies and surveys by the National Trust and Metro Nashville’s Planning Department have repeatedly affirmed the community’s strong desire to preserve the historic character of Music Row. Yet demolition activity

has continued unabated, the statement continues. Since 2013, there have been 50 demolitions on Music Row. Many of these have pushed out small, independently owned music businesses within low-rise historic buildings to make room for new high-rise luxury apartments and offices that have no provisions or set-asides to serve the music industry. Most of these demolitions—64 percent—were for new development permitted by Specific Plan (SP) re-zonings.

The Metro Planning Department recently released its draft Music Row Vision Plan. Metro Nashville will hold elections Aug. 1 for mayor and members of Metro Council, making this a critical opportunity for citizens and fans of Music Row nationwide to voice their support for ensuring the community and character that make Music Row a one-of-a-kind cultural district endure for generations, says the statement. National Trust for Historic Preservation www.savingplaces.org



SOUNDRECORDING

Yeasayer Takes a New Approach to Recording 18
The acclaimed experimental rock band returns with *Erotic Reruns*, its latest self-produced album, which was almost entirely tracked, overdubbed and mixed at the home studios of its three core band members.

Las Vegas' Studio DMI Reinvents Itself for EDM 20
The electronic dance music scene has exploded in Las Vegas over the past decade in the city's resorts and clubs. No newcomer to the genre, Studio DMI has long specialized in EDM, and now has moved to a new multiroom complex specially designed to meet the needs of the field's most prominent practitioners.

SOUNDPOST/BROADCAST

Hobo on the Move 25
Having long provided audio post for reality TV staples like *Gold Rush*, Manhattan-based audio studio Hobo has launched a long-form original content development company, Hobo Films, that's finishing work on the pilot for its first dramatic series, *The System*.

Sony Posts *MiB: International* 25
Audio for the recent Columbia Pictures action adventure *Men in Black: International* was completed by Sony Pictures Post Production Services on the studio lot in Culver City.

SOUNDTECHNOLOGY

The METAlliance Report: METABollocks 28
This month, the METAlliance Report is taking a different tack. They call it "METABollocks," as they sound off on all the studio aggravations that get under their collective skin.

Sound Innovations: d&b audiotechnik KSL System 30
When d&b audiotechnik began previewing its flagship GSL large line array system for customers, it began discussing the possibility of scaling down the technology. That effort has resulted in the new KSL System.

Sound Innovations: Lectrosonics D Squared Digital Wireless Microphone System 31
Digital microphone systems are expected to meet three performance criteria—high channel counts, decent battery life and long range—but achieving any two of those goals generally comes at the expense of a third. Lectrosonics aims to change that expectation.

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SOUNDREINFORCEMENT

Eclectic Kensington Presents Series Goes PPA 38
Kensington Presents has been promoting pop-up music shows at a variety of non-traditional Los Angeles area venues for years, relying on powered portable P.A.s to cover intimate crowds.

Live Sound Showcase: Suzanne Ciani . 40
Nobody said "shhhh" when electronic music pioneer Suzanne Ciani played a live quadrophonic performance at the Los Angeles Public Library's Mark Taper Auditorium.

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SPECIAL REPORT

InfoComm 2019 Wrap-Up 1, 12, 14, 15, 35
The annual InfoComm trade show is a magnet that attracts AV industry movers and shakers from across a variety of industries, all looking for solutions, opportunities, education and connections. This year's edition, held in mid-June, was no different. Get all the info and insights here!

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softwaretech 21
Craig Anderton ponders if podcasts will elevate the small studio.

viewfromthetop 45
In 2017, Equi=Tech faced a perfect storm of challenges, including the death of founder Martin Glasband. Now with his sister Jan leading a determined team of pros, the company is moving forward in new directions.

theahamoment 47
Peter Janis delves deeper into controlling your pro audio company's destiny.

music,etc. 50
Whether you know him as Miami Steve from Bruce Springsteen's E Street Band, Silvio Dante from *The Sopranos* or as the leader of Little Steven and the Disciples of Soul, you'll find Steven Van Zandt has a lot to say about working in analog, respecting musical roots and finding that "intangible element."



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Life, Liberty and the Pursuit of Audio

Summer kicks into high gear this month with the Fourth of July weekend, which likely means four days off for a lot of folks—and to those live sound pros who have to work, providing audio for parades, ceremonies, concerts and other festivities celebrating America's independence, thank you.

Here in New York City, July 4 culminates with a fireworks spectacular set over the Statue of Liberty, the famed 305-foot-tall statue (properly named "Liberty Enlightening the World") that stands on Liberty Island. A gift from France to the United States celebrating the end of slavery here, Lady Liberty was erected in 1886 and has hosted visitors from around the world ever since to the tune of 4.5 million people a year, hitting 25,000 visitors a day during peak tourist season.

While the statue has graced New York Harbor for nearly 134 years, it now has a brand new neighbor: the Statue of Liberty Museum. The statue's pedestal previously housed a museum, but security procedures since 9/11 have made getting inside the statue something that requires buying tickets months in advance. An analysis revealed that only 15 percent of Liberty Island's visitors ever got to see the museum, which made it clear that a new, separate facility was needed.

"If you said in 1986 [during the statue's restoration] that we would

build a freestanding building on Liberty Island, people would have said you were crazy," says Stephen Briganti, president and CEO of the Statue of Liberty-Ellis Island Foundation. "We had 9/11, things changed, attendance grew. Hurricane Sandy came along in 2012 and we were already planning the museum when some old buildings behind the statue got blown down. There was nothing left; we could just take off from there."

The result is a brand new museum—15,000 square feet housing eight exhibits and 150 artifacts spread across three galleries. The exhibits feature the original torch (preserved after being replaced in 1986), and touchable re-creations of Lady Liberty's face and foot, suitable for Instagramming. The museum features several interactive AV exhibits, most notably "Becoming Liberty," a small forest of double-sided, vertical kiosks with touchscreens. Each one places a photo of yourself alongside images you choose to represent what liberty means to you; once the collection is complete, you forward them all to a massive, ever-growing collage of visitors on a nearby Unilumin 1.5mm LED wall.

The museum's high point is its immersive theater, which presents a 10-minute film split into three parts that cover the conception of the statue, its construction and what it has come to symbolize around the world.

Broken into three pod-like rooms, the theater is meant to be walked through, ensuring steady traffic flow.

Steve Haas Acoustics designed the theater's audio system. Each room sports a pair of JBL Control 25AVs and a Bag End IPS10E-SHV2 subwoofer behind the screen to localize sound, supported by a half-dozen Innovox SHA-90Cs in the floor. There are no doors between the three rooms, so much of the sound absorption is provided by the audience itself.

While the sound feels immersive, Donna Lawrence, who directed the film, noted, "It's actually stereo because you want to have more points of distribution and lower dBs in order to control it. That expansive feeling you get with surround won't work in a space where you're trying to keep the audio within the room boundaries."

All of this technology is brought to bear not merely to celebrate the statue or evoke what it represented to the world in 1886, but to make you think about what liberty means right now, reminding you that it is a flexible, ever-changing and often fragile concept just as easily lost as it is gained. This might sound moderately interesting in the abstract, but it is a humbling, overwhelming thing to experience in person at the museum—and that resulting lump in the throat is a sure sign of effective AV.

prosoundnews

vol. 41 no. 7 July 2019

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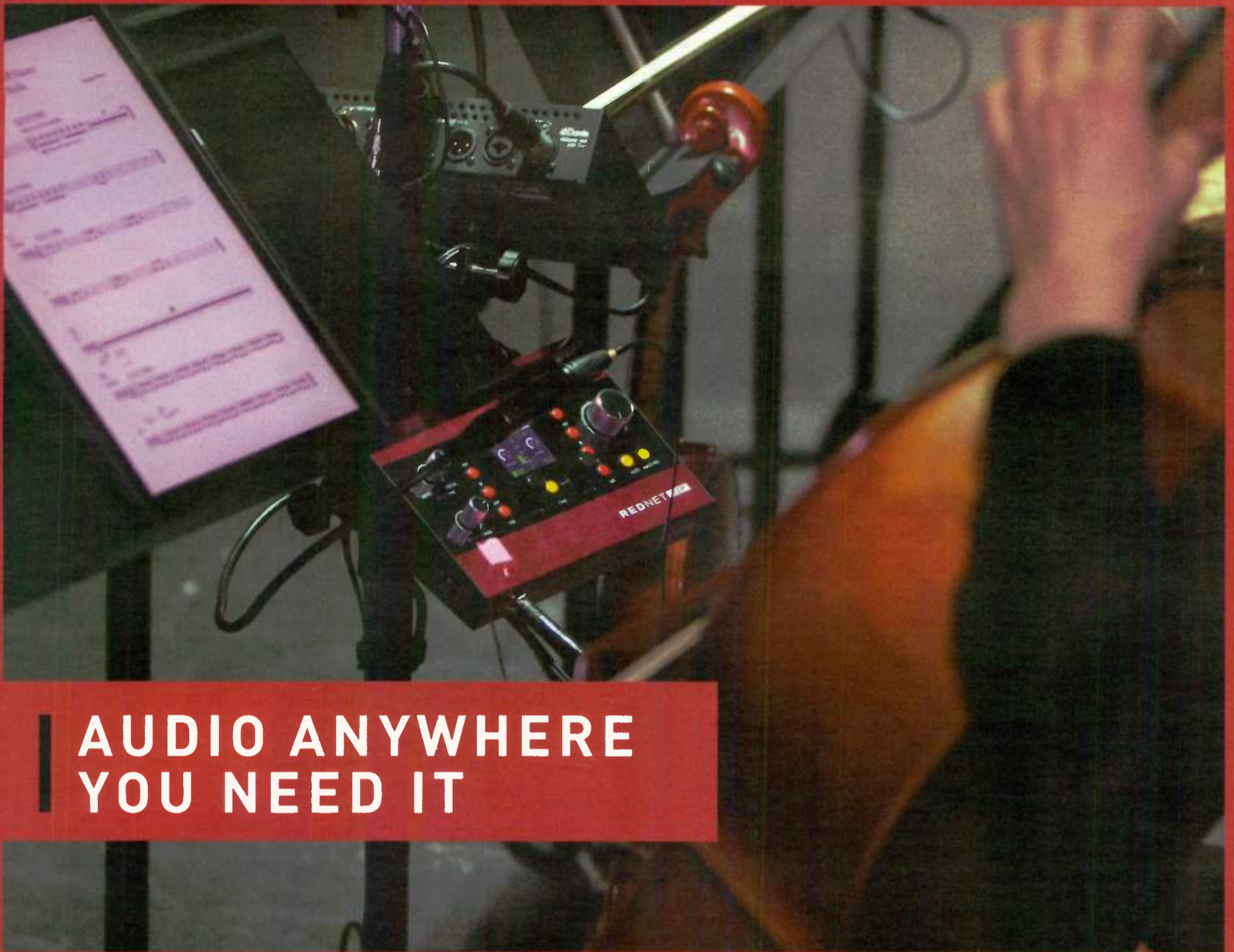
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ITU Report Explores the Future of AI in Broadcast

GENEVA, SWITZERLAND—With the annual AI for Good Global Summit currently underway in Geneva, the ITU has published a report that lays out how artificial intelligence (AI) could be used in the process of creating and distributing television and radio content.

The report, *Artificial Intelligence Systems for Program Production and Exchange*, discusses how AI is being used to optimize workflows for broadcast program creation, to improve audio and visual quality evaluation, to efficiently utilize the frequency spectrum in television and radio distribution, and recently even to create new programs by mining archives and automatically targeting content to specific audiences or individuals.

For example, AI is being used to extract content from vast archives; automatically localize content for international distribution; and generate access services such as captioning, audio description, text to speech and signing—and is doing it much faster and more accurately than was possible in the past.

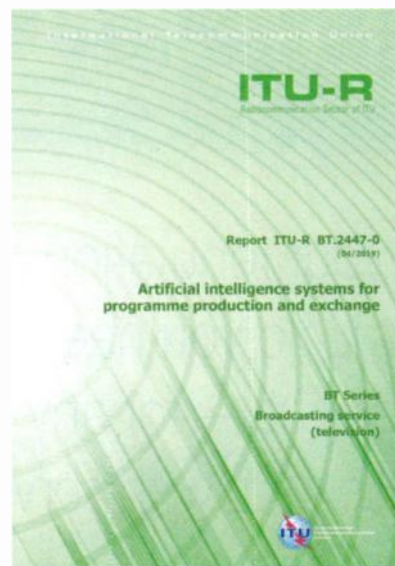
“ITU is collaborating with stakeholders to harness the power of AI to improve lives worldwide and seek solutions to the world’s greatest chal-

lenges,” said ITU secretary-general Houlin Zhao. “This helps us to identify practical applications of AI that can accelerate progress toward the UN Sustainable Development Goals, which is what we are doing this week at the AI for Good Global Summit.”

The AI for Good Global Summit is a leading United Nations platform for global and inclusive dialogue on AI. The summit is hosted each year in Geneva by the ITU in partnership with UN sister agencies XPRIZE Foundation and ACM.

The recent AI report is in response to Study Group 6 (Broadcasting Service) Question ITU-R 144/6 on Use of Artificial Intelligence for broadcasting, which was approved in January 2019. ITU study groups are venues for ITU members to work collaboratively in responding to the priorities of the ITU membership. The groups develop the technical basis for ITU agreements and associated activities.

Study groups of the ITU Radiocommunication Sector (ITU-R) address issues including the efficient management and use of the radio frequency spectrum and orbit resources, radio systems’ characteristics and performance, spectrum monitoring,



Artificial Intelligence Systems for Program Production and Exchange discusses how AI is being used to optimize broadcast workflows.

emergency radiocommunications for public protection and disaster relief, interference-free radiocommunications, radio and TV broadcasting, and new radio technologies.

“There is still an incredible amount of work needed to ensure that the use of AI in program making and content distribution is for the benefit of the audiences,” said Mario Maniewicz, director of ITU’s Radiocommunication Bureau. “We also need to make sure that the systems employed interact with each other. This and other reports and recommendations from ITU help to achieve that.”

ITU
www.itu.int

AT INFOCOMM: Retailers to Power Pro AV Biz Boom

BY ANTHONY SAVONA

ORLANDO, FL—Retailers have figured out that employing experiential AV is a good way to entice customers back to their physical stores and away from the convenience of shopping online. As a result, this is a booming vertical for the AV industry. According to AVIXA’s *Industry Outlook and Trends Analysis* (IOTA) report, the global market for pro AV products and services in retail is forecast to reach \$20.3 billion in 2019 and grow at a compound annual growth rate (CAGR) of 5.5 percent through 2023.

To support integrators in taking advantage of this growth, AVIXA has partnered with retail customer experience research firm PSFK and media platform VMSD (Visual Merchandising and Store Design) to provide a number of educational tracks and sessions devoted to retail.

At the “Interactive Content and Experiences in Retail” presentation at InfoComm in June, Perch Interactive CEO Trevor Sumner described the need to find what engages shoppers and what creates sales growth. “There is a real sea change in retail,” he said, that is being powered by forces including the move to the experience economy to appeal to the preferences of millennial and Gen Z shoppers.

Sumner’s discussion, which covered the ROI for brands deploying responsive displays that engage customers and enhance the shopping experience, offered examples including Jo Malone, Johnson & Johnson and Macy’s. AVIXA IOTA Report
www.avixa.org/insight/marketintel/IOTA



Perch Interactive CEO Trevor Sumner

UMG to Remix Thousands of Songs in Atmos



New Dolby Atmos material was created for an immersive format event at Capitol Studios.

BY STEVE HARVEY

LOS ANGELES, CA—Dolby Laboratories and Universal Music Group (UMG) are working together to bring an immersive music experience to artists and fans around the world, creating thousands of songs transformed in Dolby Atmos from a diverse list of artists across a range of genres.

Dolby Atmos capabilities are inte-

grated at UMG studios including Capitol Records Studios in Hollywood, Abbey Road Studios in London and Berry Hill Studios in Nashville. UMG labels around the world are reportedly all working on creating immersive music content in Dolby Atmos.

“This is a completely new way to create and experience music, freeing artists to be more expressive and experimental with their recordings,”

said Todd Pendleton, chief marketing officer and senior vice president, Dolby Laboratories. “Dolby Atmos Music envelops the listener, bringing you inside the music and creating a visceral ‘wow.’”

Executives from Dolby Labs and UMG demonstrated old songs remixed for Dolby Atmos and new material custom-created for the immersive format in an event at Capitol Studios prior to the official announcement. As reported in *USA Today* and *Billboard*, tracks played back in Capitol’s Studio C included Marvin Gaye’s 1971 classic “What’s Going On,” R.E.M.’s “Drive” and songs by Wu-Tang Clan, Public Enemy and Snoop Aalegra.

Billboard notes that the rollout at Capitol was just the latest in a string of Dolby Atmos music demonstrations that have included an after-party at last year’s Academy Awards and a Wu-Tang Clan interactive exhibition at Dolby SoHo in New York City. Dolby Laboratories
www.dolby.com

Universal Music Group
www.universalmusic.com

Sound Designer Paz Makes Tony History



From left: Jessica Paz, Nevin Steinberg, Fitz Patton

BY CLIVE YOUNG

NEW YORK, NY—This year's 73rd annual Antoinette Perry "Tony" Awards were announced Sunday, June 9, including a Best Sound Design win that made Tony history. The annual ceremony highlighting the best of the year's Broadway season was hosted by James Corden and broadcast live from Radio City Music Hall in New York City.

The Tonys for Best Sound Design of a Musical were awarded to Nevin Steinberg and Jessica Paz for *Hadestown*. With the win, Paz became both the first woman to nominate for and also the first to win the category in the nine years that

the award has been presented (first awarded in 2008, the Sound Design categories were not offered between 2015 and 2017). Steinberg was previously nominated in the category for 2013's Rodgers & Hammerstein's *Cinderella*.

The audio system for *Hadestown*, staged at the Walter Kerr Theater, is largely based around a Meyer Sound system, sporting Leopard, UPQ, UP-Junior and UPJ loudspeakers, managed by Galileo Galaxy processors.

Hadestown ultimately took home eight of the 14 Tonys for which it was nominated. It additionally won Best Musical, Best Original Score

Written for the Theatre, Best Performance by an Actor in a Featured Role in a Musical (André De Shields), Best Scenic Design of a Musical, Best Lighting Design of a Musical, Best Direction of a Musical, and Best Orchestrations.

The award for Best Sound Design of a Play went to Fitz Patton for *Choir Boy*. The drama about a talented student aiming to lead the gospel choir at his prep school was nominated for four Tonys, but Patton's win was the only trophy the production took home. It was his first nomination.

Tony Awards
www.tonyawards.com

RCF Goes to Milan

ITALY—Italy-based professional audio manufacturer RCF has joined the Avnu Alliance as a member of the organization's pro AV segment to support the Milan network, which marked its one-year anniversary at InfoComm 2019. Milan is a standards-based, user-driven deterministic network protocol based on Audio Video Bridging (AVB) for professional media that aims to ensure devices work together at new levels of convenience, reliability and functionality. Created and maintained by pro audio manufacturers in the Avnu Alliance, Milan is a solution for promising deterministic, reliable, and future-proof delivery of networked media.

Avnu Alliance
www.avnu.org

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AVIXA Women's Council Honors Industry Leaders

BY MEGAN A. DUTTA

ORLANDO, FL—The AVIXA Women's Council hosted more than 325 women and men at its annual breakfast at InfoComm in June. The event was filled with high-powered networking and featured Christine Schyvinck, chairman, president and CEO of Shure, as the keynote speaker.

"Double the groups and double the fun was the gist of this year's AVIXA Women's Council Breakfast," said Brandy Alvarado, chair of the Women's Council and business development manager at Mad Systems. "Our annual breakfast is all about connecting, networking, enriching and empowering women to be their best, and that's truly what our mission represents."

At this year's breakfast, the council honored female leaders who have helped further its efforts in empowering women.

• The Biggest Cheerleader Award: Cory Schaeffer



Christine Schyvinck, President and CEO of Shure

• Ultimate Team Player Award: Ericka Schumpert

• Culture Champion Award: Christina Cruzeiro and Cristina Lucas

• The Helping Hand Award: Laurie Harrigan

• The Busy Bee Award: Brandy Alvarado and Cory Schaeffer

• Mission Impossible Award: Gina Sansivero and Dayna Baumann

"The growth of the AVIXA Women's Council Local Groups has been

infectious, due in large part to the passion possessed and displayed by the local leaders," said Amanda Eberle Boyer, senior director of member services, AVIXA. "The desire for women in the industry to meet on a regular basis, the dedication of our leaders to make that happen, and their collective efforts and commitment to this vital program is deserving of special recognition. Proud doesn't begin to convey the emotion, excitement and gratitude I feel toward the work these professionals have done in

the name of bettering the industry's culture and community. I am honored to be a small part of recognizing their efforts.

"I want to congratulate the council leaders for all their efforts on putting together such an impactful event," concluded Alvarado. "Cheers to another year of tremendous growth and opportunities, and I look forward to connecting again next year!"

AVIXA
www.avixa.org

Sonarworks Nets New Financing

RIGA, LATVIA—Sonarworks has completed a €5 million Series A round of financing, which follows an earlier investment of €1.3 million. The new financing is intended to help the company accelerate time-to-market and development of its sound calibration and personalization consumer products. The company also aims to increase its market presence in key regions, with the goal of driving revenue past the €10 million mark within two years.

Sonarworks, founded in 2012, has customers in more than 170 countries, a database of more



Sonarworks' new financing follows an earlier investment of €1.3 million.

than 10,000 measured sound devices and a unique set of AI-based technologies to map individual hearing and sound preferences.

"This is another milestone for Sonarworks. With the new investors on board, we are now heading in the right direction toward delivering the ultimate sound experience on any device," commented Helmut Bems, Sonarworks co-founder and CEO. "We are now working with companies in music streaming, headphones, smartphones and the automotive sector. Having our team closer to these customers will enable us to deliver even better integration capability."

The financing was co-led by Karma Ventures (Estonia) and Practica Capital (Lithuania), with participation from Revo Capital (Turkey), SuperAngel (Estonia), ProksCapital and Imprimatur (Latvia).

Sonarworks
www.sonarworks.com

Celestion Sponsors Truth in Audio

LAS VEGAS, NV—Celestion has signed on as a sponsor of Truth in Audio (TIA), a live sound training academy based in Las Vegas. Truth in Audio provides both new and experienced live sound students with educational opportunities through classes taught by live sound professionals. Founder and president Bernie Broderick founded TIA to provide educational opportunities to live sound practitioners and serve as a conduit that connects manufacturers' technologies and products with the industry.

TIA brings together live sound industry veterans including FOH engineers, monitor engineers, systems technicians, product designers and pro audio business executives to provide content for the curriculum, offering historical perspective and a cross-section of personal interpretations of the live sound craft.

"Truth in Audio looks forward to a great partnership with Celestion, a company with a rich history of designing and manufacturing loudspeaker drivers and components, who continues to develop cutting-edge technology," says Broderick. "The new Axi-



Ralph Nichols (left), Celestion vice president of business development, North America, and Bernie Broderick, founder and CEO of Truth in Audio

Periodic drivers from Celestion are a perfect example. We used them in our Green Monster Project. We look forward to sharing this and other advanced technologies with the students in our live sound programs."

"We look forward to working with the talented Truth in Audio team," adds Ralph Nichols, Celestion vice president of business development, North America. "This is a great opportunity to work with a uniquely quali-

fied organization to educate the current and future generations of sound engineers and promote the passion of live sound audio, as well as educate them about our new technologies and create even further awareness of the Celestion brand."

Celestion
www.celestion.com

Truth in Audio
www.truth-in-audio.com

Experience Matters: AVIXA Chairman Explains Why



BY CYNTHIA WISEHART

ORLANDO, FL—In January, QSC president and CEO Joe Pham, Ph.D. (Electrical Engineering, UCLA) was named chairman of the 2019 AVIXA Board of Directors, after previously serving as vice chair last year. This will be Pham's fifth year as a board member. As such, he is intimately familiar with the process AVIXA went through to identify and enable the industry's role in unified experiences of all kinds. Pham is also celebrating his 15th year with QSC, having joined in 2004 as chief strategy and technology officer.

How will AVIXA focus on the unified experience in the coming year? How will it equip members to be part of that? How will it inspire and drive the market to embrace AV-enabled experiences?

Joe Pham: Delivering exceptional experiences is critical to [AVIXA's] vision and core mission, and we will

continue to develop new content, training and other supportive materials that not only help our members serve a functional AV need, but enable them to powerfully combine content, technology and spaces to conceive, design and deliver exceptional AV experiences.

What are some of the technology trends you're seeing in the industry today?

It's not about new technologies in isolation, but how technologies come together to create new customer value and transform the economics of our industry. Over the last several years, our industry has converged and evolved—shifting from discrete, purpose-built, functional hardware to integrated AV hardware/software platforms that are becoming a critical part of a broader IT ecosystem. As with other industries that have taken a similar journey in the past, these unified AV/IT ecosystems will pro-



QSC president and CEO Joe Pham was named chairman of the 2019 AVIXA Board of Directors.

duce powerful new types of data, creating new insights that will transform the economics of our industry.

What are some business trends you're seeing?

Marc Andreessen's 2011 *Wall Street Journal* article "Software Will Eat the World" really resonates for our industry today. On the business innovation side, we're seeing new cloud-based delivery and consumption models, along with platform and ecosystem

solutions that create value over an entire customer lifecycle, not just at the point of AV commissioning and installation. A business strategy to produce, harvest and analyze AV data within the broader IT ecosystem is the next great era in our industry.

What do you think surprised people at InfoComm this year?

Many new, exciting products, solutions and technologies debuted at InfoComm this year, but perhaps more compelling and surprising are the conversations people are now having in our industry. We are witnessing our AVIXA community of exhibitors and attendees coming together in exciting new ways, combining their passion and broad range of talents to produce new insights and craft incredible new AV experiences that will change the way people communicate, collaborate, create and have fun.

QSC

www.qsc.com

Alan Parsons Readies Trio of Classes

SANTA BARBARA, CA—Alan Parsons—renowned for his engineering work on classic albums and for his own work recording and touring with the Alan Parsons Project—has opened a recording facility, Parsonics, in Santa Barbara. To break in the new studio, he'll be holding a series of recording master classes there July 25–27.

Each master class has a separate theme. *Music Production Rules*, taking place on July 25, is aimed at music educators. Supported by a team of audio specialists and educators, Parsons and company will explore teaching music production and audio engineering. Sessions include "Funding," "Which DAW?," "Pedagogy," "Lesson Plans," "Certification" and "Career Opportunities." The final session will feature Parsons demonstrating different ways to record acoustic guitar with vocal simultaneously, one of the most popular scenes in Parsons' *Art & Science of Sound Recording (ASSR)* video series.

In July 26's *In the Mix*, Parsons will mix two tracks recorded at previous ASSR master classes: one a stereo mix, and the second a surround mix employing Parsons's B&W 802 Diamond loudspeakers.

Parsons has long championed spatially enhanced formats—his quad mix of Pink Floyd's *Dark Side of the Moon* is featured in the *Immersion Edition* six-CD boxed set—and the Alan Parsons Project album *Stereotomy* was recorded using the first itera-

tion of ambisonics. In 2019, Parsons won the Grammy for Best Immersive Album for his remastered 35th anniversary edition of *Eye in the Sky*.

At the mix session, attendees will learn about his attention to detail on all aspects of mixing, from preparation to automation, processing, balance, positioning and levels, and will

tap into Parsons' approaches to and secrets of mixing in surround.

The final session on July 27 is a full band recording session with live tracking of drums, bass, guitar and keys, instrumental overdubs and vocals.

Alan Parsons Master Classes

www.artandscienceofsound.com/mcts



Alan Parsons inside his Parsonics recording facility

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Keeping Steve Winwood Connected

UNITED KINGDOM—James Towler has increasingly been relying on Focusrite interface and converter products for his live and studio work as British rock legend Steve Winwood's in-house engineer.

Towler remarks, "In Steve Winwood's private facility, we cover so many different aspects of music, from recording to production to touring. This facility is spread out over multiple buildings with multiple rooms, so the ability to bring all of that together with just a Cat 5 cable and networking fiber was really appealing. I was looking for something that globally brought everything together and was rock-solid, with a decent signal-to-noise ratio—something that was pleasing to the ear and great to mix on."

He found his solution in a Dante infrastructure with RedNet interfaces. "I had a RedNet 2 16-channel AD/DA interface, and I A-B'ed it against

a favorite converter from another brand. I couldn't notice a difference sonically, so RedNet had the advantage because it allowed us to create consistency from the studio to the live world."

He expanded the RedNet arsenal to include RedNet D16R 16-channel AES3 I/Os in the studio, as well as RedNet MP8R 8-channel mic pre and A/D converter units on tour—a lifesaver that Focusrite rushed to them one night after a third-party mic pre failed on Winwood's lead vocal during "Higher Love."

Towler recalls, "We plugged the MP8R in—absolutely rock-solid. It just became, for the rest of the tour, the kind of rock-solid mic pre that we relied on night after night. We got off the tour and I ordered another five straight away. That became the backbone of my new live system."

Another favorite is the RedNet X2P 2x2 Dante audio interface. He



James Towler at work in Steve Winwood's recording space.

notes, "It's a control room monitor controller, it's a musician's headphone amp in a studio, it's a utility box on the road. You can chuck it out on stage and then you've instantly got an extra two mic pre's that you pick up on the network and send out. It can run wedges. It's one of those boxes that just covers so many different things."

Focusrite
<https://pro.focusrite.com>

Grupo AR Acquires Martin Audio System

SANTO DOMINGO, DOMINICAN REPUBLIC—Santo Domingo-based Grupo AR covers the entire Dominican Republic, providing event production and rental services. To that end, the company recently purchased a Martin Audio WPC line array system and SXH subwoofers.

Grupo CEO Ariel Ramos Buera noted, "We now have 12 WPC cabinets and four SXH218 subwoofers. Our choice of Martin Audio was initially based on a recommendation from our good friend Jonathan del Villar, whose company [SVL] distributes Martin Audio in the Dominican Republic. We then listened to

the speakers at InfoComm and were highly impressed by the quality of the sound and coverage produced by the system."

Commenting on Grupo AR and the purchase, Berenice Gutiérrez, director of Pro Active Latin America, Martin Audio's regional rep, added, "In 15 years, AR has already achieved remarkable success with a record of exceptional service, so we offered them the highest technology and value option from Martin Audio with the WPC system."

"In addition, we did everything possible within the capabilities of SVL, our Dominican Republic dis-



Grupo CEO Ariel Ramos Buera with the company's new Martin Audio WPC line array system

tributor, and the Latin American and UK Martin Audio staff to provide a successful WPC demo for Grupo AR. Finally, we are pleased to have a company like AR become part of the Martin Audio family in Latin America."

Martin Audio
www.martin-audio.com

SSL Travels with Los Temerarios

MEXICO CITY, MEXICO—FOH live engineer Juan Payan has been on the road this year with Mexico's musical mainstays Los Temerarios, playing to 10,000-plus fans a night. Along for the ride are a pair of SSL L100 consoles, used at FOH and monitors.

Payan is tackling the FOH mix, while Juan Carlos Granados handles monitors. Payan discovered the console through a training event with SSL's live specialist, Fernando Guzman. "It was during this event that the sound of the console immediately



FOH live engineer Juan Payan has been mixing Los Temerarios on an SSL L100 console.

impressed me. I knew I needed to have one," Payan explains. "I've had it out on the road with me since Feb-

ruary, and everything has been working perfectly. No issues at all.

Payan is running 52 channels at FOH, and the band is a seven-piece. A big sounding band needs a big sound, he explains. "The EQ is also amazing. As soon as you dial it in, you can tell it's very reactive, and easy to tap into any frequency. Plus, I use the SSL reverbs on my drums and vocals, and I utilize the delays a lot across the console."

Solid State Logic
www.solidstatellogic.com

Thunder Rolls into Studio

LONDON, UK—To get the feel and sound they were looking for, UK metal act Thunder recorded much of their new album *Please Remain Seated* in a studio equipped with Bose L1 Model II portable line arrays. The album launched in January.

"For our latest album, we wanted a live feel in the studio and decided to try four L1 systems, along with a Tone-Match mixer audio engine and B1 [bass module] for each," explained lead singer Danny Bowes. "Setup was easy, and the sound was instantly right."

Soon the band was recording the album, which looks back at their three-decade career with new renditions of fan favorites like "She's So Fine" and "Low Life in High Places."

"A few months later we played an acoustic show, and once again, they were perfect," Bowes continued, referring to the L1s. The acoustic show was in fact the album's launch, at Planet Rock Studios in London. That show was followed by a nine-date UK tour supporting the record. "We've become huge fans and will use the L1 whenever possible," he added.

Bose
<https://pro.bose.com>



Thunder records in the studio with the help of Bose L1s.

Mixing Billie Eilish Around the World



AUSTRALIA—Promoting her recent Number One album *When We All Fall Asleep, Where Do We Go?*, Billie Eilish hit the road for a U.S. tour in June, but spring found the young songstress playing gigs around the globe in Australia, Europe, Canada and New Zealand. Along for the ride throughout the tour have been FOH engineer Drew Thornton and monitor engineer Salim Akram.

For the international fly dates, the engineers used flyable Allen & Heath dLive rigs at both FOH and monitor positions, putting the compact 12-fader C1500s to the test as they looked after more than 50 inputs from an array of live instruments and backing tracks. Their rig was fed by a quartet of DX168 stageboxes connecting to a DM0 MixRack via EtherCON connections. For the current U.S. tour, Sound Image is providing dLive S5000 surfaces for FOH and monitor duties.

With the diminutive C1500s, however, Thornton designed the system to travel with the band. “Throwing down your stagebox and [being able to push] out everything patched and line-checked in 10 minutes is amaz-



Salim Akram with the Allen & Heath dLive C1500

ing,” he said. “We plug it in and it works like a dream. I’m a firm believer that if you get your mix right, you can handle things with as few as eight faders. Having 12 faders on the C1500 is a luxury.”

Akram noted, “I built my dLive show file on the airplane. I’ve been on a lot of other consoles and nothing has a workflow that is this intuitive and customizable. DCA spills were the key for me—that was a game-

changer. Now I have my mixes on SoftKeys, which flip the faders and everything else I need to get to quickly.”

Thornton and Akram put the internal dLive effects to good use in re-creating the immersive textures Eilish is known for. “I’ve got multiple plates for the drums and I’m starting to play with gated reverb effects,” said Thornton. “After years of looking for the perfect vocal, the Dyn8 does what I need. It’ll smooth things out as I play, with really subtle or aggressive effects on the song.”

Between tours, Eilish and Company hit this year’s Coachella for two shows, using Allen & Heath S5000 control surfaces and DM64 MixRacks. Jeff Hawley, Allen & Heath USA marketing manager, commented, “Engineers like Drew and Salim are out there showing just how powerful, robust, and scalable the dLive really is—tackling fly dates with the C1500 one day and jumping up to 168 fader strips on an S5000 to drive huge shows such as Coachella the next.”

Allen & Heath
www.allen-heath.com

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Sum 41's Whibley Gets Band's Album in Order

BY STEVE HARVEY

LOS ANGELES, CA—You might imagine that, as frontman, principal songwriter and sole original member of Sum 41, Deryck Whibley would have better things to do than get into the weeds regarding the creation of the band's latest album, *Order in Decline*. But as the producer, engineer and—for the first time—mixer of the project, which was recorded largely at his home studio in L.A.'s San Fernando Valley, he is more than happy to talk shop.

"I'm a nerd, man," he says. "And all us gear nerds do is talk about recording and gear."

During a 23-year career, Whibley and Sum 41 have worked with some of the best record-makers in the business. Not all musicians take an interest in the technical side, but Whibley was all ears from the get-go. "I've learned from everybody we've worked with," he says, reeling off a list that includes Chris and Tom Lord-Alge, Ryan Hewitt, Jack Joseph Puig, Andy Wallace and the late Jerry Finn.

Sum 41 tours a lot. In the summer of 2018, the band came off a three-year jaunt promoting 2016's *13 Voices* ready for album number seven. While on the road, Whibley records demos



Sum 41 frontman Deryck Whibley's home studio is now centered around an SSL 4056 G+ desk that was recommissioned, installed and maintained by the Desk Doctor, Bruce Millett.

on his laptop through a Universal Audio (UA) Apollo interface. Those tracks frequently make it to the final mix. Stepping off the tour bus, "I suddenly realized we had a bunch of stuff done," he says, and it only took a few weeks to finish up the writing.

Whibley has been recording since age 16 in Toronto, when a friend of his band's manager gave him some Sennheiser 421s, a couple of Neumann KM 184s and a 4-track machine. "I started recording all the bands around town," he says, includ-

ing two separate bands featuring Sum 41's current guitarist, Dave Brown-sound (Dave Baksh), and bass player Cone (Jason McCaslin). "I stole them and put them in my band," he laughs. "That's how Sum 41 was started."

He's been collecting gear ever since, piece by piece. "I've got 16 or 18 channels of Neve. I've got Telefunken V76, Helios, API and Chandler Abbey Road mic pres. I got Electrodyne halfway through this recording," he says, after Ryan Hewitt recommended them. "He wasn't

wrong. They're awesome."

Whibley's home facility, Studio Mr. Biz, has long housed his workstation and racks of outboard, but in the middle of making the new album, he learned that an SSL 4056 G+ desk was available. "I'd been looking for a couple of years and somebody I knew, producer David Bendeth, was getting rid of it. It was exactly the one I was looking for."

It was the final piece of the Mr. Biz jigsaw puzzle. Like an area rug, "It ties the room together," he says. The Desk Doctor—Bruce Millett—installed and recommissioned the console and is maintaining it.

Frank Zummo's drums were tracked at EastWest, the band's home away from home since 2002's Jerry Finn-produced debut album, *All Killer No Filler*. "I can do drums at home if I want, but I really love going to EastWest. We did all the drums this time to tape and back into Pro Tools. Everything else was done in Pro Tools."

Having played extensively with gear at his home, Whibley says he knows exactly what he wants to use when he records elsewhere. "I love [Neumann] M50s; there aren't any other drum room mics that

(continued on page 24)

Yeasayer Takes a New Approach to Recording

BY STEVE HARVEY

BROOKLYN, NY—Yeasayer's music has been described as "experimental rock"—a catch-all term covering a multitude of sins—but the band's new album, *Erotic Reruns*, could almost be mistaken for mid-'80s pop, offering nods to Hall & Oates, The Cars and Talk Talk, plus a hint of The Beatles. This latest release, their fifth, was once again self-produced, and for the first time was almost entirely tracked, overdubbed and mixed at the home studios of the three core band members.

"I would describe our three studios exactly in the way we used them," says bass player Ira Wolf Tuton. A former architecture student, he raised the roof of his home in New York's Catskill Mountains, creating a space with sloping ceilings and dormers that's ideal for recording.

"I've been in a variety of studios and have figured out what I like and don't like. I really tried to create a 'church' for playing and collaborating, making sure there was plenty

of space for multiple people to be comfortable with their own stations or way of doing things," he says.

Multi-instrumentalist and co-lead singer Anand Wilder's studio in Brooklyn provided a venue for overdubs, arranging and experimentation. "It's set up with toys all over the place. We did the horns at his house," says Wolf Tuton.

The final mixes and approvals took place at the home of the band's other lead singer and multi-instrumentalist, Chris Keating, who lives in a former church in upstate New York. "He has really nice monitors, the nicest of all of us," says Wolf Tuton, referring to Keating's Dynaudio speakers.

Having previously rehearsed for live shows at Wolf Tuton's studio, the band chose to track in a similar manner, each setting up their own workstations and using their Midas M32 and Hear Back rig for monitoring. "We tried to get good takes" as a band, says Wilder. "That was the first time we'd done that. We made a lot of mistakes and we



Yeasayer's new album was recorded variously in the well-appointed home studios of (l-r) Chris Keating, Ira Wolf Tuton and Anand Wilder.

ended up keeping a lot of them," he says, since mic bleed made fixes tricky. "We'd replace a sound and lose the atmosphere."

The decision to track as an ensemble played to the band's strengths, according to Wolf Tuton, who says that playing live is what keeps him in music. "We've been a band for 14 years. We've done a lot of touring. I enjoy the arranging and editing, but I love the childish joy of

performing."

Yeasayer songs typically begin with a beat programmed by Keating in Native Instruments' Maschine, says Wilder. "But we always end up overdubbing drums. It makes it sound more dynamic."

Wilder's studio intern, Daniel Neiman, an engineering student at the Clive Davis Institute who tracked the sessions and ended up mixing the

(continued on page 24)

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Las Vegas' Studio DMI Reinvents Itself for EDM



BY STEVE HARVEY

LAS VEGAS, NV—The electronic dance music (EDM) scene has exploded in Las Vegas over the past decade as the city's resorts have launched nightclubs and then dayclubs to capitalize on the buzz created by UK DJ Paul Oakenfold's yearlong residency at Palms Casino Resort beginning in the fall of 2008. Now, the world's highest-paid DJs are in town every week, the Electric Daisy Carnival annually attracts 400,000-plus revelers and contributes millions of dollars to the Las Vegas economy, and the city has a brand-new, three-room music mixing and mastering facility catering almost exclusively to EDM.

Studio DMI (Digital Music Innovation) is by no means a new venture, having previously occupied a modest space at Wynn Las Vegas that was home to three-time Grammy-nominated mixing and mastering engineer Luca Pretolesi. Moving to the new multiroom complex, located several miles west of the Las Vegas Strip, has allowed the team to expand, providing separate rooms for mixing and mastering engineers Scotty Banks (Studio D) and Andy Lin (Studio M, a multipurpose room), in addition to Pretolesi's Studio I.

The new facility came together in partnership with manufacturer Focal Naim America, which also distributes the custom Zaor studio furniture and Vicoustic acoustic treatments found throughout the complex. "When we find tools and individuals that we want to work with, that we feel we're in sync with and that we have a vibe with, and we are authentically fans of their work, a relationship can come from that," says company co-founder, CEO and president Ronnie F. Lee.

Pretolesi, with whom Lee has worked for 28 years, initially as a musician, outfitted the previous

Studio DMI's new, expanded facility houses three mix rooms, duly named Studios D, M and I.

studio with Focal SM9 monitors. "Focal took note of the fact that we were exposing their speakers to a pretty fantastic circle of artists," including Skrillex, Diplo and Jermaine Dupri, Lee says. "When we were going to expand and increase the size of our facility, they were a natural partner to reach out to. Dangerous Music was similar; it was a matter of admiring the equipment, using it, liking it and then creating a relationship."

Studios D and I both feature Focal's new Trio11 Be midfield monitors paired with a single Sub6, together with Focal Shape 40 compact nearfields. Studio M offers a pair of Trio6 Be speakers. According to Pretolesi, the Trio11 Be offers precise, detailed separation of the mix elements at any volume without introducing fatigue during long hours of mixing, though he notes favoring the Shape 40s when focusing on vocals and reverbs.

DJs, producers and artists seek out Pretolesi for the signature sound that he brings to their projects using a collection of outboard hardware refined over the years. Some EDM producers simply need their mixes elevated with his mastering, while others give him free rein to get creative with the mixing, he says, so his setup occupies the sweet spot between the two approaches.

Each bay of his Zaor console respectively houses processing for the drum bus, stereo bus and final stage. "We're not reinventing the workflow based on every mix," says Pretolesi. "It's a way to retain the same workflow with the same gear and add a similar tone, but customize it based on the needs of the track."

The console includes gear from Bettermaker, Dolby, Maselec and others, but every mix begins with the Dangerous Convert-Plus, where Pretolesi introduces the clipping that has become part of his signa-

ture sound, plus the initial compression and EQ into which he always mixes. "It sounds complicated, but the initial portion of the mix is crucial for the final result for me; it's like 50 percent of the mix is already done," he says.

On his Dangerous Compressor, he elaborates, sidechain EQ only passes information between 700 Hz, sometimes 1 kHz, and 5 kHz or 6 kHz. "I use it to bring the midrange to the front of the mix and do less in the box to try to compress and bring low-level information up in the midrange," he says. Using the Dangerous Liaison analog patch unit, he can put the Dangerous Compressor before or after a heavily modified SSL bus compressor clone, he adds.

One of his secret weapons is a unique equalizer designed and manufactured for Studio DMI by 82-year-old Livio Argentini, founder of pro audio hardware company Audio Line and a former engineer at Italy's national broadcaster, RAI. "I think Livio is the Rupert Neve of Italy," Pretolesi says. The one-of-a-kind unit boasts features including mid-side EQ, custom-wound transformers and solo on individual EQ bands. "It's the tone-shaping EQ of the stereo bus for my mixes, an initial stage of EQ rather than the final stage of mastering."

Banks, who shared the same gear at the Wynn while working with Pretolesi, has a similar approach to his mentor but a very different setup. "My workflow has gone back to being mostly in the box," says Banks, whose clients include Stray Kids, Baby K, Alok and Luan Santana. There is some hardware in his room, including mic preamps and an Eventide H3000, but it's mostly for vocal sessions in the adjacent booth.

Like Pretolesi, Banks works in PreSonus' Studio 1 DAW, and has devised a workflow that mimics his former analog outboard chain. "I

love Lime from Acustica Audio, and El Rey, which is one of the plug-ins that we did with Acustica," he says.

Studio DMI has worked with Acustica on several Diamond series plug-ins, beginning with the Color EQ a couple of years ago. "That plug-in is as close as possible to what Luca is able to get on his masters," he says, referring to the end product sampled part of Pretolesi's EQ chain. "The top end can be very aggressive, but it's very musical and shimmering."

Next was Lift, which emulates elements of Pretolesi's EQ, side-chaining, compression and converter clipping. "It creates an idea of our workflow. You're able to get the sound that we're able to achieve without having \$30,000 of gear," says Banks.

More recently, Studio DMI worked with engineer Greg Wells to sample his favorite tube compressor for the El Rey plug-in. "It's transparent, but you can have it be very colorful if you want. It's very gluey and pulls everything together."

A Dangerous Liaison provides patching to a Dangerous Compressor and a Bax EQ, as well as an FCS P3S compressor. "If I want a little analog vibe, I do have that option," says Banks, who, like Pretolesi, sends tracks via the Convert-Plus transformers to add excitement and color.

Outside Studio DMI, the team has participated in educational workshops at Sweetwater and the NAMM Show and around the world, in China, France, Holland and Italy, Lee reports, but the new, expanded facility is expected to bring more clients to Vegas to work there, continuing the facility's mission. "We've been sharing and trying to facilitate people's desires to make good music," he says.

Studio DMI
www.studiodmi.com

Will Podcasts Elevate the Small Studio?



BY CRAIG ANDERTON

The fact that audio pros are now able to perform almost all studio functions “in the box” has been hard on the balance sheets of traditional studios. Far from being an endangered species, though, there are more studios now than ever before, and they’re found more commonly in homes, office spaces, garages, suites and the like.

Granted, there are still roadblocks to generating business in smaller studios, like noise issues, limited recording budgets for clients, and zoning ordinances, but while technology takes away opportunities, it also opens up new ones.

One of the hot topics studio owners keep mentioning to me is the increasing number of podcasting clients they’re seeing. Some podcasters are gaining serious traction and even attracting yearlong advertising contracts. For others, podcasting isn’t about making money per se, but promoting other, more profitable activities. And some are chasing the dream, like kids playing guitars in a garage back in the ‘60s, in the hopes of being recognized.

The stats speak for themselves. As of April 2019, according to data from Edison Research and Nielsen published on Podcast Insights, there are over 750,000 podcast series and 30 million episodes. Over half of the U.S. population has listened to at least one podcast; 32 percent have listened to a podcast in the last month and 22 percent listen to podcasts weekly. Podcast listeners subscribe to an average of six shows and listen to an average of seven episodes a week. According to Nielsen, there’s been a 157 percent increase since 2014 in people who listen on smartphones. Podcasting audience numbers are on the rise.

What made big studios attractive was not just expertise, but hardware: comprehensive mic lockers, acoustical spaces, backlines, the ability to record multiple musicians simultaneously, and so on. Standard podcasting gear includes a laptop, USB mic (or maybe an inexpensive interface coupled with an SM58), generic headphones, and a program like Audacity. But as the podcasting world becomes more competitive, adding a professional veneer to the

sound quality becomes more important. Many podcasters recognize that better editing/mixing software, and someone with the expertise to use it, is crucial if they want to succeed.

Today’s plug-ins can enhance voices dramatically, from better

tone quality to maximizing dynamics. Restoration software (like iZotope RX7) can de-reverb sounds recorded on location, clean up Skype audio, remove hiss from podcasts recorded on a laptop, de-ess, banish mouth clicks and more. Many listeners speed up podcasts, so judi-

ciously applied time-stretching can deliver a product that’s already sped up somewhat, but retains high audio quality. Virtual instruments can create sonic logos, while samplers add sound effects. Sound libraries, and even arranger keyboards, are a ready

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APOLLO SERIES

The Apollo series is a family of Audio over IP products providing a variety of functionality to professional audio applications. The Apollo Series provides the interface between data networks and analog & digital audio devices. The Apollo Series was designed based on Dante protocol and it provides the following features:

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ARTIST: THE NATIONAL
ALBUM: I AM EASY TO FIND
LABEL: 4AD
PERSONNEL:
Produced by: The National, Mike Mills
Engineered by: Jonathan Low
Mix Engineer: Peter Katis
Studio: Long Pond (Hudson Valley, NY)
Mastered by: Greg Calbi at Sterling Sound (Edgewater, NJ)
EQUIPMENT NOTES: Neve 1064, Chandler Germanium, TAB Funkenwerk V78M, ATC SCM45, Avid Pro Tools



ARTIST: FREEKBASS
ALBUM: ALL THE WAY THIS. ALL THE WAY THAT.
LABEL: COLOR RED
PERSONNEL:
Produced by: Itaal Shur, Eddie Roberts
Engineered by: Eddie Roberts
Mix Engineers: Eddie Roberts, Eber Pinheiro, Itaal Shur, Freekbass
Studios: Color Red (Denver, CO), Bassland (Cincinnati, OH), Analog Man (Brooklyn, NY)
Mastered by: Doug Krebs at Doug Krebs Mastering (Fort Collins, CO)
EQUIPMENT NOTES: TASCAM 388, Focal Alpha 65 6.5-inch powered studio monitors, TASCAM 388, Apple Logic Pro, Avid ProTools



ARTIST: TEXAS HIPPIE COALITION

ALBUM: HIGH IN THE SADDLE
LABEL: ENTERTAINMENT ONE
PERSONNEL:
Produced by: Bob Marlette
Engineered by: Bob Marlene, with Chris Marlette
Mix Engineer: Bob Marlette
Studio: The Blue Room (Woodland Hills, CA)
Mastered by: Paul Logus at PLX Mastering (New York, NY)
EQUIPMENT NOTES: Avid Pro Tools



ARTIST: DIEGO DE
ALBUM: CADA SEGUNDO
LABEL: DDP MUSIC
PERSONNEL:
Produced by: Diego DE, Martin Buon
Engineered by: Diego DE, Larry Goldman
Mix Engineer: Martin Buon, Diego DE
Studio: DDP Music (Atwater Village, CA)
Mastered by: Martin Buon
EQUIPMENT NOTES: TASCAM DM-48000 console, Steinberg Cubase Pro, Avid Pro Tools, Equator Q12, Yamaha NS-10 monitors



ARTIST: SMOOTH HOUND SMITH
ALBUM: DOG IN A MANGER
LABEL: TONE TREE
PERSONNEL:
Produced by: Smooth Hound Smith, Steve Daly
Engineered by: Jesse Thompson
Mix Engineer: Chad Brown
Studio: Ten Four Recording Company, Studio B (East Nashville, TN)
Mastered by: Jim DeMain at Yes Master Studios (Nashville, TN)

EQUIPMENT NOTES: Yamaha 1516, Lynx Aurora 16, Digidesign 003, ProAc Studio SM100, Yamaha NS-10, Emotiva ASM55, Quedsted F11, Avid Pro Tools



ARTIST: JAY SOM
ALBUM: ANAK KO
LABEL: POLYVINYL RECORD CO.
PERSONNEL:
Produced by: Melina Duterte
Engineered by: Melina Duterte
Studio: EMA Studios (Los Angeles, CA)
Mastered by: Heba Kadry at Timeless Mastering (Brooklyn, NY)
EQUIPMENT NOTES: Yamaha HS7, Apple Logic Pro X, Universal Audio Apollo 8



ARTIST: DESPYRE
ALBUM: RISE UP
LABEL: PAVEMENT
PERSONNEL:
Produced by: DESPYRE, Joey Z
Engineered by: Joey Z
Studios: The Nest Studios (Long Island, NY), VuDu Studios (Port Jefferson, NY)
Mastered by: Brad Blackwood at Euphonic Masters (Memphis, TN)
EQUIPMENT NOTES: Neve 1073, Aurora and API pre-amps, Neve 8816, Neumann KH120, Avid Pro Tools HD



ARTIST: JACK WEST
ALBUM: FOR THE RECORD

LABEL: SELF-RELEASED
PERSONNEL:
Produced by: Barrett Jones
Engineered by: Barrett Jones
Studio: Laundry Room Studio (Seattle, WA)
Mastered by: Ed Brooks at Resonant Mastering (Seattle, WA)
EQUIPMENT NOTES: MCI JH 600, Digidesign Command 8, Yamaha NS-10, Truth B2031, JBL 4110, Avid Pro Tools



ARTIST: GOLD CHILD
ALBUM: GOLD CHILD
LABEL: SELF-RELEASED
PERSONNEL:
Produced by: Garrett Eaten, John Fredericks
Engineered by: Jake Beal
Mix Engineer: Justin Gerrish
Studios: Hook and Fade Studio (Brooklyn, NY)
Mastered by: Jake Beal
EQUIPMENT NOTES: Otari Concept Elite Plus Console, Yamaha HS5, Genelec 1031A, Apple Logic Pro, Avid Pro Tools



ARTIST: FROM CARBON
ALBUM: EXISTENCE
LABEL: CARBON RECORDINGS
PERSONNEL:
Produced by: Chris Oliver
Engineered by: Chris Oliver
Studio: The Carbon Rooms in Manchester (Bury, England)
Mastered by: Phil Green at Blue Room Media (Bury, England)
EQUIPMENT NOTES: Mackie 1640i, Mackie HR624, Spirit Absolute 4P, Avid Pro Tools 10.3.10

23dB Changes Workflow

FORT LEE, NJ—Fela Davis and Denis Orynbekov, co-owners of Ft. Lee-based 23dB Productions, use an arsenal of Focusrite (www.focusrite.com) interfaces for music production, live sound recording and mixing, and podcast production in the studio and on location.

MSM Adds PMC for Atmos Music

MUNICH, GERMANY—MSM Studio Group has installed a 9.1.4 loudspeaker system from PMC (www.pmc-speakers.com), comprising PMC IB2S (LCR) and DB1 (surround/height) and three SB100 subwoofers, in a new Dolby Atmos-certified studio used primarily to mix and master Pure Audio Blu-ray music releases. Projects have included tracks from Miles Davis' *Kind of Blue* and *Sketches of Spain* albums.

Oxford Studio Shops Local

OXFORD, UK—Mark Gardener, frontman and guitarist for 1990s UK shoegaze band Ride, has opened OX4, a multiroom facility in Oxfordshire, England, featuring an AWS 948 console from SSL (www.solidstatellogic.com), whose headquarters is located nearby. Initial sessions included The Stranglers and singer-songwriter Susie Stapleton.

Karen O, Danger Mouse Debut Doc

LOS ANGELES, CA—Karen O and Danger Mouse have debuted "An Encounter with Lux Prima—The Art of Collaboration," a short documentary chronicling the 18-month development of their multisensory art installation.

PMC Opens Demo Spaces in NYC, L.A.

BROOKLYN, NY—Loudspeaker manufacturer PMC has opened demo studios in the Highland Park neighborhood of Los Angeles and in Brooklyn, NY, building on the company's U.S. presence, which already includes demo facilities in Nashville, TN, and Irvine, CA.

PMC NYC is headed by the company's New York sales manager, Luke Smith, a musician, producer and engineer who joined PMC last year. Artist relations manager "Spider" Ron Entwistle presides over PMC L.A., which boasts a 22-channel Dolby Atmos system.

Maurice Patist, president of PMC USA, says, "These are not commercial facilities, as their primary function is to privately demo the entire PMC product line. However, we will be encouraging Los Angeles- and New York-based music production clients and other members of the



PMC's new demo space in Brooklyn, NY, will double as a creative hub.

PMC family to use them."

"The full Dolby Atmos setup in our L.A. studio reflects our strategic partnership with Dolby and Universal Music Group, bringing the Atmos immersive format closer to the music

production market," Patist says. "The studio consists of an LCR of MB3-XBD-A monitoring, twotwoSub.2 for LFE channels and a selection of our Wafer on-wall monitors for all the surround and height channels, similar

to the systems already installed at Capitol Studios."

The New York facility is 1,000 square feet of space divided into two stereo mixing studios, one of which is equipped with PMC's MB3 XBD-A main monitors and the other with IB1S-A monitors. A full range of PMC nearfield monitors is on hand for customers to try.

Smith notes, "Pro audio equipment manufacturers such as SSL, Universal Audio, Rupert Neve Designs, Focusrite, iZotope, Waves, API and DW Fearn have already expressed an interest in working with us and will also use our space for their own events. We openly encourage that. We want both of our studios to be creative hubs with a strong sense of community. PMC NYC will also carry a stock of spare parts so that we can further enhance the top-notch support we offer our clients in the U.S."

PMC
www.pmc-speakers.com

NYC Sets Grants for Women in Music

BY STEVE HARVEY

NEW YORK, NY—The New York City Mayor's Office of Media and Entertainment (MOME) has announced that music producers, engineers, composers and musicians who identify as women will now be included in its content creation grant program.

The NYC Women's Fund for Media, Music and Theatre provides grants to encourage and support the creation of digital, film, music, television and live theater content that reflects the voices and perspectives of all who identify as women. Music is being brought under the program umbrella for the first time; the program was formerly titled the NYC Women's Film, TV and Theatre Fund.

According to a report in *Billboard*, Anne del Castillo, newly appointed MOME commissioner, made the announcement in June at Innovation at the Intersection of Music + Tech, an event that's part of the third annual New York Music Month conference. Del Castillo was reported as saying that the expansion of the \$500,000 grant program to include music recordings and videos was at least partly motivated by the findings of the USC Annenberg Inclusion Initiative, which put a spotlight on significant gender inequalities in the music industry.

Annenberg's study of the music industry from 2013 onward found

that across 600 popular songs, only 2 percent of credited producers, 2.6 percent of engineers and mixers, and 22.4 percent of artists were women. Just 10 percent of Grammy nominees in that time period were women.

The grants, administered by the New York Foundation for the Arts (NYFA), represent the second round of a \$5 million, three-year program made possible through MOME. This year, \$1.5 million has already been awarded to 63 film, TV, theater and digital media projects made by creatives identifying as women.

Applications and detailed guidelines for this latest round of funding will be available on July 10 for female-identifying producers, composers, engineers, solo musicians, ensemble bands and orchestras based in New York City. Recipients will be announced in March 2020.

Grants up to a maximum of \$20,000 are being offered to help offset recording costs, studio and equipment rentals, promotional materials such as videos, and other expenses associated with music creation. Qualifying applicants cannot be signed to a major label and must be able to demonstrate a growing fan base and a healthy live show history. Applicants will be expected to submit at least three songs or 30 minutes of material to qualify.

MOME
www1.nyc.gov/site/mome/index.page

Somers Streamlines Undercurrent

LOS ANGELES, CA—Bruce Somers, co-founder of industrial rock band Kidneythieves and a recording studio and post-production facility designer and builder, has streamlined the workflow at his new multistory Undercurrent studio in Los Angeles by implementing Focusrite RedNet Dante-networked audio converters and interfaces.

Undercurrent spans from the upper floor, where Somers records and does project mixing and mastering, to the basement, where he built a drum isolation room and an amp rack closet. A Focusrite Red 8Pre 64-in/64-out Thunderbolt 2- and Pro Tools HD-compatible audio interface is the studio's hub, using native Dante compatibility to network audio to Somers' Pro Tools system. A RedNet X2P 2x2 Dante audio interface allows him to move about the facility, taking the interface with him and tapping into the various acoustical environments in the space.

"I have a 200-foot Ethernet cable, so I can literally go anywhere in the place and be ready to work," he says. A RedNet AM2 stereo audio monitoring unit lets him monitor from anywhere there's an Ethernet port—which, in the house of an IT expert like Somers, is pretty much everywhere.

"RedNet has completely changed the way I work," says Somers. "I pulled out everything that was in the studio before—analog wiring, a big console and its furniture, four big racks—and replaced it with a small fraction of the cable and one 20-space rack, and it's all built around RedNet. Now I have a ton



Bruce Somers reduced cable clutter in Undercurrent, his multistory studio, by implementing a Dante-enabled RedNet network.

less gear, but I have much more flexible patching and the ability to work anywhere, anyway I want."

Somers says he's saving not only on analog cabling costs but also on its maintenance. "Analog cables and contacts break down and degrade; you have to troubleshoot and then replace them, which takes time and money," he says. "With RedNet, I went from four cable conduits to one skinny one, and I have even more I/O than I did before. It's transformed my workflow."

Focusrite
www.focusrite.com

Sum 41

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I love more. On the close mics, it's [Sennheiser] 421s on the toms and a Shure 546 on the snare." An AKG D12 captured the kick. "It sounds super punchy," he says. The D12 was supplemented by a Shure Beta 52 and a Yamaha NS-10.

"We changed the overheads out a lot on this record to get different sounds for different types of songs. For the fast songs, we used [Telefunken] 251s. For the rock songs, we used Coles 4038s. And for the heavy rock songs, like the song '45,' it was [Neumann] U67s. A good overall drum sound comes from the overheads, for me."

At home for the overdubs, he continues, "I sing through a [Neumann] U47; that's always been my vocal mic. Usually it would be a U47, [Neve] 1073 and an [UA] 1176, but this time I added a Neve 32264 on the front, then an 1176 'blue stripe' right after it. Sometimes I would take the Neve

out and just go with an LA3-A into the blue stripe. I also had a Pultec to boost a little 100 [Hz] and a little top, but it was always minimal amounts on the Neve and the Pultec."

As for guitars, he continues, "I use a Sony C-37A for heavy guitars. That was a trick I learned from Doug McKean, a great engineer. He came in and did the drums with me on this record."

Whibley had plenty of time to experiment at his home. He signed up to watch tutorials on Mix with the Masters and pureMix.net. "Those were really helpful. I would pick a song of my own and try mixing it seven different ways. I found that it always ended up the same. That's when I realized that it doesn't matter what you do, it's your own ear that's going to take you where you want to go, for better or for worse."

He assumed the album would eventually be mixed by a professional. "I was just doing what I was doing, printing everything as I wanted it to sound. By the end of it, I had to play stuff for management and the label. They wanted to hear what I'd

been doing, because it had been three months. I made some rough mixes, and everyone came to hear it. They said, 'Who mixed it?' I told them, 'I didn't mix it. These are my roughs.' They said, 'This album is done! What are you talking about?' A week later, Ted Jensen fit me in and it was mastered."

Considering Whibley's workflow, it makes sense. "When guitars went down, they came up on the SSL and went to Pro Tools fully EQ'ed and everything. I'd never felt confident enough to dive into compressing and EQ'ing that hard on the finished product going down to 'tape' as much as I did on this record. I really committed from the beginning—I was nervous while I was doing it, but when are you ever going to learn?" he says.

"Everything I did on this record, I wanted it to sound like it was mixed going down. There wasn't much to do on the back end—so the way I mixed this album was by not mixing this album."

Sum 41
www.sum41.com

Anderton

(continued from page 21)

source of background music.

Of course, the business paradigm is different from yesteryear. Sessions are shorter—nobody's booking hours and hours at a time. But it's crucial that podcasters keep up a steady stream of content, which not only means repeat business for studios, but also that you can fit podcasting sessions in between longer sessions, like recording bands or doing audio-for-video gigs. And podcasters typically place little wear and tear on studios.

For engineers, the skill set is subtly different. A podcaster may work solo, but there might also be interviews and panel discussions. Figure-8 response mic patterns are often the best option for recording interviews, not the traditional condenser-mic-pointed-at-vocalist setup. Also, engineers need narration-oriented skills, like editing to correct phrasing, crossfading different segments, picking up pieces from one word and dropping them elsewhere when enunciation needs help, and video-style ripple editing (which more DAWs are adopting) to save editing time. Some DAW features, like Arranger tracks, can be highly useful features for editing podcasts, even if that wasn't their original intention.

Detailed editing can turn into a rabbit hole, so how long the clock runs will depend on your client and the budget. Still, most podcasters who do podcasts on cooking or gardening are not likely to become DAW jockeys overnight. They need a studio and engineer.

The current podcast boom may be just another tech bubble, but some broadcasting veterans see it as the start of a new syndication model. Major labels, and network TV and movie studios have had to cede significant market share to streaming, and radio also faces digital disruption. If podcasting does indeed become the next big thing in broadcasting, software-based studios could be one of the major beneficiaries. Craig Anderton's new book series, *The Musician's Guide to Home Recording*, is available from Hal Leonard in softcover, and online as a series of ebooks. Visit www.craiganderton.com for more info.

Yeasayer

(continued from page 18)

album, plays drums on half the songs. Noah Hecht, brought in to play drums on tour, overdubbed the other songs. Wilder tracked Hecht at the drummer's practice space into his laptop via a Universal Audio 4-710D and RME Fireface 800, with the Hear Back for monitoring. Hecht's engineer friend Ian Reilly assisted.

Wilder reports that some vocals were recorded with the help of Grady Owens, who was very briefly a member of Yeasayer and, in fact, named the band. Owens has a voice recording studio at his home, with Russian-made Lomo 19a9 tube mics from the 1960s. Other vocals were recorded at an animator friend's home studio through a vintage Neumann. "We were trying to figure out how to record cheaply," explains Wilder.

Yeasayer have used Pro Tools, says Wilder, but all three switched to Apple Logic Pro, not least for its MIDI capabilities. "It's very easy to plug a USB into a keyboard, bring up a synth in Logic and lay something down." He had sketched a part for one song and thought he would record it on Wolf Tuton's baby grand, given to him by his grandmother, but ended up using a softsynth. "Because with MIDI you can adjust the notes very easily. That's the advantage."

"We tracked the whole thing on my laptop. It was super DIY," says



Neiman, who was also generating rough mixes in Pro Tools while recording. Tracking sessions were fluid, with the band constantly trying ideas and arrangements. "They just want to lay down ideas quickly. I thought, 'I don't have the facility or the time to get sounds. We'll overdub it later and do it properly,'—and we never did. But that's the character of the album, and they're super into it. It's not lo-fi, but it has some cool fingerprint smudges on it."

Neiman ended up mixing the album almost by default. "They wanted to hire five or six people and do a mix shootout. I'd given them all the Pro Tools files, but they didn't have Pro Tools, so I decided to mix five songs. I turned in some mixes and they said, 'I guess you're mixing the album now!'"

He mixed on his laptop at his home studio. "I would say my three workhorse plug-in companies are Waves, for their utilitarian capabilities, Soundtoys, for the inspiration and cool sounds, and in the middle

of tracking I got a bunch of FabFilter plug-ins. I was doing a lot with Pro-Q 2, then Pro-Q 3 came out in the middle of mixing. It's amazing, my go-to EQ for anything surgical." He adds, "The guys are sponsored by Soundtoys and graciously gave me copies."

The band has previously incorporated tape into the workflow, but as Wolf Tuton reports, "Our last record was our first experience mixing completely in-the-box. It was an eye-opening and positive experience. I would say that there's a warmth to it. All of us were a little bit stunned at the capabilities and how far we've come from when we started educating ourselves with home recording."

As artists, they are focused on the music, of course, yet the technology is easily accessible if you are willing to educate yourself, he says. "All these tools are out there if you're willing to put the time in. And you need to figure out your interface. I like certain programs over others just because, for me and my brain, it might look more like my TASCAM 4-track, and that makes sense to me in terms of how I'm arranging stuff and how I think about it."

He has friends in the DJ world who use entirely different programs, says Wolf Tuton. "But at the end of the day we have conversations about how the compression sounds on something. It's all about the sound, all about the tone. That's where we're all trying to get. And you can't hide behind your gear."

Yeasayer
www.yeasayer.band



briefs

KUED Upgrades with Brio

SALT LAKE CITY, UT—William Montoya, audio team leader for KUED, Utah's PBS station, found a broadcast audio console with 5.1 capabilities that met his budget when Calrec (www.calrec.com) introduced its Brio 36, whose built-in auto-mixing capabilities reportedly proved useful for a press conference with Utah Governor Gary Herbert that involved multiple miked reporters.

Bal Hops to It

UNITED KINGDOM—To add a camera hop to his location audio setup without using up precious RF real estate, UK recordist Bal Rayat turned to DCHT digital camera hop transmitters from Lectrosonics (www.lectrosonics.com) paired with Duet M2R monitor/IFB receivers to transmit a two-channel mix of all the mics and sources from the main field recorder to the cameras, which he used on a BBC magazine program, *The One Show*.

Making 'Billions' with Sanken

NEW YORK, NY—Production sound mixer Dave Schwartz, who recently completed work on *John Wick: Chapter 3—Parabellum* and the fourth season of Showtime's hit series *Billions*, purchased his first Sanken (www.sankenmicrophones.com) microphone over a decade ago, for the feature film *The Maiden Heist*. He now owns 10 COS-11D lavaliers and three of Sanken's triple-capsule CS-3e shotgun mics.

Verizon Media Lands Lawo

NEW YORK, NY—Verizon Media, the Verizon digital media division combining AOL and Yahoo!, has taken delivery of three Lawo (www.lawo.com) mc²36 consoles and a Nova37 hybrid IP/MADI audio router, plus four Lawo A__mic8 microphone interfaces, for its Verizon Media Studios (formerly Oath Inc.) facilities in New York City.

Hobo on the Move with New Division

BY STEVE HARVEY

NEW YORK, NY—In May, Howard Bowler, founder and president of Manhattan-based post production audio studio Hobo, announced the launch of a long-form original content development company, Hobo Films. The new company, which builds on the work of Bowler's marijuana advocacy branding agency Green Point Creative, has hit the ground running. Hobo Films recently shared the first five minutes of episode 1 of *The System*, a scripted dramatic series that shines a light on the social inequities of the war on drugs started by President Richard M. Nixon.

Since setting up shop in New York City's Hell's Kitchen back in 2006, Bowler's company has gone from strength to strength, racking up Clio, Webby, Telly and other awards for its advertising, television, feature film and online work. Among many current projects, Hobo's schedule includes *Gold Rush*, on which the facility has worked for almost a decade.



Howard Bowler and Diego Jimnez mixing *The System*

(The first season of this Discovery series was called *Gold Rush: Alaska*.) "That show is the number one show at 10 o'clock Friday night in all of broadcast—cable and network," says Bowler. In the past 18 months, Hobo also worked on two major documentaries: *Amanda Knox* for Netflix, and

Showtime's *Weiner*, which was fêted worldwide.

Bowler began diversifying Hobo's portfolio in 2016, launching Green Point Creative with Hobo vice president and senior audio engineer Chris Stangroom. Green Point's mission is

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Sony Posts 'MiB: International' Sound

CULVER CITY, CA—The audio post process for Columbia Pictures' recent action adventure *Men in Black: International* was completed by Sony Pictures Post Production Services on the studio lot in Culver City.

Three-time Academy Award-winning sound designer/supervising sound editor/re-recording mixer Paul N. J. Ottosson led the sound team in delivering a host of sound elements to support the film's cast of characters, action scenes and comedy. Like the preceding *Men in Black* films, the latest installment centers on a secret organization intent on protecting Earth from the scum of the universe as they face a new alien threat that can take the form of anyone, including MIB agents.

Ottosson, who also led the sound team for *Men in Black 3*, said, "The challenge was to stay true to the tone that was established in the prior movies while moving forward with new and exciting sounds. At its heart, our work was to support and respect the story."

Other members of the team included sound designer Hamilton Sterling, sound designer/sound effects editor Greg Bosch, supervising ADR editor Bobbi Banks, MPSE, ADR editors Daniel Saxlid and Ryan



Audio post for *Men in Black: International* took place at Sony Pictures Post Production Services.

Juggler, MPSE, dialogue editor Robert Troy, Foley supervisor Mark Pappas, and Foley artist Gary Hecker.

For the mix sessions, Ottosson teamed with two-time Academy Award-nominated re-recording mixer Julian Slater. "It was my first time mixing with Julian," said Ottosson. "We worked well together. We both come from a background of supervising, designing sound and mixing, so we spoke the same 'nerd tech' language."

Ottosson and his team began working on the film early in the post

process, providing sound effects to picture editors Christian Wagner, Zene Baker, ACE, and Matt Willard. "The direction from [director] F. Gary Gray was to have fun," says Ottosson. "Our goal was to find the right balance between action and comedy. When things get too loud or complicated, it becomes less fun. We arrived at a dynamic mix of action scenes and quiet sections, with lots of silly sounds mixed in."

Sony Pictures Post Production www.sonypicturespost.com

COLUMBIA PICTURES

Hobo

(continued from page 25)

to educate the public on the war on drugs and change drug laws in the United States. In 2017 the company scored a viral hit with a PSA, “Your Brain on Drug Policy,” featuring actress Rachael Leigh Cook and a frying pan. (The actress was reprising her role from the 1997 anti-heroin PSA “Your Brain on Drugs,” which was itself a reboot of the iconic 1987 “Frying Pan” anti-narcotics PSA funded by Partnership for a Drug-Free America.) The 2017 version critiquing the war on drugs, which has contributed to mass incarceration, poverty and structural racism, has been viewed millions of times on social media and attracted widespread news coverage.

“Green Point was really a way for us to educate the public about what the drug war is really about,” says Bowler. “Not to try to change people’s opinions so much as an educational forum. For example, did you know that marijuana is a Schedule I drug? I didn’t know, three years ago; that was a shocking discovery for me.”

The Controlled Substances Act (CSA), signed into law in 1970 by Nixon, classified drugs and other substances into five schedules based on criteria such as their potential for addiction and medicinal

value. By scheduling marijuana in the most extreme—that is, unsafe—class of narcotics, the CSA, together with other policy and societal factors, has disproportionately affected a significant segment of the U.S. population.

“This is a story that nobody has told about the drug war,” says Bowler. “They talk about cartels, [drug] dealing in the [housing] projects, but nobody has told the story of what happens in the suburbs around the country where people are getting stopped and harassed. Records are starting to be formed for primarily minority kids, fairly low-level drug charges—and that is the exact purpose of the war,” he says.

“Like alcohol prohibition from the 1930s, *The System* illustrates what happens when society outlaws a relatively benign and popular substance. And that’s why it’s impacting so many people emotionally, on both sides,” Bowler continues.

While it’s Bowler’s passion for the subject that has helped drive the audio post shop’s evolution into this new entertainment arena, Hobo’s staff members are also on board. A couple of employees have even demonstrated a talent for writing, contributing to *The System*, he reports. The first season is fully scripted, with a story that intertwines history, politics, race, science, health, criminal justice and the arts.

“*The System* is the first salvo in this larger entertainment operation.

The next one right behind it is an incredible story that took place in the early 1900s. What we’re going to do is connect the dots through multiple stories.”

The new venture meshes nicely with Hobo’s core business, of course. “We’ve done a lot of long-form over the past five or six years. It’s a big part of our business, so it’s a natural fit to do the sound design, music and all the audio post here. And now that we’re expanding our services as we get this property out, we’re going to be viewed in the marketplace as a company that can create content,” says Bowler.

Commercial director Michael Cruz helmed the pilot for *The System*, which was edited by Oliver Parker, who worked on the critically acclaimed BBC series *London Kills*. The show features actress Lolita Foster from the Netflix show *Orange Is the New Black*.

“Entertainment has always been my drive into this industry,” says Bowler, who started out as a musician. His band The Marbles, with brother David, was once described as a cross between The Monkees, Television and The Dictators. The Marbles performed frequently at CBGB’s in the mid-’70s on the same bills as Blondie (they shared a manager) and The Ramones.

Hobo’s success as an audio post business has helped fund *The System* and get Hobo Films off and running. But going forward, Bowler says he

needs to attract financial and marketing support.

“Hobo is operating as a pretty strong platform, and the company has been able to finance the pilot to launch the entertainment division. We’ve got multiple properties behind it that we have in development right now. We are going to get financing because it’s just too expensive [otherwise],” he says.

“Our goal is to find an audience that can respond. I think there’s a large audience for this,” continues Bowler, who has been fielding calls from interested parties since the pilot went live on April 20 (4/20, like the “Your Brain on Drug Policy” spot, and a nod to 420, which has become code for marijuana). To get the ball rolling, he says, “We’ve started a social media campaign around the story.”

Simply hooking up with a major streaming content company may not be enough, he says, if *The System* is just going to get lost in a deluge of new releases. “It’s all being driven by the quality of the content and the timeliness of it. We’ve already invested, we’ve done the work, so it’s a well-developed property. We need someone on the other side who is going to come to the table with the same enthusiasm and commitment.”

Hobo Audio
www.hoboaudio.com

The System
www.thesystemseries.net

Norman Lear’s Classic Sitcoms Go Live

LOS ANGELES, CA—Producers of *Live in Front of a Studio Audience: Norman Lear’s “All in the Family” and “The Jeffersons”* relied on some of today’s newest broadcast audio technology to deliver a live rendition of two iconic television episodes from the 1970s. In the special that aired on ABC on May 22, modern actors performed episodes of *All in the Family* and *The Jeffersons* live, based on the same scripts as the original shows’ broadcasts.

Jimmy Kimmel and Norman Lear, producers of the special, opened the broadcast to viewers nationwide using TwinPlex lavalier mics, Shure’s newest performance microphone. Kimmel and Lear, along with Jennifer Hudson, who performed a rousing live version of “Movin’ On Up,” the theme song of *The Jeffersons*, were on Shure’s Axient Digital wireless solution.

“I was offered the job to be the production mixer for *Live in Front of a Studio Audience* only a few weeks before it was to air live. Even though I was elated at the opportunity, I



Opening the live broadcast, Norman Lear (left) and Jimmy Kimmel were miked up with Shure’s TwinPlex lavaliers.

knew I had some challenges to overcome,” said Paul Wittman, production mixer for the Kimmel and Lear

portions of the ABC special. “I made the choice early on to use both Shure TwinPlex lavalier microphones and

Shure Axient Digital for the very clean, dynamic sound, and also for absolute reliability.”

Wittman continued, “TwinPlex is a very natural sounding mic to me. It has a rich warmth to it that doesn’t sound muddy and doesn’t require much equalization no matter where it is located on the actor. I knew that I would only get one chance to hear both Jimmy and Norman, and that would be at dress rehearsal, so I didn’t have time to mess around to find a solution. I had to know it would work no matter where the mic was pinned. Jimmy and Norman couldn’t have more different sounding voices and, as I suspected, I didn’t need to make many adjustments to make them sound how I would like.”

The wireless systems for the Kimmel and Lear portions were provided by ATK, with Andres Arango handling monitors and Ian Gutierrez acting as RF tech.

Shure
www.shure.com

Eurovision Broadcast Dives into Waves

TEL AVIV, ISRAEL—The audio team for the Eurovision Song Contest 2019—the world’s longest-running international television music contest and, with an audience of over 200 million, one of the most-watched broadcast events worldwide—used Waves plug-ins and the Waves eMotion LV1 live mixer.

Broadcast from Expo Tel Aviv, May 14–18, Eurovision 2019 featured three live shows—two semi-finals and a grand final—held over three days, with 41 competitors, four hosts on stage, and numerous guest performers, as well as an exclusive two-song live show by guest star Madonna.

“The heads of sound of the local Eurovision production, Yair Goren and Yossi Edri, suggested that Pro Tools/LV1 engineer Jonathan Jacobi and I mix the whole thing on the Waves eMotion LV1 mixer,” says broadcast mix engineer Omer Barzilay. “I was absolutely thrilled to be able to use Waves plug-ins in such an easy and flexible way, running the plug-ins directly within the software mixer. For me, Waves is the obvious choice for broadcast mixing, so that was the perfect solution.

“When it comes to broadcast, you are usually looking for system redundancy and backups; eMotion LV1 delivered just that. It is a clear advantage to have a software-based system: we were able to easily create two identical systems with two Waves SoundGrid servers each, and we created even more backups on our personal laptops.”

Barzilay continues, “One of the greatest advantages of using the LV1 is that I was able to mix most of the songs ahead of time. I was mixing about a month and a half in advance of the show by routing all the stems that I received ahead of time from Pro Tools to eMotion LV1, creating all the automations and effects so they were ready for the show. Time is crucial when mixing so many different songs for such an immense musical event, and if I hadn’t used a software base mixer, I would never have been able to be prepared this way.”

FOH mix engineer Eran Ben Zur comments, “One challenge of the show was to mix not just the music,



FOH mix engineer Eran Ben Zur at the Eurovision Song Contest



Broadcast mix engineer Omer Barzilay mixed the show on a Waves eMotion LV1 mixer.

but also the mics of the four hosts interacting on stage. For that, I used Waves’ Primary Source Expander [PSE] and the X-FDBK feedback elimination plug-ins, followed by the Dugan Automixer on each host’s mic. All these were then routed as a group, processed by Waves Maxx-Volume.”

The FOH setup included two DiGiCo SD7 consoles with Waves MultiRack SoundGrid setups complementing each console, Waves SoundGrid Extreme Servers and touchscreens to run Waves plug-ins, plus two DiGiGrid MGB audio interfaces and two Mac computers running Waves’ Tracks Live DAW for multitrack recording.

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THE METALLIANCE REPORT: METABollocks

BY FRANK FILIPETTI

This month, the METAlliance Report is taking a different tack. We call it “METABollocks,” and the idea is that we get to sound off on the things that drive us, well ... bollocks.

One of our biggest bollocks generators is wall warts. I know they’re necessary, but do we really have to live like this? Take hard drives and their warts, for instance—how many of you have drawers filled with warts with no idea what hard drive chassis it goes with? Why can’t manufacturers put a label that lasts somewhere—anywhere—on the wart?

I know what you’re saying: “Well, you could put your own labels on.” Yes, I could, but most of them fall off over time, and that doesn’t help me with the dozens I already have with no dependable companion. Plus, the zillion different versions of that little connector—they really can’t settle on one or two? We probably have nine 12-volt wart supplies in a drawer, and whatever one you pick invariably doesn’t fit the unit in hand. And why aren’t they all center-pin positive (+)?

Okay, maybe you’ve been really conscientious from day one and couple the drive with its wart. How do you stack them? With the various sizes and cables, there’s no convenient way I’ve found to do it. So the wart goes in a drawer, never to be reunited with its mate. Not only do most of these drives come with some generic name on the label having nothing to do with the drive manufacturer, but they are actually missing the voltage and amp specs, or you need the magnifier app on your phone to read it. To that, we say, “METABollocks.”

Here’s another: It’s been nearly 15 years since the Recording Academy’s Producers & Engineers Wing released



The METAlliance includes (l-r) Ed Cherney, Chuck Ainlay, Al Schmitt, George Massenburg, Elliot Scheiner and Frank Filipetti.

the document *Recommendations for Delivery of Recorded Music Projects*. If you haven’t read it, we encourage you to do so as it provides tons of useful information that standardizes recording practices. In the days of analog recording, labels on tape boxes and track sheets contained all the necessary information. Tapes had a reasonable shelf life that could be extended by baking, so most assets that are stored properly can be retrieved 50 or more years later. Compare that to a hard drive that may not spin up after only a few years and generally has been left in a cupboard with next to no labeling. Again, you can read the document for best practices.

But that’s not what this METABollocks is about. Some of us use Nuendo as our preferred workstation. We often have to send files out to those working on other types of workstations, to do overdubs and such. You all know which workstations we’re really referring to, right? Why is it so hard for users to then spot the reference files we send them and import them to their time-stamped origin? That way, when they overdub to our

files, the overdub is done with a time stamp that relates to the original recording. Almost 100 percent of the time, when the overdubs are returned to us, they are off by an hour.

For example, the Pro Tools default is to create a new session that starts at 01:00:00.000. It seems that the users of that workstation sometimes import the reference files and drop them in at the beginning of their newly created session—in other words, one hour off. We caught on to this problem years ago and began consolidating the reference files we send out back to zero. That way, it’s not too problematic to drag back the returned files and sync them with the project—but you shouldn’t have to do that, plus it can create other problems down the road. This brings us back to the deliverables document: It’s all in there and it’s stuff you should know! Read the document or METABollocks on you.

And our last: It’s great to get a call from someone saying they admire your work, relating their impressions of a project or two that you’ve worked on to create a great listening experi-

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The METAlliance—Al 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 Sess-on” 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.

ence. The record made an impression for all the reasons it could; you did your job. That’s fabulous and rewarding. Unfortunately, they follow that with asking if you could work on their project for free—or close to it. If the project’s really that good, how can it not be worth what we need to sustain ourselves, too? And all too often, those freebie projects involve people who are the most difficult to work with. METABollocks!

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.

METAlliance
www.metalliance.com

Recommendations for Delivery of Recorded Music Projects
www.grammy.com/technical-guidelines

METAlliance Adds Lewitt as Pro Partner

The METAlliance (Music Engineering & Technology Alliance) has welcomed Austria’s Lewitt as its newest Pro Partner. According to the METAlliance, Pro Partner membership is limited to companies that have shown the ability to manufacture and distribute products that meet the organization’s professional audio standards.

The METAlliance’s Elliot Scheiner commented, “Lewitt has

made some significant advances in microphone technology, both in quality manufacturing and affordability. We welcome them with great confidence as our newest Pro Partner.”

Lewitt founder and CEO Roman Perschon said, “All of us here at Lewitt greatly respect the founders of the METAlliance and appreciate all the work the organization has done to raise the bar of profes-

sional audio manufacturing standards. Ever since we built our first prototypes in 2009, we have strived to meet the highest touchstones, and feedback from the METAlliance has been most inspiring. This METAlliance Pro Partnership recognition validates the attention to quality that we put into all of our products.”

The METAlliance Pro Partnership is a group of companies that

share the founders’ belief that a call for quality is important. Other Pro Partners include AKG, Audio-Technica, Avid, Cakewalk, DPA Microphones, Eventide, JBL Pro, Lexicon, Manley Laboratories, GML, Millennia Music & Media Systems, Neumann USA, Prism Sound, Royer Microphones, Sanken Microphones, Solid State Logic, Sommer Cable, Sonnox, Steinberg, te electronic, Universal Audio and Yamaha.

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Expanding the SL System by Scaling Down

D&B AUDIOTECHNIK KSL SYSTEM

BY MATTHIAS CHRISTNER

When d&b audiotechnik started the GSL project, we targeted applications that our large line array, the J-Series, would usually handle using a comprehensive system. The J-Series is used successfully in a wide range of applications, from medium to large clubs all the way up to stadiums. The GSL had to deliver even more than the J-Series. It had to sound great and establish a more efficient workflow for these larger applications.

Work began on KSL when the GSL electroacoustic properties had been finalized and most of the mechanical and hardware details had been clarified. This is typically the start of the "industrialization" phase in product development. It was around the time of the GSL preview events for customers that we discussed the possibilities of scaling down the GSL.

The idea of making the SL-Series feature set available in a smaller system package for a broader range of applications was clearly in place from the very start. Our experience of working with GSL and its prototypes set up the necessary development tools to design the system's electroacoustic properties, so the knowledge about how we might deliver these same properties in a smaller format was already there. When we started to work with GSL in the real world, we fully understood the practical value of its features for a huge range of applications.

In our tests, we set up a GSL system in a large arena in a situation meant to replicate a shareholder meeting running lots of table microphones. The full range directivity of the system enables a much higher gain before feedback in the low-mids, and the difference in vocal quality and intelligibility was really obvious. It gave a very clear indication of where to proceed with features of the GSL in a smaller format.

Another example that demonstrated the need for a little brother for the GSL was outfill deployment: When there is a system in place that has well defined directivity across its entire range, the outfills need to work with that system, not against it. The KSL is great for outfills. It became

obvious that we could add an accompanying system that offers a larger splay range in order to cover an arena's side seating efficiently. If the main system intentionally keeps its LF energy well contained, the side system must also be full range and work autonomously without any LF support from other parts of the system.

All the features that characterize the SL-Series have been transferred to the KSL, particularly the series' directivity behavior that creates the "quiet stage" experience and the massively reduced environmental impact to the side and behind the arrays. We also wanted to keep the impressive dynamic linearity of GSL down to the lowest frequencies, which allows engineers to run lower LEQ levels while the audience still has the full perception of a highly energetic performance. The KSL offers a full-range performance, reducing the subs needed for many applications. And then there's the transport and rigging system that, once experienced, nobody wants to give up.

The most striking difference is the perceived size of the KSL box from the audience perspective. With a width of 39.8 inches (versus 51 inches for GSL) and a height of 13 inches (vs. 15 inches), the front-facing area of a KSL is just about two-thirds of a GSL. There is only a small reduction in cabinet depth (24 inches versus 25). The physical loudspeaker arrangement is directly linked to directional behavior and coherence, so it couldn't be reduced much; it's key to the targeted bandwidth of the whole SL-Series.

In terms of weight, we could reach an attractive 127 pounds—even less than a J-TOP, at 132 pounds. When it comes to maximum acoustic output, KSL is around 3 to 4 dB below GSL in the frequency range above 150 Hz; hence exactly in the J-Series range and exactly what we wanted to achieve. The difference between KSL and GSL in the lower frequencies is largely due to the over-proportional reduction of cabinet volume, but



d&b audiotechnik KSL SYSTEM

KSL still clearly performs beyond a J-TOP—so every application achieved with a J can easily be done with KSL, plus you get the additional benefits of improved directivity, rigging efficiency, logistics and scale. These benefits are the keys that open up a wide application range for KSL, probably even wider than what we see today with the J-Series.

In addition to including all the features that characterize the SL-Series, the KSL also offers a wider splay range

of 0° to 10°. For smaller applications that don't need Array-Processing, two cabinets linked in parallel can be driven by one D80 amplifier channel pair.

Work on KSL started at the beginning of 2017, just after the basic design of GSL had been finished. It progressed in parallel with the GSL industrialization process and field tests. The advantage of that approach was that our experience with GSL—the purpose-built simulation tools and many of the basic feasibility studies made for GSL—could be transferred to KSL.

It's trickier to design, test and build scaled-down speakers like the KSL, particularly if you have the aim of delivering the same driver excursion capability as a larger cabinet like the GSL; smaller drivers require more work on the suspension system to be made reliable. A scaled-down cabinet like this one is inevitably more tightly-packed with the components and structures that deliver the performance, so the manufacturing process can also be more challenging.

Another interesting factor is the rigging system. With the larger splay range, the geometry of the smaller box and the dual rigging modes, you quickly run out of space for holes in certain components. A lot of work had to be done on material selection and manufacturing methods of high-grade steel.

Following the excellent experience of our test strategy for GSL, we chose a similar process; whenever possible, we used a venue or festival that had already been a GSL test site,

which enabled data comparisons both on site and off site for noise "immis-sion" monitoring. Feedback was entirely positive, both from engineers and rental houses that see the advantages the SL-Series would provide on a daily basis. Our partners clearly recognize the benefits of a smaller-brother system.

Matthias Christner is head of R&D Acoustics, d&b audiotechnik Corp.

d&b audiotechnik
www.dbaudio.com

innovations: the manufacturer's view

Wireless Squared Away

LECTROSONICS D SQUARED DIGITAL WIRELESS MICROPHONE SYSTEM

BY KARL WINKLER

As wireless mic users, we face tremendous challenges today due to the ever-shrinking spectrum and the increasing RF noise floor.

Amid this technological transformation, we manufacturers have focused to a large degree on different performance criteria for our system designs, depending on what our core customers expect based on intended applications. Digital technology gives us new options and new tradeoffs that we didn't have when these systems were analog. Battery life has become more of an issue, as D/A converters, digital signal processors (DSPs) and field-programmable gate arrays (FPGAs) consume more power than the old, pure analog circuits. Digital transmitters are more immune to intermodulation issues, giving us the potential for increased channel counts—important with the shrinking spectrum. Audio quality can be enhanced as well, since we no longer must rely on analog compressors to yield decent signal-to-noise performance.

As any good engineer will tell you, it is usually possible to meet any two of these performance criteria but not all three.

Lectrosonics introduced its first digital wireless microphone platform in 2002 with the 700 Series, a system featuring a 44.1 kHz sampling rate and 24-bit depth, and offering 128-bit encryption. The company has introduced two additional generations of digital products since then: the D4/Quadra series in 2008-2011, and the Digital Secure Wireless 24-bit/48 kHz encrypted system in 2014. As an inkling of what was to come, the Duet digital IEM system debuted in 2017.

The new D Squared system capitalizes on everything Lectrosonics has learned about digital wireless during the past 17 years. The system comprises the DSQD receiver, DBu beltpack transmitter and DHu handheld transmitter. The 4th generation digital architecture allows for excellent flexibility, ultra-fast setup, studio-quality audio and ultra-low latency. System features include 24-bit/48 kHz digital audio, analog and



Lectrosonics' D Squared Digital Wireless Microphone System.

Dante outputs, 2-way IR sync, three encryption key policy choices and a tuning range from 470–608 MHz (470–614 MHz for export versions) in a single range.

One of the main problems with system innovation is the obsolescence of perfectly serviceable older equipment. Starting with the Digital Hybrid Wireless platform in 2003, Lectrosonics has kept the installed base of users in mind. With this award-winning technology, those with older 100 and 200 Series systems, analog IFB systems, and even those with other brands of equipment could continue to use their gear. Such interoperability was unheard of at the time.

The new DSQD digital receiver breaks even another barrier: it is backward-compatible with Lectrosonics Digital Hybrid transmitters such as the tiny SSM, the SM Series, LT, HM Series, HH Series, older UM400 and UM400a, LM Series and the watertight WM.

Three different receiver diversity schemes can be employed in the DSQD depending on the needs of the application: antenna switching, accomplished during packet headers for seamless audio; Digital Ratio Diversity, using two channels simultaneously with continuous blending; or Digital Frequency Diversity for the ultimate in reliability of complete transmitter-side redundancy. Con-

tinuously tunable tracking filters ensure excellent RF performance even in difficult environments. The DSQD includes digital talkback capability when used with any talkback-enabled transmitter, including the new DBu and DHu digital transmitters, and the previous-generation LMb, LT and HHa Digital Hybrid Wireless transmitters.

The new DBu beltpack and DHu handheld digital transmitters include specially developed high-efficiency digital circuitry for extended operating time on two AA batteries and offer RF power selections at 25 and 50 mW, using the robust 8PSK modulation scheme and proprietary audio encoding. The pure digital architecture enables AES 256-CTR encryption for high-level security applications. Studio-quality audio performance is assured by high-quality components in the preamp, wide-range input gain adjustment and DSP-controlled analog limiting. Input gain is adjustable over a 44 dB range in 1 dB steps to allow an exact match to the input signal level, maximizing the dynamic range and signal-to-noise ratio. USB ports on the transmitters allow for firmware updates in the field as features are added in the future. Two-way IR ports ensure quick setup and allow for encryption key transfer and other data sharing between units.

The DBu beltpack unit features a

removable antenna with SMA connector and incorporates the standard Lectrosonics TA5 connector with servo-bias input for compatibility with a wide range of lavalier mics, dynamic mics and line level sources. The unit ships with a tough wire belt clip but is also compatible with an accessory clamp-style belt clip. A multifunction switch on top of the transmitter can be configured as power on/off, mute, talkback, or bypassed altogether. The DBu's housing is constructed of solid machined aluminum, finished with an ultra-hard electroless nickel plating for lasting ruggedness.

The DHu handheld transmitter is compatible with the Lectrosonics HHC cardioid condenser capsule and can also be used with a wide range of microphone capsule heads incorporating the standard 1.25 inch opening and 28 thread pitch. A programmable button on the outside of the housing can be configured as a cough or mute switch, a power switch, or be bypassed altogether. The DHu housing is milled out of aluminum alloy and powder coated for lasting ruggedness.

The half-rack DSQD receiver includes a headphone jack for audio monitoring per channel. Ethernet and USB ports allow the receiver to connect to Wireless Designer software for programming and monitoring, and a serial port enables connection between receivers for data sharing and frequency coordination. Antenna bias power can be engaged in the menu, and front panel LEDs show the status. Each DSQD ships with half the rack hardware needed to mount two units together, yielding eight channels in 1RU.

As for D Squared system performance, audio frequency response is 20 Hz – 20 kHz +/-1 dB, with dynamic range of 108 dB and THD+N of 0.05 percent at 1 kHz, -10 dBFS. Latency is 1.4 ms, transmitter input to analog output, using a digital transmitter, and <2.9 ms with any Digital Hybrid Wireless transmitter.

The company is extremely excited about the release of this new platform, as it represents a new era for Lectrosonics and our customers, with many new possibilities for wireless microphone performance when applied to broadcast, theater, touring, house of worship and TV/film production.

Karl Winkler is vice president of sales at Lectrosonics.

Lectrosonics
www.lectrosonics.com

EVENTIDE H9000 MULTI-EFFECTS PROCESSOR ■ ZYLIA RECORDING SYSTEM ■ ROYER LABS R-DB20 DBOOSTER IN-LINE SIGNAL BOOSTER

EVENTIDE H9000 MULTI-EFFECTS PROCESSOR



Eventide H9000 front



Eventide H9000 rear

Eventide's H9000 flagship multi-effects processor redefines how much unadulterated processing power can be squeezed into a 2U box. As a long-time Eventide fan (the studio where I cut my teeth had both Eventide H910 and H949 processors, and I've never looked back!), I couldn't wait to get my hands on the new Eventide H9000.

The H9000 Harmonizer is a significant leap forward from 2006's eight-channel H8000FW. Instead of 24-bit fixed-point digital signal processing, the H9000 is built on an entirely new platform that encompasses four quad-core, 32-bit floating-point ARM processors. These processors are mounted on removable cards, ensuring an easy upgrade when more powerful processors become available. It's always nice when a manufacturer designs gear to withstand the test of time.

The H9000 is internally structured as 16 virtual DSP engines, meaning it can simultaneously run up to 16 independent effects algorithms processing up to 32 channels at any given time. Rather than having an insane number of processors running independently, the H9000 incorporates a feature called FX Chains. Four chains, each with up to four effects algorithms processing up to eight channels of audio input and output, are available at any given time. The effects algorithms can be connected in a wide range of series/parallel configurations, providing the user with significant creative control and the ability to create virtually any conceivable processing structure.

The rear panel of the fan-cooled H9000 incorporates comprehen-

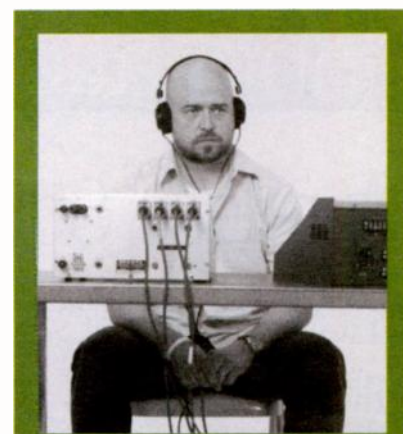
sive I/O architecture, including eight channels of analog, AES3 and ADAT I/O. It also incorporates a 16 I/O USB 2.0, allowing easy integration with a DAW. The rear panel also includes three expansion slots, allowing up to three of the optional expansion cards to be added to the configuration. During my review period, only MADI and Dante cards were available—I had one of each in my review unit—but Ravenna and AES67 cards are slated for release in the near future. Each expansion card supports up to 32 channels of I/O; this means a fully loaded H9000 can access up to 128 channels, and since the unit is networkable, multiple users, each working in different studios in the same complex, or a FOH and monitor engineer in live concert scenario, can simultaneously utilize the same processor. A decade ago, I never dreamed that would be possible.

There are two variations of the H9000: the H9000 (\$6,999) and the H9000R (\$4,999). The H9000 incorporates a front-panel UI, and the H9000R has a blank front panel. The units are identical internally, but the H9000R must be controlled via Eventide's emote application. The app, the only option for remote control of the H9000, is a free download from the Eventide website. It operates as a standalone Mac/Windows application or as an AAX, AU or VST plug-in. Computer/H9000 connectivity is via USB, LAN or Wi-Fi (a Wi-Fi dongle is included). If the user decides to connect via LAN and the network is online, software updates can be downloaded and installed directly from Eventide's servers.

In addition to controlling the H9000R, emote is ideal for users working in the box or over an audio network, or who simply want to make critical processor adjustments while listening in the sweet spot. emote is well designed, straightforward and intuitive. The series of tabs at the bottom of the emote window (Devices, Sessions, FX Chains, Algorithms, Parameters) allow users to view properties and make changes. There are also dedicated Tap (tempo), Mute and Bypass buttons. The emote window mimics the front panel's workflow, making it easy to move between the two. After spending significant time with the H9000, I've found myself more comfortable using emote than the front panel's UI. When used as a plug-in, all of emote's parameters can be automated via the DAW, which adds an entirely new level of creative control. All of this processing power and connectivity would be useless if the device didn't deliver stellar sound, but the H9000 does that indeed.

Working with the H9000 is a pleasure. The front panel's layout—the numerical keypad and encoder wheel in particular—immediately feel familiar. Between these controls, the display screen, and cursor and menu buttons, navigation is wonderfully intuitive. My only complaint is that I've become so accustomed to interacting with touchscreens that when I encounter a screen this large, I automatically find myself trying to navigate by touching the screen; in this instance, nothing happens. (Sadly, I keep trying, though!)

A full boot-up takes a sluggish 2 minutes and 15 seconds, but that's



BY RUSS LONG

Nashville-based Russ Long has been producing, engineering and mixing music for three decades. He spends the bulk of his time working in his Dangerland mix room where he also does console R&D for the Yamaha corporation.

not a huge surprise based on the complexity of the device. I've been using the box for several weeks and have never had an issue that caused me to have to reboot. (I have had to restart the emote app a couple of times, though.)

At this point, the H9000 supports sample rates only up to 96 kHz. I say "at this point" because the hardware will support 192 kHz but the software will not, though an update is planned. Users operating at sample rates higher than 96 kHz will need to use the analog I/O.

Since so many guitar players have gravitated to Eventide Harmonizers in the past, it's worth mentioning that the H9000 doesn't accept instrument-level input. The H9000's digital inputs don't have sample rate conversion, so the unit must clock off the selected digital input. This likely won't be an issue in broadcast facilities or live sound situations where there is a common clock, but in music production studios where engineers in multiple rooms are working on unrelated projects, it is unlikely they are all working at the same sample rate, so sharing H9000 processing in those instances might not be possible.

As crazy as it sounds, there are literally hundreds of factory presets and well over 1,000 effects algorithms. Eventide has taken on the painstaking task of porting all of the presets from previous Harmonizers to the H9000 format. This includes the H3000, DSP4000 and H8000FW, as well as the algorithms from the classic H9 stomp box. Presets are organized into nearly four dozen descriptive categories (from Chorus and Crystals to Undulator and Vibrato) that, considering the number of options, make it simple and relatively fast to track down the right effect for a specific situation. And

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ZYLIA RECORDING SYSTEM

If you're one of the few people who hasn't heard of Zylia, you will soon. The company was founded in Poznan, Poland, in 2012 by a pair of Ph.D. audio fanatics (Piotr Szczechowiak and Tomasz ernicki) and has already grown to more than 20 employees. With immersive audio about to enter the mainstream, my guess is that Zylia will be one of the primary players in the field.

Zylia develops innovative tools and technologies for the recording and post-production of music, 3D audio and virtual reality. The Zylia Recording System is anchored by the ZM-1, a small, lightweight, portable microphone array for recording in 360 degrees. There are two variations of the Zylia Recording System: Standard (\$599) and Pro (\$949). The Zylia Standard package includes the ZM-1 microphone array and Zylia Studio software. The Zylia Pro package additionally includes the Zylia Studio Pro plug-in, Zylia Ambisonics Converter and Zylia Ambisonics Converter plug-in. Optional accessories include a 10-meter active USB extender (\$69) and a windshield (\$69).

The heart of both recording systems is the ZM-1 microphone array. This spherical enclosure incorporates 19 individual microphone capsules arranged in a small globe that measures 4 inches in diameter and sits just over 6 inches high when mounted on its tripod base. The futuristic looking 16.6-ounce array would look as much at home on a *Star Trek* movie set as in a recording studio or on location. The USB-powered sphere incorporates a 24-bit, 48 kHz sample rate, has a 105 dB dynamic range and a frequency response of 20 Hz to 20 kHz. It connects to a computer with a USB 2.0 (type A) to Micro USB 2.0 (type B) cable and can handle sound pressure levels up to 130 dB.

An LED ring encircles the ZM-1 and notifies the user of the array's status. When the ZM-1 is plugged into a USB port, the LED ring around the mic illuminates blue. It illuminates green when in test mode and red when recording. The LED intensity can be adjusted from 0 to 100 percent in the Zylia control panel.

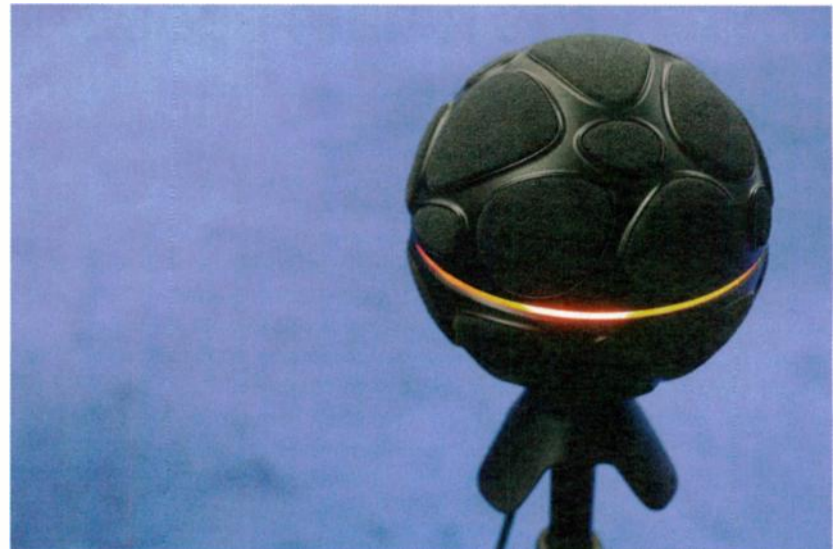
The ZM-1 ships with a handy quick-start guide; visit the Zylia website to download the full manual. Compatible with Mac (macOS 10.9 or later), Windows (7, 8.1 and 10; also Windows tablets) and Linux (Debian), the software and drivers for the ZM-1 can also be downloaded from the website. Recording with the ZM-1 can be handled via

the Zylia Studio software or to any third-party DAW.

Zylia Studio software is surprisingly good and is hands-down the easiest way I've encountered to record multiple musicians in a single room. The software walks you through the entire recording process, making it surprisingly simple and straightforward. The user has the option of selecting a preset (stereo narrow, stereo wide, 5.0 surround and so on) or using the Automatic Calibration mode. If Auto Calibration is selected, the user must first select the sound source(s) from a list that is organized into logical categories.

Each musician then individually records eight seconds of his or her instrument. The software's auto-learn process analyzes the isolated instrument recordings and automatically sets pickup patterns and directionality based on the analysis, thus creating multiple virtual microphones, which are recorded to individual tracks. Once the calibration has been completed, the software displays a graphical representation of the mic and its relation to the sound sources. These individual virtual tracks can then be mixed to stereo, using the software's basic mixer, or exported as actual WAV files using the Separate function and then imported into a DAW for overdubbing and/or mixing.

Recording with the ZM-1 is an enjoyable process, and the quality is surprisingly good. Tracks are natural



Zylia ZM-1 microphone



Zylia Studio Pro plug-in

and smooth, and the isolation between instruments is impressive. The sound of the room is critical, though. When close-miking, you can com-

pensate for a poor-sounding space relatively easily, but the ZM-1 isn't as forgiving, so it's important that the

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ROYER LABS R-DB20 DBOOSTER IN-LINE SIGNAL BOOSTER

It makes complete sense that the world's foremost ribbon microphone manufacturer would get into the mic signal booster/impedance buffer game, as the performance of ribbon mics is greatly affected by the preamp with which they are coupled, and adding a signal booster/impedance buffer into the chain makes ribbon mics sonically compatible with virtually any mic pre. While some of the other products I've seen in this category perform well, they tend to alter the sound substantially (some even offer variable impedance to provide creative control of how the sound is altered) and they tend to add noise and distortion. That's where Royer differs, as the phantom-powered R-DB20 dBooster (\$179) provides the benefits of increasing the gain of a passive microphone without adding noise or distortion, and without altering the sound.

The dBooster is built into a rugged one-piece aluminum box measuring roughly 3.6 x 2 x 1.6 inches. One end has a female XLR connector for microphone input and a push button switch that selects between 12 dB and 20 dB of clean gain boost. The other end has a male XLR connector for signal output. Made in the United States, the crush-proof enclosure will easily survive the rigors of road

use, making it a great option for live sound as well as studio use. While powered by 48-volt phantom power, no voltage is passed through the device's input stage, so there is no danger of accidentally applying voltage to a microphone.

When inserted between a passive microphone (ribbon or dynamic) and a mic pre, the dBooster increases the level with minimal distortion and coloration. A front panel switch selects either 12 dB or 20 dB of clean gain boost, and the headroom is maintained regardless of load. Output is a low-impedance increased microphone-level signal that can either directly drive the input of a digital interface or plug into a microphone preamplifier. Boosting the level of a low-output microphone allows the mic preamp to operate in its optimum gain range, resulting in a better sound. Mic pre's pushed to maximum or near maximum gain frequently lose their linearity and become noisy and distorted; the dBooster eliminates this problem. It also diminishes signal loss resulting from long cable runs, making it a good solution for lengthy mic cables in sound reinforcement situations.

dBooster opens a new range of



Royer
Labs R-DB20
dBooster

uses for a long list of microphones that could previously be used in only a limited number of situations. I've been using it for several months now and have made the most of the flexibility it has provided.

I've always loved the sound of my SF-1 as an ambient mic, capturing the room sound of a string quartet or acoustic guitar, but it's always been a challenge, as most mic preamps don't have enough gain, and if they do, they become noisy before the signal reaches a usable level. This is solved with a 20 dB gain boost from the R-DB20.

Coupling the R-DB20 with my

mic collection has been an eye-opening treat. My Beyers M160 beautifully captures a fingerpicked Martin acoustic and my Shure SM-7B works as well with soft, whispery vocals as with loud, aggressive singers. While there are some exceptions to the rule, I've found that setting the dBooster to 12 dB works in close-miking situations, and the 20 dB setting works for distant miking.

Whether you want to increase the flexibility of your current mic collection or you want to be able to better interface with low-gain portable interfaces, the Royer R-DB20 dBooster is a great option.

Royer Labs
www.royerlabs.com

Zylia

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room you are recording in actually has a pleasing sound.

The additional software included with Zylia Pro (Zylia Studio Pro plug-in, Zylia Ambisonics Converter and Zylia Ambisonics Converter plug-in) make the ZM-1 the perfect solution for capturing immersive audio.

The Zylia Studio Pro plug-in feels like a plug-in version of Zylia Studio without the recorder. When recording with a DAW, this plug-in provides Zylia Studio functionality such as determining the number of virtual microphones and adjusting their position and characteristics. The plug-in allows this configuration to be altered any time during recording or post-production.

The Zylia Ambisonics Converter and Zylia Ambisonics Converter plug-in are the most powerful software pieces in the Pro package. Both items do the same thing, but the Ambisonics Converter is a

freestanding piece of software and the plug-in works inside of a host DAW.

The Zylia Ambisonics Converter changes 19-channel ZM-1 recordings into Higher Order Ambisonics (HOA) and prepares 3D audio recordings for playback on Facebook 360, YouTube 360 and other streaming platforms. The software requires that the source audio be a 19-channel WAVE or WavePack recorded at 48 kHz with the ZM-1 microphone. Output will be saved as a multichannel 32-bit floating-point WAVE file according to the desired HOA configuration. The VST plug-in provides the same HOA features and enables you to record and convert to HOA online within your DAW software. The array sensitivity can be manually adjusted via the control panel.

While the Zylia mic system is a complex device, its software is well designed, intuitive and easy to use, and the company has posted several tutorial videos online, making it quite easy to get up and running.

Zylia
www.zylia.co

Eventide

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if the exact effect doesn't exist, users can tweak one of the presets into exactly what they desire.

While I don't anticipate the H9000 to be purchased solely for its quality of conversion, I was thoroughly impressed with the sound of the analog I/O. The box sounds stunningly good and is easily able to hold its own against the top-tier multichannel conversion boxes available today.

The H9000 is fan cooled, which always raises a red flag for me for a piece of gear that is going to live in the control room. The fan is fairly quiet, though, and while noticeable when the unit is sitting on the counter, it is barely detectable when the unit is mounted in a rack. Since emote is such a strong application, if I end up purchasing the H9000 (I hope I will), I'd go straight to the H9000R, as I don't see a need for the front-panel UI.

As with previous Eventide devic-

es, the H9000 is a creative machine, almost an instrument in itself, and Eventide has given users tons of flexibility in how to be creative with the box. In addition to the ability to automate every effect parameter within a DAW, Eventide has provided a host of additional control options. MIDI control is via MIDI In, Out and Thru ports. A pair of 1/4" TRS inputs allow up to four pedals, four auxiliary switches or any combination of the two. Four USB ports (two on the front panel and two on the back) allow USB MIDI controllers to be used to control the device, presets to be saved and restored via a USB thumb drive, and Wi-Fi control via the included Wi-Fi dongle.

The H9000 is an impressive device that makes me excited to be working in the current age of audio. The box is the perfect blend of immense power, configurability, connectivity and extreme creativity. At first glance, the price tag seems a bit steep, but once you consider the networking capabilities and sound quality, it is actually a bargain.

Eventide
www.eventideaudio.com

Pro Sound News InfoComm Best of Show Award Winners 2019



Pro Sound News has announced the winners of its Best of Show Awards program that took place at InfoComm 2019. Submitted products were judged by a panel of engineers and industry experts to arrive at the list of winners. Judging criteria included ease of installation and use/maintenance, performance, relevance, value/ROI, network friendliness, versatility and reliability. The following is a rundown (in alphabetical order) of the winning products.

ASHLY AUDIO MXA-1502 MIXER AMP

Ashly Audio's mXa-1502 Mixer Amp is an integrated product that combines four zones of mixing and DSP, plus two 150W amplifiers, programmable mic preamps and a complete DSP suite in a 1RU design. Integrators can perform system configuration and deliver long-term assistance thanks to the mixer amp's built-in web server, which offers a web-based control platform. If an end user requires assistance, an integrator can log in to the controls remotely before rolling a truck out to the site.



AVID PRO TOOLS 2019

Avid Pro Tools 2019 delivers on customer-voted features from its annual ACA (Avid Customer Association) Vote, including increased voices for native systems and an increased MIDI track count. Pro Tools 2019 provides support for macOS Mojave and offers more power for working with high track counts and demanding audio post-production tasks. With this update, users can perform track and timeline interactions during playback, Pro Tools First users can create and save an unlimited number of projects locally, and Avid introduces Pro Tools Multiseat Network Site Licensing.



BOSE PROFESSIONAL ARENAMATCH ARRAY & UTILITY LOUDSPEAKERS

ArenaMatch loudspeakers apply Bose DeltaQ technology, which allows directivity, or "Q," to vary in each array module to more precisely match coverage to audience area. ArenaMatch array modules are available with 10°, 20° or 40° vertical coverage and feature unique field-changeable 60°, 80° or 100° horizontal waveguides. ArenaMatch loudspeakers and ArenaMatch Utility loudspeakers combine to provide turnkey solutions for entire outdoor sound systems. Each array module houses a 14-inch neodymium woofer and six Bose EMB2S titanium-diaphragm neodymium compression drivers. ArenaMatch DeltaQ modules has an IP55 rating.



CLAIR BROTHERS C10 DUAL 10-INCH LINE ARRAY

C10-M is a 15° vertical, dual 10-inch format line array with Clair TrueFit technology—custom, continuously variable horizontal waveguides designed to order—and advanced transducer technology for midrange and high-frequency reproduction. The centrally-located mid/high section provides 15° vertical coverage and variable horizontal coverage. Horizontal coverage angle may be defined symmetrically or asymmetrically by standard angles between 70° and 120° (10° increments) or may be custom-configured with Clair TrueFit waveguides. The C10-M speaker cabinet is capable of a frequency response of 50 Hz–20 kHz.



CRESTRON ELECTRONICS UC VIDEO CONFERENCE SMART SOUNDBAR & CAMERA

An all-in-one front-of-room device, the Crestron UC Video Conference Smart Soundbar & Camera eliminates the need to install additional microphones,

speakers or cameras. Mounted on the wall or placed beneath the main room display(s), the smart soundbar sports stereo speakers, adaptive beamforming microphone and advanced DSP to deliver full-duplex speakerphone performance. The built-in conferencing camera features HD 1080p video resolution, a 150° diagonal field of view and Genius Framing digital autozoom.



MEYER SOUND ULTRA-X40 COMPACT LOUDSPEAKER

Designated ULTRA-X40, the new loudspeaker series features new amplifier and processor technologies drawn from the LEO Family of line array loudspeakers, a rotatable horn and a selection of rigging options. The ULTRA-X40 employs a concentric driver configuration with dual 8-inch neodymium magnet cone drivers coupled to a low-mid waveguide surrounding a single 3-inch diaphragm high-frequency compression driver. The 110° x 50° constant-Q HF horn is field-rotatable, and the loudspeaker features a 3-channel Class-D amplifier that produces a total peak output power of 1,950W.



PLIANT TECHNOLOGIES MICROCOM WIRELESS INTERCOM SYSTEM

MicroCom is a multi-user, single-channel, full-duplex professional wireless intercom solution designed with advanced RF technology and software tailored for professional use. It features Frequency Hopping Spread Spectrum Technology with low latency (less than 35 ms). MicroCom can support up to five full-duplex users, and has the capability to provide unlimited listeners without the need for base stations. The system features small, water-resistant, lightweight (3.1 ounces) belt packs constructed with a 7-segment LCD display; the belt packs are powered by a 10-hour fixed lithium ion battery.



RENKUS-HEINZ IC LIVE X STEERABLE ARRAY LOUDSPEAKERS

The ICL-X Series is an integrated system offering two combinable steered-array modules, the ICL-X and ICL-XL, and two matching subwoofers, the ICL-XS and ICL-X-118S. Units can be combined in arrays up to 12 modules tall to create highly directional arrays. The series uses Renkus-Heinz's Acoustic Source Multiplier (ASM) waveguide, enabling the HF section to be coaxially mounted in front of the LF section, creating consistency in high and low frequencies across the entire length of the array. The ASM waveguide reduces inter-driver spacing, ensuring gradient lobe-free performance.



WIRELESS MIC BELTS RF RAC WIRELESS EQUIPMENT STORAGE

The RF Rac is a modular storage rack for organizing wireless equipment and accessories that uses see-through netting to create pockets for storage. The Standard model has small and tall sizes: small fits wireless equipment under 3 inches tall, and tall fits equipment up to 7.5 inches, including most wireless handheld transmitters. The Touring model is built to travel, with Velcro closures over each pocket. The RF Rac includes four writable WMB labels that can be attached to the loop surface on the top and bottom for clearly marked wireless access.



RME Babyface Pro Podcasting Bundle

The Babyface Pro/Audio-Technica Podcast Bundle brings together RME's Babyface Pro audio interface and TotalMix FX mixing software with Audio-Technica's BP40 Condenser Microphone. The bundle also includes an On-Stage Clamp Desktop Boom Mic Stand and an educational course from Podcast Engineering School. The Babyface Pro interface offers multiple ins/outs to accommodate a variety of podcast setups: two mic preamps, two headphone outputs for simple host/guest monitoring, and the ability to configure a "mix-minus" setup as separate audio sources. The unit also allows independent adjustment of sound settings for every source, individual headphone mixes for up to six guests, and compatibility with any recording software on Mac, Windows and iOS. The Babyface Pro comes with the TotalMix FX Remote iPad app, which allows users to configure the "mix-minus" setup as separate audio sources, so podcasters can control what guests and listeners hear. Users can also mix multiple software applications simultaneously to add music beds, sound effects and other audio clips to a podcast.



Radial Catapult Mini TRS Cat 5 Audio Snake

Radial Engineering has added the Catapult Mini TRS modular Cat 5 audio snake to its Catapult line. The Catapult Mini TRS can drive four analog audio channels over a single shielded Cat 5 cable, connecting to devices with balanced 1/4" connections. The Mini TRS complements the existing Catapult Mini RX and TX modules, which feature male and female XLR connectors, respectively. A compact steel chassis includes a hardwired fan-out to four balanced 1/4" TRS connectors. The Catapult system connects via Cat 5 Ethernet cable, which is already pre-wired in many buildings; if that's the case, Catapult modules are able to transmit audio between distant rooms without users having to install or supply new cabling. All of the Radial Catapult modules are compatible with each other, and each is sold individually. Two Catapult Mini TRS modules can be used together as a pair to create a compact four-channel 1/4" TRS audio snake, or they can be connected to other Catapult modules that include XLR inputs and outputs, splitting capabilities, or transformer isolation.



Native Instruments Komplete Audio 6 Mk II

Native Instruments is now shipping a new version of the Komplete Audio 6 USB audio interface with updated features and a streamlined look to complement the Komplete Audio 1 and 2 released earlier this year at NAMM. The unit's physical layout has been revamped; some controls have been moved and there is visual feedback in the form of new LED VU-meters. The updated Audio 6 records at sample rates up to 192 kHz/24-bit and features new preamps with improved gain range and higher dynamic range for lower noise floors when recording. Audio 6 takes its name from the six inputs and six outputs onboard: four analog in/out (with DC coupled 1/4" TRS outputs for controlling modular analog synths), two digital in/out (SPDIF), and MIDI in/out. They can connect mics and instruments, control external gear via MIDI or CV, and create send and return loops with effects. The unit is USB bus-powered. The unit sports two headphone outputs for reportedly latency-free direct monitoring. Headphone output power has been doubled from the previous generation.



Manley Labs Limited Edition Dual Mono Mic Preamp

Manley Laboratories has announced a limited edition run of its classic Dual Mono Microphone Preamplifiers to celebrate the company's 30th anniversary. The lineage of the Manley Dual Mono Mic Preamp can be traced almost all the way back to the company's start, when the pro audio division of



firstlook



Sommer Cable SC-MONOCAT 121

Sommer Cable America U.S. has unveiled SC-MONOCAT 121. The hybrid cable is the big brother of Sommer's MONOCAT 111C. In addition to the Cat 7 Ethernet and a shielded pair for DMX/audio transmission, the cable features four color-coded wires for power, plus one wire for common ground. This allows for the connection of two independent lines for power: two conductors for hot, two conductors for neutral and one ground wire. While its parent company is based in Germany, the U.S. subsidiary serves the broadcast, video, studio, A/V installation, live sound, music, IT, Hi-Fi and OEM markets, with business partners in more than 50 countries.

the company was launched. Manufacturing processes were different then, and the new anniversary preamps will reflect that, according to president EveAnna Manley.

"There are a tremendous number of American labor hours required to hand-wire each Dual Mono Microphone preamplifier," she said, "but because we are in the audio business—always listening—we have decided to celebrate our '30 Years of Manley' pro audio production with a run of these classic cornerstone products."

The limited edition units, sporting special blue and black cosmetics, are available now.

Studio Technologies Model 207 Esports Audio Unit

This new control hub for esports applications from Studio Technologies is intended to handle the microphone, audio monitoring and interfacing needs of esports players and personnel. Housed in a tabletop enclosure, the unit incorporates both analog and Dante audio over Ethernet technology to allow direct integration with personal computers and Ethernet-based audio networks. The unit includes a 5-pin female XLR and a 3.5mm 4-conductor TRRS jack, allowing various kinds of headsets to be connected. The microphone preamplifier converts audio signal to 24-bit, 48 kHz sample rate digital audio. Following the state of the front panel push-button switches, the microphone audio is routed to two Dante transmitter (output) channels. For user confidence, an integrated sidetone function is provided. The Model 207 provides a 2-channel "stereo" line input that is directly compatible with the analog outputs provided by personal computers.



Roswell Pro Audio Delphos II Condenser Microphone

According to Roswell, the goal with the Delphos II studio condenser mic was to provide an un-hyped natural frequency response, high sensitivity and low self-noise, a figure-8 polar pattern and updated electronics designed to reduce ultrasonic noise. The updated microphone features a larger body than the original Delphos, adorned in custom metallic blue paint. The mic uses a transformerless circuit; two switches provide a choice of cardioid, omni and figure 8 polar patterns, as well as a 10 dB pad. The mic reportedly has a frequency range of 20 Hz to 16 kHz. Its sensitivity is 40mV/Pa, with a self-noise level rated at 12 dBA. The microphone's circuit is built by hand in the United States using low-noise NOS transistors and audiophile capacitors. Each Delphos II is assembled in California, burned in, and tested after manufacturing. The Delphos II ships in a custom heavy-duty flight case with a proprietary Roswell Cutaway shock mount.



Neutrik USA NA2-IO-DPRO Interface

The NA2-IO-DPRO Dante interface features two inputs switchable between mic, line and AES/EBU signals, plus two outputs switchable between analog line and AES/EBU. Two Dante ports provide for redundancy or device daisy chaining. The front panel features two latching XLR inputs plus two XLR outputs. AES/EBU operation is independently auto detected for inputs and outputs. Using Neutrik's free DPRO controller software for Mac or PC, +48V phantom power can be applied; microphone preamplifier gain, pad and high-pass filtering can be set per channel; and input channels can be linked for matched operation. Output channels can be muted or unmuted within the software. The NA2-IO-DPRO rear panel provides primary and secondary Dante ports over Neutrik etherCON connectors. The secondary input can be configured for either Redundant mode or Switched mode (for daisy chaining). The interface is AES67-compliant. With optional mounting brackets or a rack panel, it can be mounted below tables, in floor boxes, in racks or on the stage truss. The NA2-IO-DPRO is slated to be available in October.



Martin Audio WPS Line Array

WPS, the latest entry in Martin Audio's Wavefront Precision line array series, reportedly offers a peak SPL of 133 dB and is intended for providing live sound reinforcement and installations in theaters, concert halls and houses of worship. WPS is a passive 3-way system that integrates a high density of drive units in a compact enclosure. It features two 8-inch LF drivers, four 4-inch midrange drivers and four 1-inch exit HF compression drivers, loaded by a molded HF horn that occupies the full width of the enclosure, defining the 100° horizontal constant directivity coverage pattern of both the HF and midrange sections. The 8-inch LF drivers are set back behind the walls of the HF horn, with a small volume of air in front of each driver to in-



crease the output at the upper end of its operating range. For extended low-frequency performance, WPS is designed to be partnered with the SXC118 cardioid subwoofer and its flyable variant, SXCF118.

Arista Corp. Apollo Duo AoIP Line

The Apollo Duo Audio over IP product group consists of an analog audio to Dante interface, a Dante to analog audio interface, and a synch interface. The Apollo Duo 2-channel analog audio to Dante interface (ARS-0200-A00) allows users to connect legacy audio gear to a Dante network, so that two channels of analog audio can be integrated into a Dante network. Conversely, the Apollo Duo ARS-0002-A00 converts a Dante stream into two channels of analog audio signal, allowing users to bring a stereo feed of a live performance back into the analog realm in order to feed a P.A., for example. The Apollo Duo ARS-0002-A01 allows two audio signal outputs of Lip-Sync delay to synchronize the audio stream to the video stream. The Apollo Duo ARS-0002-A01 uses XLR analog outputs. All products in the range are AES67-compliant, using 24-bit analog-to-digital conversion, and the units can be powered via PoE or 5V DC via a Micro USB connector.



Yamaha Active Field Control System Update

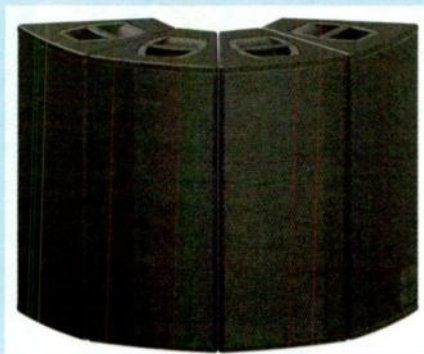
Yamaha has announced an upgrade to its Active Field Control (AFC) acoustic conditioning system. Expected this fall, the AFC4 system features upgrades in digital signal processing (DSP) and hardware, and will allow AFC4 operators to enhance or create a space with an organic-sounding acoustical environment. Launched in 1985, Active Field Control systems aim to augment the architectural design of venues while maintaining the sonic characteristics of a space. The new AFC4 system is said to provide improved sound quality through its expanded DSP power and connectivity. The processor's sampling rate, fixed FIR taps, FIR presets and configurable FIR tap settings have all been upgraded. AFC4 features a FIR EQ in place of the AFC3 version's parametric EQ. The upgrade will also offer more connectivity options, with 32 mic inputs and 96 output channels.



firstlook

d&b audiotechnik A-Series Loudspeakers

A-Series augmented array loudspeakers combine the design attributes of a point source cluster with the control options of a d&b line array. The series comprises the AL60 and AL90 loudspeakers, with ALi60 and ALi90 models offering cabinets designed for permanent installation. Intended for medium-scale applications, the AL60/ALi60 and AL90/ALi90 can be set up in arrays of two to four loudspeakers and deployed horizontally or vertically, covering areas of 50° to 150°. Both loudspeakers share a passive 2-way design featuring one 1.4-inch exit HF compression driver with a 3-inch diaphragm mounted to a waveshaping device, and two 10-inch neodymium LF drivers. The combination of waveguide design and the symmetrical dipolar arrangement of the LF drivers reportedly provides an overlap of the adjacent frequency bands in the crossover design. Using the appropriate frame, up to four AL60/AL90 loudspeakers can be flown either in vertical columns or horizontal clusters. Variable splay angles between adjacent cabinets can be set from 20° to 40° in 5° increments.



DPA 4097 Choir Mic

DPA Microphones previewed the upcoming 4097 CORE Supercardioid Choir Microphone at InfoComm. The mic reportedly offers the same sonic qualities as the brand's d:vote CORE 4099 Instrument Microphone but was designed specifically to capture choir sound. It will be available in both wireless and wired models. The 4097 Choir Mic will feature an off-axis supercardioid pattern and is said to have a very high gain-before-feedback. The microphone features CORE by DPA amplifier technology and comes with three shockmounts.



EAW SB818P | F Subwoofer

Earlier this year, EAW introduced the compact, lightweight KF810P installation line array, the latest model in the company's KF800 series. Now EAW is launching the SB818P|F companion subwoofer for the KF810P. The SB818P|F is direct radiating, with a tuned, vented enclosure that houses an 18-inch neodymium transducer with long-excursion 5.3-inch voice coil. Its compact, flyable design is intended for installs or other applications with minimal floor space. EAW has further extended the SB series with the new SB818F, SB828, and SB825 loudspeakers.



There's more information on all the products featured at prosoundnetwork.com/jul2019.



Audience Eavesdrops on Cold War Thriller

BY MEL LAMBERT

LONDON, ENGLAND—It is a brave playwright who insists that an audience wear headphones for an entire performance. But in the tense political thriller *Anna*, the headphones enabled playwright Ella Hickson to create a binaural experience that takes audience members inside the lead character's head, and directs their attention during the overlapping scenes. Aiding Hickson and director Natalie Abrahami in creating that conceit were sound designers and brothers Ben and Max Ringham, whose company, Wiretapper, specializes in creating sound-based performance in public spaces. *Anna* played recently to sell-out audiences at the Dorfman Theatre in London.



Pictured at a pre-performance talk at the National Theatre on June 6: moderator Anne McElvoy (left), co-sound designer Ben Ringham, writer Ella Hickson, director Natalie Abrahami and co-sound designer Max Ringham.

"My aim was to have the actors connect with the audience through sound," Hickson explained during a talk at the National Theatre prior to a performance in early June. "But it had to be integral to the play," stressed director Abrahami, "and [comprise] something beyond mere trickery."

The play is set at a dinner party in East Berlin in 1968, the height of the Cold War and political un-

rest around the world. Lead characters Anna and Hans are married and moving up in the Communist apparatus, but East Berlin remains a city ruled by suspicion. Who can be trusted, the playwright asks, when everyone is listening?

Keying off ideas within *Stasiland*, the 2003 book by Anna Funder about individuals who resisted the East German regime and others who

(continued on page 42)

Eclectic Kensington Presents Series Goes PPA

BY STEVE HARVEY

LOS ANGELES, CA—Kensington Presents has been promoting pop-up music shows at a variety of non-traditional Los Angeles area venues for some years now, hosting events at locations ranging from The Viaduct, a space managed by the California State Parks Department below a downtown road bridge, to the York Manor, a renovated historical landmark in the eclectic Highland Park neighborhood. To accommodate the intimate crowds at the series' frequently changing locations, the promoter has long relied on powered portable P.A.s. This year the team is using a Bose F1 Model 812 Flexible Array loudspeaker system.

Kensington Presents began as a series of free potlucks with live music



Sean Watkins (pictured) recently performed at the Kensington Presents concert series show held at the York Manor in Los Angeles.

on the porch of a Victorian house in L.A.'s Angelino Heights in 2013. In addition to family-friendly concerts intended to build community, the collective also promotes larger shows by the likes of the Crystal Method, Karl Denson's Tiny Universe and Gavin Turek.

At an April Kensington Presents

show at the York Manor headlined by Sean Watkins & Friends, the audience ranged from young hipsters in tight jeans and scuffed boots to retirement-age folk in dungarees and trucker hats, many of whom appeared to be locals. That night's bill, co-promoted by the Bluegrass Situation, also

(continued on page 43)

briefs

What's in Your Arena?

WASHINGTON, DC—Clair Solutions (www.clairsolutions.com) modernized the 20,000-seat Capital One Arena in Washington, D.C., home of the Washington Capitals NHL hockey team, the Washington Wizards NBA basketball team and the Georgetown NCAA men's basketball team. Key to the new system are six self-powered EAW (www.eaw.com) adaptive line array clusters, each using nine Anna full-range components and five Otto subwoofer components. To minimize runs, Clair created custom racks to fly behind each cluster for I/O, power distribution and network switches, and ran fiber to them, carrying signal (fully redundant Dante, plus analog backup) from a BSS Blu DSP and networking system fed by the mix position.

Hyperspace Gets Hyperreal

BROOMFIELD, CO—The Colorado Symphony performed the full score for *The Empire Strikes Back* live to film at the 1STBANK Center in Broomfield, CO. Clearwing Productions provided sound reinforcement for the shows, employing L-Acoustics (www.l-acoustics.com) L-ISA Hyperreal Sound technology to create a more immersive musical presentation. The L-ISA Wide configuration used 60 Kara line sources flown in five identical arrays of 12 enclosures, with two outer arrays of 12 Kiva II line sources each serving as the extension system. Kiva IIs were placed strategically around the room, while KS28 subs delivered low end. The entire system was driven by a combination of LA12X, LA8 and LA4X amplified controllers.

Excision Ends Excursion

SAN FRANCISCO, CA—DJ Jeff Abel, aka Excision, spent the spring playing 36 dates around the country on his Apex 2019 Tour, using a 225,000-watt PK Sound (www.pksound.ca) rig for the trek. The system included 12 Trinity boxes per side for main hangs, 40 CX800 subs, 18 'X10 Compact Line Array boxes for fills and delays, two CX215 monitors and four Klarity 12 monitors.

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Suzanne Ciani Gets Loud at the Library

BY STEVE HARVEY

LOS ANGELES, CA—“We’re in an era of spatial immersive sound,” said electronic music pioneer Suzanne Ciani during an interview following her live quadrophonic performance at the Los Angeles Public Library’s Mark Taper Auditorium. Forty-plus years into her career, during which she has garnered five Grammy nominations and numerous other awards, Ciani has seen this movie before.

When quadrophonic record releases became available in the ’70s, she had high hopes for it, Ciani said in an onstage interview by writer and musician Claire L. Evans after Ciani’s performance during L.A. Made, a series of cultural events hosted annually by the L.A. Public Library (LAPL). But the quadrophonic format faded, due largely to the confusion of competing, incompatible quad vinyl codecs.

It was only last year that Ciani was able to release a record, *LIVE Quadrophonic*, that resurrected ’70s technology to showcase the improvised shows she has been delivering using her Buchla 200e, a hybrid synthesizer with four outputs. That limited release was made possible by CyKiK founder and arts technologist KamranV, who produced the event with the Los Angeles Public Library, with additional support from Bedrock.LA, Future Lighting and Spitfire Audio.

Meyer Sound provided multiple immersive speaker systems that enabled Ciani to deliver her performance not only in the 227-seat auditorium, but also outdoors in the Children’s Courtyard and the Flora L. Thornton Courtyard. Nonprofit radio station dublab broadcast the event live in quadraphonic sound as a part of its 20th anniversary celebration. LAPL also hosted a broadcast on its YouTube page.

This was far from the first time Ciani had played through an immersive Meyer Sound rig. “I played with Meyers at Moogfest” in 2018, she recalled. That rig comprised 51 loudspeakers, with the main Leopard line arrays augmented by 22 surround and overhead speakers. “I just did a project in Berlin with 52 speakers,” she added, which included height layers. “We’re in an era where speakers are proliferating.”

Meyer Sound’s digital products solutions architect Richard Bugg and Steve Ellison, the company’s application director, digital products,



Suzanne Ciani spoke at length about her equipment and creative process in an onstage interview after her performance at L.A. Made, an event series at the Los Angeles Public Library.

put together a system at the LAPL controlled by a Matrix3 LX-300 with CueMixer in the main auditorium. The mix system accepted four inputs from Ciani’s synth, plus the radio mics used for the post-show interview and audience Q&A, and output a quad mix to the venue and the two courtyards via three Galaxy processors, networked over AVB.

All three locations featured Meyer’s Ultra series products, noted Ellison, including four of the company’s next-generation Ultra-X40 loudspeakers (introduced in February at ISE 2019) in the main auditorium. “I had the pleasure of doing a system at ISE where we had 12 of these

“When I started performing, I had a bigger system, but it was too vulnerable to damage with the airlines. The system I’m using [now] is very compact.”

Suzanne Ciani

in surround. It was really something else,” he said. The point source system, which features a concentric driver configuration and a three-channel Class-D amplifier, draws its technologies from Meyer Sound’s Leo family of line array loudspeakers.

The Ultra-X40 houses dual 8-inch neodymium magnet cone drivers coupled to a low-mid waveguide surrounding the single 3-inch diaphragm high-frequency compression driver, with a field-rotatable 110- by 50-degree constant-Q HF horn. “Having a point source 110

degrees wide and that loud is great for multichannel immersive setups,” said Ellison. Four 900-LFC subs provided low-frequency extension to the Ultra-X40s.

The quad performance mix was additionally fed to a quad monitor setup. A UP4-XP coupled with an MM-10ACX miniature subwoofer was positioned at each corner of the stage for Ciani.

As for the outside locations, said Ellison, “We had UPJs in one courtyard and UPMs in the other courtyard.” Control for both locations was provided by Meyer Sound’s Compass Go software.

In the Children’s Courtyard, four

UPJ speakers with two USW subs delivered Ciani’s quad mix. That system was also available for Drum & Lace, otherwise known as Italian composer and performer Sofia Hultquist, who performed in the courtyard before the main event. In the Flora L. Thornton Courtyard, four UPMs and a single M1D sub fed Ciani’s performance and the subsequent interview to an overspill audience.

As Ciani revealed after her performance, in addition to the multivoice capabilities of the Buchla 200e, she also controls the spatial

mix using a couple of iPad apps as hand controllers. “When I started performing, I had a bigger system, but it was too vulnerable to damage with the airlines,” she said. “The system I’m using [now] is very compact.”

While working with an engineer from Moog, she said, he showed her Animoog, an app that enables the user to create a dynamic and constantly evolving soundscape. “I use that for the sustain phase and some melodies,” she said.

Her other iPad provides a Bluetooth interface for an Eventide H9 processor. “In the old days, we had voltage-controlled reverb. Spatially, you could make a sound close or far away, and move it. We don’t have that now [on her current synth]. I had the H9 modified so I can voltage-control the mix of the processed and the direct signals,” she explained.

Ciani met Buchla while she was studying composition at UC Berkeley in the late ’60s, and even then, she recalled, he was determined to incorporate quadrophonic capabilities. “To bring it to life, he wanted [the sound] to move,” she said. “And the movement is organic to the sound, because it’s voltage-controlled. It can dance in the space. That brings it to life.”

Decades later, when she composes with her newer Buchla 200e, acquired shortly before Don Buchla sold his company, “I don’t think about the sound,” she said. “I think about the way the sound moves.”

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Audiences for the Cold War thriller *Anna* wore headphones to aid their immersion in the story. The unusual audio setup allowed the playwright to share the inner thoughts of the title character, as well as the cast to perform behind a wall of glass.

Anna

(continued from page 38)

worked for its secret police, the Stasi, “we looked for sound techniques that could convey that oppressive world to the audience,” Hickson stated.

The play also pays homage to writer/director Florian Henckel von Donnersmarck’s film *The Lives of Others* (2006), about an agent of the secret police who finds himself becoming increasingly absorbed by his surveillance subjects.

To evaluate the efficacy of binaural playback, Max Ringham experimented with a Neumann KU100 Dummy Head array “set up in the middle of the stage area, with direct output to headphones. We had the actors move around the head, and in and out, according to the action. We discovered that the sound reversed left-to-right when the actors were not facing the array, and a lot of other trickery.”

In performance, hearing is a major key to understanding. “What goes into your ears affects what happens inside you,” Hickson said. “Having lived in Berlin, I developed a sense of political change and ideology failing, of coming and going.”

In a subsequent interview with *Pro Sound News*, Max Ringham clarified that all audio for the play was mixed live, with primary pickup from a pair of DPA 4061 capsules mounted on the lead actress, Phoebe Fox, and fed backstage via a Sennheiser G4 body-worn RF wireless system. “We needed to emphasize her perspective of the action as it unfolds on stage, and maintain her audio point of view,” the sound designer noted. “We wanted to

share the intimate and veiled conversations she was having with her party guests.”

The actors had to modify their delivery to accommodate binaural playback. “The use of soft articulation suggested conversations that were taking place distant from Anna [within the set’s hallway, bathroom, kitchen, bedroom and lounge areas], and which were not really meant to be heard by her,” the sound designer said. “Maintaining that integrity across the script was tricky for the actors, who needed to carefully modulate their voices” to sometimes

voices we are not focusing on. “Since microphones cannot do that, we had to have to have the actors reduce their sound levels” in key scenes, Ben Ringham said. “That is counterintuitive for actors. We might need to ask that they deliver a line at a minimal level so that it became just a texture,” his brother explained.

“We also had playback from loudspeakers strategically located close to the refrigerator, stereo system and other key props,” Max Ringham continued. “Since the audience was separated by a glass wall [across the stage apron], we needed to reinforce those

of stage-source effects, “in addition to a small musical underscore that was fed to the audience headphones. We also had music cues for the on-stage stereo system, as well as distant traffic sounds that came from a period Berlin apartment.” These latter sound files were also fed to subwoofers mounted outside the stage area to provide a low-frequency enhancement for the headphone feed. “During the fireworks scene, we routed those key sounds to supplemental loudspeakers located in the auditorium above the audience,” and high-passed to provide additional LF augmentation.

Max Ringham stressed that the primary headphone balance for the audience comprised the lead character’s binaural microphone pickup, “with some gentle EQ and a little compression” to control transients. “There was no ambience processing inside the DiGiCo mixer. Any compression needed to be kept to a minimum because if we used too much, it upset the binaural effect.”

With so much sound technology in operation, the production developed an efficient Showstop Process. “We had triggered emergency sounds for the headphones to warn the audience that something had gone awry,” the sound designer said, “linked to the house and stage lights,” plus other alerts.

Summarizing her experience on *Anna*, Hickson asserted, “Our brains can only do so much with an aural input. Ears are best used when you are not seeing everything.” The action that takes place inside the lead character’s apartment “makes you listen to everything more carefully.”

Mel Lambert may be contacted via www.content-creators.com.

“We looked for sound techniques that could convey that oppressive world to the audience.”

Ella Hickson

produce a background walla that obviously was speech but remained mostly unintelligible.

“Yes, our greatest technical challenge during this show’s process was trying to communicate to the actors how they should work with the microphones in the room,” Ben Ringham confirmed. “For the actors, it was a completely new set of skills that they had to learn; quite often it was the complete opposite of what they would normally do. I spent a lot of time looking at their positions and fine-tuning their sound levels. It was far more akin to working with musicians, and within that came all the variations of possible levels.”

The co-sound designer recalled that he also had to assist the “Cocktail Party Effect,” which we use in normal conversation to filter out

key sounds for the audience via our binaural pickup.”

Backstage, the sound designers were assisted by live-mix operator Ela Wahlstrom and assistant Sarah Weltin. A 36-fader DiGiCo SD7 digital mixer handled inputs from the head-worn binaural array, together with playback for the on-stage and audience loudspeakers, plus routing to the primary left-right headphone feeds for the audience’s Sennheiser HD200 Pro headphones. On-stage playback was via JBL Control 1 loudspeakers powered by Cloud six-way amplifiers, while d&b audiotechnik E9 loudspeakers covered the auditorium.

“We had 30 sound destinations,” said Max Ringham. A 48-channel QLab 4 system handled sound-file storage and triggered playback

Kensington Presents

(continued from page 38)

included Austin, Texas-based Matt the Electrician and local band Motor Sales.

Kensington Presents called on engineer Raul A. Recendez to run the house sound. This was Recendez's first time at the 220-capacity York Manor, he says, but not with the Bose F1 system.

Recendez was associated for three years with Swing House, a recording and rehearsal facility and equipment rental house in east L.A., and has been freelance for the past 18 months. He works regularly at the Lodge Room in Highland Park and the Peppermint Club in West Hollywood, and additionally works for independent wireless audio specialist Telesonix, which is owned by Andrew Curtis (FOH and monitor engineer for artists including Moby, Seal, OK Go and Kesha).

At Swing House, says Recendez, "We had a pair of F1s and used to take them out for intimate gigs or small corporate events. I think they're great, especially for the intimate venue settings. You get a full range line array with those F1s."

Bose F1 loudspeakers offer variable vertical coverage; the cabinet incorporates a mini array that is quite literally flexible. Depending on the configuration of the room or seating, the eight segments of the upper mid/high array can be physically positioned within the cabinet in one of four patterns: straight, J, reverse J or C. A custom waveguide ensures 100 degrees of horizontal coverage regardless of the array configuration. The system's equalization automatically changes according to the selected pattern to maintain tonal balance.

At the Kensington Presents show, the Model 812 mid/high boxes were paired with the optional 2 x 12-inch F1 Subwoofer cabinets, which include an integrated stand to raise and support the array. Each F1 Model 812 and Subwoofer incorporates a 1,000W amplifier.

As Recendez explains, if the venue includes a raised rear audience area, such as stairs, the operator can push in the top section of the array to create a reverse J. In an auditorium with a continuously raked audience area, the operator can push in the top and bottom sections of the array to create a C.

Recendez mixed the show on an iPad, driving a compact Midas X32 digital mixer backstage. "Having an iPad really helps an engineer. You can walk around and listen to how it

sounds from where people are sitting or standing and dial it in the way it should sound."

A complement of microphones was available at the venue, he reports. "We were using Sennheiser 904s for the vocals, and guitars were the standard Shure 57s."

But the drum kit for opening act Motor Sales, who returned to guest with Sean Watkins later in the evening, was far from standard. "The

guy performing had his own rig that he made up," says Recendez. "The only real percussion was the snare drum. His kick drum was some sort of African hand drum that he's converted; it was maybe 15 or 16 inches [in diameter]. And his hi-hats were coconuts. But it sounded great for what he was doing, so I had no complaints."

He miked the kick with an Audix D6, noting later, "He had three

cymbals—they were pretty worn out, but the way he stacked them made it sound like an SPD [Roland drum pad] clap. That was very interesting."

To capture an image of the entire kit, he says, Recendez used a single Blue Hummingbird condenser mic overhead. "I've never used it before, but it's probably my favorite overhead condenser now."

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ACT / STATISTICS	CREW	EQUIPMENT
1 PINK BRITANNIA ROW	Dave Bracey (he); Jon Lewis (me-Pink); Horst Hartmann (me-band); Guillaume Burguez (cc); Johnny Keirle (se); Juan Beilin, Charles Well (ae); Jack Murphy (tech)	HC: DiGiCo SD7 Quantum; MC: DiGiCo SD7 Quantum; Yamaha PM10; HS: L-Acoustics K1, K2, K1SB, KARA, KS28; MS: L-Acoustics X15, Clair CM-22; IEM: Sennheiser 2050; HA: L-Acoustics LA12X; MA: Lab.gruppen; WIRELESS MICS: Sennheiser 6000 series; OTHER: Radial SW8
2 ERIC CHURCH CLAIR GLOBAL	Billy Moore (be); Marc Earp (pm/me—artist); Ben Rigby (me—band); Jared Lawrie (cc); Nathan Lowe (m tech); Dustin Anderson, Melissa Terrazas (techs)	HC: (2) Midas Heritage XL4; MC: (2) Avid Venue Profile; HS: Clair CO-12, CO-10, CO-8, CP-218; IEM: Sennheiser G3; HA: Lab.gruppen PLM 20000Q; WIRELESS MICS: Shure UR with Telefunken M80 Capsule; FOH EQUIPMENT: TC Electronic D-Two; Bricasti M7; Yamaha SPX 990; Tube-Tech CL 2A; Drawmer DS404, 196B, DL241, DS201, DS501, DL441; Empirical Labs EL-8 Distressor, Fatso; Manley ELOP; API 527, 2500; dbx 560A, 520, 903; Neve 543; MONITOR EQUIPMENT: Waves Live Bundle; OTHER: Radial JX44, SGI44, JRS, J48
3 JUSTIN TIMBERLAKE CLAIR GLOBAL	Andy Meyer (he); Paul Klimson (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
4 KENNY CHESNEY MORRIS	Chris Rabold (be); Bryan "Opie" Baxley (me); Phill "Sidephill" Robinson (me-Chesney); Chris "Sully" Sullivan (se); Tom Nisun (stage m); Rich Rossey (patch); Phil Spina, Tanner Freese, Jeremy Bayne (techs); Ed Wannebo (pm); Jill Trunnell (apm)	HC: SSL L500 Plus; MC: (2) Midas ProX; HS: d&b audiotechnik GSL; MS: d&b audiotechnik J8, J12, JSub, SL-Sub, Y10P; IEM: Shure PSM 1000; HARDWIRED MICS: Shure, Earthworks, Telefunken, Sennheiser, Beyer; WIRELESS MICS: Shure Axient Digital with sE Electronics V7MC1 capsules; FOH EQUIPMENT: Rupert Neve 504S; API 2500; Empirical Labs EL-8-X Distressor, DerrEsser, EL500, EL7 Fatso Jr; Sonic Farms Creamliner; Eventide H3000, Overstayer 8776A Imperial Channel Strip, Stereo Voltage Control, Stereo Field Effect, M-A-S; Waves SoundGrid
5 BILLY JOEL CLAIR GLOBAL	Brian Ruggles (he); Josh Weibel (me); Rich Schoenadel (cc/se); Jay Yochem (m tech); Tom Ford, Bryan Darling (tech)	HC: DiGiCo SD5; MC: DiGiCo SD10; HS: Clair Cohesion CO-12, i-3, P-2, R4, CP-218; MS: Clair CM-22, SRM, ML-18; IEM: Sennheiser 2050; HA: Clair StakRak (Lab.gruppen); MA: Lab.gruppen; HARDWIRED MICS: Shure; AKG; Sennheiser; Audio-Technica; Radial J48, JDI, SW8, Firefly; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Waves
6 CHER SOLOTECH	Steve Guest (he); Martin Pare (me); Hilario Gonzalez (cc); Marc-Olivier Germain (se); Nick Stover (ae); Evan Rainwater (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: L-Acoustics K1, K2, Kara, KS28, ARCSII; MS: L-Acoustics X12; IEM: Shure PSM 1000; HA: L-Acoustics LA12; MA: L-Acoustics LA12; HARDWIRED MICS: Shure; Sennheiser; WIRELESS MICS: Shure Axient Digital; Sennheiser; FOH EQUIPMENT: Waves
7 BAD BUNNY 3G PRODUCTIONS	Luis "Peewee" Velazquez (he); Adolfo Velez (cc/se); Ken Quinlan (ae); Sabrina Chavez, Mateo Rodriguez, Robert Valdez, Edwin Velazco, Gabe Santana (tech)	HC: Yamaha CL5; HS: 360" of d&b audiotechnik V Series, flown J-Subs; IEM: Shure PSM 1000; HA: d&b audiotechnik D80; WIRELESS MICS: Shure Axient; Sennheiser 6000; FOH EQUIPMENT: Lake
8 DEAD & COMPANY ULTRASOUND	Derek Featherstone (be); Lonnie Quinn, Ian Dubois (me); Ethan Chase (mse); Michal Kacunel (cc/foh se); Ross Harris (rec e); Conner Riley, Sam Brodsky (techs)	HC: Gamble EX56; Avid S6L (96 Ch. drums) with Pro Tools Ultimate; MC: Avid Venue D-Show (96 Ch.), Venue Profile (96 Ch.); HS: (36) Meyer Sound Leo, (22) 1100-LFC, (16) 700-HP, (36) Lyon, (8) Mica; MS: Meyer Sound MJF-212, MJF-210, 1100-LFC, JM1-P; IEM: Sensaphonics; JH Audio; Future Sonics; HARDWIRED MICS: Sennheiser 935, 421, 409, 904, 945; Shure KSM144, Beta91, SM57; Neumann KMS104; AKG 460; Telefunken M-80; Radial JD7, SGI, DM1; FOH EQUIPMENT: Analog: Summit DCL-200, TLA-100; Empirical Labs Distressor; TC Electronic M5000, D-Two; Aphex 622 gates; UltraSound DRSE Quad Panners; MOTU 838 mk3; TubeTech LCA-2B; UA 1176 LN; Plug-Ins: McDSP 6050 ultimate comp, AE600 EQ; MONITOR EQUIPMENT: Sennheiser EW300G3; Eventide Octovox plug-in
9 ARIANA GRANDE CLAIR GLOBAL	Toby Francis (be); Erik Rodstol (me); Dean Mizzi (cc/se); Cory Harris (ae); James Ellison, Katy Hughes, Benjamin Scanlon, Andrew Black (tech); Jason Zito (pm)	HC: Yamaha Rivage PM7; RND Neve 5060 buss mixer; MC: DiGiCo SD7; HS: Clair CO-12, CO-10, CP-218 Subs; MS: Clair CM14; IEM: Sennheiser EM 2050; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure; Sennheiser; Radial JDI, SW8; WIRELESS MICS: Sennheiser 5000/5235 series; Shure Axient Digital, ULX-D; FOH EQUIPMENT: Tube Tech SMB 2B; Crane Song STC8; Smart Research C-2; RND Shelford Channel; API 2500; RND Portico II MBC
10 THE ZAC BROWN BAND CLAIR GLOBAL	Eric Roderick (be/pm); Andy Hill (me); Alex Moore (cc/se); Nathan Falkner, Ashley Parker (se); 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, JRI foot switch, Powerhouse 500 series rack, Tonebone PZ Pre, Tonebone JDX Direct Drive, Tonebone Elevator boost, OX8; WIRELESS MICS: Sennheiser; FOH EQUIPMENT: Waves

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.

Equi=Tech Finds Balance as It Moves Forward

JAN GLASBAND, DIRECTOR OF OPERATIONS/CEO, EQUI=TECH

BY CLIVE YOUNG

When Martin Glasband founded Equi=Tech in 1992, balanced power technology was a new concept that promised to reduce ground noise and improve clarity in sound while protecting costly equipment. As the technology became more readily available, Equi=Tech expanded its range of products, moving from portable 15 to 20 amp rack unit models to a larger capacity of 30 to 100 amps, and eventually to designing larger wall cabinet models ranging from 50a to 200+a, all of which conform to world power standards. The company also designed a three-phase transformer that could be sold as a standalone unit with landing terminals to be wired to an existing panel. When Equi=Tech added wall panels, the company finally had a product portfolio broad enough to address the needs of recording studios, churches, universities, government/military facilities and hospitals.

Over time, Martin became “the go-to guy for information and tech advice,” says his sister, Jan Glasband. “If anyone knows about balanced power, it’s Equi=Tech. Martin wrote the code for its practical use and presented it before the NEC [National Electrical Code] panel, twice accomplishing his goal of having the technology adapted into the NEC guidelines and enabling its commercial application and sales.”

While Martin was able to set the stage for balanced power technology entering the mainstream, actually making it happen took more than talking to the powers that be; it meant educating the technology’s potential users, and that was a task he took to like a fish to water.

“His enthusiasm and excitement about balanced power technology was contagious, and he affected everyone he came into contact with,” says Jan. “He could talk for hours about its virtues and benefits, how it could vastly improve the quality of sound, and what the future held for the entire electrical industry. Martin also had an uncanny ability to educate and could readily explain the complexities of symmetrical power to literally anyone he met. He had a great affinity and patience for people wanting to know more about electricity, especially young people with an eagerness to learn.”

All of this helped Equi=Tech grow, but as it turns out, Martin wasn’t the only entrepreneur in the family. Jan spent the last 30 years running a theatrical production company, Actors’ Repertory Theatre of Simi (www.actorsrepofsimi.org), operating a black box theater (ARTSpace) and producing numerous arts programs and large festival-type events in Simi Valley, CA.

During that time, she was also peripherally involved with Equi=Tech when needed. “When the company was first starting out, I created graphics for several pieces of promo literature,” she says. “I’ve also been to trade shows and conventions at Martin’s invitation, where I got a first-hand glimpse at what the company was all about. I was excited to be witness to the beginnings of a new technology.”

In recent years, however, Jan had to become more involved in the company: “Martin’s increasing medical problems became a major factor contributing to me assisting him and taking on more responsibilities with the company, improving overall operations and customer support. I am currently director of operations and became CEO of Equi=Tech upon Martin’s passing in November of 2017.”

With many companies, the death of a founder is enough to capsize the ship; with Equi=Tech, the corporate turbulence was compounded by additional outside factors. “I’ve been focused on establishing a new norm for the past four years,” says Jan, “because of changes in the market, a struggling economy in our home base of southern Oregon, where a once-thriving logging industry had all but disappeared, Martin’s health issues, et cetera. Needless to say, it has been challenging.”

That dark challenge ultimately became an opportunity to rethink how Equi=Tech operated, from top to bottom. Today, the company has relocated and expanded, having moved its manufacturing facility to Grants Pass, OR, a move that provided more accessibility to shipping and suppliers. There, the company is run by a dedicated group, with

reprs in L.A., Nashville, Florida and Europe. “Having a cohesive team with the same vision is critical to the success of any endeavor, and we have that in spades,” says Jan, pointing to the recent addition of national sales manager Terry Brent. “His idealism, zeal, sincerity and easy rapport with clients are refreshing and irreplaceable attributes. He is truly our brand ambassador.”

Much as Equi=Tech has been changing to meet its challenges head-on, so has its new CEO. Jan explains, “Even though my technical knowledge is not at the level of our engineering team, I’ve fortunately managed to pick up a working understanding of our product line over the years thanks to Erik Praytor, our production supervisor. I’ve also been able to build relationships with dealers, suppliers, vendors and end users on a global basis. Communication, customer service, product integrity, honesty and ethical business practices, along with staying on top of technological trends, are key elements in growing any business. We’ve continued to get outstanding feedback from vendors and customers who seem to appreciate the strides we’ve made in improving the way Equi=Tech operates.” Some of those enthused clients include engineer/producer Michael Beinhorn, Blackbird Studios owner John McBride and producer No I.D., to name a few.

Part of the company’s success has been to ensure products work well, and do so for a long time. More than 90 percent of Equi=Tech’s parts are manufactured in the United States, and every unit is tested by Praytor (“our perfectionist production supervisor,” says Jan) prior to shipping.



Jan Glasband, director of operations and CEO, Equi=Tech

Part of Martin’s legacy was his ability to educate people about the virtues of simultaneous power, and that continues to be a passion for the company. “Those who understand the benefits of balanced power have always been our target audience; however, there is a much larger group of potential converts we hope to educate and enlighten,” says Jan.

That educational focus will come in handy as the company aims to broaden its range of customers, which already includes touring musicians, live sound companies, recording studios, planetariums, scientists communicating with robots on Mars, thousands upon thousands of high-end home audio system users and others. “We are hoping to integrate our larger wall panels into more major performance venues, hospitals, research facilities and military installations, and broaden our European market as well,” says Jan.

To that end, Equi=Tech is in the process of expanding its sales and rep forces throughout the country and in Europe. Beyond that, plans are shaping up for an aggressive re-branding program to further cement Equi=Tech’s place in the industry while simultaneously establishing a new presence in other markets. It’s an ambitious set of objectives, but having come through difficult times, the company is squarely focused on achieving them. “We remain hopeful,” says Jan, “and all of us share in the same goal: to continue the legacy of a really smart guy with tremendous vision.”

Equi=Tech
www.equitech.com



Niklas Agevik

Propellerhead has appointed **Niklas Agevik** to the role of CEO as part of a planned succession from current CEO and company founder Ernst Nathorst-Böös. Agevik spent five years at Ericsson early in his career and since then has been part of several fast-paced startups. He comes to Propellerhead from Instabridge, a company he founded and has run for the past seven years. The Instabridge app has 30 million users and 30,000 organic daily new users.



Andy Birkinshaw

Calrec has announced **Andy Birkinshaw** as its new international sales manager. He joins the global sales team at Calrec headquarters, where he will manage broadcast sales in the UK, Denmark, Finland, Germany, Ireland, Norway and Sweden. Birkinshaw has 30 years of sales experience across the broadcast, studio and live production industries in the UK and other parts of Europe. He previously held the position of sales and marketing/tour manager at Diane Shaw Partnership for 15 years, where he managed and marketed a UK recording artist to achieve two Number One soul albums. He continues to be active as a FOH/monitor engineer.



Garrison Parkin

Renkus-Heinz named **Garrison Parkin** as its new Southwest territory sales manager for Southern California, Southern Nevada, Arizona, New Mexico, and El Paso, Texas. A 30-year pro AV industry veteran, Parkin started in rentals and staging at McCune Sound in the 1980s, doing everything from hotel AV to corporate shows and large-venue concerts. Since then, he's been an installer, project manager, programmer, design engineer and system salesman, and he holds many pro and commercial product certifications.

Beyerdynamic has expanded its Farmingdale, NY, office with five hires: **Maureen Chowdhury**, marketing manager; **Angela Lodico**, sales and marketing coordinator; **Laura Marrin**, online sales manager;



Maureen Chowdhury



Angela Lodico



Laura Marrin



Nicole Gregory



Marc Greck

field sales managers, affiliate marketing and e-commerce B2B and B2C sales activities; she previously spent six years working at Canon USA.

Gregory joined Beyerdynamic two years ago as a sales support specialist. In her new role, she will lead technical support and product training for all divisions, working with dealers, sales, representatives and end users. Greck, too, has been promoted from within, having joined the company five years ago; he will oversee logistical processes, order processing, inventory control, and quality and efficiency for beyerdynamic's North American warehouse.

QSC has expanded its North American sales team with two new members: **Jason Baez**, business development manager for the Central

er; **Nicole Gregory**, technical applications specialist; and **Marc Greck**, operations manager. Through the addition of personnel, beyerdynamic has placed a strong emphasis on expanding its reach and building a strong platform for its North American presence.

Chowdhury will oversee marketing programs, public relations, social media development and trade show support; she was previously a creative services operations manager for Altice USA and creative services project manager for ESPN. Lodico will manage logistics for trade shows and coordinate sales and business programs, initiatives and partnerships; she previously served as marketing assistant at Fairfield Properties, marketing specialist at EtQ and marketing associate at Burmax. Marrin will oversee online sales activities, working with field sales managers, affiliate marketing and e-commerce B2B and B2C sales activities; she previously spent six years working at Canon USA.

60SECONDS



Glenn Booth
Yamaha Corp. of America

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

A: I am the director of marketing for the Professional Audio department at Yamaha. Our group is responsible for marketing all Yamaha, Nexo loudspeaker and Steinberg professional audio products in the U.S. and Canadian markets. This includes high-end live sound mixing consoles, music production software, premium loudspeakers for touring, and commercial installed sound solutions for hospitality, retail, stadiums and public spaces.

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

A: I've held global positions in hardware/software engineering, sales, product and marketing management in B2B technology companies. This has helped me understand the complexities of customer and channel dynamics, while preparing me to work even more efficiently internally. Of course, I've also been a happy Yamaha customer for decades in my pursuits as a professional musician and composer, and as an audio hobbyist.

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

A: Yamaha will have many new marketing initiatives for customer segments such as houses of worship, touring bands, commercial installed sound, live sound and music production. Our focus will be educational workshops and webinars, hands-on experiences, demonstrations, and application consultation with our customers and dealers.

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

A: In the short term, my goal is to talk to as many customers, dealers, distributors, representatives, consultants and internal team members as possible to understand where we have excelled and where we can improve. In the long term, I'd like to hit all our numbers, of course, but to do that, we'll need to create happy customers who love their Yamaha products—artists and sound engineers who will spread the word.

Q: What is the greatest challenge you face?

A: I think the greatest challenge is prioritization. It will be very important to keep a healthy balance of strategy and execution, as there are plenty of things to do. We will need to make sure all of our tactical activities align and contribute to our departmental strategy and global brand promise to "Make Waves." We also must be willing to adjust our strategy, if needed, when new information arises.



Jason Baez



Jake Corlett

Based near Chicago, Corlett comes to QSC after spending more than eight years at Biamp, where he worked as a regional manager in the North Central region.

d&b audiotechnik has appointed and promoted several industry professionals as part of its continuing expansion in North America. **Eric**



Eric Mayer



Casey Johnson



Steve Seable

Mayer has been appointed vice president of sales, Americas; **Casey Johnson** has been promoted to senior manager of business development; and **Steve Seable** has been hired as business development manager, installation.

Mayer was previously with Sennheiser. Johnson began his career with d&b in 2012. Seable was head of audio for Disney's Hyperion Theatre, where he became a two-time inductee into the Disney Entertainment Production Hall of Fame.

Controlling Your Own Destiny, Part Two

The beauty of distribution is instant results and cash flow. Distributors do not need to invest years in R&D efforts; they simply buy the product and resell it. The extra income is particularly important when attempting to retain sales reps. As a newcomer, you have no choice but to engage the services of independent rep firms, and these folks are driven by dollars. If they can make money on your line, they will stay with you. By having a diverse catalogue, you can increase commissions, which will, in turn, result in a more stable sales force.

The profit margin for a distributor can be much higher than for a wholesaler—in the range of 25 to 35 percent, depending on where the product is made. For instance, if you are selling your wares in Australia, the distance from the United States makes it much more difficult for grey marketing to affect pricing, while in Canada, the United States is right next door. As a small and new distributor, Cabletek (the company I founded, which later became Radial Engineering) did not have the clout or finances to attract A-lines like Shure, JBL or Peavey. Instead, we had to find product lines that either filled a niche or were unknown, and then work hard to get them into the dealers' hands. Some of the brands we represented included Hafler studio power amplifiers and Sonex acoustic panels, Audix microphones and Atlas mic stands for stage, and Telecast fiber optics and SurgeX power conditioners for broadcast and installation.

Back in the 1980s, I had a knack for finding small companies that would eventually grow big; this list

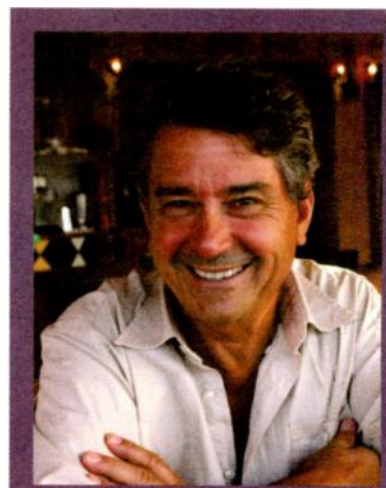
included Alesis, and Akai and PreSonus. The latter, a small, Louisiana-based company, had some really smart people behind it, and my "spider senses" told me it would eventually become a winner.

Here's the kicker: When the product sells so well that demand cannot keep pace, the manufacturer may bypass the distributor to sell direct or engage a bigger distributor that is better financed. That's what happened to Cabletek with PreSonus; even though our sales were growing, they opted to drop us and go with Erikson Music, part of the huge Jam Industries group of companies. At the time, this was a real kick in the teeth, but I cannot blame them—and to be honest, I have done the same to other distributors in several markets around the globe. Business is business, and you have to do what you believe is best for your company. To this day, I am still good friends with Jim Odom, PreSonus' president.

The advent of the internet caused a new problem: information flow. Individuals began to educate themselves about products by read-

ing and eventually watching videos, which diminished the importance of the distributor and dealer as being the sole sources of information. And the fact that pricing could now be published "on-line" ensured that margins were further squeezed. The consumer could be convinced to pay maybe 10 percent more for a product so long as it had local service, but any more than that, they would buy state-side. The downward price pressure made it impossible to make a sufficient margin with American-made brands, and with the Canada-United States free trade agreement in place, it became too easy to ship product across the border. We had to change our business model.

It is easy to take on a brand for distribution, but it is equally easy to lose the brand. As a middleman, you are replaceable. This "reality" was the spark that led us to transition from being a Canadian distributor to a manufacturer. I recall our sales team suggesting that we open an office in Toronto or Montreal, as those cities are where Canada's big population is. In response, I asked why we



BY PETER JANIS

Peter Janis, former CEO of Radial Engineering, is a 40-year veteran of the music industry. Exit Plan (www.exitplan.ca), his consulting firm, assists business owners to build their companies and prepare them for eventual sale.

shouldn't open an office in New York, London or Tokyo. To grow, we had no choice but expand outside of Canada. The Aha Moment: We had to take control of our own destiny.

The transition took about five years, so while we were developing in-house brands such as Tonebone, Radial and Primacoustic, we were still selling a number of brands to dealers in Canada, which enabled us to fund in-house product development. As our manufacturing came online, we then began visiting dealers and sound companies in the United States, and eventually made strides to find distributors around the globe.

Whisky a Go Go Gets New System

WEST HOLLYWOOD, CA—The Whisky a Go Go on the Sunset Strip is world famous for the artists who played there before making it big—acts ranging from The Doors to Van Halen to No Doubt—but while it might be known for rock stars of years past, the only way to stay relevant is to keep looking forward. With that in mind, the venue recently updated its audio system to keep sonically up to date.

In September, RCF vice president of sales and marketing Tarik Solangi visited the club at the behest of the Whisky's Ultimate Jam Night host Paulie Z. The previous system was old and outdated, and additionally had sightline issues, as it was hung low, blocking much of the stage view for people on the second floor. Today, the Whisky sports RCF's HDL 30-A Active Two-Way Line Array Modules (a compact bi-amped system designed for medium to large venues), which cover the room while no longer

blocking the stage.

Ryan Ainsworth, who has been engineering at the Whisky for the last six and a half years, noted, "The little, tiny HDL 30-A boxes directly compete with the previous system, which was much, much larger in size. That's the thing that most surprised me—it's cool to hear those HDL 30-As put out massive sound."

"Tarik [Solangi, RCF vice president of sales and marketing] came down to the room and looked at everything," recalled venue senior engineer Eddie Oertell. "Then we talked, and he gave me his opinion on what he thought would be right for the room."

Part of that vision included cleaning up the low end; in order to do that, Solangi suggested the subwoofers go underneath the stage in a cardioid configuration. They installed RCF's SUB 9006-AS Active High-Power Subwoofers in a cardioid con-

figuration under the stage, tidying the low frequency by projecting the low end into the center of the room. "The low end is rounder and fatter," said Oertell. "I was blown away by the clarity and tightness of the low end."

RCF worked with the Whisky's in-house team and RCF's pro partner, Above the Ground Productions, on the daylong installation. RCF product specialist Steven Cochran tuned and aligned the system using network-controlled RDNet software. Additionally, knowing the volume at which most bands who play the Whisky perform, they added RCF's TT45-CXA Active High-Output Stage Monitors to even out the stage volume.

"The monitors are very in your face and punchy, and they allow the musicians to hear themselves better on stage without having to crank the volume," explains Ainsworth, who is usually FOH for Ultimate Jam Night.



The Whisky a Go Go on the Sunset Strip recently updated its house P.A. with an RCF line array system.

"The thing about those shows [Ultimate Jam Night] is that you never know what you're going to get. Things can change completely from song to song, from a rotating cast of musicians to multiple genres to different types of instrumentation, and the RCF system allows me to have continuity; I know what the system is going to put out, even if I don't necessarily know what's going to come off the stage."

RCF
www.rcf-usa.com

InfoComm

(continued from page 1)

sets of a trade show experience is the people you meet, the relationships you build and initiate—and that can't happen without all the people in the room. Every year we attract new people to the show, which creates new opportunities for learning, lesson sharing and innovation. Those things are at the core and drive this industry."

When it came to tech trends at InfoComm, AoIP and networking further expanded their footprint in the audio world. Audinate's omnipresent Dante protocol continues to be integrated into a broadening spectrum of new gear, while even legacy analog audio equipment, already in use across installations, can now be brought into the fold, as Neutrik, Arista and others released their takes on analog-Dante interfaces.

But the big, inadvertent audio trend this year was loudspeakers, as most of the attending P.A. and installation speaker manufacturers debuted new boxes. New line arrays were in full force as Bose fielded its new ArenaMatch loudspeakers (among 50-plus new products at the show), Martin Audio unveiled the WPS line array, EAW brought its new KF810P installation line array, Clair Brothers debuted its C10 line array, DB Technologies had its VIO L208 line array, Crest Audio showed off its Versarray MKIII passive rib-

bon line array, and Electro-Voice bowed its XLAi install line array—to name only a few.

A number of companies brought along new offerings that straddle the line between line array and point source, such as Meyer Sound's Ultra-X40 point source loudspeaker and Coda Audio's N-APS loudspeaker. Renkus-Heinz presented its new IC-Live X series, Danley Sound Labs introduced the J7-95 Jericho Horn (and also showed its first-ever product for the recording world with Studio One studio monitors), E-V revealed its new MFX floor monitors, and—sure to create confusion in the years to

the fields of retail, entertainment, hospitality, events and education, sharing their knowledge and insights in order to explore AV's role in creating a better designed world.

In much the same way that the technologies presented change over time, so has the way that InfoComm approaches something as simple as networking opportunities. This year saw the inaugural AVIXA Foundation 5K Walk/Run, which garnered 500 participants; the AVIXA Women's Council Networking Breakfast a few days earlier drew 283 people for networking, the annual awards ceremony and a high-powered keynote pre-

"Every year we attract new people to the show, which creates new opportunities for learning, lesson sharing and innovation."

David Labuskes

come—d&b audiotechnik debuted its A-Series installation loudspeaker line, while L-Acoustics introduced its A Series installation loudspeaker line.

Education is always a draw at InfoComm. AVIXA fielded more than 130 sessions that were brand new; the annual TIDE (Technology. Innovation. Design. Experience.) conference held the day before the show aimed to reach creators shaping the future of integrated experiences; and the free educational sessions at Center Stage on the exhibit floor presented top thinkers and practitioners from

presentation from Christine Schyvinck, chairman, president and CEO of Shure. The event's success was indicative of a larger change within the industry, according to Amanda Eberle Boyer, senior director of member services at AVIXA (for more on the event, see page 14).

If it sounds like you missed out (you did), then make plans to hit InfoComm 2020, which will take place June 17-19 next year at the Las Vegas Convention Center in Las Vegas, NV. InfoComm www.infocomm.org

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Pro Sound News (ISSN# 0164-6338) is published monthly by Future US, Inc., 11 West 42nd Street - 15th Fl, New York, NY 10036. Pro Sound News is available without charge in the USA to qualified professionals engaged in sound recording, broadcast, video recording, audio-visual, sound reinforcement and associated business. The publisher reserves the right to refuse applications and restrict free copies sent to a company or organization. For subscription information or to email customer service, please visit our online Subscriber Center at www.MyPSNmag.com. Reprints available upon request, call our Reprint Coordinator at Wright's Reprints: 877-652-5295. Periodical postage paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to: Pro Sound News, P.O. Box 234, Lowell, MA 01853. Please allow 6-8 weeks for address changes to take effect. © Copyright 2019 by Future US, Inc. PRINTED IN U.S.A.

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Tariffs

(continued from page 1)

general manager and co-founder of Rupert Neve Designs, which is based in that state's Hill Country. When the tariffs went into effect on imported steel, he says, American steel suppliers raised their prices by 18 percent. "There aren't margins in pro audio for that to be absorbed."

EveAnna Manley, president and co-founder of Manley Laboratories, who has seen similar hikes in metal-work prices, is concerned about President Trump's threat to levy tariffs against Mexico and his renegotiation of the North American Free Trade Agreement. "We count on NAFTA because we do work with a *maquiladora*," she says, referring to a factory in Mexico run by a foreign company that exports its products to that company's country. "My whole shop is basically Mexican, and we all speak Spanish, so we have great communication with that shop," which is run by a contractor and stuffs Manley's circuit boards.

Manley products are made almost entirely in the United States, bar one microphone capsule, but electronic components may come from China or, in the case of Bourns potentiometers, from Mexico. Manley says there are no good alternatives: "I don't think there is an American-made potentiometer. Besides, all the rest are made in China. Plus, Bourns pots are the best."

"America basically walked away from building silicon devices two and a half decades ago," says Thomas, and they are generally made only in China now. "Texas Instruments in Dallas isn't going to suddenly switch on a line and start making chips again."

In the lead up to the seven-day

USTR hearings in Washington, D.C., NAMM encouraged members to file comments with the agency, providing sample letters and hosting a webinar on registering exceptions and registering to testify. While no pro audio companies were subsequently called to make their case in person at the hearings—that list did include Christie Digital Systems and the Consumer Technology Association—several manufacturers filed public comments, including Shure, Nady Systems, Bose and PreSonus.

All the companies arguing for their Chinese-made pro audio products to be excluded from the proposed Section 301 tariffs (named for a 1974 Trade Act) essentially make the same case. The tariffs will not cause China to change its behavior, they argue. Since PreSonus handles all aspects of R&D in the United States, notes director of operations Jon Ross, "Manufacturing operations in China are not considered to be an attractive target for intellectual property theft by the Chinese government"—behavior that Trump seeks to punish through his tariffs.

As they also note, there are currently no U.S.-made alternatives for many of the component parts of their products. In addition, manufacturers moved some operations to China to remain competitive. Edward Van Waes, director of sales for Nady, writes, "As most electronics manufacturing has moved to China in order for more American families to afford to purchase these products, there are now currently no other options for the public to purchase U.S.-made wireless microphone systems, and certainly not at the budget Nady provides."

This fourth wave of tariffs is expected to further impact manufacturers' bottom lines, requiring them to raise prices, in turn causing domestic customers to buy products made out-

side the United States. Implicit in that move is the risk that customers will not return to their former buying habits. As reported in *The Atlantic*, not only do China's retaliatory tariffs target certain U.S. products, but the country significantly reduces the tariffs on those same products from countries including Canada, Japan, Brazil and Europe. Trading relationships could be irrevocably damaged as a result.

"I'm not sure Trump understands that tariffs are something that U.S. importers and consumers pay, and not something that the Chinese company pays when they're exporting the goods," says Thomas. If the tariffs remain in place, he says, "Our margins will shrink, and the consumer will pay more."

On the flip side, China's tariffs on U.S. goods have already had a significant impact on export sales. "China was my second-largest export market last year," Thomas reports. "This year, they're not even in the top 10—and it's because of the tariffs."

Political observers predict that Trump will delay the threatened tariffs until after he and China's President Xi meet at the G20 Summit in Japan at the end of June. That delay could be extended if, as might be expected, they don't come to a definitive agreement at that one meeting, even with their advisors laying the groundwork ahead of time. And, of course, everything could change with a single tweet.

The constantly shifting ground makes it difficult to do business, comments Thomas. "I can't create uncertainty with my distributors and raise the prices, then in three weeks raise them again." Yet his company won't be able to keep absorbing its higher manufacturing costs for long. "There will be an immediate short-term knock-on effect on pricing," he

says.

Manley reports that her suppliers importing goods from China have absorbed the increase in their landed costs where they can. "In some cases, they add a line item for the tariff charge, but there comes a point where they have to bump up their prices. Then we have to bump up the prices. But," she says, "the customer pays."

Thus far, says Manley, "We've had to get creative to retain profitability." Nonetheless, sooner or later, the company will have to hike its prices, she believes.

The impact of the tariffs extends beyond the individual pro audio manufacturers. Manley, who is responsible for 25 employees at her facility in Chino, CA, observes, "There's also the metal shop down the street; we're a huge part of that company's throughput, and there are all the support industries" providing services such as anodizing and powder-coating.

Manley went public discussing the issue after losing a sale to a Chinese distributor due to China's tariffs. "I've been vocal on Facebook because I know some people learn from what I post," she says. She has also written to her state senator and local congressperson, and encourages everyone to do likewise.

"I've done everything any citizen can do. All we can do is make our voices known," she says. "And vote."

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[50] MUSIC Etc. IIII

The Romance of Summer

BY JACQUES SONYIEUX

Steven Van Zandt is well known to many, but for different reasons, since he is often consumed with such a diversity of projects—oftentimes in different disciplines. He is known to many as Silvio Dante on the television series *The Sopranos*, and to others as Miami Steve, the lead guitarist of Bruce Springsteen's E Street Band. Most recently, he is known to fans around the world as a solo artist and leader of Little Steven and The Disciples of Soul. His most recent album, *Summer of Sorcery*, takes the artist on a fictional journey that explores the essence of summer and its associated spirit of nostalgia, romance and discovery. *Pro Sound News* spoke to Little Steven in the midst of what he describes as a challenging and emotionally rewarding project.

ON CREATING COHESION

This is the first time I've ever done two albums in a row with the same band, and that has been really important because I am trying to be more consistent now. My solo albums in the '80s were all very different musically because they were just the sounds of whatever theme I was talking about in the lyrics, but now I am making it a priority to stay musically consistent. I am going to keep this big band sound that I have now with the five horns, the strings and the background vocals and stay consistent with it. This album has been a major artistic breakthrough for me—I came in wanting to change the fact that all my records were autobiographi-

cal and political, and I achieved that. This album is all fictional—kind of like the movies—and I get a chance to play a different character in each song. It's like combining my acting and music into one thing.

ON WORKING IN ANALOG

I still record on tape. We have an analog mixing console, and I have various analog outboard gear that we've been using for 30 or 40 years, maybe longer. To my ear, the music sounds different when it's recorded to tape, and I still like that. When you walk into my studio, it looks like a studio from 50 years ago. As far as guitar is concerned, I am still playing most of the solos on this record, but I keep



HEIDI GUTMAN

Steven Van Zandt's new album is *Summer of Sorcery*.

it pretty simple, to tell you the truth. I have my Stratocaster, along with a Vox AC30 and a couple pedals. I'll use a little delay, a little Leslie and maybe a fuzz tone and that's it. For acoustic, I'll put up my old Martin D-28, which I've used on probably every record I've ever made. Once in a while I might play a Les Paul on a blues song, but other than that, it's a straight Stratocaster going into an AC30 with a couple pedals.

ON RECORDING THE TITLE TRACK

The title track, "Summer of Sorcery," was very important to me. It really was quite an emotional song and uncharted territory for me to wander into. Song arrangements are usually very obvious to me—I usually work very fast and this band is very fast—but this song was a little unusual, so I had to spend more time shaping it. I tried dropping things out, putting things in, and tried to figure out the vibe. It had more of a droning, cumulative feel than an obvious "A section, B section, bridge." There were no chord changes; it is just the 1, 4, 5 throughout the entire song, so all the dynamics have to come from the arrangement itself rather than depending on the natural chord changes. This tune took the most work, but was also the most satisfying in the end because it really turned out well.

ON THE "INTANGIBLE ELEMENT"

There is an intangible element that goes with writing. We are always trying to turn art into science, but we never quite succeed because there is that little bit of mystery that keeps you from ever feeling secure. Can I write another song as good as the last one I wrote? Can a Bruce album be as good as the last one? I have very high standards and I am always

very concerned because I've never done anything in my life that wasn't as good or better than the last thing I did, ever. So I hold that standard very high and I take it very seriously, and there is always that concern. This time, I wasn't sure if I could pull it off because I had never done a fictional album. It was really a mystery to me until the last minute—but then you get in there and you see the songs start to come alive with the band. Then you start getting the feedback from the band, which is really your first feedback. How the band responds to the songs really counts. They were really loving it from the first moment and were very encouraging.

ON RESPECTING ROOTS

There's a tradition that we're part of. If you play in the broad genre of traditional rock 'n' roll—and that is quite a wide area going back to the blues roots, the gospel roots and the Irish folksong roots—you combine all of this and get into the '50s and '60s, which is an absolute renaissance period, and I don't say that casually. When the greatest art being made is also the most commercial, you've got yourself a real renaissance. We grew up in the middle of a renaissance and we grew up learning our craft just two generations away from the source. We were so close to the source that we've kept these roots in our work—and that is what I think gives the music its longevity. People feel the very strong emotions that come from our music because we are coming from very strong emotional roots. Jacques Sonyieux is a devout explorer of recording studios and the artists who occasionally inhabit them. Please send tips or feedback to Jacques at jacquessonyieux@gmail.com.

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