AES BEST OF SHOW AWARD WINNERS—PAGE 33

Volume 41 No. 12

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HOUSE MUSIC—Dolly Parton brought down the house with a house of worship-styled medley at the 53rd Annual Country Music Association (CMA) Awards, presented Nov. 13 at the Bridgestone Arena in Nashville. Parton's performance was captured via an Audio-Technica 5000 Series UHF wireless system with ATW-C6100 hypercardioid dynamic microphone capsule.

AES Reflects Increasingly Diverse Audio Industry

BY STEVE HARVEY

NEW YORK, NY—The AES is taking an industry-leading role in increasing the diversity of its members and management, with notable success in the area of female involvement in positions of influence. Incoming AES president Agnieszka Roginska taking over the role for 2020 from current president Nadja Wallaszkovits is a momentous event, marking the first time in the Audio Engineering Society's history that one woman has succeeded another in the top spot. Similarly, for the second consecutive year, women occupy three-fifths of the AES Board of Directors, the organization's governing body. The AES Diversity & In-(continued on page 49) December 2019

METAIliance ON

Thinking Big with A Bad Think

A Bad Think's latest album had a production think-tank behind it: coproducer/engineer Dave Way; co-producer/studio owner Michael Marquart; and legendary mix engineer Bob Clearmountain, who mixed the album in both stereo and 5.1 surround.



Plug-Ins: From Emulations to the Unknown

BY STEVE HARVEY

he great thing about plug-ins is that there are Ebdon, who mixes both front-of-house and at home. But having so many choices can be overwhelming. What is an engineer to do? The

so many choices," says Jim

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#03333071 8# 52N¥ 0333071 8 7108 #EXM2KEZ ***************CH 3-DICELEESO short answer is, fall back on old favorites while adopting some newer apps that offer something unique or enhance the workflow.

A lot of the plug-ins that L.A.-based studio engineer Greg Wurtz uses speed up his initial work process, he says, allowing him more time to get creative. "You can't spend hours on stuff, otherwise you're losing money," he says.

"What gets me about plug-ins these days is that they do things that hardware could never do. Those are the plug-ins I'm most interested in," says Wurtz.

For instance, there's Sonnox's new Oxford Drum Gate, which moves transient detection and control technology a step forward. "Drums are always an issue. How do I process them in a quick and easy way without hindering the sound? This just does its thing, without much fuss," says Wurtz. "It's really intuitive. You don't even have to know how a gate works."

Wurtz is happy to never see another emulation. "I feel like every day there's a (continued on page 48)

Musgraves on the Move

Album of the Year Grammy winner Kacey Musgraves began her world tour in October 2018 as an opening act and finished it 13 months later as an arena headliner. Engineers Travis Bing (FOH) and Dalton VanVolkenburgh (monitors) recount the journey.



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Recording Legend Ed Cherney, Dead at 69

BY CLIVE YOUNG

LOS ANGELES, CA—Grammy, Emmy and TEC Award-winning producer/ engineer Ed Cherney died Oct. 21 after a short battle with an aggressive form of cancer. He was 69.

Over the course of his career, Cher-

briefs

Ludwig's a Legend

NEW YORK, NY—After the opening day of the AES Convention in New York, Data Conversion Systems Ltd. (www.dcsltd.co.uk) kicked off its dCS Legends Award program, cocurated with the Recording Academy Producers & Engineers Wing, presenting its first dCS Legends Award to mastering engineer Bob Ludwig. With nearly a dozen Grammys to his credit, his work has spanned virtually every music genre, including such recordings as Babel, Beyoncé (surround mix), Brothers in Arms, The Layla Sessions, Morning Phase and Random Access Memories.

P&E Wing to Fête Dr. Dre

LOS ANGELES, CA—Legendary producer/artist/entrepreneur Dr. Dre will be honored by the Recording Academy (www.recordingacademy.com) Producers & Engineers Wing on Jan. 22 at the Village Studios in West Los Angeles. Kicking off Grammy Week, the 13th annual event will highlight Dre's achievements across the music industry, from creating NWA and recording *The Chronic* to co-founding Beats Electronics and signing 50 Cent, The Game, Kendrick Lamar, Eminem and Anderson .Paak, among others.

IFPI Rolls with RDx

NEW YORK, NY—IFPI (www.ifpi.org) and the Worldwide Independent Network have announced the Repertoire Data Exchange (RDx), a centralized industry data exchange service enabling record companies and music licensing companies (MLCs)—which collectively manage recording rights—to submit and access authoritative recording data via a single point. The launch phase of RDx will receive technical support from a group of record companies and MLCs, and the roll-out of RDx to all rights-holders and MLCs is expected to start in 2020. ney not only worked with the biggest names of the era and won multiple high-profile awards, but he became a driving force in the recording community, holding positions in multiple industry organizations and educating generations of emerging studio pros.

Born in Chicago, IL, Cherney started out as an occasional roadie for a friend's band while in school. He was inspired after watching a studio session with them to drop plans to attend law school and instead pursue recording. After attending DeVry University, he became an apprentice at a Chicago studio, eventually becoming acquaintances with legendary engineer Bruce Swedien, who became a friend and mentor.

That acquaintance served Cherney well when he moved out to Los Angeles in the late 1970s; he wound up assisting Swedien and producer Quincy Jones on Michael Jackson's *Off the Wall*, going on to spend the next eight years working for them before moving on to forge his own remarkable career.

Over the next decades, Cherney worked with Iggy Pop, Bob Seger, Bette Midler, Bonnie Raitt, Wynonna, Eric Clapton, Jann Arden, Jackson Browne, Keb' Mo, Bob Dylan, Ringo Starr and the Rolling Stones, to name only a few.

Along the way, he netted eight Grammy Award nominations, taking home half of them, for Buddy Guy's Blues Singer (Best Traditional Blues Album, 2003), Willie Nelson's Summertime: Willie Nelson Sings Gershwin (Best Traditional Pop Vocal Album, 2016), Nelson's My Way (Best Traditional Pop Vocal Album, 2019), and Bonnie Raitt's Longing in Their Hearts (Best Engineered Album – Non-Classical, 1994). About that 1994 award: not only was it Cherney's first Grammy win, 'but he had recorded and mixed three of the five albums



Ed Cherney won four Grammys, an Emmy and eight TEC Awards over his career.

nominated in that category that year, a first for the Grammys.

Cherney's shelf also held an Emmy for the 2015 HBO film Bessie, starring Queen Latifah. It marked his first win after three other nominations: for Bonnie Raitt's Road Tested broadcast, the Rolling Stones' Live from Madison Square Garden on HBO, and Eric Clapton's 2004 Crossroads Guitar Festival. He also received eight TEC Awards over the years, and was inducted into the TEC Hall of Fame after his first five.

In addition to his recent Grammywinning work on Nelson's *My Way*, Cherney was busy in Studio Ed, his room at The Village in Los Angeles, having recorded and mixed albums by blues supergroup The Rides, Luciana Souza and Spinal Tap's Derek Smalls (Harry Shearer) in recent times.

Long involved in improving the roles of engineers and producers in the music business, Cherney founded the Music Producers Guild of America—which later became the Producers & Engineers Wing of the Recording Academy—and also served as governor of the L.A. Chapter of the Recording Academy. Additionally, he was a co-founder of the METAlliance recording education collective. Earlier this year, he served as the broadcast audio advisor for the 61st Grammy Awards telecast.

Throughout his career, Cherney displayed a passion for recording, as is evident in a previously unpublished Pro Sound News interview from 2011: "You find this thing you want to dedicate your life to, and it becomes a compulsion to do it. You were lucky enough that you figured out what your special purpose in life was! Now, it doesn't dictate how you're necessarily going to make a living doing it, but for its own sake-for the sake of the art-you want to excel at it. You want to grow and you want to be able to do it well, whether you make two pennies doing it or not-and hopefully it works out, you can make a living and have a life doing it."

He is survived by his wife, former Record Plant president and fellow TEC Hall of Fame inductee Rose Mann-Cherney. Ed Cherney

www.edcherney.com

Sony, Fraunhofer Team for New Format

SAN DIEGO, CA—Sony has launched 360 Reality Audio, an immersive music format that uses Fraunhofer's MPEG-H Audio object-based spatial technology. The format is being adopted by streaming platforms including Amazon Music HD, Deezer, nugs.net and TIDAL.

According to Sony, the format is launching with roughly 1,000 songs from contemporary artists such as Mark Ronson and Pharrell Williams, as well as catalog tracks from the likes



of Billy Joel and Bob Dylan. The service will also feature more than 100 songs recorded in concert by performers including Charli XCX and Kodaline.

Sony is working with music labels

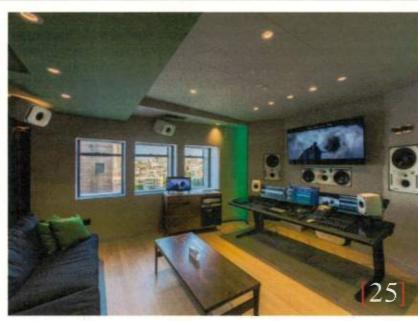
including Sony Music Entertainment, Universal Music Group and Warner Music Group, as well as Live Nation, music distribution services and other music organizations to provide the technology for building a musical ecosystem around 360 Reality Audio, which will include the creation, distribution and playing of music content. Sony will also provide specifications for the 360 Reality Audio music format with the cooperation of Fraunhofer IIS.

In a statement, Fraunhofer noted, "Playback of 360 Reality Audio content can now be enjoyed on mobile devices on the go and at home. Meanwhile, a prototype for in-car im-*(continued on page 48)*

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SOUNDRECORDING

Getting Immersive with *The Traveler*. . 18 Most music currently being remixed for Dolby Atmos is catalog rock, according to mastering and mix engineer Michael Romanowski. Looking to change that, he and Eric "ET" Thorngren teamed up to mix an immersive version of the Kenny Wayne Shepherd Band's recent blues smash, *The Traveler*.

Studio Showcase: New Goals at Muscle

SOUNDPOST/BROADCAST

Catching a Wave in New York. 25 Wave Studios has enjoyed steady growth since it was founded in London's Soho district in 1999 by sound designers Warren Hamilton and Johnnie Burn. Focusing on audio post services for advertising and film clients, the company subsequently put down roots in Amsterdam, and earlier this year celebrated the first anniversary of its outpost in Lower Manhattan.

SOUNDTECHNOLOGY

Sound Innovations: Allen & Heath

AES Best of Show Award Winners... 33

The Audio Engineering Society Convention always draws crowds and experts to explore important technologies and trends, but this year saw a slew of intriguing product introductions as well. Here's what caught our eye on the show floor.

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SPECIAL REPORT

COLUMNS

theahamoment 47 Former CEO of Radial Engineering Peter Janis explores why companies have to make life easy for the client, even if it's hard to do.

themetalliancereport. ... 50 METAlliance co-founder Elliot Scheiner pays tribute to his friend, recording legend Ed Cherney, who passed away in October.



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¹⁸¹ fromtheEDITOR

Follow Podcasting's Path–or Blaze It Yourself

Podcasting seems unstoppable these days. Forrester Research reports the new medium will be a \$1 billion media market by this time next year—pretty incredible when you consider that the Interactive Advertising Bureau placed that same market at "only" \$400 million in 2018. The expected 150% increase is, of course, due to the fact that more people are listening to podcasts than ever before. With the audience only growing, you can expect the number of podcasts, podcasters and advertisers to likewise mushroom in the coming year.

Navigating a marketplace that's exploding like that is another story, however, but it's a skill that will be crucial for many audio pros. The medium is still in a "wild west" phase where indie podcasts can blow up overnight, but listeners' expectations are ramping up, too—homegrown shows with amateur audio quality are increasingly a thing of the past. This represents a great opportunity, however, not only for audio manufacturers, but also recording studios, engineers and other audio pros to provide podcast production services—or to start their own shows.

So how do you break into podcasting, record a great series and get a massive following? That's a question we've been mulling a lot recently at *Pro Sound News*, as we've been curat-

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ing a day of top podcast professionals who will discuss those topics and more at The Video Show, taking place at the Walter E. Washington Convention Center in Washington, D.C., Dec. 4–5, 2019.

The podcasting sessions are designed for all kinds of audio pros, from those thinking of delving into podcasting to seasoned veterans looking to up their game. Presentations will include:

Tools for Podcasting: How, Why, Where—American University professor Jill Olmsted will explore podcasting, how it works and where to find tools and inspiration to create your own podcast. Olmsted will also gift attendees with free copies of her extensive ebook, Tools for Podcasting.

Podcasting: From Choosing Gear to Empowering Guests—Michael Goodman, audio product design engineer and Chief Podcaster at CEntrance, will delve into audio hardware, podcasting best practices, dealing with podcast guests and more.

Podcast Studio Design: Necessities, Variations and Options—John Storyk of Walters-Storyk Design Group provides a case study of creating professional facilities for top podcasters Stitcher and Spotify's Gimlet Media.

Getting it Made: Content and Quality in Podcasting-commercial post

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and pro podcast engineer Frank Verderosa will explore ways to create audio content, weighing cost, purpose, audience and goals; discuss challenges and solutions; consider recording options; and show how scalable production can be.

Make Noise: A Creator's Guide to Podcasting and Great Audio Storytelling-NPR/Audient veteran Eric Nuzum has helped launch over 130 podcasts; he'll share real-world advice for creating a compelling podcast, and will additionally sign copies of his new podcasting book, Make Noise.

Pitches, Partners, & Placements, Oh, My: How to Get Over A Million Podcast Downloads Next Year—Mind Love podcaster Melissa Monte will share the exact strategies she used to grow her show from zero audience to over a million downloads in one year, with no paid advertisements.

Amplify Your Podcast with Social Media—AVNation's Tim Albright will go through each of the major, and minor, social media networks and explore what each has to promote your podcast.

And that's just the podcasting track. In all, The Video Show will feature more than 100 sessions on all kinds of content creation, as well as a screening room, demo areas, streaming studio and exhibit floor. You can find out more at www.thevideoshow. com, and if you're already amped to go, psst—visit https://bit.ly/2qMnikb to get a heavily discounted registration. (Don't say I never did anything for you.)

Toll-Free Number: 888-765-2900



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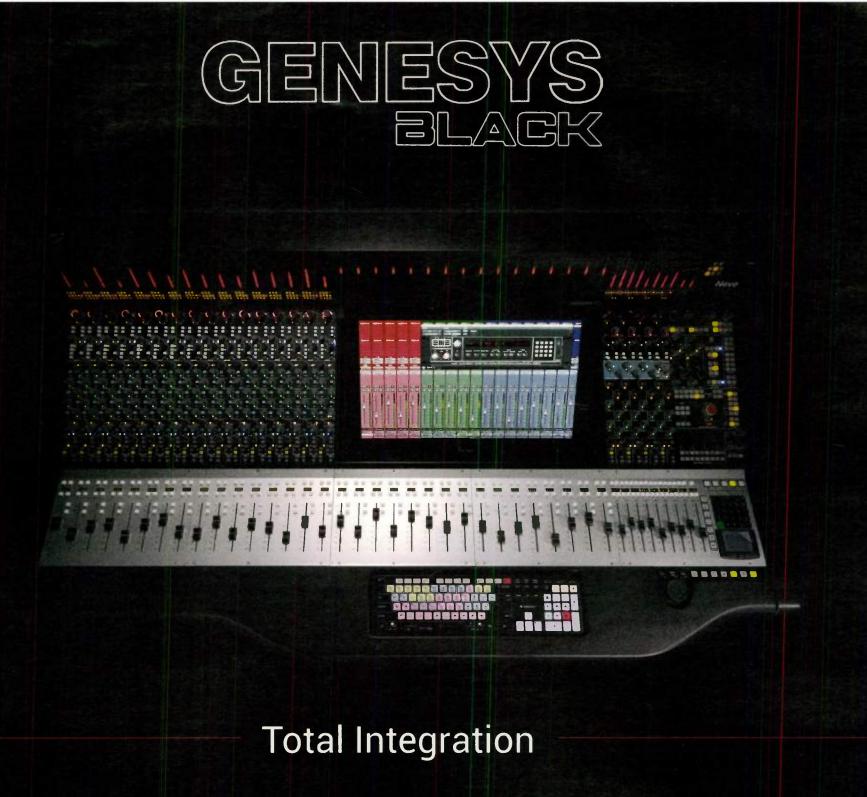
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service, which is the highest goal." - Ross Hogarth - Producer/Engineer -Van Halen, Keb' Mo', Dweezil Zappa, The Doobie Brothers, Mötley Crüe, R.E.M., Jewel

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Music Instruments & Pro Audio

[12] SOUNDBUSINESS

E Recording Academy Initiative Promotes Creatives

SANTA MONICA, CA-The Recording Academy has launched Behind the Record, a social media initiative that spotlights producers, engineers, songwriters, mixers, instrumentalists and other creators who contribute to the music recording process.

Behind the Record is supported by the Recording Academy's Producers & Engineers Wing. Jaxsta, a database of official (not crowdsourced) music credit information for members of the music community, provided credits for Merlin, Warner Music, Sony Music and Univer- The Credit Cover for Anderson .Paak's Malibu album. sal Music Group releases. Addi-

tional partners for Behind the Record include Pandora, TIDAL and Genius.

Behind the Record is intended to ignite a cultural conversation by inviting artists across all music genres to recognize their collaborators' be-

MALIBU

Composers: Anderson Paak. Executive Producers: Adrian Miller, Ketrina Askew, Kevin Morrow. Producers: 9th Wonder, Anderson Paak, Chris Dave, Chris Dave and the Drumhedz, Dem Jointz, DJ Khalil, Hi-Tek, Jose Rios, Kaytranada, Madlib, ative Director: Cory Gomberg, Engineer: Dwayn Mixing: Chris Plata, Dwayne Abernathy, Hi-Tek lastering: Jared Hirshland, Vocals: BJ the Chicago Kid, The ame, Rapsody, ScHoolboy Q, Sonyae Elise, Background Vocals Anderson Paak, Deja Timan, Marlon Bills, Milan Timan, Oliva Braga, Paris Timan, Ronald Timan, Vicky Farewell Nguyen Guitar: Cameron Brown, Daniel Seeff, Isaiah Sharkey, Jose Rios s: Julian Le. Plano: Ron Avant. K n Avant. Drums: Anderson Paak, Trumpets: Emile Mar work: Dewey Saunders, Photography: Erik lan.

hind-the-scenes work. The Recording Academy is encouraging artists to post "Credit Covers" across social media channels and tag those who worked on their projects, using hashtags #GiveCredit #WeAreMusic and #BehindTheRecord.

Artists can create Credit Covers for a single or album. All covers will live in a gallery on the Behind the Record site for music fans to view and discover the roles of creatives responsible for some of their favorite records. In addition to supporting the initiative on social media, artists may create a custom vinyl sleeve for "extra credit."

"It's our responsibility as a service organization to serve our membership community of creative professionals and ensure we celebrate and recognize all the incredibly talented musicians

and creators who are making the music we love," said Deborah Dugan, president/CEO of the Recording Academy. "Credits have been a casualty of the digital age. For all we gained with streaming, we lost in the

Podcasting's a Priority at The Video Show

WASHINGTON, D.C.-Content creators from across a range of industries-including broadcast, podcasting, sports, news, corporate video, independent film, government video, education and event video-will gather at The Video Show, a two-day event that takes place in Washington, D.C., on Dec. 4-5, 2019. The event will feature more than 100 sessions on nine presentation stages, as well as a dedicated screening room, demo areas, a streaming studio, and exhibit floor.

The Video Show covers every aspect of content creation and distribution, from examining where technology is heading to showcasing the latest groundbreaking projects to sharing best practices. It is a mustattend event for anyone working in content creation. While The Video Show caters to working professionals, serious enthusiasts will also find useful information, training and networking opportunities.

The podcasting stage, curated by Pro Sound News, will field a variety of sessions designed to assist and inform audio pros with varying levels of expertise in the field, from those thinking of delving into podcasting to seasoned veterans looking to up their game.



Speakers will include studio design legend John Storyk of Walters-Storyk Design Group; AVNation's Tim Albright; American University professor and author Jill Olmsted; Melissa Monte, host of the hit podcast Mind Love; pro podcast engineer Frank Verderosa; Michael Goodman, president of CEntrance; and author and former NPR podcast guru Eric Nuzum. (See page 8 for more details on podcast offerings at the event.)

Separate content "streams" at The Video Show will focus on specific areas of interest, so attendees can select the sessions that are most relevant to them. In all, 16 premium content streams will be presented in studios throughout the show, including: The Future of Video; Producing News and Video in Washington, D.C.; Independent Filmmaking; Mobile Newsgath-

ering; Sports Production; Documentaries: Wildlife and Beyond; Military, Government & Publicly Funded Video; The Business of Video; Editing and Post-Production; AV and Installations; Weddings and Live Events; 360 Video and Virtual Reality; Social Video; Video for Educators; and Streaming.

"We have a truly spectacular list of speakers from every aspect of video creation and delivery, all sharing their expertise and helping our attendees advance their careers and build new skillsets," said conference director Cristina Clapp.

Attendees who pre-register for the show will receive free admission to the exhibits floor. The exhibition space offers attendees an opportunity for hands-on experience with the latest products and technologies. The exhibit floor features companies including AJA Video Systems, Barbizon, BB&C, Canon, Christie, K5600, Link Electronics, Osprey Video, Quantum, TIVA, Yorktel and others.

Registration for The Video Show is free through Dec. 3, allowing access to the 80-plus exhibitors on the show floor. Early Bird rates for premium Studio content streams are \$49 for a one-day Studio Access Pass and \$75 for a two-day Studio Access Pass.

The Video Show is produced by Future plc, the multiplatform media company that also owns Pro Sound News. **The Video Show**

www.thevideoshow.com

opportunity for recognition and even discovery. Behind the Record champions all professional music creators and aims to connect with artist fan bases in order to give recognition to those who work tirelessly on these recordings."

Behind the Record https://behindtherecord.grammy.com

Yorkville Teams with Aston Mics

TORONTO, CANADA-Yorkville Sound has taken on distribution for Aston Microphones throughout North America, providing the UK-based mic manufacturer's products to Canadian and U.S. dealers.

Yorkville has already distributed Aston in Canada for the last three years, making the expansion of those arrangements an evolutionary move.

"Aston's attention to product excellence reliability and customer care mirrors the very foundation of Yorkville Sound," said Jeff Cowling, Yorkville's vice president of sales and marketing. "We are thrilled to bring our joined entrepreneurial spirit to the U.S. market."

Steve Hendee, Yorkville's U.S. director of sales, sees endless opportunity for the Aston partnership. "As we've seen in Canada, Aston Microphones provides high-quality mics that are sought by professionals and hobbyists alike. The product itself is well paired with studio equipment such as monitors and mixers in our family, giving retailers opportunities to bundle and upsell end users with world-class studio solutions. Our team can't wait to hit the ground running."

James Young, founder and CEO of Aston Microphones, added, "Consolidating North American activities, along with the release of two new products scheduled for early 2020, means it's going to be a hell of a year for Aston and Yorkville." **Yorkville Sound** www.yorkville.com

SOUNDBUSINESS [13]

South's First Studio Razed After Legal Fight

BY CLIVE YOUNG

ATLANTA, GA—A nearly three-month standoff between preservationists and developers over a building that once housed the first recording studio in the South ended on Oct. 31, when the final legal challenges preventing demolition of the site were dropped.

In 1923, the building at 152 Nassau Street in Atlanta hosted a temporary recording facility where Fiddlin' John Carson recorded "The Little Old Log Cabin in the Lane" for Okeh Records. Considered to be the first country music hit, the song sold more than 500,000 copies in its day and became a phenomenon. In more recent times, the building became the final obstacle in the way of building a 21-story, \$100 million-plus Jimmy Buffett's Margaritaville hotel on an



Fiddlin' John Carson (inset) recorded "The Little Old Log Cabin in the Lane" for Okeh Records in a temporary studio housed at now-demolished 153 Nassau Street in Atlanta.

adjacent plot of land. The Nassau Street site was set to be demolished to create space for garbage dumpsters behind the eventual hotel.

On Aug. 8, demolition crews began tearing down the Nassau Street building, but stopped just hours later when a temporary restraining order was issued by Judge Shawn Ellen La-Grua, preventing further work until a later hearing. To obtain the order, preservationist group Historic Atlanta argued that a Nov. 6, 2017, agreement between the city and developer Strand Capital Group of North Myrtle Beach, SC, was unlawful because it sidestepped the city's zoning processes, depriving the public of due process.

Most of 152 Nassau Street was destroyed before the restraining order was issued, but the street-facing facade remained intact. After a hearing postponement in September, however, Strand Capital Group and Historic Atlanta reached an undisclosed settlement that resulted in the organization dropping its lawsuit in late October. When news broke that the demolition would resume, architect/ preservationist Kyle Kessler, who had worked with Historic Atlanta for a year to bring the pending demolition to the public's attention, filed his own last-minute suit to stop the effort, resulting in a new restraining order.

Ultimately, Kessler dropped his suit on Halloween, remarking to WSB-TV Atlanta, "I cannot repair through litigation the problems for our city caused by an apathetic mayor, City Council and city attorney. A court cannot force elected officials to care. Only we can do that by our votes." Demolition resumed that day.

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[14] SOUNDBUSINESS

[aes wrap-up]

BY KATIE MAKAL

NEW YORK, NY—This year's AES Convention showcased the musical vernacular of hip-hop and R&B with a new educational track, the focus of which was previewed by hip-hop pioneer Grandmaster Flash's keynote address on the first day of the show.

The Hip-Hop and R&B track kicked off the following morning with "Chopped and Looped—Inside the Art of Sampling for Hip-Hop," an all-star discussion moderated by Paul "Willie Green" Womack that featured Breakbeat Lou (Afrika Bambaataa, Biz Markie), Hank Shocklee (Public Enemy, Mary J. Blige) and Ebonie Smith (Hamilton, Sturgill Simpson). Joining by telephone halfway through the event was Just Blaze (Jay-Z, Kanye West), who was working in the studio and unable to attend in person.

Celebrating the art of the audio collage, panelists discussed the production technique that launched a genre, illuminating some significant waypoints on the journey to the way hip-hop sounds today.

Womack asked the panelists, all of whom are DJs or have been at some point in their career, how they know what will make a good sample.



Legendary Public Enemy producer Hank Shocklee shared his insights on the AES Convention's "Chopped and Looped" panel.

The answer for Shocklee is whether people respond to it. "When I was DJing, I would find records that nobody could find, and then I would figure out a way to weave them into the party and make [the people] keep moving. You start to experiment, and it starts to open you up and you start to see how people respond to different frequencies, different ways something is being projected at them," Shocklee said. "The idea is taking your art form and getting it in front of as many people as possible to see if it works."

Smith and Shocklee discussed the notion of politics in hip-hop, leading to talk about the importance of reaching back to those coming up behind you. Shocklee believes hip-hop is even more political today than it was back then. "You have to understand that when we were doing this, we were trying to break into an industry that wasn't allowing any of us in. So we had to be loud, we had to be aggressive, we had to talk about things that were going on in our community. We had to almost turn you off to turn you on. But today, everything's about one thing now: Gotta get that skrilla. That, to me, is the most political you can possibly get, because it's right down to the bone. If you don't have that money, guess what? You can't do nothing. You die today."

After the applause died down, Shocklee added, "We have to understand that things move, things progress, times change. The only thing that we can do today is support our young brothers and sisters making this music."

www.aes.com

AES



At the event were (I-r), back row: Sean Giovanni, Recording Connection; Roxanne Ricks, Audio-Technica artist relations manager; Frank Wells, keynote speaker; Anthony Vaticalos, student; Alec Wingfield, student; Lisa Roy, Csaba's wife; Jones Nelson, student; and Robert Clyne, Clyne Media. Front row (I-r): Chuck Ainlay and assistant engineer Todd Tidwell.

Ainlay Leads Petocz Scholarship Event

NASHVILLE, TN—Audio-Technica, the Recording, Radio and Film Connection (RRFC) and Clyne Media recently hosted the third annual Csaba Petocz Master Class Scholarship at Peter Frampton's Studio Phenix in the Berry Hill district of Nashville.

The scholarship, which has become an annual audio education event honoring the legacy of the producer/engineer, took place Nov. 2. Scholarship winners were selected by the Recording Connection to attend the advanced audio workshop conducted by four-time Grammy Award-winning mix engineer Chuck Ainlay. Four students attended the all-day session. Frampton donated the use of his studio for the day.

A three-time Grammy nominee with 37 number-one record credits and 32 Platinum or multi-Platinum albums, Petocz lived and recorded in Los Angeles and Nashville while working closely with artists including Metallica, Larry Carlton, John Michael Montgomery, Alanis Morissette, Aretha Franklin, Elvis Costello, Morrissey, Al Stewart and others.

The day began with introductions by Frank Wells, a past-president of the Audio Engineering Society and former chief of technical services for Glenn Meadows' Masterfonics Studios who worked with Petocz regularly. He told the students about Petocz: (continued on page 47)

AES Explores Mixing in VR, AR and MR

BY ANTHONY SAVONA

NEW YORK, NY—The challenges in mixing for virtual, mixed and augmented reality (VR, MR and AR) are well known—how can you provide the best experience for users when they are the ones in control of how the story progresses? Scott Selfon, audio experiences lead at Facebook Reality Labs (Oculus Research), tackled the topic head-on at the AES Convention in a packed panel named "Real-Time Mixing and Monitoring Best Practices for Virtual, Mixed and Augmented Reality."

To start, Selfon looked to the 100plus years of linear media mixing for inspiration, and made comparisons between linear and nonlinear storytelling techniques. What they have in common, according to Selfon, is that they both focus on "the important versus the other thing." In film, the director focuses the audience on what's important in the story, while VR and the like let the user determine their focus. Other similarities include gathering the best assets and mixing based on the content.

Naturally, differences abound, and

Selfon outlined them in five parts: Rendering Pipeline—All sounds in VR, AR and MR are spatialized.

Actual Mix Process—Other formats don't have to worry about mixing while wearing a head-mounted display (HMD), nor do they have to mix while moving around.

Listening Pipeline—Unlike film, where the theater is well calibrated, VR experiences are over earbuds or mobile devices, and extremely unpredictable.

The Listener(s)—Shared or solo experience? Are they participating in location-based VR? Again, many possibilities.

Mixing with the Real World— Most of the time, you will hear sound from the real world during an augmented reality experience.

Even with all the possibilities and options that VR, MR and AR provide, Selfon was able to offer some best practice guidelines. Some of his suggestions included making sure to do critical listening/mixing in a high-quality environment; listen and validate on consumer devices you expect audiences will use such as earbuds or a phone; validate the mix in expected actual playback environments (if location-



Scott Selfon, audio experiences lead at Facebook Reality Labs (Oculus Research), discussed "Real-Time Mixing and Monitoring Best Practices for Virtual, Mixed and Augmented Reality at AES."

based, note what else is making noise in the environment); use all of the best practices you've learned so far for storytelling; mix relative to well-defined playback levels—compare/balance existing "system" experiences, using ITU-R BS.1770-4 LUFS as a metering benchmark; and plan for the real world's potential impact, including loud or shared playback environments in VR and competing/complementary sounds of the entire world in AR.

RCF Group to Launch Massive Outdoor Venue

REGGIO EMILIA, ITALY—There's little question about what brand of house P.A. will be used in the new RCF Arena Reggio Emilia. Set to become the largest outdoor venue in Italy and likely one of the largest permanent performance facilities in the world—the site will open for business on Sept. 12, 2020, with a concert by Italian singer Ligabue.

The shed lawn-style venue will hold 10,000 to 100,000 people, with a raked audience floor to aid visibility and acoustics. The stage will be placed in the lower part of the venue in a central position, with a maximum viewing angle of 110° to provide visibility throughout the entire arena.

The RCF Arena will include an RCF TT + permanently installed



Seen here in an artist's rendition, the lawn-style shed venue will have a variable capacity of 10,000 to 100,000 people.

audio system for live events, with 10 additional delay towers in fixed steel structures, which will additionally provide support for video/lighting equipment.

"RCF audio systems have ampli-

fied the music of national and international artists in every corner of the globe, and in some wonderful arenas," said Arturo Vicari, CEO of RCF Group, in a statement.

"RCF was born in 1949 in Reggio Emilia. From here, we brought the excellence of Italian sound throughout the globe, and today we are among the major players in the market. Giving our name to RCF Arena is a source of pride for us, but also a mission and a commitment. We have a strong bond with this region and we intend to treat it in the best possible way. With this wonderful project, we will bring our innovation and technology to our backyard, in Reggio Emilia."

http://rcf.it

RCF

Gallery Reaches for Sky

MILTON KEYNES, UK—The MK Gallery in Milton Keynes, a new arts venue, sports five exhibition galleries, a large learning and community studio, and the Sky Room, a flexible auditorium on the upper floor with 150 retractable seats (300 capacity standing). The performance space is equipped with an EM Acoustics sound system supplied by event production specialist Hawthorn.

An EM Acoustics system was specified as part of the global design of the Sky Room. "It sounded great, but I felt that the initial spec was lacking a bit of low end and needed some tweaking to really suit our needs, so I got in touch with EM Acoustics directly to see if they could help," explained Jamie Aylard, facilities and technical manager at MK Gallery.

The Sky Room is a multipurpose space capable of hosting independent cinema, live music, theater, lectures, conferences and more. "Whatever the event may be, we have to make it work," said Aylard, "and that means that the sound system has to adapt accordingly."

The main system comprises two i-C12 coaxial, reflex-loaded full-range loudspeakers flown from the ceiling grid. "These are used for lectures, conferences and, of course, cinema," Aylard explained. They are supplemented by four compact EMS-61s, also flown from the grid, which provide additional vocal reinforcement and help fill the back of the hall.

For live music applications, Aylard uses a pair of EMS-215 subs with a pole-mounted i-C12 on top to create a full-range L/R system. He also has four M12 stage monitors and a spare pair of i-C12s that can act as monitors when required or as additional reinforcement for the main system. Two DQ-20D amplifiers handle power requirements, and the entire system is networked via Dante. EM Acoustics

www.emacoustics.co.uk



The MK Gallery, a new UK arts venue, is centered around the Sky Room, a 150-seat performance space with an EM Acoustics sound system.

Mexican Facility Expands TLALNEPANTLA, MEXICO—Cinematic Media's new postproduction facility, part of GGM Estudios in Mexico, will house eight Dolby Atmos-certified stages and cut-

ting rooms. The facility will be outfitted with Focusrite's RedNet range of Dante-networked

range of Dante-networked audio converters and interfaces when completed at the end of the year. The audio studios will include six Red-Net HD32R 32-channel HD Dante network bridges (one per stage), 22 Red

4Pre 58-in/64-out Thunderbolt 2 and Pro Tools HD-compatible audio interfaces (three per stage plus edit suites), six RedNet AM2 stereo audio monitoring units, and six RedNet X2P 2x2 Dante audio interfaces.

A half-dozen stages will be open by the end of the year, plus the editorial suites. The equipment has been set up in temporary studios while the facility is being completed.

"The work is already here, so we had to get started as quickly as possible," said Martín Hernández, the sound supervisor and designer at Cinematic Media who is also a twotime Academy Award-nominated supervising sound editor. The new studio's location, in a commercial area about an hour north of Mexico City, offered the space needed to construct a facility large enough to address Mexico's burgeoning media business, he explained.

"We are cutting all sound to picture in this temporary facility, then



The new facility will house eight Dolby Atmoscertified stages and cutting rooms.

taking those tracks to a mixing stage for the client to listen to, then coming back here for the pre-mastering and final mixes," he said. "It's rather hectic to have to travel so much, but it's the only way to keep up with the workload while we wait for the soundstages to be built here. But the RedNet interfaces let us meet deadlines that we might not otherwise be able to.

"The RedNet units are reliable and easy to use, and they are truly plug-and-play," Hernández continued. "The Red 4Pre and RedNet HD32R interfaces connect directly to the three Pro Tools HDX systems we have in each mix studio, so we have a fully Dante-enabled network for audio between all of the rooms. The speed and ease of the workflow is amazing." Focusrite

www.focusrite.com

GGM Estudios www.estudiosggm.com

[16] SOUNDINTERNATIONAL

Inside Producer Ummet Ozcan's New Studio

NETHERLANDS—For DJ, producer and sound designer Ummet Ozcan, a regular day at work often starts with flying to a new city somewhere in the world and ends with thousands of fans screaming his name. It's the kind of life many people dream of, and Ozcan knows it—the multi-instrumentalist is quick to note how privileged he feels. But as exciting as it is to tour the world as a superstar DJ, what really gets his blood pumping is waking up in his newly built Netherlands home and remembering what's waiting for him in the basement.

The house itself is beautiful—a minimalist celebration of sharp lines and simplicity—but head down a short flight of stairs and you'll find a heavy door, behind which is a studio Ozcan describes as "everything I've dreamed of for the last 15 years. I can't quite believe that it's here."

The man responsible for making that dream come true is studio designer Jan Morel, who approaches each of his projects with the same focus and flair as a painter tackling a portrait: Every room he builds is intended to be an encapsulation of the artist who will use it.

"I have a dream board; I put pictures on it to represent the goals I want to achieve," said Ozcan. "I found it again when I was moving into this house and noticed there is a small picture of one of Jan's studios. I had completely forgotten that I had pinned this on the board, but there it was. And now we're here—it's manifested in my life. This room reflects my energy. It's an extension of myself and my music."

Ozcan has been making music since the age of 14, when his natural skill with the flute and keyboard were the first signs of an emerging talent. His first single, "Chica Good," arrived in 2006, but it was 2011's "Reboot," followed by 2012's "The Box" that solidified his reputation. In the years since, he has produced not only a string of hit singles but also collaborations with peers including Paul Van Dyk and Tiesto, while also developing soft-synths and soundbanks.

Most of that work was done in less than ideal environments. "The first space I worked in? I'm not sure



DJ, producer and sound designer Ummet Ozcan (pictured) worked with studio designer Jan Morel to create Oz Studios.

I could call it a studio," he said. "It was in my parents' home, in the attic. I just had two speakers in there—actually just two hi-fi speakers. Then I moved to an apartment and I had a room; I put some acoustic treatment on the walls, some bass traps, and just two monitors and a sub. I made my music in there for years, but when my friends came to visit, I'd tell them to stand in the corner because that's where they could hear the bass properly! If you took one step to the side, then the sound changed completely."

In contrast, his new studio delivers both sonically and aesthetically a blazing celebration of neon shifts seamlessly between color schemes to suit the mood of the artist. Sculpted acoustic panels from Artnovion adorn the walls, while Morel has re-created Ozcan's logo on the ceiling. "When you close the door, you're in a different world," said Ozcan. "It's amazing."

The Genelec Smart Active Monitoring system—a far cry from his old hi-fi speakers—is based around two 1234As installed as main monitors, accompanied by a 7382A subwoofer equipped with three 15-inch high-performance woofers. Adding symmetry, what appears to be a second 7382A is in fact a customized bass trap designed around a Genelec grille. Two 8351B acoustically coaxial monitors from The Ones range are installed on Ozcan's desk for nearfield listening.

This is Ozcan's first experience with Genelec: "Jan introduced me to Genelec, but I knew he had also previously used them in Hardwell's studio, so I texted Hardwell and asked him what the speakers are like," Ozcan explained. "He texted back, all in caps, 'They are amazing."

Crucially, Morel was given the creative freedom to build the studio as he saw fit "When we started the creative process, there was no house, just some drawings," the designer recalls. "It's very important to have a lot of freedom on a project like this. If there's too much interference, all of the positive energy disappears and it just becomes a job, but Ummet explained all of his wishes and I translated them into this room. I was able to spend long evenings here just with one panel; I didn't need to hurry. There was the creative space to make something beautiful."

Near the conclusion of the proj-

ect, Morel and Ozcan calibrated the Genelec system for the room. That work began with GLM (Genelec Loudspeaker Manager) software, then was completed by ear. "We went very deep into the process," said Morel. Yet little tuning was ultimately required. "You don't have to do much; with almost no tweaking, it sounds fantastic," explained Ozcan. "You feel it in your chest and it gives you goosebumps because you can hear everything. I can hear things I've never heard before."

While Morel acknowledges that it can be hard to walk away from a project such as Oz Studios, as the room is now known, he is nevertheless thrilled to introduce it as one of his proudest achievements. "This is in the top three studios that I've created," he noted. "Certainly for the design, this is number one."

For Ozcan, meanwhile, there are those mornings to look forward to. "I've been in this house for a matter of weeks and every day when I wake up and come down here to the studio, I'm like, 'Oh my God—this is what I worked for.'" Genelec

www.genelec.com

"I've been in this house for a matter of weeks and every day when I wake up and come down here to the studio, I'm like, 'Oh my God—this is what I worked for.'" Ummet Ozcan, DJ, producer and sound designer

SOUNDINTERNATIONAL [17]

Dragon Boat Race Goes Wireless

FUJIAN, CHINA—Every country has its traditions, but China's go back further than most. Take the Dragon Boat Festival, an annual holiday held on the fifth day of the fifth month near the summer solstice. One of the key events, broadcast by China Central Television (CCTV), is the dragon boat race, held in Fuzhou, the capital of Fujian.

The Dragon Boat Festival is not a recent development. Before 221 B.C., that day of the year was considered unlucky, and to counter that, Chinese cultural practices evolved to include the Dragon Boat Festival, a day for clearing disease and bad luck. A more modern celebration of the holiday includes the commemoration of the poet and minister Qu Yuan, who drowned in the Miluo River in 278 B.C. Locals raced into the river to try to save him, and when they could not retrieve his body, they dropped balls of sticky rice into the water so fish would feast on rice rather than their beloved minister. This event is said to have been the origin of the dragon boat races. Today, some of the most common activities at the Dragon Boat Festival, a national holiday since 2005, include eating and preparing zongzi, drinking realgar wine and racing dragon boats.

Main Event Nabs Martin

KINGSTON, JAMAICA—Main Event Entertainment Group in Kingston recently acquired a Martin Audio array system to help cover the company's production needs in Jamaica and the wider Caribbean.

CEO Solomon Sharpe noted, "Main Event is a full-blown experiential marketing company that has grown organically, operating as small internal business units. Over the years, we have produced everything from major festivals to multilevel engagements for the MICE [Meetings, Incentives, Conventions, Events] market. Jamaica is positioned as a very great market for those kinds of destination events."

The company's Martin Audio purchase included 28 Multi-Cellular Loudspeaker Array enclosures and four Multi-Cellular Loudspeaker Array Downfill enclosures, along with 16 MLX hybrid horn/reflex subwoofer enclosures. Martin Audio www.martin-audio.com The canoe-like sport features teams rowing boats decorated with Chinese dragon heads and tails; to capture the ambient sound of teams giving their all, CCTV used a selection of Lectrosonics' WM Watertight Belt-Pack Transmitters, Venue Receivers, M152/5P Lavaliers and ALP620 Antennas. Audio distributor Beijing Pacific Budee Technology Development Co. provided the wireless gear for the broadcast. "The biggest issue was the potential for signal drop-out when the boats were waiting by the side of the Min River," said Budee chief engineer Freeman Lu. "Everyone was very happy with the results."



China Central Television's broadcast of the 2019 Dragon Boat Festival was captured with the aid of Lectrosonics wireless gear.

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YAMAHA

[December 2019]

SoundRECORDINGIII Marquart Thinks Big with A Bad Think

BY STEVE HARVEY

MALIBU, CA—Michael Marquart wears many hats, in addition to the one in which he is typically photographed. Most recently he's been wearing his artist's hat as he celebrates the release of his seventh album under the name A Bad Think—a double-disc release entitled *The Saviour*.

"It didn't start out being a concept album, but as I was writing, I found a common thread that started to lace through these songs. It just happened organically," says Marquart. He ended up with nine songs on each disk, a collection that integrates ambient, Americana, classical, lo-fi acoustic and hard rock. (He has previously described his style as "a cross between Beck and Pink Floyd.") In a nutshell, he says, "It chronicles the rise and fall of this young guy who winds up being a reluctant king."

Marquart's list of accomplishments can instill feelings of inadequacy. Beside obviously being a songwriter, he's a multi-instrumentalist, adept at drums (he played with A Flock of Seagulls in the late '80s), guitar and keyboards, and is a singer. He's also an engineer, mixer and producer, and a studio owner, most notably of Windmark Recording in Santa Monica, CA, where the likes of Rihanna, Maria Carey and Drake have recorded. He also has two private production facilities, one at his house in Virginia Beach, VA, the other, The Barn, at his home in Malibu.

His creative process on this album, recorded initially in Malibu and Virginia Beach, he says, is typical of previous projects. "I write the songs and put down a finished drumbeat, or just a beat guide if I hear a real drummer, a couple of guitar parts and a couple of keyboard parts. If I like my voice [for a specific song], I do finished vocals. I'll also add harmony ideas," if planning to overdub another vocalist, he says.

Despite his abilities behind the kit and the ready availability of studios in which to record drums, Marquart never picked up a stick for this project. "There are no acoustic drums on the album; I programmed all the drums," he reveals. "I know what I would play if it was me playing, so I wrote it all in by hand, note by note."

While holding down the roles of writer, musician, engineer and producer on this project, Marquart also called on numerous other collaborators. Bob Clearmountain mixed the album in stereo and 5.1 at his



Michael Marquart's latest album as A Bad Think, *The Saviour*, had a production think-tank behind the scenes: co-producer/engineer Dave Way; co-producer/studio owner Marquart; and mix engineer Bob Clearmountain, who mixed the album in both stereo and 5.1 surround.

Mix This! studio and Bob Ludwig mastered it at his Gateway facility. Further upstream, additional musicians joined Marquart at Dave Way's Waystation Studio in Beverly Hills to flesh out the arrangements.

"The groove and the tempo are pretty much there, and the vibe and the form, so you're hearing what the song is," says Way, who worked with Marquart on his previous album. "You can start to fill in ideas as they come to you, even on first listen."

Way recommended a variety of instrumentalists, some of whom also worked on the last album, such as lap and pedal steel player Greg Leisz. "Michael really loved his playing," says Way. "And a guitarist who came to my mind, because I'd been working with him recently, was Fernando (continued on page 24)

Getting Immersive with The Traveler

BY STEVE HARVEY

BERKELEY, CA—In the current gold rush to remix music for Dolby Atmos release, there is one thing missing, according to mastering and mix engineer Michael Romanowski: recent recordings. "Very few people are doing anything new that isn't some quickly remixed legacy rock record," he comments.

Helping to redress the imbalance between current and catalog immersive releases, Romanowski and engineer Eric "ET" Thorngren have mixed a Dolby Atmos version of the Kenny Wayne Shepherd Band's The Traveler, the stereo version of which debuted at number one on Billboard's blues and Americana/folk charts in June. Romanowski recently upgraded a room at his Coast Mastering in Berkeley, CA, from 7.1 to 7.1.4 to handle immersive projects, adding four Neumann overhead speakers to his existing Focal floor speakers and Meyer sub. A new mastering and mixing room configured for 9.1.6 monitoring will be



Getting immersive at Coast Mastering are (I-r): Michael Romanowski, Kenny Wayne Shepherd, Eric "ET" Thorngren and Jerry Harrison.

opening soon at Coast, he adds.

Thorngren, who mixed the stereo version of *The Traveler*, has worked on six albums and a documentary, 10 Days Out: Blues from the Backroads, with Shepherd since 2003. To prepare for the Dolby Atmos mix sessions at Coast, he says, "I bounced the effects, the reverbs and sounds I had on the instruments, so we didn't have to go through all the EQing again. Plus, I wasn't sure if Michael had all the plug-ins that I used. Both Michael and I really like Universal Audio plug-ins. We used their reverbs and effects."

The default perspective for many surround mixes accompanying video is from the audience, with the band in front and the venue behind, says Thorngren, who previously mixed all of Talking Heads' albums in 5.1 with that band's Jerry Harrison, including the Stop Making Sense concert film's DVD soundtrack. "But when you do something in the studio, you have to get away from the normal way you see the band and be like you're in it. When a group is rehearsing, you all look at each other, with your amps facing in so you can hear everybody. Then you think, Kenny's going to run all over the stage, so we're going to follow him with the pan; that's how to do the solos. And maybe bring the background vocals out a bit into the room," says Thorngren. "That was the way we thought about the Atmos mix."

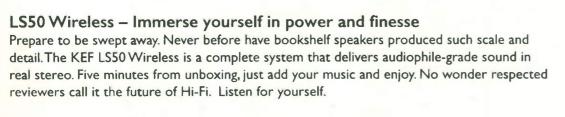
"We chose corners for where the instruments would be and, throughout the record, left most of them like that," says Romanowski. For example, he says, 99 percent of the time, the horns are in the height in the rear. "One of the guitars is on the front left and the second guitar (continued on page 24)

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New Goals at Muscle Shoals

BY STEVE HARVEY

MUSCLE SHOALS, AL—"FAME Recording Studios. Where it all started," says the sign on the building, and it's hardly an exaggeration. Beginning in the early 1960s, through smash hits by the likes of Arthur Alexander, Wilson Pickett, Etta James, Percy Sledge, Little Richard and others, the studio put Muscle Shoals on the map, establishing a signature sound beloved around the world to this day.

When FAME founder Rick Hall passed away at the beginning of 2018, the studio was still going strong but needed a little TLC, recalls engineer, producer and musician Glenn Rosenstein, who maintains his own Skylight Studio near Nashville. "I went into Studio B about a year ago. I needed to get a vocal done. I flew the artist in from New York, put up a microphone and it was by far the best-sounding vocal room I'd heard in my life-and I have worked everywhere in the 40 years I've been making records. There's magic in the room." But the control room, equipped with little more than an Avid work surface and a handful of rack gear, wasn't quite up to the same standard, he says.

Rosenstein's history with the Shoals area goes way back, he reports, and includes a 30-year working relationship with the recently deceased Jimmy Johnson, an original member of the legendary FAME house band, The Swampers. Rosenstein had also spent some time with Hall in his last years, he says, and had become good friends with Hall's son, Rodney, now FAME president. "So I said to Rodney, what if I throw a console in here?"

He had initially envisioned installing a workhorse Allen & Heath desk, but as he and Hall headed down that road, he says, their thinking evolved. "Making hits in the '80s and '90s, my favorite console to work on was an SSL 6000 E be"We wound up with this wonderful pedigreed SSL and upgraded it with an Atomic Instrument power supply and THD-Labs Tangerine computer. Vinnie Fast, a really excellent tech, took charge and worked through it, and Greg Pace, who lives here, was involved with the wiring of the room," he reports.

FAME's Studio A was built in 1961, says Rodney Hall. The facil-

"We are trying to create a viable option that has offerings that you can't get anywhere else in the world, let alone Nashville." Glenn Rosenstein

cause I was able to use the three stereo buses." As luck would have it, Rosenstein's friend Paul Savasta at Odyssey Pro Sound had just the thing: an SSL 6056 E previously installed in a Dallas studio that had recorded three Stevie Ray Vaughan albums. ity's name is an acronym for Florence, Alabama, Music Enterprises, reflecting its original location, where it opened in 1959. Hall explains, "In 1967, my dad decided to build a B room because of overflow. He had just missed doing 'When a Man Loves a Woman," a number-one Glenn Rosenstein (left) and FAME's Rodney Hall revitalized Studio B with a reconditioned SSL 6056 E previously installed in a Dallas studio that had recorded three Stevie Ray Vaughan albums.

single for Percy Sledge that was instead recorded at another local studio. "His original thought was for it to be a secondary room. But because my dad kept Studio A as his studio, a lot of work got done in B while Studio A sat empty for periods of time," he says.

"The room's gone through a few iterations over the years," Hall continues. "We had a couple of different MCI consoles and an Amek in here." Now, the custom console originally built for the B room in 1967 sits alongside the SSL. "The Allman Brothers were the first to run any signals through the console in the room," Hall says, while they were starting to put the Allman Brothers Band together.

Hall's vision for FAME, aided and abetted by Rosenstein, is to accommodate modern workflows while celebrating the history of the facility, which was added to the National Register of Historic Places in 2016. "The music industry was built on the shoulders of people who came from places like this-but there is also a modern demand for the way records are made," says Rosenstein. "As we get clientele, we'll build to suit. If there are key gear pieces or microphones that people desire, well, we're in accumulation mode."

(continued on page 23)

IIIISOFTWAREtech

AES Convention Returns to Its Roots



BY CRAIG ANDERTON

hen I think back to when the AES show was held in New York

City's Waldorf Astoria Hotel—the last time was 1981's 70th AES Convention—my most prominent memory is ... the world's slowest elevators. The second thought is that AES then wasn't about new product introductions—it was about new *technology* introductions and *technical* papers. Although new products were a part of the picture, the context was always engineering, and white papers were the stars of the show.

With the Winter NAMM show now crushing everything in its path (even the Frankfurt Musikmesse) when it comes to product introductions, AES has returned to its roots. And that made sense—the theme of the Product Development Track at this year's AES show was "The New Era of Product Development," not "The Era of New Product Introductions."

At every convention, AES gives us a sneak peek into the future. The big news in software this year was greater intelligence, both artificial and otherwise. Companies like iZotope have been applying AI to their software for a while, and machine intelligence continues to enhance iZotope's flagship product, Ozone 9. For example, Ozone's Master Assistant function has been revamped; that functionality sits alongside an enhanced Tonal Balance Control module (which adjusts tracks to reference targets) and a Low End Focus tool that fixes low-frequency issues. While iZotope doesn't claim that its goal is to replace mastering engineers-it isn't-AI can provide a point of departure that ultimately saves time for professionals, and helps others achieve better mastering results.

Sonnox's Oxford Drum Gate is also representative of the new genre of AI-driven software. Unlike a "dumb" gate that bases its decisions solely on signal amplitude, the Drum Gate can analyze a drum track, and isolate a specific drum for gating/replacement based on how it conforms to parameters that define particular drum sounds.

Not everything is about technological advances, though; sometimes it's about streamlining workflow. As podcasting continues to gain momentum, Zoom has addressed that market with LiveTrak L-8. In a way, it adapts TASCAM's original Portastudio concept to podcasting—it's primed for portable, being lightweight, petite and battery-powered. Its design addresses the needs of podcasters, offering four headphone outs and six mic inputs for roundtables and panel discussions, as well as the ability to route audio to individual tracks on the internal SD card for post-show editing. It features six "sound pads" that may be mapped to audio samples (jingles, sonic logos, sound effects, etc.), and hooks into smartphones—with a mix-minus function for interviews, and the ability to grab audio from the internet.

Resurrections were also big this year. SSL's Origin is a \$50,000, all-(continued on page 23)



The E-Vocal[®] series is a family product of AoIP which provides various functionalities to professional audio applications. It is specifically designed and complied with Dante which is known as the combination of software, hardware and network protocol that delivers uncompressed, multi-channel, low-latency digital audio over a standard Ethernet network. The features of E-Vocal[®] series are shown below :

E-Vocal® Duo	E-Vocal [®] Duo ⁺	E-Vocal Myriad	E-Vocal [®] Stage
 Plug and Play Two input or output channels Network all audio gears Power via PoE or DC5V AES67 Compliant Adjustable Lip-Sync delay (ARS-0002-A01) 	 Two input and output channels Mic PreAmp and Phantom Power Mic PreAmp gain control Adjustable Lip Sync delay output Web browser based remote control RI45 Copper / Fiber interface AES67 compliant 	 16/32 analog channels input & output 2 LAN etherCON connectors for redundancy 96 kHz, 24 bit resolution Display operation status, current sample rate 25-pin D-sub connectors Dual AC input and dual POE power sources for redundancy Built-in web-based controller 	 16 analog channels input / output Robust and portable Stage box Placed horizontally or vertically 2 LAN etherCON connectors for redundancy 96 kHz, 24 bit resolution Dual AC input and dual PoE power sources for redundancy Built-in web-based controller
Arista Corporatio 40675 Encyclope Fremont, CA 945 TEL: 510-226-180 sales@aristaproa www.aristaproa	dia Circle 38 50 50 50 50 50 50 50 50 50 50 50 50 50		

WR

^[22] tracks look at the recording scene



ARTIST: TAMI NEILSON ALBUM: CHICABOOM LABEL: OUTSIDE MUSIC PERSONNEL:

Produced by: Delaney Davidson, Tami Nelson Engineered by: Jol Mulholland Studio: The Lab (Auckland, NZ)

Mastered by: Chris Chetland at KOG Studio (Auckland, NZ)

EQUIPMENT NOTES: AMS Neve Custom 53 series

console; Avid Pro Tools HD; JBL LSR28, Yamaha NS-10M studio monitors



ARTIST: THE MAGIC ES ALBUM: DEAD STAR LABEL: OH MERCY! RECORDS

PERSONNEL:

Produced by: Jonny Cole, The Magic Es Engineered by: Jonny Cole, Pete Thompson Mix Engineer: Pete Thompson Studios: The Mil Studios and Diss (South Norfolk, UK), home studio Mastered by: Pete Maher at Topfloor Music (London, UK)

EQUIPMENT NOTES:

Focusrite 828 8 channels mic preamps, JBL Series 3 LSR305, ADAM Audio A7X and Sub10, Yamaha NS-10, Apple Logic Pro



ARTIST: TIGER ARMY ALBUM: RETROFUTURE

LABEL: RISE RECORDS PERSONNEL:

Produced by: Ted Hutt Engineered by: Ryan Mall Mix Engineer: Ted Hutt, Ryan Mall Studios: Kingsize Soundlabs (Eagle Rock, CA), The

Greene Room (Los Angeles, CA)

Mastered by: Greg Calbi at Sterling Sound (Edgewater, NJ)

EQUIPMENT NOTES: Neve 8068, ADAM Audio A77X monitors, Avid Pro Tools



ARTIST: GOLDROOM ALBUM: PLUNGE /\ SURFACE LABEL: DOWNTOWN RECORDS

PERSONNEL: Produced by: Goldroom

Engineered by: Fabian Ordorica, Goldroom, Ryland Blackinton Mix Engineer: Goldroom, Ryland Blackinton Studios: Bedrock Studios (Echo Park, CA), The Private Sector (Burbank, CA) Mastered by: Stephen Paul at Moustache Mastering

EQUIPMENT NOTES:

Neumann KH 310 monitors, Apple Logic Pro



ARTIST: THE PHILISTINES

JR.

ALBUM: HELP! LABEL: TARQUIN RECORDS/BEVERLY MARTEL PERSONNEL:

Produced by: Peter Katis Engineered by: Peter Katis, Greg Giorgio, Gabe Wolf, Marlowe Stern, Laurens Grossen, Eric Sanderson, Kurt Leon Mix Engineer: Peter Katis Studio: Tarquin Studios

Mix Engineer: Peter Kat Studio: Tarquin Studios (Bridgeport, CT) Mastered by: Steve Fallone and Greg Calbi at Sterling Sound (Edgewater, NJ) EQUIPMENT NOTES: Thermionic Culture Fat Bustard, Neumann KH 310, Dynaudio Acoustic M3, Yamaha NS-10M, Avid Pro Tools 12, Studer A-820 1/2" 2-track recorder



ARTIST: DARK STATION ALBUM: DOWN IN THE DARK LABEL: SELF-RELEASED

PERSONNEL:

Produced by: Augustus Cryns Engineered by: Augustus

Cryns Studio: Soundcheck Studios (North Hollywood, CA) Mastered by: Augustus Cryns

EQUIPMENT NOTES:

Event Alp 5 monitors, Avid Pro Tools 12



ARTIST: FRUITION ALBUM: WILD AS THE NIGHT LABEL: SELF-RELEASED

PERSONNEL: Produced by: Tyler Thompson, Fruition Engineered by: Todd Divel, Tyler Thompson Mix Engineer: Tyler Thompson at Studio 110 (Carnegie, PA) Studios: Silo Sound Studios (Denver, CO), Buffalo Brown Studio (Portland, OR) Mastered by: Brian Lucey at Magic Garden Mastering (Los Angeles, CA) EQUIPMENT NOTES:

Sony MXP-3036 with 13 channels of modified API 212 preamps, Yamaha HS7 monitors, Avid Pro Tools



ARTIST: LOCKET ALBUM: ALL OUT LABEL: FEARLESS RECORDS PERSONNEL: Produced by: Locket Engineered by: Cory Bergeron Studio: Pebble Studios Mastered by: Mike Tucci EQUIPMENT NOTES: SSL AWS 900, ADAM Audio A7X monitors, Avid Pro Tools 12



ARTIST: SYD SILVAIR ALBUM: OBSIDIAN LABEL: SELF-RELEASED PERSONNEL: Produced by: Dillon Pace Engineered by: Dillon Pace Mix Engineer: Phil Joly Studio: Home studio (Staten Island, NY)

Mastered by: Dan Millice at Engine Room Audio (New York, NY) EQUIPMENT NOTES: UAD

Apollo DUO, Yamaha HS8 and Yamaha P.A. speakers, Apple Logic Pro X



ARTIST: THE VAPOR CAVES ALBUM: FEEL YOURSELF LABEL: SIGN YOURSELF RECORDS PERSONNEL:

Produced by: BoomBaptist Engineered by: Rob Murray Mix Engineer: Andrew Hoke, Andrew Thaggard Studio: Private studio (Austin, TX) Mastered by: Rob Murray at Poolside Sound (Austin, TX)

EQUIPMENT NOTES: PMC

IB1S-AllI monitors, Avid Pro Tools

notes

Grundman Cuts Quad Live

HOLLYWOOD, CA-Bernie Grundman (www.berniegrundmanmastering.com) cut the first ever all-analog live quadraphonic direct-todisc recording, with singer/ songwriter Alex Lily, as a gift for attendees at the recent 2019 Making Vinyl conference in Hollywood, at which Grundman was hor ored with this year's Lifetime Achievement Award.

The Vault Locks in Console

MARIETTA, GA—The Vault, a private recording studio for producer and engineer Kevin Sellors and home to producer and keys player Joey Huffman, has upgraded to a 16-channel Rupert Neve Designs (www rupertr eve. com) 5088 console loaded with 16 Shelford 5052 mic preamp/inductor EQ modules and a pair of Shellord 5051 inductor EQ/compressor modules.

PreSonus, Mix the Music Team

BATON ROUGE, LA—An agreement between PreSonus (www.presonus.com) and Mix the Music (www.mixthemusic.com), a new online store offering downloadable stens from officially licersed major-label multitrack recordings, enables FreSonus Studio One 4 users to remix contemporary and classic hits and film and videogame scores for entertainment and educational purposes.

Lectrosonics Captures *El Camino*

ALBUQUERQUE, NM — Production sound mixer Phillip Palmer used Lectrosonics (lectrosonics. com) Digital Hybrid Wireless gear, including Venue 2 receivers and SMV transmitters for body mics, to record dialogue and incidental and ambient sounds for El Camino: A Breaking Bad Movie.

soundRECORDING [23]



AKG Honors Quincy Jones

HOLLYWOOD, CA—AKG by Harman held its 70th anniversary party at Capitol Studios in Hollywood Nov. 12, where the company honored legendary producer Quincy Jones with an AKG Lifetime Achievement Award.

During the event, Quincy Jones protégé and multi-Grammy Award winner Jacob Collier performed three of the biggest hits Jones is associated with, including "Human Nature" by Michael Jackson, "Fly Me to the Moon" by Frank Sinatra and "Give Me the Night" by George Benson.

The evening concluded with host and broadcast journalist Nic Harcourt presenting Jones with the AKG

Studio Showcase

Studio B's control room was too

small to house the SSL, so the pair

took down a wall and, in the process,

unearthed some history. "We became

archeologists," says Rosenstein. "We

were taking off wood paneling, and

below that there would be more wood

paneling, all done by hand by Rick. Below that, there was beautiful car-

peting. Rodney said, 'What if we left

this on the wall?' Instead of hiding it,

viously hidden from sight, was the tape library, "stuffed with every con-

ceivable master," according to Rosen-

stein. "When I went to Electric Lady,

I'd ask the studio manager to see the

tape vault," he recalls. "Same with

Adjacent to the control room, pre-

we're framing it."

(continued from page 20)

Lifetime Achievement Award for his contribution to music since the early 1950s.

"For almost seven decades in this business as a musician, composer, arranger, conductor, and producer, I have always gone for the music that gives me goosebumps. And whether it was Lionel Hampton, Dizzy Gillespie, Frank Sinatra and the Count Basie Orchestra, the Brothers Johnson, Michael Jackson, the artists who contributed to the recordings of 'We Are The World,' right up until today, without fail, that music was delivered through AKG audio products," said Jones. "As you celebrate your 70th anniversary, I have no doubt in my mind that AKG will continue to be an essential part of the music recording and listening experience for many, many more decades to come."

Erik Tarkiainen, vice president of global marketing at Harman Professional Solutions, noted, "Throughout his legendary career, Quincy Jones has created some of the most iconic records in the history of the recording industry, and we are honored to present him with a Lifetime Achievement Award. For 70 years, AKG has been creating headphones and microphones that empower the spirit of creativity and innovation, and no one embodies that spirit more than Quincy." AKG

www.akg.com



The custom console originally built for the B room in 1967.

People come here initially for the history, and then for the functionality of the room."

Rosenstein relocated to Nashville in the late '80s, attracted by the facilities and sense of community. But Nashville is changing, and Music Row is no longer what it once was, he says, and now he also has a house in the Shoals.

"The things that made me, as a New Yorker, want to be in Nashville creatively have shifted down here [to Muscle Shoals]. There are guys in my age bracket who are looking for an exit strategy from Nashville, which has fundamentally changed. I feel like the time is right for this area to be a bedroom community to Nashville, creatively," he says, noting that the travel time is comparable to driving from LAX to Burbank on a bad day.

"We're not trying to build [another] Nashville—there isn't the infrastructure here—but we are trying to create a viable option that has offerings that you can't get anywhere else in the world, let alone Nashville."

And for those unable to travel to the studio, wait a while and it might come to you. "We're looking at other environments to build other FAME studios, in secondary markets that are maybe a little underserved," says Rosenstein. "That's on the horizon." FAME Recording Studios www.famestudios.com

Anderton

(continued from page 21)

analog, 32-channel, large-format console with "the SSL sound." You won't find automation—why bother with today's DAW-based studios?—but you will find a rack-based modular center section you can customize with controllers, computer keyboards, hardware processing and the like.

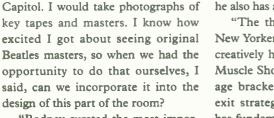
Two years after its intellectual property was resurrected from Gibson, Cakewalk was back at AES. Development has been ongoing, with significant workflow changes, inclusion of Zplane audio stretching, and fixes for the bugs that some felt always held Cakewalk back.

Nugen Audio has updated its SigMod routing/processing plug-in so it can host VST2 and AU plug-ins. Granted, the concept isn't new—Blue Cat Audio's Patchwork can load VST and AU plug-ins in AAXonly Pro Tools systems, as can Peavey's ReValver and DDMF's Metaplugin—but SigMod is about more than wrapping plugins, so the expanded capabilities are welcome.

Frankly, I was expecting to hear more about audio for virtual reality and games. Are we about to see yet another VR false start? Maybe, but Oculus Quest-which doesn't need a computer or wires, and can be set up anywhere-could be the hardware that will break VR open. And if it does, Zylia will be ready with the 6DoF development kit, which allows capturing ambisonic sound in multiple points within a recorded scene. The object is to provide the sound recording and playback capabilities needed for immersive sound in a 3D audio/video environment, based on their ZM-1 3rd order Ambisonics mic arrays

Finally, note that the Anderton Awards (an AES show wrapup that mixed alleged humor with genuine respect for cool products) is no more. Hey stop cheering! You're not getting off that easy. With NAMM now the epicenter of product introductions, the Anderton Awards will be moving to Anaheim. See you there!

Craig Anderton's free educational website, craiganderton.org, is now online as a companion to the craiganderton.com digital storefront.



"Rodney curated the most important masters—Wilson Pickett, Otis Redding—and made it into a lounge.

[24] SOUNDRECORDING

A Bad Think

(continued from page 18)

Perdomo. He loves prog rock and he's got a style, particularly with soloing, that I thought would be a great match. He's a bundle of ideas."

Sean Hurley contributed bass. "He's a great studio cat and gigs with John Mayer," Way reports.

"I know Phil Shenale from working on the Sons of Anarchy music. He has a lot of orchestral experience through working with Tori Amos. He's got an amazing studio that allows him to go to town in his little laboratory. We'd send him tracks and he'd come up with these amazing keyboard textures and sounds. We also brought in Craig Eastman, who does a lot of film work, to layer in some real strings under the fake ones."

They flew in Jazz Mills from Austin to add vocals. "She's not an experienced studio background singer," says Way, who worked with her on an album recently, "but I thought her voice, which is pure and almost old fashioned, would suit the mood. She's a great harmonizer."

"There were so many fascinating elements in the recordings to use and place," says Clearmountain of his stereo mixes. "Plus, the arrangements were very open with lots of space for me to add subtle—and some not so sades," Marquart recalls. "I listened to it and said, this album should only be heard in this kind of environment. I was all-in after I heard it."

The 5.1 mixes are essentially the same as the stereo versions, says Clearmountain. "But the panning is somewhat different, as there are five channels instead of two, so there's

"We're already planning on recording the next album for a Dolby Atmos mix. We're going completely down the immersive audio wormhole."

subtle—environmental effects and reverbs. All these elements together created a feeling of depth and width in stereo."

Clearmountain, who has mixed innumerable 5.1 projects at his studio, immediately heard the potential in Marquart's tracks for a surround version and got to work. "Dave and I went over to Bob's studio in the Palimuch more to have fun with, plus a sub for extra bass, bass drum, toms and other things. I'd often add fourchannel reverbs to many elements, and delays from stuff in the front, returning in stereo to the rear channels."

Clearmountain sent lead vocal, snare, bass, bass drum and featured instruments to the center channel, he says. "But often I'll place instruments halfway between left and center or right and center. I'll often use a bit of divergence for the lead vocal, so it would mainly be in the center but also in the left and right, down about 10 or 12 dB. I'll often do that with bass and bass drum as well, besides adding them into the LFE."

"We're already planning on recording the next album for a Dolby Atmos mix," reports Way. "If you think in terms of arrangements and the placement of things, that's exciting. We're going completely down the immersive audio wormhole."

"It's really inspiring," says Marquart of the immersive format. "It's just going to be a matter of how creative you can be, like it used to be back in the '70s. It's exciting." A Bad Think

www.abadthink.com

Waystation www.daveway.com

Mix This! www.mixthis.com

Immersive Mastering

(continued from page 18)

or the Wurlitzer is on the front right side. Drums are in front of you and background vocals are overhead."

As with 5.1 releases, uncertainty about where a listener has positioned the center speaker, not to mention its frequency handling, is an issue with immersive. "You also have to be careful because this is being brought into binaural," says Romanowski, for playback over headphones. "If you mess with the center image to accommodate for the center speaker issue, then you can throw the binaural off. It's a delicate balance to make sure that everything translates across all potential playback systems."

Nuendo, Romanowski's DAW of choice, offers easy down-mix monitoring, he says. "And I'm using an SPL console that I helped develop that allows me to monitor or solo different channels. Those were both really helpful in this process."

Noting that artists and the production team have not always been present for surround remixes in the past, Romanowski says, "That was one of the exciting parts about doing this record. The artist and the management company are involved. The label's happy. And ET was awesome to work with. It was really fun to do. I put it on for pleasurable listening."

One challenge is that artists and



The Kenny Wayne Shepherd Band's recent *Billboard* chart-topper *The Traveler* has been remixed for release in Dolby Atmos.

management may have no frame of reference for immersive music, he continues. "You can tell them about it all day long, but it's hard to get people excited about something they can't hear. Kenny came and spent three days with us and went off on tour. Then he came back and spent a day listening and approving the mixes because we could send him binaural mixes, but it's not the same thing."

As for mastering the immersive

project, says Romanowski, it's all about translatability, as with any playback format. "You want it to sound as even as it can on as many different playback systems as possible, because you can never predict how it's going to be played," he says.

"The mastering aspect of Atmos is a whole other side conversation about how we, as mastering engineers, prepare to handle this stuff," he also comments. "What happens if you're going to do any dynamics processing to the master? Or EQ---how do you make sure you keep phase coherence?"

That aside, as with any project on which he works, "I feel strongly the mix engineer should never be the mastering engineer. I'm breaking my own rules, but I had ET with me," he laughs. "Because when you're thinking about balance and how instruments work and fit together, you're on a micro level. On a mastering level, you don't care what the content is, you're thinking about how it presents itself."

In assembling the songs for the album, he continues, "There was still a little bit of work to be done, such as what are the song-to-song levels? Then there are subtle differences, so there was some EQing to be done on the final mixes to ensure that it became a body of work, not just a collection of songs—and that's before all the technical stuff for the deliverables."

Immersive's future looks bright, Romanowski believes. "Artists can take their creativity and not be bound by a single plane; there's now this hemisphere. You can put instruments in different places, and you don't have to over-compress."

As for consumers, "I just remember the time when everybody said that nobody is ever going to put height speakers in their house. But now, all of sudden, people are going, 'That's pretty cool.'" Coast Mastering

www.coastmastering.com

Catching a Wave in New York

briefs

Church Mic Heard but Not Seen

DALLAS, TK—Dr. Robert Jeffress, lead pastor at First Bapt st Dallas, which broadcasts and streams to millions of worshippers worldwide each week, recently became one of the first U.S. users of DPA Microphones' (www.dpamicrophones.com) new 6066 Core subminiature headset microphone, adopted for ts unobtrusiveness on camera.

Ukraine Calls on Calrec

KIEV, UKRAINE — First-time Calrec (www.calrecaudio.com) customer Nash TV has purchased two 32-fader Artemis Light audio consoles for its around-the-clock news channel in Kiev, Ukraine. The consoles are installed in two studios within Nash's facility. Nash covers stories from anywhere in the world, often directly from the scene, as well as the latest Ukrainian news and events, providing a range of information from experts. It also runs an associated multimedia platform.

Green Street Preps for Atmos

SHERMAN OAKS, CA—Composer, sound designer and dialogue director Rob King has readied his Green Street Studios facility for immersive sound projects for games, film and television, expanding his stereo Genelec (www.genelec.com) speaker system to a 7.1.4 setup, including 8341A, 8331A and 8320A Smart Active Monitors and a 7380A Smart Active Subwoofer.

SMPTE, IABM Share

WHITE PLAINS, NY-SMPTE (WWW. smpte.org) and IABM are collaborating to share knowledge and expertise, initially allowing members of each organization to take advantage of the other's training courses at discounted rates. The collaboration will also give certain SMPTE members privileged access to executive-level IABM business intelligence via an exclusive portal and webinars. As part of the agreement, SMPTE and IABM will continue to explore further areas of collaboration to benefit their members.

BY STEVE HARVEY

NEW YORK, NY—Wave Studios has enjoyed steady growth since it was founded in London's Soho district in 1999 by sound designers Warren Hamilton and Johnnie Burn. Focusing on audio post services for advertising and film clients, the company subsequently put down roots in Amsterdam and earlier this year celebrated the first anniversary of its outpost in Lower Manhattan.

The New York facility, which opened in April 2018, features two rooms, says sound designer Aaron Reynolds, one of Wave's founding team members, who relocated from London. "Whenever we have built a new facility, it's always been a tworoom start-off. You need two rooms because you need a second room for spillover."

The original London location quickly grew to four rooms, adding two on another floor in the building, says Reynolds. When yet another floor became available, Wave built two more rooms; then, about four years ago, acquired the first floor.



Since opening in Lower Manhattan In April 2018, Wave Studios has been racking up awards for its work on a multi-spot campaign for *The New York Times*.

"Now we have the whole building. We put in another two studios, so we've now got eight studios in London."

The company always had an eye on New York, Reynolds reports. About 12 years ago, he and Hamilton visited the city but decided that the time was not yet right to launch there. Instead, Wave built two rooms in Amsterdam, later adding two more. Wave uses Nuendo DAWs at all three locations, having launched on the Fairlight platform. "When we opened Amsterdam four years ago, we toyed with the idea of going onto Pro Tools, but we were never fans," says Reynolds. "Johnnie has been a real fan of Nuendo, so we decided to revamp London and put Nuendo in *(continued on page 28)*

Staying True for Tarantino

LOS ANGELES, CA—For Academy Award-winning filmmaker Quentin Tarantino's latest film, Once Upon a Time in Hollywood, re-recording mixer Michael Minkler and music editor Jim Schultz aimed to find and retain "truth" in their sources.

"Quentin values the authenticity of his material, from the master recording through to the reproduction and re-recording, and how it's used in the film," explains Schultz. "One of the most important things we do with Quentin is to stay true to the original source as close as we can and work it into the film in a way that serves the narrative and serves the authenticity of the recording."

For Tarantino, the immersive nature of the film's audio starts with the dialogue. "Everything has to be real on the set. He never loops any production dialogue," says Minkler, a longtime Tarantino collaborator. "Whether it's music or dialogue, we must always work from the original source. That's the one that's gold and you can't change it. For this film, he had to lighten up on that quite a bit because there was so much music involved—at last count, we used 107 drops of music.

"Jim spent a tremendous amount of time using the original source, but



Jim Schultz (left) and Mike Minkler aimed to find and retain the truth of their source material in the latest Quentin Tarantino film, Once Upon a Time in Hollywood.

then Quentin gave us the flexibility to experiment with newer vinyl, digital and broadcast recordings, with the caveat that it had to be the exact pitch and time as his original to ensure there was no disjointed audio. So Jim spent a huge amount of time doing that."

Minkler continues, "Some of these sources were mono or two-track stereo; nothing was five-channel or higher. We're living in a 7.1 world now, so *Once Upon a Time in Hollywood* had to fill up the room, but only to the level that fits and sustains the flow of the film."

As a result, the pair chose to incorporate Nugen's Halo Upmix plugin to mix from stereo and even mono to 5.1, 7.1 and Dolby Atmos. "Sometimes we stayed within three or five channels, and other times we'd go up to seven channels or Atmos," says Minkler. "In some cases, however, we had to upmix to 7.1 from a mono source, which is a little trickier, but we were able do it successfully." Nugen Audio

www.nugenaudio.com



The Video Show is set to be a game changer in the video world, taking place, December 4-5 at the Walter E. Washington Convention Center, Washington D.C. and will encompass every aspect of video and audio content creation. Come to test the latest kit, experience what's new in content creation technology and learn about all aspects of video from the best names in the industry.

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As part of your free registration, you'll be able to access all our exhibitors as well as our on-floor features. And don't forget to register for an All Access Studio pass, which will give you access to the must see content in our 8 Studios.

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Commissioners, distributors and successful indie filmmakers will discuss everything from sourcing crew, getting your films out there, and budget-saving advice.

MOBILE NEWSGATHERING

Designed for video creators who are reporting from locations, this Studio will examine all of the tech, including cameras, support, microphones, batteries, streaming devices, and portable storage.

SPORTS PRODUCTION

With Tokyo 2020 fast approaching. sport's on everyone's mind! This stream will feature top sports producers, overviews of the best lenses and cameras for sports production and more.

DOCUMENTARIES: WILDLIFE AND BEYOND

Improve how your material is captured and hear about new advances including camera traps, FLIR imaging, low-light camera sensors, extreme conditions, and remote monitoring.

MILITARY, GOVERNMENT & PUBLICLY FUNDED VIDEO

A top lineup of high-level professionals from government agencies and associations bring you panel discussions, case studies and best practice

BUSINESS OF VIDEO

This program focuses on the business end. From marketing to distribution, find out everything you need to know and more about conducting your business.

EDITING AND POST PRODUCTION

Sessions look at software comparison, sound editing and design, as well as components of an editing system - a must-see for all attendees.

*Terms: Free registration, worth \$25. 50% off Studio Passes based on 1 day Studio pass now \$24.50, usually \$49 or 2 day studio pass now \$37.50, usually \$75.



AV AND INSTALLATION

Programmed by the editors of AV Technology magazine, this Stream will focus on informing and inspiring those involved in AV, including a look at new equipment.

WEDDINGS & LIVE EVENTS

Learn about the production and delivery of live events—everything from capturing a wedding to streaming a high school game to distributing a multi-camera stadium concert online.

360 VIDEO & VIRTUAL REALITY

From concept to delivery, watch and learn about groundbreaking and immersive Virtual Reality experiences.

SOCIAL VIDEO

Insightful seminars on mastering social media video on YouTube, Facebook, Instagram and Twitter, building communities and analyzing audiences

STREAMING

Explore all aspects of live streaming, including how to set up a streaming studio, what technologies are available for live production, best practices for incorporating streaming media into your business, and how to implement enterprise-wide streaming solutions.

PODCASTING

Look at the workflow of production and delivery, compare set-ups and software, examine available apps and platforms, how to identify and develop an audience, and how to monetize a podcast or network.

VIDEO FOR EDUCATORS

As educators are increasingly using video, it's vital they know about the many possibilities for this media. Hear from representatives of schools and universities about the technologies and workflows they're using.



Register FREE at thevideoshow.com, plus 50% off your Studio Access All Areas Pass. Use code **PSN** at checkout.

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Wave Studio

(continued from page 25)

all the studios, with Avid S6 desks. That's the standard across all three locations."

Wave has standardized on Genelec speakers, he says, apart from a few rooms in London and Amsterdam that feature Exigy sound systems. One room in London was built out for Dolby Atmos in 2015 by UK design consultancy White Mark and features a 42-speaker setup that includes custom low-profile surround speakers developed by Exigy's Matt Dobson.

Francis Manzella and FM Design worked with the Wave staff and interior designer Bruce Bolander to create the New York facility. Configured for 7.1/5.1 surround projects, both rooms feature soffited Genelec 1237A SAM series monitors for left and right mains, with a 1238AC SAM center channel.

"We don't do a lot of post studios with in-wall monitoring," comments Manzella. "Most of our post-production studios are smaller nearfield/ midfield monitoring solutions, but they modeled this after their UK operations, so we kept the technical specifications of these rooms in line with their London studios."

Much of Wave's commercial work is mixed in stereo, says Reynolds, who

reports that 99 percent of the work is sound design and mixing for television commercials. "Johnnie concentrates on the film side of the business; he solely does feature films," he says. Burn's credits include multiple films from Yorgos Lanthimos, including 2018's *The Favourite*, and Jonathan Glazer.

It makes sense to do a master stereo mix because playback is so often on a laptop or other mobile device, says Reynolds. "I know some people do a 7.1 mix, then fold down for stereo, but we don't like that because the algorithms are doing the foldChris Afzal, an award-winning senior audio engineer and sound designer with two decades in the audio post business under his belt. Afzal, who started at J. Walter Thompson's (JWT) New York studio and spent five years at Sound Lounge, joined Wave from Gramercy Park Studios, where he was head of audio. His credits include projects for Under Armour, PlayStation, Cadillac and Facebook.

Executive producer Vicky Ferraro, another 20-year veteran, previously led Gramercy Park Studios, which is the creative services arm of agency

"The Wave philosophy is to always do the most creative work you can do, and everything else follows. It's all about trying to make something the best it can be." Aaron Reynolds

down. We start our work in stereo, then if we get a request from a client for a 5.1 or 7.1 mix, we do a separate mix from scratch."

It seems unlikely that Wave's New York studios will upgrade to Dolby Atmos any time soon, however. "I'm waiting for Atmos to take off," he says. "It promised to be a big thing and is slowly creeping in, but not to the degree that we would have liked." The Manhattan team also includes Hogarth. She also started at JWT in New York, spent six years producing TV promos at PBS in Washington, D.C., and worked at Sound Lounge for 12 years.

Wave has long worked with some of the world's biggest ad agencies and brands, so it's hardly surprising that the New York facility hit the ground running. Indeed, one year in, they have already been recognized for their work, winning 10 Lions at the 2019 Cannes Lions International Festival of Creativity for "The Truth Is Worth It," a multi-spot campaign in partnership with agency Droga5 for *The New York Times*.

"It's been an exciting award season for us," says Ferraro, who reports that the campaign kicked off at the end of 2018. "It won the Gold Lion for sound design. The 'Perseverance' spot won best sound design at AICP Post. It swept at AMP—best sound design, best mix, best in show. It won a Graphite Pencil for sound design at D&AD. It won a Silver for best sound design at the Clios. And we're a finalist for the HPA Hollywood Post Awards."

The facility isn't resting on its laurels—it's been racking up one major project after another. "We did a big job for Google, for G Suite," says Reynolds. "We've also done a nice job for Harley-Davidson for their new electric motorbike, and one for Fisher-Price, with Wieden & Kennedy Portland and [actor] John Goodman. And we did some nice Volkswagen work with Johannes Leonardo, launching the new Camper Van."

Honed over 20 years, the company credo is simple enough: "The Wave philosophy is to always do the most creative work you can do, and everything else follows," says Reynolds. "It's all about trying to make something the best it can be." Wave Studios

www.wavestudios.co.uk

DAP Upgrades for Immersive Projects

DALLAS, TX—Dallas Audio Post (DAP) recently upgraded its main mixing stage to handle Dolby Atmos projects, adding products from Meyer Sound and Avid.

"It has long been clear that immersive audio is upon us with regard to sound design and mixing," explains Roy Machado, owner and chief engineer at DAP, which was established in 1994. "After observing that many popular platforms including Netflix, Facebook, Apple TV and Amazon Prime, just to name a few, were moving beyond 5.1 as a delivery format, we decided to make the move to immersive on our main mixing stage."

With numerous formats to choose from, Machado and team decided to go with Dolby Atmos, both for its scalability and its ubiquity in the TV and film industry. The Atmos system DAP ultimately had installed is an augmentation of the Meyer Sound 7.1 system the facility has been using since 2012, which can support a variety of other immersive formats as well.



DAP worked with FM Design, Avid and Meyer Sound to update the facility.

The initial design process involved Meyer Sound's Miles Rogers and Ashley Hanson alongside DAP's architect, Francis Manzella of FM Design, in collaboration with Dolby Laboratories. Rogers and Bryan Pennington from Dolby Labs fine-tuned the system. Both felt that the subwoofers could use more headroom, so two additional Meyer X800 C subwoofers were installed, bringing the total to four.

The final speaker array on the main stage now consists of three screen channels (LCR), 12 surround speakers, eight height speakers, two surround subs and four LFE subs, all from Meyer Sound. At the heart of the system is the Avid MTRX for I/O and the DAD SPQ speaker processing card for speaker control. Stored calibration profiles accommodate a wide variety of formats including Dolby Theatrical Atmos, Dolby Home Theater Atmos, 7.1, 5.1 and stereo.

"It was a long journey to get here," says Machado, "but the additional capability and flexibility will serve us and our clients for a long time to come." Dallas Audio Post www.dallasaudiopost.com

innovations: the manufacturer's view

Completing the Trilogy: Allen & Heath Avantis Digital Mixing Console

BY DANIEL GUMBLE

n October, Allen & Heath completed its trilogy of 96 kHz digital mixing consoles with the launch of Avantis, a brand new desk based on the company's XCVI FPGA engine. It places Allen & Heath's next-generation technology in a 64-channel/42configurable-bus unit, providing twin HD touchscreens, extensive I/O options and processing taken from the company's flagship dLive mixing system.

The console is part of Allen & Heath's Everything I/O ecosystem, whose name signifies the idea that all the parts connect seamlessly. Whether you're an owner/operator looking to build a compact system or a rental company already in possession of existing Allen & Heath stock, Avantis can be connected to a range of audio expander hardware. Avantis is also compatible with Allen & Heath's range of ME Personal Mixers and IP hardware remote controllers.

For local I/O, Avantis comes equipped with 12 XLR analog inputs, 12 XLR analog outputs, plus AES (stereo in, two stereo out). Two additional I/O ports ensure users can draw the full range of current dLive option cards, including Dante (64x64 and 128x128), Waves, gigaACE, MADI and more, expanding the scope for system integration, FOH/monitor splits, and multitrack recording.

The console is loaded with an array of processing tools including compressors, EQs and Allen & Heath RackExtra FX units (12 slots). Upgrading to dPack expands Avantis further with additional dLive processing, including the Dyn8 dynamics engine (up to 16 instances), DEEP compressors and the Dual-Stage Valve preamp.

Commenting on Avantis at the time of launch, Allen & Heath managing director Rob Clark said, "Avantis takes many of the features that have made SQ and dLive so popular and puts them in a standalone 64-channel mixer that offers a new UI experience, connectivity with our



Allen & Heath's Avantis digital mixer

Everything I/O ecosystem, and the dPack option, which gives you access to our advanced dLive processing options if and when you need them. On top of that, we've taken a new approach with the industrial design, coming up with a full metal chassis that's super-strong, lightweight and looks fantastic."

To find out more, *PSNEurope* editor Daniel Gumble asked Allen & Heath R&D director Andy Bell about the development of the new mixing console and what it means for Allen & Heath going forward.

HOW LONG HAS AVANTIS BEEN IN DEVELOPMENT?

From concept to production, Avantis has been two years in the making. It takes a large, highly skilled R&D team to bring a digital console to market in such a short time.

WHAT DOES IT ADD TO THE COM-PANY'S MIXER PORTFOLIO?

Avantis completes the trilogy of 96 kHz consoles built on our XCVI core, sitting in the middle segment of the market, between our flagship dLive series and our compact SQ mixers.

TALK US THROUGH THE R&D PRO-CESS.

It would take all day to describe the full R&D process. The most impor-

tant thing is that we put the engineer at the center of development from the outset. As we reach each prototyping stage, we get feedback from experienced engineers to make sure the finished article is something they'll love mixing with.

WHAT HAS THE RESPONSE BEEN LIKE FROM AUDIO PROFESSION-ALS?

Fantastic! When engineers get handson with Avantis, the first thing everyone comments on is how intuitive the new Continuity UI is. Whether they're coming from dLive or SQ, or from other console brands, engineers seem to feel at home with this mixer really quickly.

WHAT DOES AVANTIS BRING TO THE LIVE SOUND MIXER MARKET?

At the moment, most of the consoles in the space we're aiming at are older 48 kHz designs that are beginning to show their age, so with Avantis, we're offering customers the opportunity to step up to a next-generation platform.

AVANTIS FEATURES A "NEW INDUSTRIAL DESIGN." WHAT CAN YOU TELL US ABOUT IT?

Mixing consoles should be exciting to look at and use. They shouldn't look like old photocopiers. With Avantis, we've explored new ideas in areas like fader illumination, the full metal chassis, balance of on-screen and physical controls and more. Those who know us will know that we're passionate about reliability and build quality. Avantis has a tough, all-metal chassis and has been put through our most punishing real-world and lab test regime yet.

TELL US ABOUT THE CONTINUITY UI TECHNOLOGY.

Having 206 inches of screen real estate creates a lot of opportunities to evolve the mixing experience and let the engineer dictate how they want to work. Within seconds of getting hands-on with Avantis, engineers are going to appreciate the seamless flow between the physical controls and the on-screen software. You can work gains and pans on the rotaries, then switch to the EQ at the touch of a softkey. The console provides a highly configurable FastGrab tab on the right-hand side of each screen, offering another way to quickly and easily access control of aux sends, EQ, compressor and FX on the currently selected channel or spot channel.

WHERE ARE THE BIGGEST OPPOR-TUNITIES FOR ALLEN & HEATH IN THE MARKET WITH AVANTIS?

Avantis reinforces our commitment to our heartland customers—the venues, rental companies and places of worship that have all put their trust in Allen & Heath for decades.

WHAT ARE THE BIGGEST CHAL-LENGES OF LAUNCHING A NEW CONSOLE INTO THE MARKET?

Digital mixers don't exist in isolation—they need to be supported with I/O boxes, networking cards and more. All of that takes a lot of time and R&D to develop, so you have to manage the expectations of customers who love the mixer but are impatient for the Dante card, the mixing app or whatever. One of the great things about Avantis is that we designed it to integrate from day one with our existing ecosystem, so it's a full, ready-to-roll mixing solution. Allen & Heath

www.allen-heath.com

"Mixing consoles should be exciting to look at and use. They shouldn't look like old photocopiers." Andy Bell, Allen & Heath

[realworldreviews]

\equiv What to Get a Sound Pro for the Holidays

STEALTH SONICS C9 IN-EAR MONITORS ■ GAMECHANGER AUDIO PLASMA RACK ■ WAVESFACTORY CASSETTE PLUG-IN ■ ROYER LABS AXEMOUNT DUAL MICROPHONE CLIP ■ THE BEATLES ABBEY ROAD ANNIVERSARY EDITION CD ■ ULTIMATE EARS BLUETOOTH CABLE ■ LOOP EARPLUGS ■ MAKING SOUND ■ IK MULTIMEDIA ILOUD MTM MONITORS

ep, if you've been hearing sleigh bells in your head when you're trying to fall asleep at night, it's because it's that time of the year again—time to decide what to buy your favorite producer, engineer or musician this holiday season. Here are some options.

STEALTH SONICS C9 IN-EAR MONI-TORS

Singapore-based Stealth Sonics is one of the more recent IEM companies to garner attention, and after living with the company's C9 IEMs, it's easy to see why. My experience with IEMs is that even if they are comfortable, they become irritating after four or five hours of listening. Not true with the C9s. I've worn them for the duration of multiple 10+ hour international flights without experiencing even the slightest bit of discomfort. They are so comfortable that I wear them on the plane even if I'm not listening to music. They're able to provide 32 dB of sound isolation.

Stealth Sonics is made up of audiologists, engineers and musicians devoted to providing engineers, producers, musicians, artists and audiophiles an exceptional listening experience. I had the opportunity to visit the company's headquarters in Singapore last summer, and their devotion to detail, sound quality and hearing protection made me an instant fan. Instead of relying on older IEM technology, Stealth Sonics' hand-crafted in-ear monitor system provides sonically stunning performance regardless of



Stealth Sonics C9 In-Ear Monitors



Gamechanger Audio Plasma Rack

preferred listening volume or musical style due to the IEM technology's ability to tune the system to natural acoustics of the listener's ear.

The C9 is the flagship Stealth Sonics model. The nine-driver configuration includes one dynamic (low frequency), two balanced armature (mid frequency), two balanced armature (high frequency), and four balanced armature (super-high frequency). The drivers are housed in a proprietary, acoustically optimized composite material that delivers a frequency range of 18 Hz to 40 kHz. (Not that anyone is actually hearing anything that high, but it's nice to know it's there!) A small port at the top of each earpiece facilitates air movement from within the enclosure, allowing the dynamic driver to efficiently move air at the output, resulting in an enhanced bottom end. The IEMs include a hard vinyl zippered case large enough to comfortably store the IEMs and accessories, which include a cleaning cloth and brush, a 1/4-inch adapter, an airplane adapter, a 1.2-meter standard cable and a 1.2-meter iPhone cable (MFI). Stealth Sonics provides a one-year warranty as well as a 30-day refit policy should you not like how your IEMs feel when placed in your ear.

On first use, you may find the Stealth Sonics slightly more difficult to insert and remove than other IEMs, but you'll figure it out soon enough. Once you've used them a few times, they are as easy to insert and remove as any other IEM.

I've spent hundreds of hours over the last several months listening to the Stealth Sonics C9 IEMs. I've used them while exercising, on the plane, in the studio, in the car and practically anywhere else you can think of, and they are stunningly good. Their detail is exceptional at both low and high volumes, and they do an amazing job of providing a smooth, balanced sound with a full, defined bottom end.

Stealth Sonics provides the same design customization options as the competition, but with a price tag of \$1,499, the C9s cost significantly less than many competitor products without a compromise in their sound quality, durability or accessory options. Stealth Sonics

www.stealthsonics.com

GAMECHANGER AUDIO PLASMA RACK

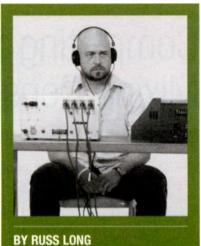
Gamechanger Audio released the Plasma Pedal nearly two years ago and I found it extremely intriguing. Most guitar players I record have their own pedal collections, so I couldn't justify the price tag for something I'd likely rarely use, but the release of the Gamechanger Audio Plasma Rack was right up my alley. The Plasma Rack is a 1U rackmount unit perfectly suited for studio mixing. The innovative box creates distortion by converting an audio signal into a series of high-voltage plasma discharges of up to 5,500 volts within a sealed, xenon-filled tube. The result is a unique distortion that is both edgy and crisp, clear and responsive.

The box's gate controls allow the user to take control of Plasma's natural gating; a musical 3-band EQ provides easy tonal shaping and can be switched to affect only the wet sound or dry sound. Additional controls for Input Gain, Sustain, Oversaturate and Tremolo are also included. Full MIDI implementation provides control of all parameters and values via CC Messages and Program Change Messages with eight preset slots. Expression input allows an expression pedal to be assigned to any parameter.

The box incorporates three Ef-

fects loops that work with line,

and instrument levels make it



ST RUSS LUNG

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.

other processors into the signal chain.

While its \$1,499 price tag may place this box beyond the reach of many, I can vouch that it's well worth the cost, as it is the most unique distortion I've heard in 25 years. It is a blast to play with and sounds amazingly good. Regardless of the sound source, it is musical and quite usable. So many of the distortion plug-ins today sound good on their own but are difficult to place in a mix—the Plasma Rack is not that way at all. Gamechanger Audio

www.gamechangeraudio.com

WAVESFACTORY CASSETTE PLUG-IN

Wavesfactory's Cassette plug-in is the perfect solution to any musicmaker's lo-fi needs. The plug-in gives the user the ability to run individual tracks (amazing on acoustic guitars!), groups or the entire mix through a virtual cassette deck. But it's not just a simple cassette deck-Wavesfactory engineers have scrupulously developed this plug-in to ensure every possible cassette variation can be addressed. There are three machine options: Pro (modeled on the TASCAM 414), Micro (modeled on the Omega Reporter-20) and Home (a blend between the two)-and four tape type



easy to insert guitar pedals or Wavesfactory Cassette Plug-In

[realworldreviews]

options: Type 1 (ferric oxide), Type 2 (chromium dioxide), Type 3 (ferrochrome) and Type 4 (metal). Cassette offers tons of parameters that can be tweaked until the optimum setting is attained, and those settings can be saved as presets for use at a later date. Cas-

sette is Mac and Windows compatible, supports AU, VST, VST3 and AAX formats, and runs \$65. Wavesfactory www.wavesfactory. com

ROYER LABS AXEMOUNT DUAL MICROPHONE CLIP

Blending a Royer R-121 ribbon microphone with a Shure SM57 dynamic mic is the celebrated technique for capturing the magic electric guitar tone. My question is, How in the world have we all been using this technique for more than two decades without ever thinking up the Axe-Mount? In the words of Scott Heyniger, Bob Dylan's legendary monitor engineer, "This is an outrage!"

The rugged, well-made AxeMount allows a Shure SM57 and a Royer R-121 (or a variation of the R-122) to be mounted on a single mic stand, making placement easy and providing the ability to move the mics from



Royer Labs AxeMount Dual Microphone Clip

one cabinet to another or to a different location on the same speaker without changing the relative position between the two mics—therefore maintaining their phase alignment. The \$39.99 mic clip is constructed from a slightly flexible, highly durable rubber rather than the easily breakable plastic found in many mic clips. It is backed by a two-year warranty.

I've had the opportunity to put the clip to work several times over the past few weeks and can tell you I love it. It works exactly as I would expect. Sadly, I'm sick over all the time I wasted the past 20 years moving two mic stands around. Including its Sling-Shock, Royer now has boasting rights for having the best mic clip and shockmount of the 21st century. Royer Labs

www.royerlabs.com



The Beatles Abbey Road Anniversary Edition CD

THE BEATLES ABBEY ROAD ANNIVERSARY EDITION CD

In the vein of the previous Beatles anniversary releases for Sgt. Pepper's Lonely Hearts Club Band (2017) and The White Album (2018), The Beatles' new anniversary edition of Abbey Road is a fundamental account of the final masterpiece by the most influential band in history. The anniversary edition is available in several variations (1 CD, 2 CD, 3 CD + Blu-ray, and vinyl) ranging in price from \$8 to \$88. This re-release is the perfect opportunity to rediscover one of the greatest albums (and arguably the best-sounding Beatles album) of all time. When I first heard Sgt. Pepper was being remixed, I thought the idea sacrilegious, but on hearing an interview with project producer Giles Martin (son of Beatles producer George Martin), I changed my tune. I realized that the stereo mixes Giles created on the Pepper album were far truer to the original quintessential mono mixes than the original stereo mixes that were created in haste at the time of the album's initial release. The Beatles

www.thebeatles.com

ULTIMATE EARS BLUETOOTH CABLE

Ultimate Ears in-ear monitor owners can now enjoy wireless listening as the new UE Bluetooth Cable provides the ability to stream to UE IEMs via Bluetooth version 4.1, multipoint. Operational controls are via a small three-button control switch located near the right IEM. In addition to controls, the enclosure houses a microphone for phone operation. The cable is designed to go behind



Ultimate Ears Bluetooth Cable

soundTECHNOLOGY [31]

your head, mimicking the typical placement while mixing or playing a concert, but I've had better results letting the switch fall below my chin, as that puts the microphone in a better position and gives easier access to the controls.

Syncing to a Bluetooth device is easy and a voice prompt lets you know when a successful connection has been made. A voice prompt will also announce the current battery level when powered on. The

battery level announcement can also be triggered by pressing the Volume + or Volume – button when connected to a Bluetooth device that isn't playing.

The Ultimate Ears Custom app, a free download, allows the user to customize the EQ settings by choosing from a library of presets optimized for different listening sources or creating and saving their own.

The cable includes a Charging Clip that must be attached to the button control switch. The Charging Clip includes a built-in battery. Both can be charged simultaneous-

ly if the IEMs are not in use. The battery life of the device is 4 hours without the Charging Clip and 8 hours with it. A 20-minute quick charge will give you an hour of playing time. Charging takes place via the Charging Clip's Micro USB port.

I have yet to be impressed with the sound quality of any Bluetooth device, including the UE Bluetooth cable. That said, I think it sounds as good as Bluetooth is able, and the convenience of wireless operation it provides will be worth the hit in sound quality to many people. I did notice the difference between uncompressed and compressed audio files to be much more apparent when listening via Bluetooth compared to wired. This is equally true when contrasting the sound quality between TIDAL and Spotify.

Users expecting to hear the same amazing sound quality that wired UE IEMs are known for will be disappointed, but anyone wanting the ability to operate wire-free while casually listening will love the UE Bluetooth Cable.

Ultimate Ears

pro.ultimateears.com

LOOP EARPLUGS

Most music professionals make hearing protection a priority, and if they don't, they should. It's pretty difficult to spend a lifetime in music if you begin suffering hearing loss in your 30s or, God forbid, your 20s.

Sadly, the foam cylinders that people often shove in their ears for noise protection make everything sound muffled and boomy, completely compromising the listening experience. The custom-molded musician's earplugs manufactured by most IEM companies work well, but with a price tag over \$100, they can be beyond the price range of many engineers and musicians. Loop Earplugs, which are designed specifically for music listening, are an ideal solution. The earplugs emulate the ear canal with an acoustic channel, and at the end of the channel is an acoustic mesh filter that reduces sound across all frequencies by 20 decibels. Vocals remain present, cymbals still sparkle, the bass still punches and the drums still crack, but the overall mix is 20 dB quieter, allowing music to remain enjoyable without damaging the



wearer's hearing.

Loop Earplugs include three sets of ear tips (one set of heat-activated foam tips and two sizes made of soft silicone; the foams were my favorite) that mount on the end of the acoustic channel. Resting on the external part of the ear, the acoustic channel is constructed of hypoallergenic plastic to prevent skin irritation. The earplugs include a small leather satchel for storage.

While the loops are comfortable to wear for short amounts of time (two to three hours), I found them somewhat irritating after longer amounts of time, so they may not be the best solution for a three-day festival, but they will be perfectly suited to a typical concert.

Possibly the best thing about the Loop Earplugs is their look. Available in Swinging Silver, Flirty Rose Gold, Raving Red, Glorious Gold or Midnight Black, the plugs look more like a piece of jewelry than ear protection, and at only \$29.95, they are a bargain.

Loop Earplugs www.loopearplugs.com

MAKING SOUND: CREATIVE MUSIC PRODUCTION TIPS AND PHILOSO-PHIES

Before coming across his book, I was unfamiliar with producer, engineer and sound designer Cristofer Odqvist. There's nothing better than a great book in the studio when you

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Making Sound: Creative Music Production Tips and Philosophies

want to clear your mind or take a break, and *Making Sound* is a perfect option as it can just as easily be read beginning-to-end as opened up and read at any point.

The book (physical copy \$35, ebook \$28) consists of 15 chapters packed with real-world techniques for sound design, music production and mixing. The book is a great read, but it's also organized well, so if you need advice for a specific topic (e.g., getting the bottom end right, working with reverbs, or creating movement for mono synths), the book has at least one if not several tips or tricks to get you moving in the right direction.

Odqvist's ideas are innovative and useful. While some people will get more from this book than others, I don't think there an engineer alive who won't receive some benefit from reading it. I've been doing this a long time and it's rare to come across something this inspiring and fresh. Making Sound

makingsound.co

IK MULTIMEDIA ILOUD MTM MONITORS

When they were released a few years back, there was a lot of talk about IK Multimedia's iLoud Micro Monitors. Packing a significant amount of punch, they became a favorite of producers, engineers and musicians who needed to take their studios

on the go. IK's iLoud MTM Monitors are significantly larger, significantly louder and significantly more expensive (\$700 a pair versus \$296 a pair). They sound much better too, largely because of IK's acoustic room correction system (ARC) integration; ARC is typically unheard of for a monitor in this price range. The speakers are sold individually as well as in pairs, indicating IK Multimedia's desire to get these speakers used in the rapidly growing immersive market.

The MTM Monitors' injectionmolded plastic construction keeps the weight of the speakers quite low (5.5 pounds each). The monitors incorporate three drivers—twin 3.5inch bass/mid drivers and a single 1-inch silk dome tweeter. The bass/ mid amp is rated at 70 watts and its tweeter amp at 30 watts. Connectivity and controls, located on the rear of the enclosures, include a dual female XLR/balanced 1/4-inch input jack, volume knob, EQ setting switches and a mini-jack input for the ARC measurement microphone. There are also several push switches for selecting EQ and input sensitivity options as well as activating the ARC room correction mode, and a USB port for firmware upgrades.

The box's internal signal processing happens entirely in the digital realm at 48 kHz, 32-bit. The two conversion stages and internal processing add 3 ms of latency to the signal path, which likely won't be an issue unless your DAW is already fairly laggy.

ARC configuration is quick and easy. The user simply places the reference mic in the listening position, plugs it in, then presses and holds the rear panel CAL button for two seconds to activate the configuration process. The process allows a few seconds to get out of the way and get quiet before playing four sine wave



IK Multimedia iLoud MTM Monitors

sweeps. During this approximately 15-second process, the mic measures the monitor's frequency response, then generates and applies a correction EQ curve that results in a flat (as flat as possible, anyway) frequency response. The front-panel LED temporarily flashes green to confirm a successful configuration. While leaving the microphone in the exact same location, the process must then be repeated with the second monitor (and more monitors if it is a surround configuration).

I've spent a lot of time listening to the MTM monitors in several locations over the past couple of months. The monitors have a natural, smooth sound, especially at lower volumes. When the volume increases, the lower frequencies begin to collapse a bit and the lowend definition deteriorates. They are small monitors, though, and they have a far better low-frequency response than other monitors in this price range. When set up in a greatsounding control room, the MTMs aren't overly impressive, but when placed in less desirable or acoustically compromised sonic locations, they truly shine. The ARC implementation is quite impressive and will allow a bedroom, garage or hotel room to provide monitoring at a level otherwise unachievable without the investment of significant time and money. **IK Multimedia**

www.ikmultimedia.com

Eventide Instant Phaser and Instant Flanger Mkll

BY MIKE DWYER

Based on its hardware units from the 1970s, Eventide's Instant Phaser and Instant Flanger MkII faithfully re-create these classic boxes while adding a number of modern features. There are four ways to control the phasing in the Instant Phaser: an LFO that ranges from 20 Hz all the way down to .01 Hz (or from a 64th note down to 16 bars in sync mode); an envelope follower; manual mode, where the phasing is controlled by manually moving the large knob in the middle of the interface; and remote mode, where it can be controlled by MIDI. I found the slower speeds on the oscillator to be perfect for adding some gentle movement and interest to otherwise static pads. I used the envelope follower on percussion loops to trigger maximum phasing effect only on the louder hits. An interesting use I found for manual mode was keeping the phase knob in a fixed position, creating unique filtering/EQ effects to shape the tone of

guitar and synth tracks.

One of my favorite controls on the phaser is the age knob. As you turn the knob up, it emulates the aging of the internal components of the phaser. At 0, it sounds like a brand-new unit straight from the factory. Turn it to 25 percent and it sounds how a unit built in 1972 would sound today. Crank it up even farther and things get interesting as it emulates what one of these units will sound like far in the future, after years of wear.

The Instant Flanger can be controlled by the same four sources as the phaser: a 20 Hz to 0.01 Hz oscillator, an envelope follower, remote, and manual mode. I had a lot of fun with manual mode while mixing. On drum tracks, I would automate the knob up to accentuate certain sections with extra flanging. My favorite feature on the flanger, however, is its "Wide" mode. This simulates the use of both the main and aux output on the original device, which creates a stereo effect. This was incredibly handy because



Eventide Instant Phaser and Instant Flanger MkII

most of our tracks featured a mono analog synthesizer (the Roland SE-02). I was able to use the flanger to push leads out of the center, leaving room for other tracks, and create incredibly wide pads, all from a mono source. Eventide

www.eventide.com

[aes wrap-up]

SOUNDTECHNOLOGY [33]

Pro Sound News Audio Engineering Society Convention Best of Show Award Winners 2019

Pro Sound News has announced its Best of Show Award winners for the AES Convention 2019. Pro audio equipment and software products eligible for this awards program, judged by *Pro Sound News* magazine editors and industry pros, must have made their North American trade show debut at AES 2019. Judging criteria include 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.

Allen & Heath Avantis Live Console

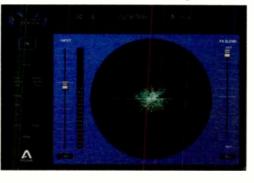
Filling the space between its SQ mixers and flagship dLive consoles, Allen & Heath has released the Avantis digital mixer. Based on the company's XCVI



FPGA engine, the 96 kHz, 64-channel/42-configurable-bus console sports twin HD touchscreens, a variety of I/O options, and processing derived from the company's dLive mixing system.

Apogee Clearmountain's Domain Plug-In

Famed mix engineer Bob Clearmountain's personalized FX signal chain has been re-created in a plug-in. Classic presets are additionally provided to help users re-create the sonic environment of some of his most famous mixes, offering up options like the snare from Bruce Springsteen's "Born in the USA" and the guitar in David Bowie's "Let's Dance."



Audeze LCD-1 Open-Back Headphones

The new headphones feature Audeze's planar magnetic technology within an open-circumaural, foldable, lightweight design. Its 90 mm planar magnetic drivers reportedly deliver frequency extension from 10 Hz to 50 kHz. The headphones weigh about half a pound and feature a plush memory foam headband and ear pads.

Avid Pro Tools 2019 DAW

Largely focused on the needs of post-production pros, Pro Tools 2019 supports higher video resolutions and frame rates, and improves on Dolby Atmos "in the box" mixing workflows and delivery of multiple mixes in a single file. With full Core Audio





support of the Dolby Audio Bridge, users can now send 130 channels from Pro Tools (up from 32) to the Dolby Atmos Renderer.

DiGiCo Chilli 6 Compressor/Expander

DiGiCo announced an addition to its Spice Rack processor collection for Quantum 7. Chilli 6 is a six-band dynamic multiband compressor/expander. Comprising a four-band, fourth-order frequency splitter with adjustable crossover and slope control plus two indepen-



dent fourth-order parametric EQ bands, the processor can be freely inserted on any channel type in any position.

DPA Microphones 2028 Vocal Mic

Introduced in late August, the AES show marked the U.S. debut of DPA Microphones' 2028 vocal mic,

intended for live stage performances, broadcast and pro AV applications. It exhibits a supercardioid polar pattern and reportedly offers a very high gain before feedback.



Featuring dual high-performance woofers, one forward-facing and one rear-facing, the W371 complements the 8341, 8351 and 8361 monitors from Genelec's The Ones series. The W371 is designed to allow studios to experience the benefits of a main monitor, but with the freedom to locate the freestanding system in optimal positions within the control room, even providing the option to switch between nearfield and main monitors without image shifting.

Solid State Logic Origin Analog Console

Solid State Logic unveiled its Origin analog console at AES NY 2019. The latest SSL studio mixing console, Origin has a tradi-

tional analog studio workflow at its heart but is intended to provide a partner for a modern DAW-driven "hybrid" production studio. The desk sports a purely analog, inline, dual-channel design, with 16 buses, E Series EQ and a bus compressor.

Waves eMotion LV1 Proton Live Mixing System

At AES New York 2019, Waves Audio introduced the eMotion LV1 Proton 16-channel live mixing system, which includes the eMotion LV1 16-channel live software mixer, SoundStudio STG-1608 SoundGrid-compatible stage-



box, SoundGrid Proton server, Axis Proton Waves-optimized computer, a 24-inch Dell touchscreen, a 1U rack shelf, an eight-port network switch and network cables, plus three plug-ins specifically designed and optimized for live sound: eMo F2 Filter, eMo D5 Dynamics and eMo Q4 Equalizer.



^[34] SoundPRODUCTSIIII

[studio]

KRK Systems Classic 5 Studio Monitor

For music creation, mixing and mastering, the KRK Classic 5 professional studio monitor has been built for dependable and accurate performance. The versatile nearfield studio monitor sports an optional +2dB KRK Bass Boost, a biamped Class A/B amplifier with built-in automatic limiter, and a low-resonance enclosure for minimized distortion and colorization. Its 5-inch glass-aramid composite woofer is claimed to provide clear



midrange and tighter bass, and a 1-inch soft dome tweeter with waveguide provides highs up to 35 kHz. The Classic 5 monitor is outfitted with high-density foam pads underneath, which decouples the speaker enclosure from the surface on which it's resting, providing clarity and more accurate frequency response. The monitor features a front-slotted bass port, which reduces boundary coupling and aids positioning within a room, and high- and low-frequency controls that allow users to adjust the monitor's sound to their environment and preference.

TASCAM DR-10L Recorder with iZotope RX Element

TASCAM and iZotope have teamed up to bundle a full version of the latter's audio repair and noise reduction tool, RX Element, with the former's black DR-10L Micro Linear PCM Recorder. The aim is to provide a recording and editing



workflow solution to live productions where ambient noise and environmental distractions are common post-production challenges. The TASCAM DR-10L is a compact digital recorder/lavalier microphone combo intended for use as a backup recorder for live productions, capturing audio to a microSD card. The RX Elements software includes a standalone audio editor with spectral editing as well as four real-time noise reduction plug-ins to fix clipping, hums, clicks and other unwanted background noise. Its Repair Assistant feature uses DSP to analyze audio and provide solutions to correct common issues.

Celestion Seventy 80 Impulse Responses

Loudspeaker manufacturer Celestion has introduced the Seventy 80 Collection of impulse responses, which digitally re-create the company's Seventy 80 guitar loudspeaker. The Celestion Seventy 80 was conceived in the late 1990s as the



G12P-80 and characterized by the company as "delivering a modern, gutsy British sound." It's also described as having a tightly controlled low end with a dynamic upper-mid range. The IR collection of the Seventy 80 is available in five virtual cabinet configurations: 1x12 (open back), 1x12 (closed back), 2x12(open back), 2x12 (closed back) and 4x12 (closed back). Celestion used the same range of studio mics in the same six fully-adjustable positions as the current range of cabinet impulse responses to offer the same options: Balanced, Bright, Thin, Fat, Dark and Dark 2, as well as an additional rear mic for the open-back cabinets. The Seventy 80 IRs were additionally recorded with a Neumann TLM 107 room mic (L/R/stereo) for a wider range of tonal options.

Harman Professional Solutions AKG Lyra USB Microphone



Featuring AKG Internal Element Overload Prevention, an internal shockmount and built-in sound diffuser, the AKG Lyra microphone automatically reduces noise and im-

proves signal levels for optimal performance. The four-capsule AKG Adaptive Array offers versatile, user-selectable capture modes optimized for different



As part of its golden anniversary celebration, API has unveiled two limited edition units—the 862 50th Anniversary Edition Channel Strip and the 2500 50th Anniversary Edition Stereo Bus Compressor—both of which are currently shipping. The 862 channel strip features a combination of the 550A EQ and 312 Mic Preamp 50th Anniversary Editions, integrating the original 500 Series PCBs as they were designed by API's founder, Saul Walker. Each 862 Anniversary Edition is individually serialized to denote its status as part of a limited run of 50 units. Meanwhile, the 50th Anniversary Edition 2500 Bus Compressor features a vintage style with several new features, including flexible output mix blending, LED gain reduction meters, premium VU meters, and a gold-faced 2RU chassis. As with the 862, a limited run of 50 units will be produced.

performance formats. Front mode isolates the target sound, rejecting unwanted sounds at the microphone back and sides. Front & Back mode captures and blends together sound equally on all sides, while Tight Stereo mode captures audio in true stereo with discrete left and right audio, providing separation for side-by-side interviews or panel discussions, or for recording instruments like drums or piano. Wide Stereo mode is intended for capturing audio with greater stereo separation, room ambience, and depth.

Austrian Audio OC818 Microphone

OC818 is a large-diaphragm microphone from Austrian Audio, the company formed by almost two dozen former AKG personnel in 2017. Handmade in Vienna, OC818 is a multi-pattern, dual-output condenser microphone equipped with what the company says is a world-first: optional wireless control. The mic features a second output that allows the recordist, engineer, musician and artist to record the rear-facing capsule independently of the forward-facing capsule. If both capsules are recorded to a stereo or dual-mono track, the company's free and open source PolarDesigner plug-in (Mac/Win: VST, AU and AAX) allows control and tailoring of



polar patterns between one and five bands with selectable crossover points. At the heart of the OC818 is Austrian Audio's handmade CKR12 ceramic capsule, made to the same dimensions as legacy CK12 capsules, but reportedly with more stability, allowing the mic to be paired with any other OC818 or OC18 (its smaller sibling), according to the manufacturer.

Sonifex AVN-CU2-Dante and AVN-CU4-Dante Commentary Units

Sonifex has introduced configurable Dante commentary units for two or four commentators that bridge the gap between AoIP and legacy 4-wire connections. The AVN-CU2-Dante aims to be a multipurpose configurable tool for commentary teams powered by a mix engine that overlays the usual Dante Controller settings. Once Dante flows have been made, inputs and outputs can be mixed to AoIP or physical inputs and outputs, controlled using the programmable buttons and rotary encoders that control the gain and pan of inputs, outputs or cross-points. The use of Dante AoIP means that inputs and outputs can be added as required (up to a maximum of 16 per unit). The AVN-CU4-Dante portable commentator unit is a dual version of the AVN-CU2-Dante, providing four mic/line inputs with an adjustable gain range and four stereo headphone outputs with lockable jack sockets, suitable for operation by three or four commentators.

[sound reinforcement]

Tannoy CVS 1.0 Series In-Ceiling Loudspeakers

Tannoy has introduced the CVS 1.0 series of in-ceiling loudspeakers intended for use in restaurants, hotels, houses of worship, retail, educational facilities and similar locations. The lineup consists of six mod-



els, each featuring a powder-coated aluminum mesh grille with dust protection. The drivers are mounted in a UV- and weather-resistant UL 94-V0 and 94-5VB ABS front with a plated steel fire can enclosure. Each model carries EN54-24 certification for detection and fire alarm systems, UL1480 certification for fire-protected signaling systems and UL2043 certification for air-handling spaces. The CVS 301 features a 3-inch polypropylene full range driver, while the CVS 401, CVS 601 and CVS 801 feature 4-, 6- and 8-inch coaxial polypropylene drivers, respectively, with ferrofluid-cooled soft dome high-frequency drivers. The CVS 801S in-ceiling subwoofer uses an 8-inch polypropylene long-excursion driver, and its low-pass baffle design allows the use with other loudspeakers without the need for a crossover.

Shure MXA910W-A Ceiling Array **Microphone**

Shure is readying the release of a revised variant of its MXA910. The MX-A910W-A Ceiling Array Microphone with IntelliMix DSP, intended for installation in 24x24-inch ceiling grids, has been reconfigured to comply with a court ruling regarding patent infringement. The new model includes the same technology and performance as all prior



versions; the only difference in this variant relates to the device's chassis design. The product includes array microphone technology with Shure IntelliMix DSP, which consists of Acoustic Echo Cancellation, Noise Reduction and Automatic Mixing functionality. The patent-pending Autofocus Technology continually tunes the position of each lobe in real time. The MXA910W-A is available in white and can be painted to match room aesthetics. It is expected to ship in December.



QSC Attero Tech Synapse D32Mi

Following its acquisition of Attero Tech in September, QSC has begun shipping the Attero Tech Synapse D32Mi networked audio interface. The newest Synapse model provides 32 mic/line analog inputs with "studio-grade" microphone preamps and Dante/ AES67 connectivity, including up to 24-bit, 96 kHz analog-to-Dante conversion. The inputs are available either as terminal block or DB25 connections. The D32Mi allows for integration with the Q-SYS Ecosystem via its control plug-in, as it is intended for studio, live event and fixed installation applications. It offers front panel and network control of mic preamp gain, phantom power and muting. Redundant SFP expansion ports allow for fiber connectivity for long-range signal extension, eliminating the need for media converters or switches in some applications. The DM32Mi may be interfaced to an additional Synapse family I/O device, creating a digital snake solution and eliminating the need for additional switches.

There's more information on all the products featured at prosoundnetwork.com/dec2019.



EM Acoustics EMS-101X Loudspeaker

EM Acoustics has enhanced its EMS Series point source loudspeaker line, adding a 10-inch model and giving the whole family an aesthetic refresh. The EMX-101X, a 10-inch full-range passive box, incorporates a new lowfrequency driver, designed in large part by EM Acoustics director of R&D Ed Kinsella. At the larger end of the range, the EMS-156 and EMS-159, formerly the MSE-156 and MSE-159, have received the same physical updates as the rest of the range. Those improvements include the introduction of a newly developed three-step polyurethane paint finish, adopted by EM Acoustics in



an effort to make the series more durable and weather-resistant. Outdoor versions can be supplied with stainless steel grilles and weather-resistant connectors. Other enhancements include a new grille design and updated access to the rigging points.

Lab.gruppen PDX3000 Amplifier

Aiming to create a simplified, lower-cost amplifier for touring and installation applications, Lab.gruppen has introduced the PDX3000. Delivering 2 x 1500W of Class-D power, the PDX3000 has a DSP feature set for speaker processing



and includes crossover, delay, an eight-band parametric EQ, limiter and a twoband dynamic EQ. Monitoring and control are provided through a USB connection and PDX Controller Software, as well as a front-panel user interface. This amplifier is equipped with balanced XLR and TRS input connectors with optimized sensitivities and Speakon output connectors. A front panel locking feature protects against accidental setting changes. The amplifier sports a lightweight rackmount chassis, temperature-controlled fans and a preset library for quick setup. Lab.gruppen's PDX Series, designed and engineered in Sweden, comes with a 10-year warranty and will ship in December.

Bose Pro DesignMax Loudspeakers

Bose Professional's DesignMax family of loudspeakers will

begin shipping in the United States this month. The line of 10 loudspeakers and two subwoofers is intended for use in commercial spaces. Sporting ceiling- and surface-mount options available in black or white, DesignMax loudspeakers are available in multiple sizes, from 2-inch low-profile models to 8-inch woofer models with a coaxially-mounted compression



driver. Select models use the Bose Dispersion Alignment system to provide consistent off-axis response. Form factors include surface enclosures, minimum-bezel grilles and removable logos. The surface-mounted models feature hidden U-brackets, ensuring the loudspeakers are held close to the wall while providing a clean appearance. When DesignMax is paired with select Bose DSPs and smart amplifiers, Bose EQ voicings can be used to aid sound quality, and SmartBass processing can be used to expand the listening experience.

Harman Professional Solutions JBL Eon One

The JBL Eon One compact portable P.A. system from Harman Professional Solutions sports an 8-inch speaker and a swappable, rechargeable battery that is said to last up to 12 hours. The unit weighs less than 18 pounds and has a built-in carrying handle. It offers various inputs for microphones, instruments and more, while Bluetooth connectivity allows users to stream music and link multiple speakers, and a mobile app for Android and iOS provides control. The 8-inch woofer and 1-inch tweeter reportedly produce up to 112 dB of output from 37.5 Hz to 20 kHz, providing loud, un-



compromising sound with extended low end. A built-in four-channel mixer allows users to mix, though optional automatic ducking ensures that speech can always be heard over music. Two combination XLR/TRS inputs with preamps and +48V phantom power connect microphones, while a dedicated quarterinch high-impedance input can be used for guitars, bass and acoustic instruments with pickups.

¹³⁶¹ SOUNDREINFORCEMENTIIII



David Byrne leads an ever-moving band of musicians through an engrossing concert experience with American Utopia, aided by dozens of Shure Axient Digital wireless systems.

Bringing Utopia to Broadway

BY CLIVE YOUNG

NEW YORK, NY—In the 1980s, Talking Heads presaged modern multimedia concert production with its landmark Stop Making Sense tour, preserved in the documentary of the same name by Oscar-winning director Jonathan Demme. Each night, the concert began with an empty stage and frontman David Byrne performing alone acoustically, and over the course of the show, would build song by song, slowly adding the rest of the band, additional musicians, projection screens, set pieces and more. Still touring decades later, Byrne's latest solo concert tour, American Utopia, heads in the opposite direction, aiming to simplify and remove much of the hardware now commonplace in concert production. No screens. No risers. No cabling. No *(continued on page 43)*

and communication technologiesbrings together government delegations from around the globe for the World Radiocommunication Conference (WRC) and Radiocommunication Assembly (RA). The events are used to review emerging technologies, negotiate use of radio frequencies that enable wireless devices, harmonize frequency bands to specific applications, and codify binding international treaties. This facilitates cross-border, interference-free wireless communications among different services such as broadcasting, live events, mobile broadband, satellite, aviation, ship-to-shore, public safety, and new applications such as smart cars.

RA-19 and WRC-19 took place Oct. 21 through Nov. 22 in Sharm El-Sheikh, Egypt. A key issue at RA-19 was Resolution ITU-R 59. Calling for harmonization of radio frequency bands used for electronic newsgathering (ENG) and related content, Resolution ITU-R 59 is the fruit of a multiyear, collective effort by audio industry manufacturers, associations and thought leaders. With their support, Sennheiser has been active in the relevant ITU working parties during the past four years leading up to RA-19/WRC-19, contributing (continued on page 43)

briefs

Miking CMAs

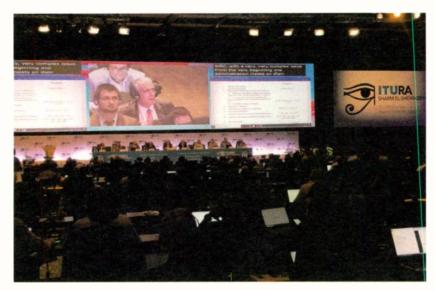
Country Music Association (CMA) Awards, broadcast live from Bridgestone Arena on November 13, saw numerous artists perform throughout the event using Sennheiser (www.sennheiser.com) Digital 6000 wireless systems. Female Vocalist of the Year nominee Kelsea Ballerini belted through a SKM 6000 handheld transmitter, coupled with MD 9235 capsule, as did Lady Antebellum, nominated for Vocal Group of the Year. Blake Shelton performed his latest single, "God's Country," which also wor Single of the Year, via a SMK 6000 handheld transmitter coupled with an MMD 935 capsule.

Rolling into Riot Fest

CHICAGO, IL-Chicago's perennially popular Riot Fest marked its 15th anniversary this year, fielding acts ranging from Slayer to the Village People. Tackling sound duties at four stages throughout Douglas Park was audio provider which fielded Martin Audio (www. martin-audio.com) line arrays on the various stages, with Stages 1 and 2 based largely around MLA hangs with MLDs, W8LCs as front fill and MLX subs. Stage 4 featured WPL hangs and SXH218 subs, and Stage 5 was covered primarily by WPCs and iK42s.

Stepping Up for Irish Fest

MILWAUKEE, WI—It was something of an internationa affair earlier this year when a number of British consoles were called on to m x parts of an Irish event in a U.S. city known for its Germanic roots. That's what happened when dLive and SQ Series consoles from Allen & Heath (www.allen-heath.com) were used to mix events at Irish Fest, a massive Milwaukee event that featured 100 musical acts and 300 performances spread across 16 stages this year.



A U.S. delegation attended the international Radiocommunication Assembly this fall, spearheading an effort to harmonize wireless microphone frequencies internationally.

International Resolution Benefits RF Mic Users

BY JOE CIAUDELLI

SHARM EL-SHEIKH, EGYPT—Joe Ciaudelli, Sennheiser's director of spectrum affairs, was recently a member of the U.S. State Department delegation to the international Radiocommunication Assembly. The delegation led an effort to enact Resolution ITU-R 59—international legislation that could prove beneficial to wireless microphone operations. Here, Ciaudelli explains the process and significance of the resolution.

Every three to five years, the International Telecommunications Union (ITU)—the United Nations' specialized agency for information



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¹³⁸¹ LIVESOUNDshowcase



Golden Hour Tour Comes to an End

BY JIM BEAUGEZ

NEW ORLEANS, LA—A lot has changed since front-of-house engineer Travis Bing began mixing Kacey Musgraves. Just 18 months ago, she was opening for established acts like Little Big Town and Harry Styles, playing on their stages and largely to their crowds.

But what a difference those experiences have made—not to mention the four Grammys she won for her third collection, *Golden Hour*, including Album of the Year. Over the course of the Oh, What a World Tour, which began in October 2018, Musgraves packed arenas, indoor theaters and everything in between with an enthusiastic fan base all her own.

The year-long run played everywhere, from two nights at the recently opened 2,200-capacity Fillmore in New Orleans—the smallest room of the tour—to Nashville's Bridgestone Arena, where Musgraves broke the female attendance record of any genre at the venue, with 18,373 fans in attendance.

"When I first started, my mix in an arena all the way at front of house was running around 91–92 dB—nice and chill," said Bing. "Now everyone's singing every word to every song all night long, they're cheering, they're hitting 110, 112 dB out front. It's very different from where we started a year and a half ago." understanding how much the room will change with people in it. My process is not freaking out during soundcheck when it seems a little

"When I first started, my mix in an arena all the way at front of house was running around 91–92 dB—nice and chill. Now everyone's singing every word to every song all night long, they're cheering, they're hitting 110, 112 dB out front. It's very different from where we started a year and a half ago." Travis Bing

Regardless of a venue's size, some things stay the same when it comes to mixing, said Bing: "It's [about] trying to keep your reflections to a minimum when you can, and then chaotic, 'cause everything tends to tighten up, especially indoors, once people are here and there's an open floor."

Bing landed the gig after running

Throughout her recent year-long world tour, Kacey Musgraves used a wireless Shure Axient Digital wireless mic system outfitted with a Telefunken M81 capsule.

boards for pop-punk powerhouse Paramore, which called for a significantly different focus. While Paramore's instrumentation is loud and guitar-driven, Musgraves' show was built carefully around her vocals, with a dozen instruments moving in and out of the mix underneath.

"It's not that she wants the typical country vocal, way-out-front mix," he said. "She wants it to be a very full, nice, even blend of everything, but she does want those moments of vocals and big background vocals. Blending it all together has been a challenge. [I've been] really working on my vocal game with her."

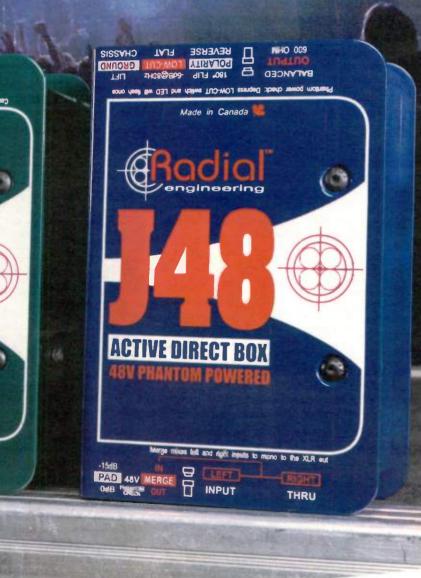
Bing's experience with dynamic vocalists like Hayley Williams of Paramore and Chris Carrabba of Dashboard Confessional has given him a substantial knowledge of microphones. When he arrived on the Musgraves team, he worked with the artist to find the most appropriate mic to capture her vocals, rotating through a variety of handhelds before ultimately settling on a wired Telefunken M81 and Shure's flagship Axient Digital wireless outfitted with a M81 capsule, providing op-*(continued on page 40)*

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THRU

Radial

PASSIVE DIRECT BOX

[40] SOUNDREINFORCEMENT

Live Sound Showcase

(continued from page 38)

tions as needed.

"Hayley [Williams] used the M80 and I thought that was going to be the right mic for Kacey, but turns out it's the M81. Honestly, you think, what is such a subtle difference on their specs with the frequency response, and it's a massive difference on her. We've tried to go back to using an M80 in emergency situations, and everything changes. My gain structure changes, EQs have to change."

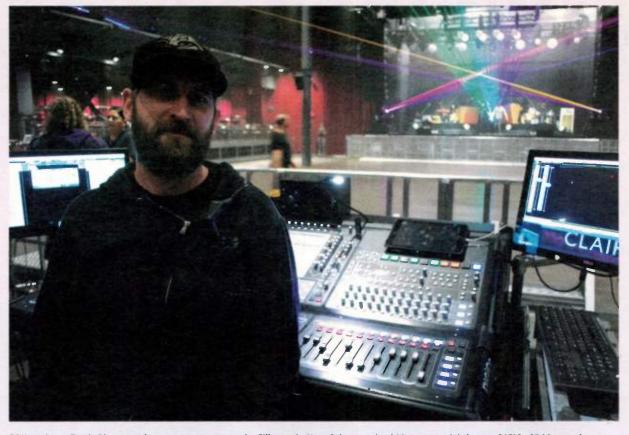
Opting for the M81 capsule has made all the difference, he said, noting, "It stays the same no matter if she's right on it or way off of it. The tone's even."

Clair Global provided control and monitor gear for the production, and the FOH position was centered around a DiGiCo SD10 console. with a Waves SoundGrid Extreme Server nearby running a variety of Waves 10 bundles like Mercury, Studio Classics and Abbey Road. Adjacent racks featured familiar units like a Lake LM44 system processor and a Rupert Neve Designs Portico II Master Buss Processor. Bing ran 65 inputs comprised almost entirely of live instruments, including steel guitar, cello, keys, upright and traditional electric bass, often being played at the same time. His job wasn't just about following the instrument changes; it was about finding spots in the mix for everything.

"I think the one saving grace I have is they're a really solid band that wants to work together to make sure levels are staying even, tones are right and nothing's on top of anything else," he said. "They're really good about policing themselves on where to fit in the mix, which makes it so much easier."

The tour used local line arrays through its run, so at New Orleans' Fillmore, for instance, Bing was mixing to a system based around JBL VTX V Series hangs. Unusually, all subs were flown above the stage and behind the lighting rig, minimizing the impact of performances on the front rows. "Sometimes when you just have flown subs, you don't feel it as much up front, which is kind of the opposite of the feeling everyone's used to," he said, "but it's carrying to the back of the room, and it feels really nice."

At stageside, Dalton VanVolkenburgh ran monitors through another DiGiCo SD10 console with in-ear monitors for all seven performers



FOH engineer Travis Bing, seen here on a tour stop at the Fillmore in New Orleans, mixed Musgraves nightly on a DiGICo SD10 console.



At stageside, Dalton VanVolkenburgh ran monitors for all seven performers via Shure PSM 1000 wireless IEM systems.

and individual mixes. He kept a stable of outboard processors for vocals, and was particularly attached to using a Rupert Neve Designs 5045 Primary Source Enhancer for Musgraves' personal mix.

"It allows me to isolate her vocal a little bit," he said. "She has a delicate voice and doesn't have to push very hard to get those qualities out. I usually have to run a little bit more gain into her mic, so the bleed from all of that can be a problem. With that 5045, I can run it really hot, isolate the vocal and keep the rest of the instruments out of the mix."

Using a switcher, VanVolkenburgh was able to give Musgraves the latitude to experiment with microphones night to night and during the set. "Sometimes she'll be on a wireless upstage and then she'll walk downstage to a wired vocal, and both of those need to hit that 5045," he said.

Even a year into mixing the wellchoreographed and rehearsed show, Bing and VanVolkenburgh agreed they have to stay on top of their game mixing the live band. "Each night's a little bit different," Bing noted. "They might be playing different. Their energy level could be up or down. You never know what you're going to get, and I think that's awesome. I want different nuances and to stay fresh." Clair Global

www.clairglobal.com

DiGiCo www.digico.biz

BandH.com 800-875-8508

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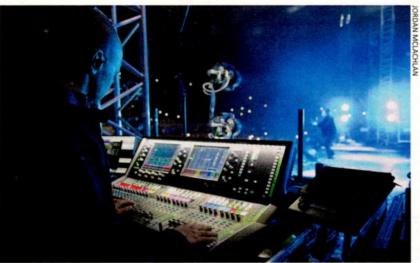
FE-Live Helps Capaldi Cover UK

GLASGLOW, SCOTLAND—Scottish singer-songwriter Lewis Capaldi has been touring the world this year on the back of a hit album—a journey that included a string of UK arena dates, all of which sold out. Bringing some of the fruits of that success back home, Capaldi hit the road with Glasgow-based SR company FE-Live.

FOH engineer Andrew Bush oversaw one of two Allen & Heath dLive S5000 consoles on the tour, selected in early 2019 when they were planning out the year ahead: "We were looking for an audio package that was powerful, flexible and compact enough for us to use on every show, be it a Lewis headline as part of a tour, or a run of overseas festivals where space, weight and setup time were at a premium."

Capaldi's full arena setup includes dLive S5000s on both FOH and monitors, paired with a DM64 MixRack (monitors) and DM0 MixRack (FOH). Additionally, Bush calls on two DX32 expanders for further I/O.

Bush originally opted for a smaller dLive Wings rig, which is now used for fly-in dates; it comprises a multisurface setup with two C1500s and a DM48 MixRack. Bush and monitor engineer Nick Lawrie take advantage of dLive's built-in FX and onboard



Nick Lawrie's monitor position is centered around an Allen & Heath dLive S5000 console.

DEEP processing features, particularly when it comes to Lewis' vocals. As Lawrie noted, "Lewis has an incredible voice, but the first time you mix it, it's terrifying! Lewis can go from head-voice to chest-voice in a matter of seconds, and so I use the Dyn8's multiband compression and dynamic EQ, which is a complete godsend and allows me to quickly even the mix out where needed. I also love the routing options with dLive and being able to double bus. It means I can refine my mix more and get a really even sound at the end."

While 2019 is almost over, 2020 looms large. The coming year will see

Capaldi perform to over a quarter of a million people during his UK and European headline shows. Bush added, "In terms of the shows, they've added so much since the start of the year, and they've increased in scale and capacity as we've had to try and keep up with Lewis' trajectory. It's shown us that dLive can definitely handle the demands of this tour, while providing class-leading tools and studio-quality sound." Allen & Heath

www.allen-heath.com

FE-Live www.fe.live

Renkus Gets HOW Move-In Ready

BIRMINGHAM, AL—Christ the King Anglican Church recently moved into an existing church building in Hoover, AL, renovating the facility in the process. Aiding that effort, MediaMerge of Birmingham designed and installed a Dante-enabled sound system in the sanctuary that's based on Renkus-Heinz IC Live-X line arrays.

MediaMerge system designer Jason Vieira recalled: "The room is a triangle, so backstage comes to a point, and then the angle opens up to about 100 feet wide. Underneath the balcony is a drop ceiling, so there were a lot of challenges that we met with beam steering."

MediaMerge installed a left/ right pair of ICL-X modules, arrayed with ICL-XS extended LF modules, all custom-painted white. "They're mounted on brick, about 15 feet up, so they pop visually," Vieira said, "but they look a lot more elegant than black columns would have, and there are other white accents in the room."



A move to a new worship facility was aided by the addition of steerable line arrays from Renkus-Heinz.

All system processing is done within the arrays, programmed using Renkus-Heinz RHAON II software. "RHAON II is pretty straightforward to use," Vieira said. "It did a really good job of user-friendly beam-steering. When we first installed the system, we probably had 10 beams per side, but Renkus-Heinz updated the software since then and we were able to redo the coverage with just two or three beams per side. The system knew where the lobes needed to go." **Renkus-Heinz**

www.renkus-heinz.com

Mixing Peter Frampton's Final Tour

NEW YORK, NY-Renowned for recording the bestselling live album of all time, *Frampton Comes Alive*, Peter Frampton recently concluded his performance career with an arena-pack-

ing last production dubbed Peter Frampton Finale – The Farewell Tour. Along for the ride to mix house nightly was FOH engineer Jim Yakabuski, who oversaw a SSL Live L550 at each stop.

The tour marked Yakabuski's first go-round with an SSL desk, following a few hours of instruction from SSL's Fernando Guzman. "The FOH mix on this tour could easily be done on a large-format analog console," said Yakabuski, "but the previous FOH engineer and current monitor engineer decided to move it

to digital for footprint reasons, and also for ease of save/recall when using consoles brought in for private and one-off events."

Yakabuski eschewed digital automation and other modern features, preferring to use the console for its "sonic richness. It sounded so good, it removed the need to add on any external signal processing or plug-ins accessed via MADI connectivity. It became analog mixing all over again,



"but the previous FOH en- Jim Yakabuski held down the FOH mix position nightly on the gipeer and current monitor tour.

on a console that offered me multiple options for routing and processing, but begged to be left alone to simply sound great and blend great-sounding inputs from the stage."

The desk was set up to provide to key input channels and output

buses to suit Yakabuski's personal workflow. With three tiles of 12 faders each, he managed the layers so that he was able to access any input channel or output mix from any layer on any tile.

er on any tile.

On the tour, all EQ and dynamics were SSL onboardonly. "Our daily approach always originated with tuning the entire sound system to be very consistent and optimized for the room with the same 'flat' transfer function response," Yakabuski said. "With this palette to work with, I found that I didn't need much in the way of channel EQ and compression to bring a channel up in the P.A. and have it sound great right out of the gate. Some high-pass filters and small EQ tweaks were

about it. Light compression was also used—emphasis on light—and noise gates were almost non-existent as the dynamic range of the band was huge."

Solid State Logic www.solidstatelogic.com

WRH

SOUNDREINFORCEMENT [43]

American Utopia

(continued from page 36)

distractions. The result is an unexpectedly intimate show, bypassing the ironic detachment of Stop Making Sense, even as *American Utopia* occasionally recalls that previous production. Instead, Byrne and company revel in more heartfelt, sincere engagement with both the audience and the material, bringing new shades to his back catalog, even when a song is composed of nonsense words like "I Zimbra."

Currently playing an extended run on Broadway in New York City, the American Utopia production focuses on a bare stage, too, but this time around, it stays relatively empty, placing greater emphasis on the 11 musicians who join Byrne-six percussionists, bass, keyboard, guitar and two vocalists-all of whom are mobile throughout the performance. While that might sound like a variation on a marching band, it's nothing of the sort; untethered from cabling, mic stands and other production accouterments, the performers have space to enact interpretive dance, striking interactions and more, all while playing a choice selection of songs from Byrne's solo career and Talking Heads.

Allowing the musicians to roam freely requires an extensive RF microphone system, not only due to the number of performers involved and the surroundings (there are dozens of theaters simultaneously active on Broadway every night), but also because of the show's staging. The perimeter of the performance area is tion to the multitude of in-ear monitor systems in use. "Axient Digital is amazing. This tour wouldn't exist without it," said sound designer/FOH engineer Pete Keppler (David Bowie, Katy Perry). "I don't think it would be possible—A, because of getting the bandwidth that's necessary for that many channels of wireless, and B, because it just sounds so much better than the analog side."

A typical day on the worldwide tour has found the audio team using

"People were saying, 'This sounds too good for you guys to be playing this. You've got tracks, you've got playback happening, right?'

lined by hundreds of draped 125-foot metal chains—a visually compelling arrangement that nonetheless creates an additional technical hurdle in terms of handling RF and avoiding signal dropouts.

After some research, the production ultimately went with Shure Axient Digital RF systems, fielding 48 channels of wireless mics in addi-

they require full consensus at every

Shure's Wireless Workbench software to monitor and manage wireless systems leading up to and during the performance. With the production fielding in the neighborhood of 66 wireless packs a day, keeping tabs on frequencies has been a must. Handin-hand with that, the touring production has also been making use of rechargeable lithium ion batteries—

for cross-border, spontaneous newsworthy events and will benefit any production team that operates internationally.

If consensus for a proposed ITU contribution is gained within the U.S. delegation, it is submitted to the ITU for debate, possible refinement and (hopefully) adoption by all 200-plus members of this U.N. agency. International approval of a contribution is an extremely high hurdle because it is scrutinized through the ears and eyes of the gamut of global viewpoints.

The U.S. proposal for Resolution ITU-R 59 was vigorously debated during RA-19, with points raised by many administrations, including the Russian Federation, Japan, Germany, United Kingdom and Australia. In the end, the proposal from the United States was ratified with only minor edits.

Resolution ITU 59-2 now instructs the ITU to post a publicly accessible database of links to the relevant regulatory information regarding wireless microphones from the U.N. member nations. It also calls for charts and other documentation that will aid in harmonization of permitted frequency bands among countries.

The next step is to encourage other countries to contribute their information for inclusion in the ITU database. The ITU only accepts ina decision that is loosely estimated to have saved 21,000 AA batteries over the course of the world tour and Broadway engagement.

The Broadway portion of the tour makes use of Shure's new TwinPlex headset on stage, having received the first production models of the product before previews began Oct. 4. As for the performers themselves, the wireless miking has proven solid enough that Byrne revamped part of the show mid-tour. In a statement, he noted, "People were saying, 'This sounds too good for you guys to be playing this. You've got tracks, you've got playback happening, right?' And so now we do a thing where we start a song instrument by instrument and people hear how the whole thing fits together."

With a packed house taking in the 100-minute, no-intermission show nightly, *American Utopia* has extended its run at the Hudson Theater through Feb. 16, providing an opportunity for many more theatergoers to see for themselves exactly how it all fits together. Shure

www.shure.com

American Utopia www.americanutopiabroadway.com

formation about a country if it comes directly from that country's administration. Wide international participation throughout the four-year study cycle leading up to the next RA and WRC in 2023 will be a key element to harmonization.

Toward that goal, an informational technical paper was presented through the U.S. State Department delegation to the conference of the Inter-American Telecommunications Commission (CITEL) that took place in August. CITEL is a regional coalition for North, Central and South America that forms ITU proposals with consensus from the Americas. It's noteworthy that Canada recently finalized a proceeding that largely harmonizes wireless microphone operation with the United States, including portions of the 941.5-960 MHz band. Also, an invitation to provide the information for the ITU database was distributed to the member nations attending WRC-19.

This is all part of a grassroots effort by a wide variety of stakeholders within the content creation industries. Milestones such as this resolution would not have been achieved without the backing of individuals and associations who included their names in industry petitions or, better yet, wrote to the FCC, the State Department or their elected officials directly.

Resolution ITU-R 59

(continued from page 36)

technical reports and recommendations that document the exponential growth of news and entertainment programming during this era when radio frequency spectrum available for wireless microphones has been constrained.

Within the U.S. ITU delegation, many practical solutions that were developed through industry collaboration with the Federal Communications Commission (FCC) were integrated into ITU reports and recommendations. These include allowing wireless microphones to operate in suitable alternate frequency bands and refining regulations that factor in real-world conditions, such as permitting wireless microphone transmission on channels used for TV broadcast if the local terrain or building shielding makes such operation feasible. These efforts were reinforced in Europe through the ITU delegation from Germany and the Association of Professional Wireless Production Technology (APWPT).

ITU reports, recommendations, and resolutions become global standards. Their ratification is very difficult and time-consuming because stage. They must be reviewed and approved without objections, first domestically by the U.S. delegation comprising the FCC, the National Telecommunications and Information Administration (NTIA), the U.S. State Department, and private sector delegates from industries that often have conflicting interests other than those of the content creation industries.

A convincing point is the preeminent role that content creation plays in the economic vibrancy of the nation. The United States is the undisputed leader in TV/radio broadcasting, motion pictures, professional sports, performing arts, and other live cultural events. Copyrighted programming contributes well over \$1 trillion to the U.S. economy, supports more than five million high-paying jobs and has the highest export-toimport ratio of any American-made product or service. Wireless microphones are indispensable tools that fuel this ecosystem.

In promoting Resolution ITU-R 59 in particular, the fact that electronic newsgathering is an essential service during emergency situations such as natural disasters was emphasized. At such times, wireless microphones are the front end of a broadcast chain that delivers life-critical information to the public. Regional and global harmonization is essential

[44] CenterSTAGE TOP 10 TOURS OF THE MONTH

ACT / STATISTICS	CREW	EQUIPMENT
<mark>1</mark> THE ROLLING STONES CLAIR GLOBAL	Dave Natale (be); Steve Carter (me); Taylor Holden (mse); Tyson Clark (cc); Jo Ravitch, Jim Ragus (se); Thomas Huntington (rec tech); Matt Woolley, Brent Edgerton, Dave Enderle, Falko Knueppel, Jon Brook, Trystan Forbes (tech)	HC: Yamaha PM4000; Avid Venue Profile; MC: Midas XL-4000; Avid Venue Profile; HS: Clair i-5, i-5b, P-2; MS: Clair 12AM, R-4, i-5b; IEM: Shure PSM 1000; HA: Crown Macro-Tech; MA: Lab.gruppen; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Aphex 612, dbx 903, AlignArray software, iO loudspeaker processors; MONITOR EQUIPMENT: TC Electronic 1128; dbx 160A; SPL Transient Designer 4; OTHER: Radial JX44, JR5, KL-8, Voco Loco
<mark>2</mark> ELTON JOHN CLAIR GLOBAL	Matt Herr (he); Alan Richardson (me); Nick Giamos (cc/se); Rolf Gerling (ame); Simon Matthews (tech)	HC: Yamaha Rivage PM10; MC: Elton-owned custom-built/designed desk; HS: Clair Cohesion CO-12, CO-10; MS: Clair 12AM, 212AM; IEM Sennheiser 2000; Shure P6HW; HA: Lab.gruppen; MA: Lab.gruppen; MICS: Shure; Audio-Technica AE6100; OTHER: Radial SW8
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
4 JOHN MAYER CLAIR GLOBAL	Chad Franscoviak (he); Monty Carlo (me— Mayer); Rob Smuder (me—band); Jeff Hargrove (se); Jamie Nelson (mse); James Higgins, Jesse Cole, Gracie Fischely (techs)	HC: Avid S6L 32D; MC: DIGICo SDS; Avid S6L 32D; HS: Clair Cohesion CO-12, CP-218; MS: Clair CM-22, Cohesion CP-118; HEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; WIRELESS MICS: Shure UR Series; OTHER: Radial JD7, SGI, J48, JDI, SW8, Hotshot DM1, Hotshot Abo
5 JASON ALDEAN SPECTRUM SOUND	Chris Stephens (he); Evan Richner (me); Casey Stewart (se); Bob Campbell (cc/rf/m tech); Rob Guiseth (pa tech/ Pro Tools); Paul Shutiz (pa tech)	HC: SSL Live L500; MC: SSL Live L500; HS: d&b audiotechnik (64) J8, (8) J12, (26) SL Sub, (8) Y10P; IEM: Shure PSM 1000; Ultimate Ears UE-11; HA: d&b audiotechnik D80; WIRELESS MICS: Audio-Technica ATW-R5220 with C6100 capsule; FOH EQUIPMENT: Outline Newton Waves SoundGrid, Extreme Server-C; DigiGrid MGO; MONITOR EQUIPMENT: Neve 5045; OTHER: Radial JX44, SGI44, JX42, ProRMP, Tonebone Headbone VT, Bigshot SW2, SB48
5 SHAWN MENDES CLAIR GLOBAL	Tom Wood (he); Michael Flaherty (me); Jeff Wuerth (cc/se); Adam Field (m/rf tech); Sarah Blakey, Edward Peers (PA techs)	HC: Avid Venue S6L; MC: Solid State Logic L500; HS: Clair Cohesion CO-12, CO-10; IEM: JH Audio Roxanne; Shure PSM 1000; HA: Lab. gruppen PLM 20000Q; HARDWIRED MICS: Shure Beta91A, Beta52, KSM32; Beyerdynamic M 201 TG; Neumann KM 184; Sennheiser e945; AKG C414; ; WIRELESS MICS: Sennheiser Digital 6000 with MMD 945; FOH EQUIPMENT: SSL Fusion; Waves SoundGrid; Waves Plu Ins; Sonnox Plug-Ins; Avalon VT-737SP; Bricasti M7; Neumann KH 310 Monitors; OTHER: Radial Tonebone AC Driver, Tonebone PZ Pre, SG JX44, SGI44, SW8, Backtrack, Hotshot Abo
7 HOOTIE & THE BLOWFISH SPECIAL EVENT SERVICES	Billy Huelin (be); Joel Stickrod (me); Joe "Bada Bing" Lefebvre (cc/se); Michael Leckrone (tech)	HC: Midas ProX; MC: Midas ProX; HS: L-Acoustics K1/K2, KS28 Subs, Kara Fills; MS: d&b audiotechnik M2; IEM: Shure PSM 1000; HA: L-Acoustics LA12X; MA: d&b audiotechnik D12; HARDWIRED MICS: Shure; Audix; Audio-Technica; WIRELESS MICS: Shure Axient Digital; FOH EQUIPMENT: Bricasti M7; Yamaha SPX990, dbx 160; Empirical Labs EL8 Distressor; Summit DCL200
8 IRON MAIDEN CLAIR GLOBAL / ML EXECUTIVES	Ken "Pooch" Van Druten (he); Steve "Gonzo" Smith (me-Steve Harris), Kevin "Tater" McCarthy (me); Tim Peeling (cc); Mike Hackman (se); xxx (ae); xxx (tech)	HC: DiGiCo SD7; MC: DiGiCo SD12, SD7; HS: Clair Cohesion CO-12, CO-10, CP218, CP6; MS: L-Acoustics ARCS; Turbosound TMS-3; d&b audiotechnik M2, M4; HK Audio; IEM: Shure PSM 1000; JH Audio Roxanne, Lola, HARDWIRED MICS: Shure SM91, Beta52, SM57, SM7, Beta58; Sennheiser; Tul; Telefunken M81; DPA 2011C, 4099; Mojave Audio FET 201; WIRELESS MICS: Shure Axient with Beta58 capsule; FOH EQUIPMENT: Waves plug-ins; Rupert Neve Designs Portico II Master Buss Processor; Bricasti M7, M10 remote; Lexicon PCM96; Lake LM44; Lectrosonics RF; Rational Acoustics Smaart; MONITOR EQUIPMENT: Klang; OTHER: Radial JDX48, JX44, JR5
BACKSTREET BOYS SOUND IMAGE	James McCullagh (he); Austin Schroeder (me); Cameron Whaley (se); Romain Garnier (playback e); Austin Dudley (rf/m tech), Matthew Garrett (pa tech)	HC: SSL Live L550; MC: SSL Live L550; HS: Adamson E15, E12, S10, E229, S10n, IS7p; MS: Adamson S10; IEM: Shure PSM 1000; JH Audio Roxanne; HA: Lab.gruppen PLM20000Q; WIRELESS MICS: Sennheiser 6000; FOH EQUIPMENT: SSL G-Series Compressor, Fusion Processo Bettermaker Mastering Limiter; Burl B2 Bomber ADC; Bricasti M7 Reverb; Waves Extreme Server; DiGiGrid MGB; Lake LM44; Roland Oct Capture; Rational Acoustics Smaart v.8; MONITOR EQUIPMENT: Rupert Neve Designs 5045
LO CHRIS STAPLETON CLAIR GLOBAL	Arpad Sayko (he); Johnny B (me); Matt Moser (se); Rachael Moser (m tech); Lisa Morgan (tech)	HC: Midas XL4; MC: Midas XL4; HS: Clair CO-12; MS: Clair SRM; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRE MICS: sE V7 FOH EQUIPMENT: Focusrite ISA 430 MkII Producer Pack; Smart Research C2, Bricasti M7; API 2500

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.

IIIIviewfromtheTOP [45]

Unafraid to Make Waves TOM SUMNER, PRESIDENT, YAMAHA CORP. OF AMERICA

BY STEVE HARVEY

With hindsight, it seems almost inevitable that Tom Sumner, president of Yamaha Corp. of America, would forge a career in the pro audio industry. Except for a brief detour, that's exactly what happened.

Sumner has had a passion for audio and music since his school days. "I played guitar in a number of bands from high school until after college, and I love playing to this day," he says. Even before that, while in junior high, he built home stereo speakers, selling them locally. In his late teens, he says, "I created and ran my own live sound company, building some of my own speaker cabinets and deploying P.A. equipment that I was using with bands."

Throughout high school and college, Sumner worked at music stores, and it was during that time that he fell in love with the Yamaha brand, he says. Then came that detour after graduating college, when he worked at Macy's for five years. "I managed a retail floor and served as a buyer," he recalls. "At one point, a Yamaha rep asked, 'Would you like to come work for Yamaha?' and I jumped at the opportunity. My Macy's experience gave me a strong foundation for success at Yamaha, which I joined in 1988 as a sales rep."

Three-plus decades later, he says, "I directly lead all our U.S. operations, including sales and marketing, artist relations, operations and our U.S.-based product development. My background has ultimately led me to become a hands-on leader, deeply involved in our many processes and focused on personally encouraging everyone at Yamaha to find their own strength and passion."

With such a lengthy tenure in the industry, Sumner is well placed to comment on its current state. "Integrators are managing more complex AV system requirements and project parameters. Live sound and audio engineers are dealing with more advanced DSP technology, and more elaborate live shows with extremely high production values," he says.

"The studio recording process is constantly changing, with a greater reliance on software and post-production processing. Our end-user customers have their own challenges when it comes to implementing new audio system projects, dealing with tighter budgets and shrinking internal

resources."

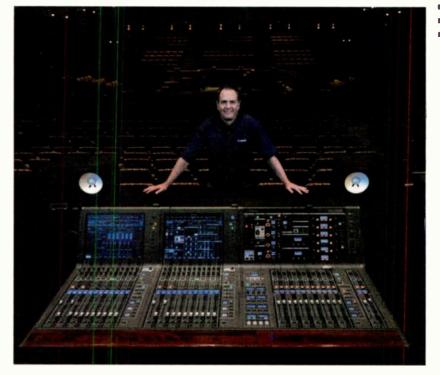
Last but not least, Sumner observes, consumers are changing their home entertainment behaviors and habits in terms of how they receive and manage their music content, relying more on automation and AI technologies to stay connected.

"These changes aren't happening in a vacuum. They are all interconnected in some way," he says. "As all these different customers and their needs change, Yamaha must adapt and change accordingly. By designing our audio solutions to be as connected and intuitive as possible, we're making it easier for our customers to focus on expanding their creativity and getting the most out of technology."

Yamaha's Audioversity professional audio training and education program is one example of the company keeping a finger on the pulse of the industry. "Attendees benefit by gaining a deeper knowledge of the newest professional audio and installed sound products," he says, "but we also benefit by getting to know our customers and channel partners better, understanding their challenges and their needs, and learning what we can do to be a better manufacturer and industry partner."

Yamaha maintains R&D staff in the United States, Europe and Japan, with most of the company's sales, marketing, product management and operations for the United States headquartered in Buena Park, CA. "We conduct R&D at this site and in the field," he says. "We also rely heavily on our sales teams and all our channel partners—dealers, integrators, installers, consultants—to be our eyes and ears in the field, helping keep us current with what customers need to do their jobs."

To enable customers to maximize their investment in Yamaha pro audio equipment in the face of constant change, the company has reevaluated the product lifecycle, Sumner reports. "Our goal is to protect customers' technology investments and help them get as much use out of a device for as long as possible. Through on-



Tom Sumner, president, Yamaha Corp. of America

going—and free—firmware upgrades, we allow them to add powerful new capabilities and features, without having to buy a new model or piece of hardware as often. It may cost us some sales in the short term, but we value customer relationships for the long term, doing what's right for them instead of what's always better for our top line."

The state of the economy is always a consideration when it comes to the manufacturing process, product lifecycles or go-to-market strategies, he acknowledges. "However, by continually developing, refining and perfecting our products, and remaining laser-focused on our customers, we've maintained a steady course through good economic times and bad."

Of course, change creates new opportunities, he says, and while live and installed sound continue to be the cornerstones of Yamaha's pro and commercial audio businesses, "We're also seeing new markets and applications emerge." There is more demand for high-quality and immersive sound systems in public spaces, for instance, including retail, hospitality and transport environments. Also, while the house of worship market continues to be strong, a church's role as the hub of its community may require the mixing console or sound system to also accommodate diverse social and entertainment events without the ministry having to expend time or money on changing out or reconfiguring components. "That's what Yamaha audio devices are designed to do: make people's lives easier," he says.

As for industry-wide technology trends, says Sumner, "We're certainly seeing a larger trend toward comprehensive audio networking as a requirement for any installed or live sound application. Our strategic partnership and technology collaboration with Audinate has been key to our success in this area." That relationship began years ago, he says, "and it's continually evolved and expanded to the point where we've integrated some form of Dante audio networking connectivity across all our key product categories," from power amps to consoles to loudspeakers.

According to Sumner, Yamaha's commitment to making innovative products that inspire and allow new and greater forms of creative expression is best summed up in the company's brand promise: Make Waves. "In the professional audio industry, Make Waves is our commitment to continually innovate and help audio professionals wow their audience every time. Quality and reliability are at the core of every product we make, and we strive to maintain consistency across the broad spectrum of products that we design and market," he says, from home audio and musical instruments to pro audio.

Sumner says he is proud of the fact that Yamaha makes world-class pro audio products that stand on their own and are even recognized as standards, "But professional customers now need completely integrated audio workflows made up of networked, compatible products. Yamaha is unique in that it can tie all the products audio professionals need into a complete system solution," including devices from other manufacturers.

"It's truly one-stop shopping," he says, "where Yamaha is the end-toend resource for all things pro audio, offering digital mixing consoles, editing and production software, every level of P.A. system and any type of pro audio accessory under one roof." Yamaha Corp. of America usa.yamaha.com

[46] SOUNDPEOPLE



Neutrik USA has promoted Stacy Kaskon director of business development, where she will be responsible for developing new markets, identifying new growth industries, and

Stacy Kaskon

coordinating customer and training events. Kaskon will continue managing the inside team of account managers, as well as researching and further defining existing vertical markets and segments within the U.S. and global markets. During her time at Neutrik, Kaskon has served as an inside sales manager, business development manager and, most recently, national sales manager.



Renkus-Heinz

Jim Moblev

has promoted Jim Mobley to the position of vice president, operations. Moblev got his professional start as an installer for Matty Sound Systems in San Bernardino, CA, in 1983, eventually

becoming lead installer and designer. He founded his own design and consulting firm in 1996, before becoming Renkus-Heinz' first application engineer in 1999. As application engineer, senior application engineer, and most recently technical sales manager, Mobley led Renkus-Heinz' pre- and post-sale technical and design support; taught EASE, EASERA and SysTune classes; and created the Iconyx Dealer Certification program.



Anna Csontos



executive vice president, chief market officer and chief of staff, adding to her current executive sales leadership responsibility for QSC's business and product portfolio in the Americas.

QSC has pro-

moted Anna

Csontos and

Markus Win-

kler. Csontos,

who joined the

company in

2011, has been

promoted to

Markus Winkler Markus Winkler, who joined OSC in 2017, has been promoted to senior vice president, EMEA & APAC, expanding his executive sales leader-

ship responsibilities to include OSC's business and product portfolio for all of EMEA and APAC.

Elsewhere at QSC, Barry Ferrell is transitioning into a more product strategy-focused role as vice president, cinema product development and strategy. Ferrell began his career at the company in 1990 as an applications engineer. In 2009, he assumed the leadership role of the cinema group, and was promoted in 2012 and again in 2014.



d&b audiotechnik has expanded its North American sales staff with the addition of Michael Eiseman, who has joined the company as regional manager for the Midwest

William Elliott

Vic Lombardi

territory, reporting to Eric Mayer, vice president of sales, North America. Eiseman has more than 25 years of experience in professional audio sales. Most recently he worked as a district manager for Yamaha Corp. of America, Professional Audio division. Prior to that, Eiseman worked as the audio project manager and rental department manager for TC Furlong Inc. in Chicago.

> Clear-Com has appointed two new regional sales managers: William Elliott takes over responsibility for the Southeast region and Caribbean, while Vic

Lombardi will handle the newly established North Central region. covering Iowa, Illinois, Indiana, Michigan, Minnesota, North Dakota, Nebraska, Ohio, South Dakota, and Wis-

consin. Elliott has been promoted from his previous role as Clear-Com's military, aerospace and government sales manager. Prior to joining Clear-Com in 2016, he spent seven years at Motorola in increasingly senior systems/sales engineering roles. Lombardi joins Clear-Com from Spoiled by Technology, where he spent six years as a product specialist and sales consultant representing pro audio and video lines; he also previously worked as an assistant engineer at a recording studio and for 10 years as retail store manager at Guitar Center in Chicago.

60SECONDS



PHIL WAGNER Solid State Logic

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

Wagner: The new position is senior vice president, Solid State Logic Inc. (U.S.). SSL Inc. is now part of the Group One team, with Jack Kelly and Bryan Bradley at the helm. We have a very strong bench! My role is to manage SSL's North American sales and support

teams and lead the company to greater heights

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

Wagner: My previous experience has prepared me very nicely for this opportunity. After my live background as a teenager, I went to NYU and gct a job working at Soundworks Recording Stucio, in the basement of Studio 54, where we installed one of the first SSL SL6000 E Series consoles. A number of studios were focused on music videos with the advent of MTV, so the 6K was our choice. I literally installed Total Recall on that console myself when it was initially released. We ended up doing mostly records, and I worked with great artists such as Steely Dan, Chaka Khan, Joe Cocker and others. Engineer Roger "The Immortal" Nichols was a partner and we had all the open reel digital tape machines available. It was a great experience.

After working for a few other English console comparies, I joined SSL in 1992 and had a successful and memorable 17-year run. This was during a very exciting period of the company's journey when very large consoles were popular. Many of these consoles are still in operation in the finest facilities. Larrabee Sound comes to mind-they have the three XL9080 K Series consoles from the early 2000s, along with their four other, newer SSLs: a Matrix, two Duality consoles and an L300 Live console in a new venue.

I ran SSL U.S. from 2005 to 2010 under then-owners Peter Gabriel and David Engelke. After that I was responsible for Focusrite's U.S. business for eight years, when we achieved meteoric growth with audio interface types from USB to Dante.

Today, SSL's live and broadcast consoles simultaneously support Dante and audio transport standards—AES67 or ST 2110-30. This provides the widest possible interoperability, making SSL an ideal fit for modern installations. SSL's Audio Creator products are expanding and we will continue to grow

here. Our introduction of ORIGIN, a brand-new, purely analog inline recording console, shows how dynamic SSL is under parent company Audiotonix's ownership.

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

Wagner: Short-term goals are to get reacquaintec with the U.S. and UK teams, and work closely with Group One and new members of the UK management team. Medium-term, the goal is to grow the SSL business with support for existing and new products, and the long-term goal overall is to ensure SSL's future success.

PSN: What is the greatest challenge you face?

Wagner: The greatest challenge is how to introduce SSL's excellence to a new generation of audio engineers and music creators. Good news: great equioment works for engineers of any age or genre! Our new products will allow an entirely new generation to experience the great tools that Solid State Logic is famous for.



Kurt Howell

Canada.

NTP Technology has hired industry veteran Kurt Howell, who joins the company as sales director for North America and will work in close cooperation with NTP's current

distribution. Howell, based in Flor-

ida, began his career as a musician

before moving into pro audio sales

as a Digidesign product specialist,

then progressing into sales consul-

tancy with Vintage King Pro Audio in

Nashville. He joins NTP Technology

from Focusrite Pro, where he was na-

tional sales manager for the U.S. and



Italian pro audio manufacturer dBTechnologies announced that Giovanni Barbieri has taken on the role of general manager of the Bolognabased company,

which is part of RCF Group. Barbieri joined dBTechnologies in 2009 as an export sales manager; two years later he became business development manager, and in 2012 he was promoted to sales and marketing director. During his time with dBTechnologies, the company has more than tripled its revenues, and now reaches more than 160 countries.

IIIItheahaMOMENT [47]

Make It Easy!

BY PETER JANIS

Do you remember the Easy Button? A few years ago, Staples created a super-effective ad campaign about it that told the story of Staples doing everything to make pulling your office together as easy as possible. The other day, I opened up a box of tissues—more specifically, a box of Royale tissues. After I pulled the box tab, I noticed on the reverse side a message to consumers to "Discover new ways to make life easier using Royale products" by visiting their website. I never thought of facial tissues as requiring an easy-to-follow owner's manual. The point here is important: Make it easy.

Earlier this year, Carla and I purchased a condo in Vancouver. We decided, after much deliberation, on a turn-of-the-century colonial style, something one would expect to find near New York's Central Park. The prerequisite, of course, is a carved stone fireplace mantle. Given that wood-burning fireplaces are no longer allowed, one has to combine a natural gas fireplace with the stone mantle. The trick is getting the two to actually fit together-and then ensuring the vent system matches up with the pre-existing pipe. Simple enough, right? I have spent two solid weeks trying to solve this puzzle and I have yet to find a workable solution. Out of frustration, I phoned the fireplace mantle vendor and asked him why he doesn't offer a cross-reference marrying his two or three mantle sizes with the various brands of fireplaces that would fit?

I speak from experience here. In the early 2000s, I developed a product called the Primacoustic Recoil Stabilizer that both isolates a loudspeaker to eliminate ghost resonance frequencies and stabilizes the loudspeaker so it doesn't sway from the speaker's piston action when big bass is being produced. We scoured the web to collect the specifications for every nearfield monitor and tabulated the weight and size so we could create a cross-reference to align our product with theirs. We wanted to make it as easy as possible for the user to select the right Recoil model

to fit a particular speaker. The point is, if the mantle maker had a simple cross-reference, I would have already ordered his \$3,000 mantle. But here I am, without a solution to what should be easy.

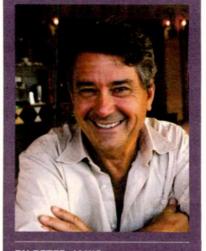
It's tough to do things well. It takes time, a commitment to go deep, and the discipline to stay the course. Discipline is such an ugly word! But who can blame a person for not wanting to do the tough work? Fireplaces change, speakers change ... how can you possibly stay on task? One option would be to automate the or Safeway. They put a camera (fake or real, I do not know) in the area to dissuade theft and let the games begin. Guess what? Not only did their accessory sales increase, but they discovered that consumers bought a much broader range of products, including ones that never sold before. Why? It may be that when the product was behind glass, the selection was filtered by the sales associate, which limited the selection and also limited or intimidated the consumer from trying new options. Meanwhile, because the sales associate was no

It's tough to do things well. It takes time, a commitment to go deep and the discipline to stay the course.

process. Why not contact the manufacturers and let them know that it benefits them to send you regular updates when they make changes to their product lineup? Win-win. Make it easy. Easy can also be profitable: We sold over 10,000 sets of Recoils during my watch.

Not so long ago, Long & Mc-Quade, the largest MI retail chain in Canada, made a significant change in their stores by moving accessories such as strings, picks and string winders out from behind the counter and put them in an open display where consumers could hand-pick their items, just as one does at Wal-Mart longer stuck behind the counter selling \$10 strings, he could use his time more productively to serve customers who had questions about buying a \$1,000 guitar. It was an easy winwin-easy for the store to profitably manage accessory inventory, and easy for the consumer to try new products.

More food for thought: Back in 2014, Solotech, a major tour production company, landed a Justin Timberlake tour in part because they made it easy for the client. Unlike specialty houses that do one thing, they offered a full-service deal that included staging, audio, lighting and video. One company to deal with, one



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

finger to point. Ask your drywaller why the wall is crooked and he will tell you that the framer did a bad job.

Last year, I went to Staples to get my office organized. I bought a printer, laptop, a digital camera and more. About a month later, my laptop's screen went blank. I went back to the store and asked for help. The associate asked if I had purchased their service contract. I told him I had not. He said that I had to deal with the manufacturer directly to get service. I then asked for the manager. I told her that I just spent a couple of thousand dollars at the store, and was now being told they would not service what they sold unless I paid for it. I was not happy. She said she had been there for years and had never had a single complaint about their service. Amazing! They lost the Easy Button and made it difficult. I have since avoided this chain. Why buy locally and pay a premium if you cannot get service?

All this to say, it takes more than a red plastic button to make things easy for the client. It takes commitment and discipline to follow it through.

Petocz

(continued from page 14)

his work ethic, his dry sense of humor, his quest for perfection in his work, his ability to choose the right tools and equipment for every job, and how his vision to contribute to a project made him a great engineer and an important collaborator with each artist he worked with.

As the sessions began, Ainlay

and assistant engineer Todd Tidwell took the students into the control room to dissect the Peter Frampton Band's recent release of the Willie Dixon-penned blues classic "I Just Want to Make Love to You," on which Ainlay was credited as coproducer and mixing engineer. The session continued after lunch, with students getting a chance to do their own mix. The session wrapped up around 5 p.m. with parting gifts from Audio-Technica and the Recording Connection, followed by

dinner at a nearby eatery.

"Csaba was a dear friend of mine, and I feel honored to have been chosen to teach this master class and help keep his legacy alive," said Ainlay. "I spent a good deal of time talking to the students and trying to emphasize the importance of interaction with the artist—a quality that Csaba always brought to his projects. I also want to thank Peter [Frampton] for donating the use of his studio for this worthwhile event, and thank Audio-Technica and Recording Connection for putting this together."

Roxanne Ricks, Audio-Technica artist relations manager, said, "We are once again honored to hold this annual event that celebrates and furthers the legacy of Csaba Petocz. When I think of Csaba, I always think of his eagerness to help students and young engineers with advice and encouragement, so this event is a testament to his spirit." Audio-Technica www.audio-technica.com

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Plug-Ins

(continued from page 1)

plug-in emulation of a piece of classic gear that you've already had for 20 years," he says. "It's almost like re-releasing records. How many times are you going to remaster an old classic?"

Dave Way, who works out of his home-based Waystation Studio in Beverly Hills, agrees. "These days, I'm really into plug-ins that aren't necessarily an emulation," he says. One example is Steven Slate's Kilohearts Multipass, a plug-in that would be time-consuming and costly to create with hardware. "It's a multiband processor where you have distortion, delay, EQ and compressors, and you can put any of these plug-ins on any band. I could distort just the high end, or flange just the low-mids, or put a delay on just the midrange. It's limitless. You can come up with the craziest ideasand it sounds really good," says Way.

But sometimes, only a re-creation will do. Swedish developer Klevgrand has two plug-ins that Way likes: DAW Cassette, a cassette deck emulation, and Reamp, offering different kinds of saturation and distortion. "Every once in a while, that's the perfect thing," he says.

Ebdon, who is based in Los Angeles and has most recently been mixing FOH for Sam Smith, relies on emulations of various vintage and more modern standards, he says. "I'm a big fan of the Universal Audio platform. I really like the Tube-Techs and the LA2-As. An LA2-A with a Tube-Tech CL1B and a Manley EQ is just a fantastic vocal chain. I slap CL1Bs across all the backing vocals and save a ton of money in outboard gear and freight."

Dynamic EQ is also really handy, Ebdon continues. "I love the Sonnox Oxford Dynamic EQ on the UAD platform. That works really well live. And I do like a bit of parallel compression on the drum bus. My go-to is an SSL Compressor."

Touring isn't conductive to checking out the vast selection of plug-ins available, of course. "There's only a certain amount of time to do a soundcheck, so where do you draw the line?" Ebdon comments. That said, "Brainworx does some great sounding plug-ins, as does McDSP."

Another workflow enhancer for Wurtz is Sound Radix's Auto-Align, which analyzes microphone alignment and corrects any phase or comb filtering problems. "I work with Steve Vai, and when he wants to record, we're hitting the record button now. He doesn't care if I need to move a mic an inch to the right," says Wurtz. Similarly, files from other clients may have phase issues.

"But Auto-Align has been amazing and is part of my workflow when I start mixing a session. A lot of times you can find yourself trying to EQ or raise levels when the problem is phase."

When he does need EQ, Wurtz turns to a couple of favorites, including another plug-in from Sound Radix, Surfer EQ. "They're inventing things mixes and it has auto level-matching. It matches the tracks so you're not confused by loudness."

Way recently started using Bob Clearmountain's Domain, from Apogee Electronics. "There are three reverbs, and delays for each one, and de-essers and modulation—some really cool ways of changing things easily. I've been playing around with it every day," he says.

"I've always been a big fan of Bob's work," Way adds. "There's so much space and he fills it with the best reverbs and delays."

Universal Audio's Capitol Chamber is another Way go-to. "I've been using that a lot," he says. "It feels like reverbs are starting to get really good."

Ebdon's plug-in choices ultimately depend on the music, of course. Smith's music is not too modern, and any modern sounds coming to Ebdon

"I feel like every day there's a plug-in emulation of a piece of classic gear that you've already had for 20 years. It's almost like re-releasing records. How many times are you going to remaster an old classic?" Greg Wurtz

that never existed," he says of the developer. Surfer EQ is a parametric equalizer that can also read the note of an instrument and boost, say, the fundamental, enhancing consistency. "It doesn't work for everything," says Wurtz, who likes it on bass. "You get a super even bass performance, and every note is the right fatness."

More generally, "FabFilter Pro-Q is the utility EQ of all-time," says Wurtz, who often uses it to match tones between performances from different sessions or rooms. "It's mind-blowing what that plug-in can do."

Wurtz also favors Plugin Alliance's Adptr Audio Metric AB for referencing mixes and masters. "You can do phase correlation, dynamic level, it's got a spectrum analyzer and some of the most intuitive loudness metering I've ever seen," he says. "The other super powerful thing is that it has an A-B section where you can import from the stage are pre-processed, but he generally follows a less-is-more approach. "For a long time, I was contemplating whether you can even tell the difference between a dbx 160 and an LA2-A at 100 feet. Why don't I just get a good balance going?" he says.

And for all the plug-in choices available, says Ebdon, "I've almost started thinking about having outboard gear," because there are some attractive emulations in hardware, too. "Warm Audio make a fantastic 1176 and LA2-A that's completely affordable—and you can find one to buy tomorrow."

Ebdon does have one more software emulation that he could use, however, and has a plea for any developer paying attention: "I wish a company would make an emulation of a BSS DPR-901," a discontinued fourband dynamic equalizer. "That was such a brilliant, simple analog tool."

speaker systems enabled with Sony's 360 Reality Audio decoder and with multiple speaker units and signal processing technology. Compatible songs can be played back from Amazon Music HD using the Echo Studio immersive smart speaker. 360 Reality Audio www.sony.net/360RA

Fraunhofer IIS https://iis.fraunhofer.de

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Sonv

(continued from page 5)

mersive music playback was recently demonstrated by Fraunhofer, Audi and Sony at the 2019 AES International Conference on Automotive Audio in September."

According to Sony, 360 Reality Audio can be used on headphones from most manufacturers when combined with an Android/iOS smartphone that has a participating streaming services app installed. Using select Sony headphones and the Sony Headphones Connect app, which analyzes the listener's hearing characteristics using images of ear dimensions leveraging Sony's unique algorithm, listeners can hear a custom immersive musical field that is optimized for each individual user.

The format can also be played over

SOUNDBUSINESS [49]

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AES (continued from page 1)

clusion Committee was created in 2017 to support and guide this sea change in the society's leadership, membership and within the industry at large.

"I'm very proud of all the work the Diversity & Inclusion committee has done under the leadership of Leslie Gaston-Bird and Piper Payne, co-chairs of the Diversity & Inclusion Committee," says Roginska. "We have made a significant move forward in increasing the diversity of our AES in everything that 'diversity' meanswelcoming diverse genres and emerging audio fields, improving accessibility and focusing on the inclusiveness of all genders, races, ages and nationalities. We will be continuing this great work in 2020, learning about just how diverse our community is, and implementing the mission of diversity and inclusion throughout the AES."

Key to that mission will be fostering growth in AES membership. "I'm grateful to our president, Nadja Wallaszkovits, our executive director, Colleen Harper, AES volunteers and staff for the tremendous work they are doing. Our AES has expanded its reach with new sections, and we are planning ahead for future exciting events," Roginska says. "The year 2020 will be about building membership and recognizing that we are a diverse community of members, whether you are a student exploring the world of audio, a young professional entering the work force and growing, in mid-career maintaining and learning new skills in the rapidly changing industry, or someone who wants to give back to the community



Outgoing AES president Nadja Wallaszkovits

as a mentor. The mission of the AES is to promote the science and practice of audio by bringing leading people and ideas together."

Wallaszkovits concurs, noting, "That work will continue in the coming year with the leadership of Agnieszka, supported by myself and the rest of the Board of Directors, by the Board of Governors and by the society's growing and increasingly diverse membership. I am delighted to see that the benefits that AES provided to my own personal and professional growth will be even more accessible to an ever-broadening base of current and future audio professionals."

A welcoming atmosphere was part of what drew Wallaszkovits to the AES in the first place. As a university student in Austria, she was introduced to the society by a professor who invited her to participate and ioin. "It was my first chance to meet the well-respected audio professionals of our country, to listen to their presentations, to discuss current topics with them and to become involved in the audio community," says Wallaszkovits. The "powerful" experience of her early AES involvement, she declares, "profoundly impacted my professional life."



Incoming AES president Agnieszka Roginska

Wallaszkovits delivered her first AES Convention presentation while a student, beginning a familiar pattern where the combined knowledge from her formal education, her growing experience and the continuation of her education through AES resources allowed her to then begin to give back.

The AES became a platform for Wallaszkovits to develop relationships with student peers who would go on to become professional peers and colleagues. As she became a leading expert in her chosen specialty—Wallaszkovits is chief audio engineer at Phonogrammarchiv, Austrian Academy of Sciences—she became a mentor to a new generation of audio students and young professionals.

"AES offers a unique, collegial community," she says. "Helping that community grow is deeply satisfying. Student membership is steadily growing; AES currently has an impressive 138 student sections worldwide. Students are our flagship, our future potential and the best place to reflect integrative thinking."

As the incoming AES president, Roginska is readily aware of how students will shape the future of audio technology and application. A professor of music technology and the vice chair of the Music and Performing Arts Professions Department at New York University, Roginska conducts research in the simulation and applications of immersive and 3D audio, a field that has grown in significance over recent years with the surging global appetite for videogames; virtual, augmented and other realities; and streaming movies and music. She is co-editor of the book Immersive Sound: The Art and Science of Binaural and Multi-Channel Audio and is the author of numerous publications about the acoustics and psychoacoustics of immersive audio and auditory displays.

While some observers are warning of a potential worldwide economic downturn, Roginska says, "I'm very optimistic and excited about what the future holds for the AES and the audio industry. At no time in our history has audio seen such growth growth that is widespread in applications that extend far beyond the traditional definition of audio engineering."

Audio is everywhere, she says. "More people make, experience and consume music than ever before. Immersive experiences fill our lives of entertainment, whether we're listening to music, enjoying a concert, a sports event, playing video games, experiencing virtual, augmented and future reality, or controlling our smart home. Research in audio extends into sensor networks in smart cities, wildlife migration patterns, understanding how people communicate, and defining future technologies that will enable us to collaborate, interact, make and experience music in novel ways."

As she looks forward to taking on her new responsibilities in January, she says, "I'm excited!" Audio Engineering Society www.aes.org

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acoustical products



Ed Cherney (1950-2019): Someone Truly Special

BY ELLIOT SCHEINER, METALLIANCE CO-FOUNDER

Forty years ago this January was when I first met Ed Cherney. I was a young engineer and Eddie was sort of getting started. I was working with a great songwriter named Randy Goodrum who decided that he really wanted to be an artist. The album we were working on had a song that was a duet, and he wanted it to be with Mary MacGregor, best known for "Torn Between Two Lovers."

In those days, it seemed like money was no object for the record companies, and I ended up flying to Los Angeles to do the duet at Westlake. That afternoon, I walked into the studio and there was Ed Cherney, who was going to be the second on the session. I knew from first look that we were going to become good friends.

Ed told me he had just moved there from Chicago, where he had gotten his start in the studio seconding for Bruce Swedien. Bruce moved to L.A. and Eddie followed him out. We got the session done and just hung out there for a while, two Jews telling stupid jokes to each other for



Ed Cherney speaks on stage during the Producers & Engineers Wing 12th annual Grammy Week event honoring Willie Nelson at Village Studios on Feb. 6, 2019, in Los Angeles, CA.

about an hour. Ed and I became fast friends. We didn't hang out a lot because I was in New York, but when we did, those moments were joyous.

Eddie was probably the most knowledgeable, generous and forgiving man anyone could meet. He seemed to love everyone, and everyone loved him as well. Whenever he walked into a room, the mood would change. He brought a sense of laughter and enjoyment to whatever you were doing. Everything would come to a halt while Eddie was there. You would be under pressure to get something done, but you couldn't resist what kind of crazy stuff was flowing from Ed's mouth.

Ed and I would walk around at the AES Show and we couldn't get 20 feet before he was stopped. I felt gifted when I was around Ed. To be able to hang out with Ed in situations where he was in so much demand was an honor. I became closer to Ed as years moved on.

Ed had an amazing gift for making great records. He based everything he did on the vibe that was transmitted through the song. He would spend hours or sometimes days trying to get it to sound like what he wanted. He would take breaks and float into other rooms to try and get inspired. Even when he was doing something that his heart wasn't into, he would get it to come out incredible. We worked on a couple of things together-we did Woodstock '94 and Crossroads Guitar Festival in Dallas and Chicago. At times, those kinds of events would beat you up, but not Ed. He would find a way to bring sanity to something like that. In Dallas, we were having a timecode problem in the truck I was working in. He said, Let's get out of here while they fix this. He took me over to another stage that was working and introduced me to J.J. Cale. That made my day and the problem seemed like it was light years away. Ed knew everyone and you were amazed by who he would introduce you to.

As most know, Ed was a pretty incredible golfer. My youngest son was pretty incredible too, so I called Ed to find out where to take my son to play golf as his birthday gift. He said Palm Springs would be the place: "I'm gonna meet you there and bring Al Schmitt as well." Al and I were both pretty horrible but Ed and my son Jordie found each other playing golf. Ed became great friends with both of my kids. He treated them like his own. They both loved him as much as I do.

Ed got very involved with the Music Producers Guild out of London, which was providing producers and engineers with payments from radio



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

stations. The Guild worked it out and soon Ed was trying to get the same thing to happen here. He got Al, Phil Ramone and me involved and then he founded an organization here called the Music Producers Guild of the Americas, which eventually became the Producers & Engineers Wing of the Recording Academy. He was always concerned about people in our industry.

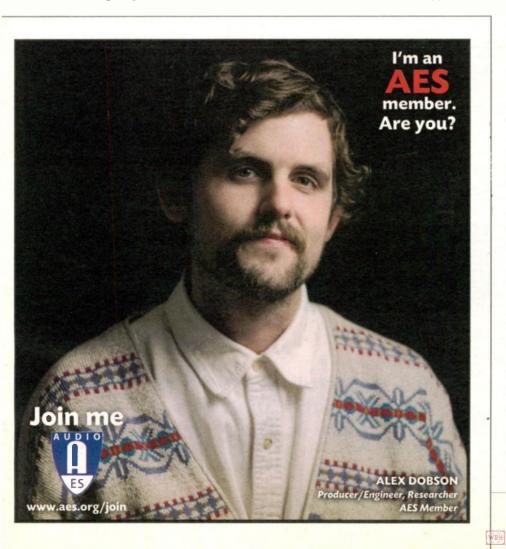
Five years ago, I had an unfortunate accident—I had hit my head and went into a coma. I was at Yale Hospital in Connecticut, and the doctors there were telling my family that I wasn't going to make it. They said, 'You should notify his friends and see if they want to say goodbye.' Ed got on a flight and flew east. I can't tell you exactly what happened, but I was told that Ed actually laid in my bed and talked to me to try to get me to come out of it. I did come out of it!

Ed brought so much to everyone that it's going to be very hard with him not here. To me, he was a foundation of the music industry. All of the great music he's made and how much education he's brought to the younger generation will be missed dearly.

Eddie and I would speak all the time and never ended a conversation without saying to each other, "I love vou."

Producer/engineer Elliot Scheiner is considered one of the world's foremost authorities on surround sound and multichannel mixing. His talents have been recognized with six Grammy wins and 23 nominations; an Emmy and four nominations; and three TEC Awards and five nominations.

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