NewBay

NAB SHOW COVERAGE—PAGE 1, 12, 35, 38

prosound news

Volume 40 No. 5 www.prosoundnetwork.com May 2018

ALDEAN AT THE ACM AWARDS—Jason Aldean both kicked off and closed the 53rd Annual Academy of Country Music (ACM) Awards in Las Vegas on Sunday, April 15, 2018, while also taking home Entertainer- and Male Vocalist of the Year awards. And when it came time to perform his new single, "You Make It Easy," Aldean stepped up to an Audio-Technica Artist Elite 5000 Series UHF wireless system with an AEW-T6100a hypercardioid dynamic handheld transmitter.

CHRIS PIZZELLO/INVISION/AP

Lines Blur Between Consumer and Pro Audio

BY CLIVE YOUNG

Around the turn of the millennium, audio pundits were wringing their hands about the damage that MP3s were causing, not merely due to consumers downloading music for free—a trend that nearly capsized the music industry—but also from the fact that the diminutive audio files sounded so awful. An entire generation would grow up with no concept of what constituted "good sound" and the concept of quality audio would be lost forever.

As it happens, things didn't work out that way. The portability and convenience of playing music on digital devices stayed with us, but the advent of home 5.1 (and higher) sys-

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NAB Show 2018: AI, IP and More

SPECIALREPORT

BY STEVE HARVEY

IP was everywhere, there was a podcast showcase, manufacturers were touting AI, and at one booth, you could use an intercom with a Dick Tracy-like tap on your wrist. Was it CES? Right city, wrong convention—welcome to the 2018 NAB Show.

IP has brought about a sea change in the world of broadcast, but it is only in the last year or so that the industry has had—to mix metaphors—solid ground on which to build, as AES67, SMPTE ST 2110, AMWA NMOS and ATSC 3.0 standards and guidelines have all fallen into place. Hammering the point home, 60 manufacturers and eight of the industry's standards bodies and trade alliances banded together at the IP Showcase at NAB Show to demonstrate the benefits and practicality of making the transition from SDI to IP workflows in broadcast.

Audio-over-IP is enabling new workflows such as the networking and distribution of audio DSP and management resources. A mixing console, for instance, need no longer look like a traditional desk. SSL's System T, to offer one example at this

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Dropping the Beat with Deadmau5 40

Joel Zimmerman, known to EDM fans as deadmau5, branched out in more ways than one at the end of March when he presented his music orchestrated for strings, brass and woodwinds—but no percussion—at the Wiltern theater in Los Angeles.

Recording in Paradise 30

PSN reviewer Rich Tozzoli returns to St. John in the U.S. Virgin Islands for his annual recording retreat, reviewing ultra-portable pro-level gear to make it happen in a region still recovering from multiple hurricanes last year.

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briefs

Almo Pro AV Opens Sound Options

PHILADELPHIA, PA—Almo Professional A/V (almoproav.com) has created Sound Options, a dedicated audio sourcing and technical engineering group. Under Rob Ziv, director of business development, and Steve Alexander, business development manager, Sound Options will offer well-known product brands while aiming to provide audio-specific sales, technical and engineering expertise.

DiGiCo, Avid, Lawo Integrate d&b Soundscape

FRANKFURT, GERMANY—d&b audiotechnik (dbaudio.com) announced that DiGiCo, Avid and Lawo will integrate d&b Soundscape's central DS100 Signal Engine, providing users with object-based mixing and acoustic room emulation capability. The integrations will allow live sound engineers working on the various console platforms to use the DS100 via plug-ins operating on the Open Sound Control protocol. The plug-ins will allow them to tackle object-based positioning and room emulation directly on the console surface for each individual channel.

Wisycom Opens U.S. Office

WASHINGTON, D.C.—RF solutions designer and builder Wisycom has launched Wisycom USA (wisycomusa.com), based in Washington, D.C., and led by 25-year industry veteran Jim Dugan, to support its U.S. and Canadian-based customers. Wisycom USA will provide customer service, support and product delivery for users within the United States, U.S. Virgin Islands, Puerto Rico and Canada.

TEC Award Nominations Open

CARLSBAD, CA—The NAMM TEC Awards council has opened its call for entries for 34th Annual NAMM TEC Awards, to be handed out at the 2019 NAMM Show. People, companies and technologies may be nominated for recognition in 23 technical achievement and eight creative achievement categories at tecawards.org. The call for entries period will close at 11:59 p.m. PT on May 28, 2018.

T-Mobile Eases 600 MHz Transition

BY STEVE HARVEY

BELLEVUE, WA—T-Mobile published an updated list of current and projected deployments of its 600 MHz services on its How Mobile Works website and has added a sign-up feature for those wishing to receive monthly notifications.

Following its $8 billion investment in 31 MHz of the 600 MHz band in 2017, T-Mobile has endeavored to be a good neighbor to current occupants of the spectrum as the carrier has rapidly rolled out its new services. Its How Mobile Works website provides extensive information and resources for entities and individuals impacted by T-Mobile's 4G LTE, 5G-ready infrastructure build-out.

"After deploying the world's first 600 MHz antennas for wireless service in August 2017, our network of 600 MHz antennas is already deployed across 1,000+ cell sites covering hundreds of thousands of square miles. By year-end 2018, we will have well over 10,000 sites on-air," states the website's Spectrum page.

An adjacent section, 600 MHz Band Notifications by County, provides the latest information on current and future deployments. "We recommend that ancillary equipment occupants of the 600 MHz band bookmark this page and periodically check our two documents showing spectrum blocks where T-Mobile will soon deploy wireless services," it states. Ancillary equipment includes wireless microphones, in-ear systems and comms. Operators of wireless audio equipment must vacate the impacted 600 MHz spectrum as soon as any new licensees begin operations or risk a fine.

600 MHz Spectrum

The FIPS Notification document has been updated to reflect the status of T-Mobile's 600 MHz operations. This latest Excel document, dated March 28, 2018, includes updates to the timing of T-Mobile's deployments in many counties that were included in earlier notices, not just new deployments. "We recommend that you review the entire list, not just the new counties," writes Mark Bishop, T-Mobile's senior manager, spectrum management, in a recent notification to wireless audio equipment manufacturers, operators and frequency coordinators.

FIPS, or Federal Information Processing Series, is a county-level designation developed by the American National Standards Institute (ANSI) and maintained by the U.S. Census Bureau.

To further help current incumbents of the spectrum and other interested parties, T-Mobile has added a registration page (https://howmobileworks.com/600mhz-band-notifications/), where they can sign up for monthly updates.

T-Mobile - How Mobile Works
howmobileworks.com

VER to Merge with PRG

LOS ANGELES, CA—VER has entered into an agreement to merge with Production Resource Group (PRG), bringing together two of the largest event production companies in North America. VER's audio division, VER Tour Sound, has provided audio services for numerous national-level tours and festivals since it was founded in January 2013. The merger is no simple matter, however; as part of the transaction, VER filed voluntary petitions for Chapter 11, though only regarding its North American operations.

VER is expected to continue operating as usual during the Chapter 11 process, with no interruptions for current or future clients, VER said in a statement. Employees will continue to be paid and receive benefits during this period. Having mapped out parts of its restructuring with various parties in advance, VER expects to emerge from Chapter 11 quickly.

VER has received commitments from existing lenders, including funds managed by GSO Capital Partners, for up to $364.7 million in debtor-in-possession (DIP) financing to support its continued operations during the Chapter 11 process.

VER provides production services in broadcast, audio, video, lighting, LED, cameras, rigging, media servers, fiber and more, via 35 offices across North America and Europe.

PRG provides audio, video, lighting, rigging, staging, scenery and automation systems to clients in the live music, TV/film, Broadway, sports, gaming, corporate experiential and live events markets. The company has 44 offices across North America, South America, Europe, the Middle East, Asia and Australia, and is owned by The Jordan Company and Management.

"Entering into this agreement and undertaking the court-supervised restructuring process will greatly reduce VER's outstanding debt and position the company for the merger with PRG," said Digby Davies, CEO of VER. "VER remains a strong business with more customers than ever before, and a customer satisfaction rating that is the highest in the industry. The actions announced today will provide a stronger capital structure and sufficient cash to fund operations."

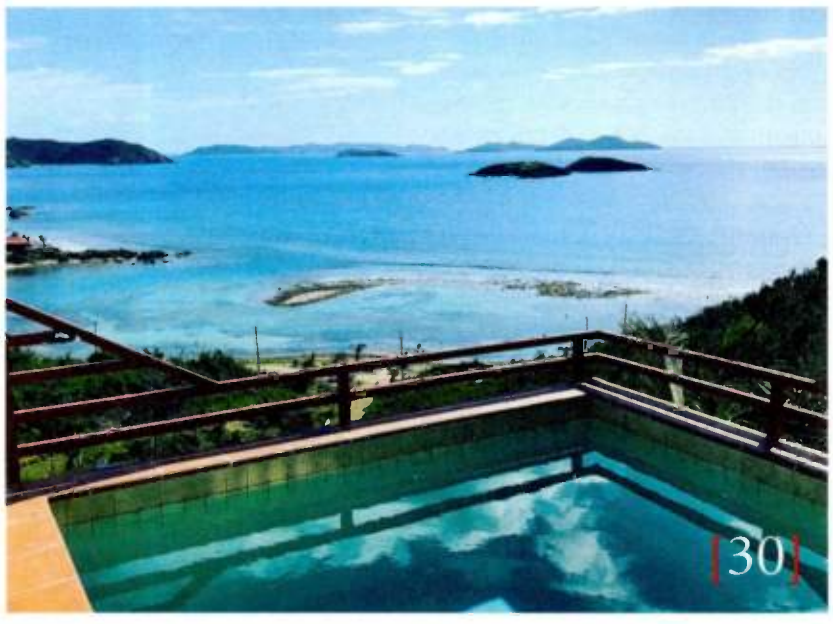
Davies continued, "During the process, we will continue to provide our clients with the largest inventory of equipment and unmatched reliability and expertise. Clients will work with their trusted VER representative and their projects will not be interrupted."

"We are pleased to enter into this agreement with VER and partner with GSO," said Jere Harris, chairman and CEO of PRG. "VER's terrific client base and vast product and service offerings are a natural complement to our business. Upon completion of the transaction, we look forward to working closely with the talented VER team to strengthen our business and deliver even greater value and service to our clients."

VER
ver.com

Production Resource Group
prg.com

prosound news
vol. 38 no. 5 May 2018



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Producing David Bowie's Berlin Trilogy 25
While he's worked with everyone from T. Rex to Altered Images to D:Generation, producer Tony Visconti will forever be linked to the most famous artist he produced—David Bowie. Recently he discussed the creation of the famed Berlin Trilogy, created with the artist and Brian Eno.

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AMS RMX16 Expanded; FabFilter Pro-Q 2 EQ; Empirical Labs Arousor; Soundtoys Plate; Sony C100 High-Resolution Condenser Microphone; Universal Audio Apollo Twin MK II; Sound Radix Drum Leveler; Steven Slate Trigger 2 Platinum; Xfer Records Serum; Sonnox Oxford Envolution; Tech 21 SansAmp Bass Driver DI; Avid SansAmp PSA-1; Roland R-07 High-Resolution Audio Recorder

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SPECIAL REPORT

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The NAB Show roars into Las Vegas each year, bringing with it gear that reflects the changes of the last 12 months and likewise keeps an eye towards the future of broadcasting in all its major—and occasionally macro—forms. Here, we take a look at not only what the convention presented, but how it did so as well.

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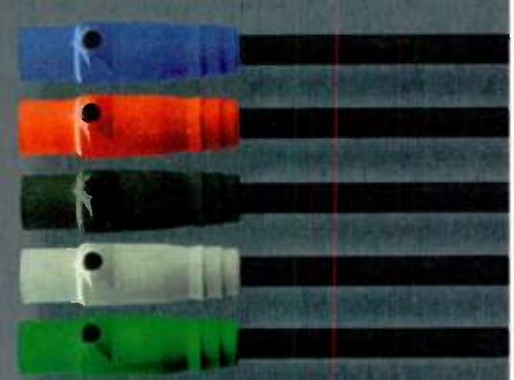

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Bringing Pro Audio Values to the Consumer Marketplace

Our cover story this month on the blurring of consumer and pro-level audio products looks largely at the philosophies of manufacturers that have a presence in both marketplaces, but they're hardly the only brands that want to bring a professional audio experience to consumers.

The process of integrating pro audio technologies into consumer offerings is different for every product, but it's a balancing act every time—and one person with some insight into the process is Jack Joseph Puig. While he's a noted producer, engineer and mixer who's worked with everyone from U2 and the Rolling Stones to Jellyfish and Beck, in recent times, he's also been Waves' director of Creative Innovation. The position finds him inhabiting multiple roles, as something of an ambassador for pro audio's aesthetic values, a futurist looking at the larger technological landscape that the individual consumer products are a part of, and a consultant providing expert insight based on his unique background. As a result, he's been involved in the audio aspects of numerous consumer products, including various Oppo, alactel and Google Pixel smartphones; Google Home personal assistants; Fitbit earbuds and more, in addition to designing and developing the first hi-fi, all-in-one computer, the Dell XPS 27.

Puig refers to the process as "Device Mastering," explaining, "All companies would like everything they sell to cost less to manufacture. However, this means creating demos that allow me to present an A/B comparison to let upper management experience the difference of what their product could and should sound like. When I do my A/B demo of a product that I have 'tuned' [Device Mastering], anyone can instantly hear and experience the difference in the audio quality, and that is the point where companies recognize that's what their product needs to sound like—as it is going to be more marketable and will separate it from their competition."

That device mastering process, says Puig, means "I am using my ears and the same sensibilities that I use to mix and produce multi-platinum records to 'tune' or 'mix' the sound and feel of Bluetooth, mobile, laptops and personal assistants, with the result that the audio and entire experience of using that device is more engaging and pleasurable."

The weight of having a Grammy Award-winning producer/engineer combined with Waves' technology, he says, "brings authenticity to the process, and it creates confidence for all these consumer brands to listen and trust. Being a creative person coming from the pro world and now taking that knowledge into the consumer electronics world means that I and my team are in the best possible position to know what the device should sound like. If you have made the records, you know how they should feel and sound—that is what we are bringing to the table."

That doesn't mean there aren't challenges—other concerns are still typically more important in the manufacturer's eyes than audio quality. "For the last seven years, almost all consumer companies have thought that sound doesn't matter and that 'It's good enough' will suffice," he says. "They have been focused on weight, battery life and screen quality. Industrial design—ID—is their other huge concern, but ID has not been a friend of audio. ID is always wanting to make it smaller and thinner, leaving no space for quality acoustic and transducer design."

That mindset, however, is starting to shift, he says: "Now that audio is coming to the forefront as an important feature set, I have been seeing a trend of us being asked to get involved much more at the front end of the design process. Each situation is unique as the products become more challenging from the stand point of industrial design, driving the products into smaller and smaller form factors, yet my goal, regardless of size, is to have great audio quality."

And, it would appear, the products he has and continues to work on are not happening in a vacuum either, he reports, noting, "I am seeing and hearing this new wave coming with a demand for a better audio quality experience."

prosound news
vol. 40 no. 5 May 2018
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Future Publishing Acquires NewBay

NEW YORK, NY—UK specialist media publisher Future plc has acquired NewBay, the parent company of *Pro Sound News*. The deal expands Future's reach into the U.S. market and enhances its position in music and consumer electronics. In addition, the acquisition brings NewBay B2B titles in the complementary verticals of audio visual, television broadcasting and educational technology, which will further increase Future's revenue diversification model while also bringing B2B expertise to its existing B2B titles.

The acquisition increases Future's total owned brands to more than 100 across print, events and online, with a total global reach of over 120 million, including 62m online users and 63m on social media. Listed on the London Stock Exchange, Future operates two separately managed brand-led divisions: Media and Magazine.

NewBay is an information and events business based in New York and London, with a substantial B2B portfolio operating in markets including electronics and education, and TV and audio. Its business is mainly in the areas of conferences, magazines, events, digital content and data services, though it also has a large consumer division in the music vertical, where it publishes titles including *Bass Player*, *Guitar World* and *Electronic Musician*.

"NewBay is clearly aligned with Future in its mission to create content that connects, with market-leading titles," noted Zillah Byng-Thorne, CEO of Future. "This acquisition supports our strategy of growth organically and through acquisition, global expansion and revenue diversification. We have a proven track record of acquisition and successful integration. This deal will be earnings-enhancing and drive further organic growth in revenue and profitability in the first full year."

Future
futureplc.com

RIAA Talks 2017 U.S. Music Revenues

BY STEVE HARVEY

2017 saw a 10 percent rise in vinyl sales, which added $395 million to the industry's fortunes.

WASHINGTON, D.C.—With digital downloads falling off a cliff and CD sales dwindling, a massive surge in paid music subscriptions and the continuing rise in vinyl shipments drove U.S. music revenues to a second consecutive year of growth, according to the RIAA's 2017 year-end report.

Recorded music revenues in 2017 rose 16.5 percent at estimated retail value to $8.7 billion, marking the first time since 1999 that recorded music sales have grown materially two years in a row, says the RIAA report. As in 2016, that growth was driven by paid music subscriptions to services including Spotify, Amazon, Tidal, Apple Music, Pandora and others.

Cary Sherman, RIAA chairman and CEO, writing in a post on Medium, stated, "We're delighted by the progress so far, but to put the numbers in context, these two years of growth only return the business to 60 percent of its peak size—about where it stood 10 years ago—and that's ignoring inflation."

This past year's overall revenue increase of 16.5 percent is not only the second year of double-digit gains but also suggests that growth is accelerating, showing a significant uptick compared to 2016's jump of 11.7 percent over the previous year. Growth came primarily from streaming revenue. In 2016, paid and ad-supported music subscription services accounted for more than half of all revenue (52.9 percent) for the first time. In 2017, total streaming revenues rose 45 percent to $5.7 billion, or nearly two-thirds (65 percent) of total industry revenues.

Paid subscriptions made up 47 percent of the total revenue, or $4.1 billion, on their own. The number of paid subscriptions increased 56 percent to approximately 35.3 million, compared to 22.7 million in 2016. Ad-supported services contributed $659 million, a 34.6 percent increase over 2016.

"Music is a digital business, with more than 80 percent of overall revenue stemming from an array of digital platforms and services," Sherman wrote. But digital downloads suffered a double-digit decline for the third consecutive year, plunging 25 percent to $1.3 billion, or 15 percent of total industry revenue, with track sales down 25 percent and digital albums dropping 24 percent.

Physical products are still hanging in there, with sales slowing just 4 percent, buoyed by a 10 percent rise in vinyl sales, which added $395 million to the total. CD shipments continued to decline, falling 6 percent. Combined, physical sales accounted for $1.1 billion, or 17 percent of the industry's total revenue.

As in previous years, Sherman also pointed out the "value gap" created by some digital platforms not paying their fair share for music use: "[W]e continue to operate in a distorted marketplace, replete with indefensible gaps in core rights, inhibiting investment in music and depriving recording artists and songwriters of the royalties they deserve."

The RIAA supports legislation pending in Congress "that will modernize music licensing for the benefit of songwriters, recording artists, producers and digital music services alike," wrote Sherman. The CLASSICS Act is intended to ensure that all platforms pay the same market-based rate standard and addresses the quirk in the law that freezes out artists whose music was recorded before 1972's copyright legislation from collecting payments from digital radio outlets.

Recording Industry Association of America
riaa.com

WAM Announces Conference for Women in Audio at Capitol Studios

LOS ANGELES, CA—Women's Audio Mission (WAM) has announced WAM @ Capitol, its first recording arts conference for women. The event will be held on June 9, 2018, at Capitol Studios in Los Angeles.

Designed to be an immersive recording arts conference for women, WAM @ Capitol will include sound engineer Marcella "Ms. Lago" Araica (Beyoncé, Britney Spears, Madonna), Capitol Music Group COO Michelle Jubelirer, Capitol Studios vice president Paula Salvatore, music producer/songwriter Shakari "TRAKGIRL" Boles (Jhene Aiko, Luke James), and WAM executive director and founder Terri Winston.

"We're delighted to partner with the iconic Capitol Studios to bring WAM's training programs to Los Angeles," said Winston. "WAM @ Capitol offers an incredible lineup of top women engineers, music producers and music industry executives who will provide unparalleled professional development opportunities to emerging women music producers and engineers in Los Angeles and beyond."

Women's Audio Mission trains more than 1,500 women and girls a year in the recording arts to address the lack of women in the audio industry; it's estimated that women make up less than 5 percent of working audio pros. The conference will bring WAM's curriculum to Los Angeles for the first time, including presentations, discussions and interactive workshops on topics ranging from mixing, beat making and mic placement to an overview of the music business. The day will close with a networking reception.

The conference is open to women (transgender and cisgender), non-binary and gender non-conforming individuals.

Women's Audio Mission
womensaudiomission.org

Avid: "Getting Stronger Every Year"

BY KATIE MAKAL

Avid CEO Jeff Rosica

LAS VEGAS, NV—On the weekend preceding the NAB Show, Avid held its annual Avid Connect event in Las Vegas, bringing partners and users together with Avid leadership for two days of product introductions, presentations from leading lights in the media and entertainment communities, and more.

One of the highlights for Avid Customer Association (ACA) members was the opportunity to vote on topics that will shape Avid's future product strategy with the second annual ACA Vote. Speaking to the assembled masses, Keli Callaghan, senior director of ACA, explained that its mission is to provide a venue for "an exchange of ideas and advancement of opportunities, an ongoing dialogue with the vendor community...and a networking forum for people who really want to collaborate and affect change."

As a result of last year's first ACA Vote, she continued, nearly 80 releases such as new product features and advancements have been put into motion. "Key topics are being discussed, from future strategy, disruptive technologies, emerging business-critical needs like security, 8K, IP connectivity—there's too many to mention, and your impact just keeps resonating loudly. Your vote and the dialogue between Avid continues to have an enormous impact on what Avid delivers."

A key part of the two-day event was Avid's reveal of its latest wave of product introductions and enhancements. One high point was when Avid chief product officer Dana Ruzicka brought Robert Scovill, senior specialist for Live Sound Products (and noted FOH engineer for Tom Petty, Def Leppard and Rush, among others), to introduce the newly expanded Avid Venue S6L Modular Platform of live sound mixing systems, all based around scalable software (for more, see page 37).

Other audio announcements at the Avid Connect event included an expansion of the Avid Creative Tools Family, providing access to Avid's Pro Tools, Media Composer and Sibelius software for creative individuals at any stage of their career and teams of any size. The various software packages are now uniformly available in three versions—standard editions, the First family of freemium versions, and Ultimate editions, each with prices and capabilities geared to users at different stages of their career.

Avid also announced its upcoming Avid Connect App, which will be available this summer, aiming to provide a centralized "one-stop" experience for artists to find, connect and collaborate with each other on any laptop, iOS or Android device.

The app's concept aligned tidily with new Avid CEO Jeff Rosica's comment to the crowd that "we've come to think of ourselves as the platform that powers media and entertainment." He expanded on the insight, explaining how it informed the company's own process for creating products and tools: "We're continuing to take the steps to ... make it easier to create compelling content, to make sure content is readily available everywhere viewers go at any time they want to view it. And to be able to squeeze all possible value from the content you create, while keeping it safe. And most importantly, people have to work more efficiently, be more effective and optimize resources and investments."

L.A. Recording Studio Fire Kills Two; Arson Suspected

BY CLIVE YOUNG

GOOGLE MAPS

Top Notch Recordings, seen here in June 2017, housed roughly a dozen recording/rehearsal rooms.

LOS ANGELES, CA—A fire inside a recording facility in Studio City claimed two lives while leaving two others in critical condition. According to police, the cause of the 7 a.m. blaze on Saturday, April 14, was arson, and by day's end, Efrem Demery, 28, had been arrested in connection with the fire, on suspicion of murder.

More than 80 firefighters were called to the scene to put out the fire at Top Notch Recordings, a multiroom recording and rehearsal facility at 3779 N. Cahuenga Blvd. Police estimated there were roughly 15 people inside the 12-room, one-story building when the fire broke out. According to the LAFD, the flames took 28 minutes to extinguish, and had consumed a space of 50 feet by 75 feet.

When firefighters extinguishing the blaze discovered signs that an accelerant had been used, the police began investigating. Using security camera footage from the facility and surrounding businesses, the story soon emerged that a man bought gasoline at a Chevron station across the street; poured it in the studio hallway outside the room that the two victims, Devaughn Carter, 28, and Michael Pollard, 30, were working in; lit the gas and ran.

Beyond the victims, everyone else in the building was able to get out, but two—a 15-year-old girl and a man in his 20s—are in critical condition at press time after sustaining heavy burns.

Once police determined that they were looking for Demery, the suspect was detained that night during a stop for a traffic violation. According to police, he has a criminal record that includes selling counterfeit goods, dealing in stolen property, burglary and more.

Memphis Studio Burglar Bites Employee's Face, Say Police

BY CLIVE YOUNG

MEMPHIS, TN—Guard Crafton Barnes required 25 stitches to his face after a would-be burglar allegedly bit off part of his cheek on March 14 inside Sounds Good Memphis recording studio. The attackwas reportedly the culmination of numerous days of harassment by the suspect, Cortlandt Northcross, 29, who was taken into custody by local police.

Reportedly Barnes first met Northcross on March 11, when the suspect appeared at the recording studio on Cooper Street, where Barnes is employed. As Barnes related to police, Northcross said he was homeless and wanted a place to sleep. Barnes told Norcross he couldn't stay there, but offered him some beef jerky to eat.

In the days that followed, Barnes claims, he began to get abusive voicemails and texts from a person that he told WTVR was Norcross. At first, the messages claimed that Norcross owned the studio, but further messages included threats to kill Barnes and police.

Barnes told WMC Action News, "Left me a voicemail threatening to kill everybody in the house, and then he started texting me from the same number saying he's going to carve me up and call the police. 'It's OK, I'll shoot them too.'" Information in the texts led Barnes to an Instagram account that he believed belonged to the suspect.

According to reports, the messages eventually stopped on the evening of March 14. Barnes fell asleep on a couch while alone in the studio and was awakened in the early morning hours by someone banging on the front door. A moment later, a window was broken and the suspect entered the facility, causing Barnes to run upstairs and lock himself in a room.

Later on, thinking the burglar had left, Barnes went downstairs and was attacked; the pair fell to the floor and the suspect bit Barnes' face and torso multiple times. Barnes managed to get up and forced his assailant outside, where Northcross remained until police arrived, greeting them by putting his hands behind his back and saying "Take me to jail," according to WREG. When police entered the facility, they found blood and part of Barnes' cheek on the floor.

Cortlandt Northcross is suspected of attacking Sounds Good Memphis employee Crafton Barnes.

According to WTVR, Northcross has numerous "emergency commitments" in his past. He has been charged with two counts of burglary and two of aggravated assault.

Barnes was taken to an emergency room, but he does not have medical insurance. Friends have started a GoFundMe page to help him pay for medication and medical care necessitated by the incident.

Crafton Barnes' GoFundMe page
gofundme.com/crafton

Recording Industry Golf & Poker Tourney Set

LOS ANGELES, CA—Organizers have announced the 2018 Recording Industry Golf & Poker Tournament (RIGT) will be held Monday, June 4, 2018, at Sand Canyon Golf Club (formerly Robinson Ranch Golf Club) in Santa Clarita, CA.

Set to kick off at noon, the event will see the return of the Texas Hold 'Em poker tournament that debuted last year—an addition that is now co-billed for the event.

The RIGT is again being organized by event producer Karen

One of the calmer moments at last year's event.

Dunn of KMD Productions and will support the music program at A Place Called Home, a community center and safe haven in South Central Los Angeles where underserved youth 8-21 years old are empowered to take ownership of the quality and direction of their lives through programs in education, arts and well-being. Recording veterans Ed Cherney and Al Schmitt will return as honorary co-chairs for the afternoon's festivities.

The list of participating sponsors includes Audio-Technica, Bob Hodas Acoustical Design, Clyne Media, David M. Angress Consulting, IK Multimedia, Lurssen Mastering, NAMM | TEC Awards, Resonate Studios and The Recording Studio Insurance Program.

Dunn is accepting participation entries, whether as sponsors, golfers or both. In addition to the 18 holes of golf, the day will include a $1 million shoot-out, a hole-in-one Harley Davidson motorcycle giveaway, food, and a reception and awards dinner. Dunn and industry veteran Rose Mann-Cherney will be overseeing the annual tequila cart to ensure all participants are playing their best.

Recording Industry Golf & Poker Tournament
https://2018rigt.eventbrite.com

National Recording Registry Adds 25 Titles

Run-DMC's *Raising Hell* was among the releases preserved this year in the Library of Congress's National Recording Registry.

BY STEVE HARVEY

WASHINGTON, D.C.—Kenny Loggins' "Footloose" is now officially a national treasure with the announcement by the Library of Congress that the 1984 mega-hit single joins 24 other iconic titles in the National Recording Registry.

Tony Bennett's hit single "I Left My Heart in San Francisco," the Latin beat of Gloria Estefan and the Miami Sound Machine's 1987 single "Rhythm is Gonna Get You," the timeless soundtrack of *The Sound of Music*, Run-DMC's 1986 crossover hit album, *Raising Hell*, and radio coverage of the birth of the United Nations have been honored for their cultural, historic and aesthetic importance to the American soundscape. Librarian of Congress Carla Hayden named these recordings and 20 other titles to the National Recording Registry of the Library of Congress as aural treasures worthy of preservation.

"This annual celebration of recorded sound reminds us of our varied and remarkable American experience," Hayden said. "The unique trinity of historic, cultural and aesthetic significance reflected in the National Recording Registry each year is an opportunity for reflection on landmark moments, diverse cultures and shared memories—all reflected in our recorded soundscape."

Under the terms of the National Recording Preservation Act of 2000, the librarian, with advice from the Library's National Recording Preservation Board (NRPB), is tasked with annually selecting 25 titles that are "culturally, historically or aesthetically significant" and are at least 10 years old. Nominations were gathered through online submissions from the public and from the NRPB, which comprises leaders in the fields of music, recorded sound and sound preservation.

The recordings selected for the class of 2017 bring the number of titles on the registry to 500, a small part of the library's vast recorded sound collection of nearly three million items.

The recordings named to the registry feature a rich and diverse array of spoken word and musical recordings spanning the years 1911 to 1996. The selections range from American standards and live radio to crossover hip-hop and Latin sounds. Among the selections are the 1939 single "If I Didn't Care" by The Ink Spots, Merle Travis' 1946 album *Folk Songs of the Hills*, the 1954 rock 'n' roll anthem "(We're Gonna) Rock Around the Clock" by Bill Haley and His Comets, Harry Belafonte's 1956 album *Calypso*, Fleetwood Mac's landmark 1977 album *Rumours*, the 1978 disco single "Le Freak" by Chic, and Kenny Rogers' 1978 single "The Gambler," written by Don Schlitz.

Some registry titles have already been preserved by the copyright holders, the artists or other archives. In cases where a selected title has not already been preserved, the Library of Congress Packard Campus for Audio Visual Conservation works to ensure that the sound recording will be preserved by some entity and available to future generations.

National Recording Registry
loc.gov/programs/national-recording-preservation-board

Canada to Follow U.S. with 600 MHz Auction

BY STEVE HARVEY

OTTAWA, CANADA—Navdeep Bains, Canada's minister of Innovation, Science and Economic Development (ISED), has announced that the country's 600 MHz spectrum auction will be held in March 2019.

The Canadian government is also setting aside 43 percent of the spectrum—30 MHz—for smaller and regional wireless operators. According to a statement by Bains, "Competition is a key driver of innovative and affordable telecommunications services. This is an important step toward more choices, lower prices and higher-quality cell phone services for Canadians. Auctioning 600 MHz spectrum will encourage competition, support new and emerging technologies, and enable Canadians to benefit from high-quality services at a better price."

As with the FCC's Incentive Auction in the U.S., which ended in April 2017, Canada's 600 MHz repurposing process will require a TV channel repack to clear the spectrum for wireless carriers. In Canada, as in the U.S., wireless audio equipment operators will be expected to vacate the 600 MHz spectrum as soon as the carriers begin their new services.

The FCC and Industry Canada, the government department overseeing economic development, agreed in August 2015 to harmonize their respective 600 MHz band plans. (Industry Canada was absorbed into ISED when Justin Trudeau became prime minister in November 2015.) However, Canada has been slow off the mark, only now announcing an auction date that is two years into the FCC's 39-month repack schedule.

Canada's 600 MHz spectrum auction is unlikely to follow the FCC's incentive model, whereby TV channels sold their spectrum to telecom companies, as two entities, BCE and Rogers Communications, own both broadcasters and wireless carriers.

The spectrum set-aside is intended to level the playing field for those carriers with less than 10 percent of the market, such as Shaw's Freedom Mobile and Quebecor's Videotron, and increase competition, ultimately to the benefit of consumers. Canada's wireless telecom business is dominated by the Big Three: Rogers Wireless, Bell Mobility (a division of BCE) and Telus Mobility.

The ISED band plan includes a total of 70 MHz in seven paired blocks of 5+5 MHz, with a duplex gap from 652 MHz to 663 MHz and a guard band from 614 MHz to 617 MHz. Active mobile network operators with less than 10 percent of national wireless subscriber market share will be able to bid for spectrum in the 30 MHz set-aside. All service providers, including the Big Three, will be able to bid on the remaining 40 MHz.

Innovation, Science and Economic Development Canada
ic.gc.ca

ISY: China's EDM Fest

SANYA, CHINA—EDM titans Martin Garrix, Tiesto, Afrojack, Hardwell, R3hab and others descended on Sanya for China's ISY Music Festival, where they kept the music rolling with help from an Adamson PA and an S-Series monitor solution in the DJ booth.

The house system included main hangs of 21 Adamson E15 enclosures per side, with an additional nine per side for side fills. No delays were required for the main audience area, though arrays of four Adamson S10 cabinets covered the VIP sections. Support engineer Kaiji Liu of Adamson's Chinese distributor, Real Music, noted, "The original shoot in Blueprint AV was done for 120 meters and we still didn't require any delays."

As for the sub deployment, arrays of nine E219s were flown behind the mains, with an additional 18 E219s per side ground-stacked in six clusters of three and 12 T21s stacked in six pairs. Adamson also provided the reference mix for the performers, with the DJ booth monitor solution comprising four S10s atop two S119 subwoofers per side.

Adamson Systems Engineering
adamsonsystems.com

Tiesto heard himself via Adamson S-Series DJ monitors at the ISY Festival

Lisbon's Resonate Conference Explores Sound in Architecture

Michael Kimmelman, author, columnist, pianist and architecture critic

LISBON, PORTUGAL—The role of sound in architectural space was recently the focus of Resonate: Thinking Sound and Space, a one-day conference organized by reSITE, a Prague-based nonprofit platform acting to improve the urban environment, and MAAT (Museum of Art, Architecture and Technology) in Lisbon, Portugal, which hosted the event. Meyer Sound was a notable collaborator for Resonate, which drew more than 320 participants from various disciplines.

In a panel discussion entitled "Acoustics & Architecture: Past, Present and Future," British architect Michael Jones of Foster + Partners described how sound and acoustics were leveraged to improve creative communication at the new UK headquarters for Bloomberg, relating how Meyer Sound's Constellation active acoustic system furthered a goal to bolster "a culture of collaboration" in some larger meeting spaces. "Instead of needing these awkward microphones and passing them around the audience, in this case the room does everything for you. The acoustic in the room is modified electronically, and it means we can have ... an intellectual exchange with the kind of natural interaction we were looking to achieve."

Meyer Sound Constellation project director John Pellowe reviewed a number of other Constellation systems in use in concert halls, universities and elsewhere, noting that the electronic technology still depends on a complementary physical space. "We still need to collaborate with architects and acousticians," he emphasized, "because if you put these technologies in a bad space, if the base acoustic isn't designed to accommodate the enhancements, then you have a useless base. So we will continue to work with architects to build better spaces as time goes on, and as we learn each other's needs."

Other presentations offered a variety of insights. In a retrospective of recent works, architect Elizabeth Diller of Diller Scofidio + Renfro presented a multimedia review of an array of structures, installations and events with sounds as an integral element. In relation to The Shed, a new performance space in New York, she recalled an insight from a founder of Talking Heads: "David Byrne talked about the relationship between sound and space, whether liturgical music and gothic cathedrals or rap music and the booming sound filling the interior of cars. He thinks of a musical composition as filling the particular space it is going into. So I hope this new performance space produces new musical opportunities and interceptions between the visual and performing arts."

In closing the conference, Norwegian architect Kjetil Trædal Thorsen of Snøhetta used the new Oslo Opera House as a jumping-off point for a wide-ranging look at the core creative processes that govern the intersection of sound and space. "Listening puts your body into the center of things," he observed, "while looking at something puts you on the periphery of things. Only with the combination of being in the center and on the periphery at the same time can you locate yourself in space. So music is all about being there, like with architecture, but it's also about locating yourself in relation to something else."

Meyer Sound
meyersound.com

Providing Audio for Asia's Biggest LED Screen

HONG KONG—Investing in the Asia-Pacific region's biggest LED screen was no small undertaking for the Sogo department store. The 230 ft. x 53 ft. video screen outside the retailer's flagship store, which faces into Hong Kong's Causeway Bay, has a massive presence; that presence is now enhanced with the addition of two 12 ft. Renkus-Heinz IC Live Triple column line arrays that provide audio for the screen.

Working on the project, Ian Harris, president and principal consultant of ihD Ltd., noted, "Down in the street, we measured a standard level of 75 dBA to 85 dBA (weighted) of traffic noise, so we knew our main challenge would be to get the sound or speech across to people through this level of background noise, but without incurring complaints from other traders or the local authorities."

Aiming to ensure that audio reached only pedestrians at street level, the design team opted to go with a beam-steered column array. Harris explained, "Renkus-Heinz IC Live is really the only one that can offer extended bass for the low frequency content."

Harris employed EASE modeling and designed a system of two columns of three IC Live Triple column arrays apiece. "We face tropical storms, typhoons and, even in less dramatic periods, salty rain coming off the ocean, so the loudspeakers were provided in weatherproofed finishes," added Patrick Leung of regional Renkus-Heinz distributor CAH Professional Sound.

Renkus-Heinz IC LIve arrays line the largest LED screen in Asia, outside Hong Kong's SOGO department store.

Installation took place over the summer, after which Harris and his team cautiously began to put the system into action. "We started at a low level—not even 5 dB above the traffic noise level—as we were very keen that the system should not interfere with the activities of other stores," he said. "The system is sounding good. The use of processing to compress signals in order to really define the range has definitely helped us, too."

Renkus-Heinz
renkus-heinz.com

dLive Does Double Duty for Rick Wakeman

NEW YORK, NY—Keyboardist Rick Wakeman is seemingly perpetually touring in support of his many recordings, both solo and with permutations of the legendary prog rock act Yes. Recently his travels brought him to England's Lincoln Cathedral, where he recorded a live version of his 2017 album *Piano Portraits* in front of a live audience

On hand for the project was his longtime studio engineer/producer, Erik Jordan, who used an Allen & Heath dLive system based around a S7000 surface with M-Dante card, DM64 MixRack and DX32 Expander, all supplied by Tech-Serve Audio Consultants.

"I knew from Ian Barfoot, Rick's FOH engineer and a longstanding dLive user, how flexible and intuitive the system was to use," said Jordan. "Although this was my first real dLive experience, it took very little time to become familiar with it. We had around 20 mics for Rick's vocal, piano, audience and ambient pickup and, because the show was filmed for DVD release, I was able to very easily route different mix permutations for the cameras."

Jordan also noted how the interface options worked to set up multitrack recording to various devices: "Among the priorities for the project were complete reliability and the ability to use multiple recording devices with minimum fuss. Thanks to the dLive, rather than bringing in racks of additional Pro Tools rigs, we were able to simply run a pair of laptops as backup recorders. And, of course, the preamps sound great, so overall it was the ideal choice for what was a pretty high-pressure live recording situation."

Allen & Heath
allen-heath.com

From left, Erik Jordan, Ian Barfoot and Rick Wakeman at the dLive in Lincoln Cathedral.

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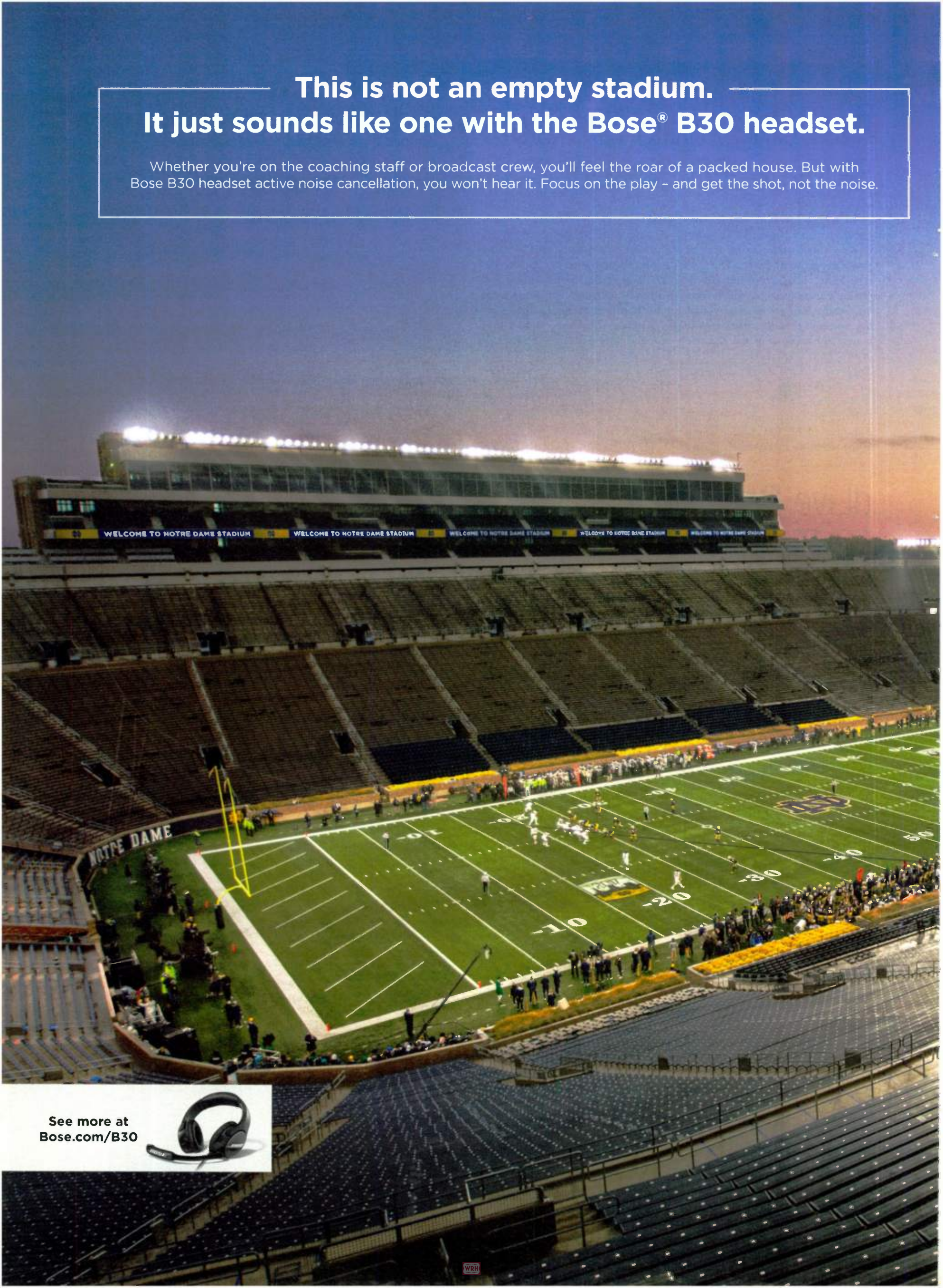

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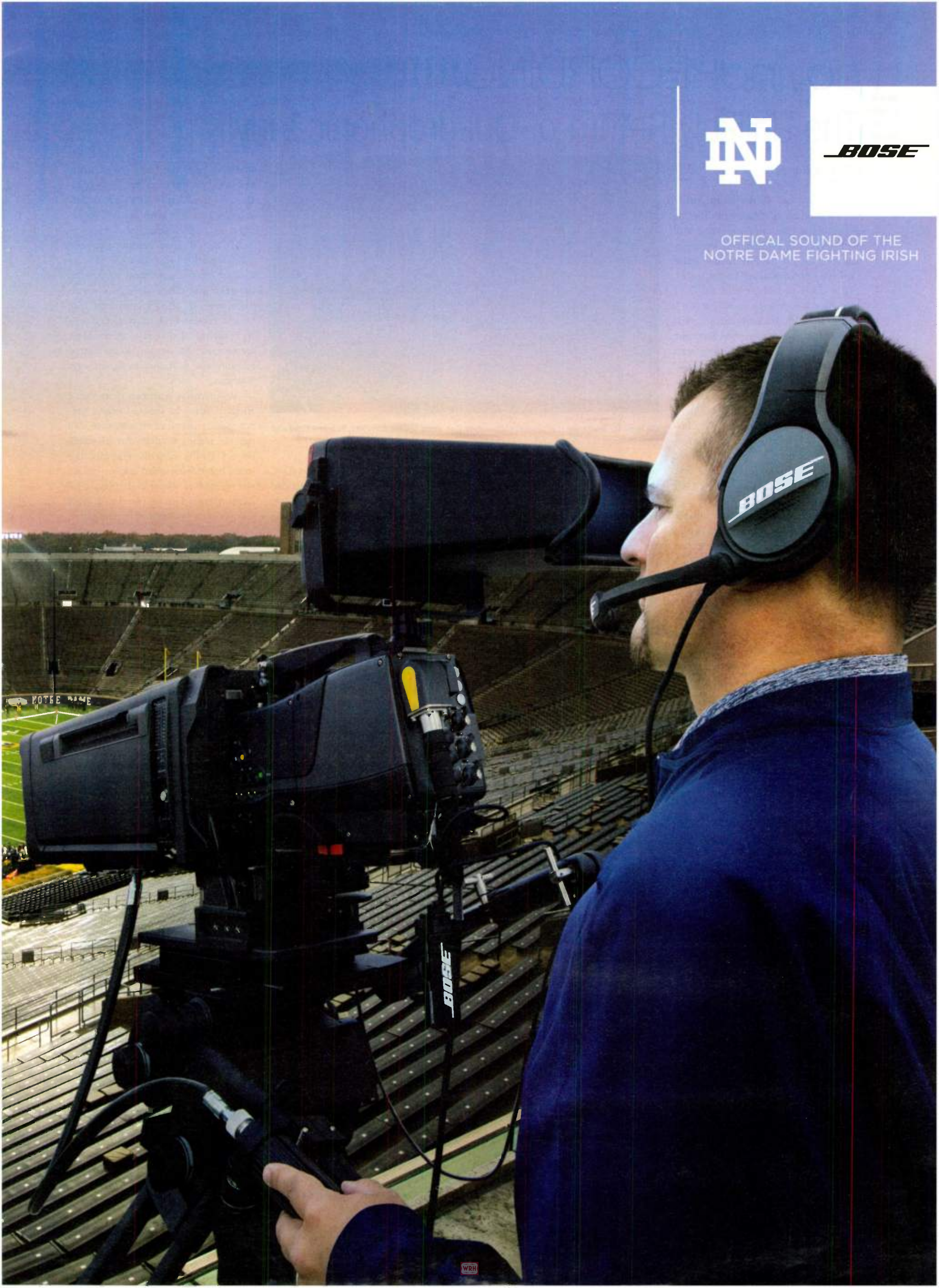
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The Unlikely Return of Quadrophonic Vinyl

BY STEVE HARVEY

HOLLYWOOD, CA—Is the world ready for the return of quadrophonic vinyl records? KamranV, co-founder of Bedrock.LA, a multi-room rehearsal and production facility in the Echo Park neighborhood of Los Angeles, and former president and CTO of Moogfest, believes the answer is yes.

In March 2016, keyboardist, composer and sound designer Suzanne Ciani gave her first solo performance on a Buchla synthesizer in nearly 40 years, at Gray Area in San Francisco. The presentation was in quad, mixed live by Ciani from the Buchla 200e, a 21st century re-creation of the classic early-'70s synthesizer. The performance, recorded by Vance Galloway, was played back later that same year at the North Carolina Museum of Art during Moogfest.

Kamran says he learned a valuable lesson while he was helping program Moogfest, finding that he "learned a lot by looking backward to look forward." And when he saw the reaction to Ciani's piece, he says, "Something clicked. I realized there was an opportunity here." The result was that he wanted to release Ciani's performance in an analog format that, much like the Buchla synthesizer, would harken back four decades to quadrophonic vinyl. The challenge, however, was to figure out how to make that happen.

PHOTO BY DAVID GOGGIN

On hand for mastering *LIVE Quadrophonic* were (l-r): Scott Sedillo, KamranV, Suzanne Ciani and Chris Bellman at Bernie Grundman Mastering

As a format, quadrophonic vinyl had its heyday in the 1970s, but unlike its stereo counterpart, it hasn't enjoyed a modern-day resurgence. The reasons are largely technical. Quad decoders ceased to be commercially available in home hi-fi systems as the popularity of the format waned. Further, there was no standard quad format, just a lot of confusing brands: QS, SQ, EV-4, CD-4, UD-4. Some codecs matrix-encoded four tracks into the stereo groove, while others were discrete, requiring a special turntable stylus.

Kamran has a past in DVD-Audio and SACD, including work on Beck's *Guero* album, which was mixed in stereo and 5.1 by producers the Dust Brothers and Elliot Scheiner, so he jumped headfirst into research of quad technology and spatial techniques. Some practitioners, he discovered, "are trying so hard for realism that they miss the fuzzy edges of the art. The people who are well practiced on the art side aren't necessarily the same people who are well practiced on the tech side."

He kept digging. Audio writer and photographer Mr. Bonzai (David Goggin) introduced him to veteran mastering engineer Bernie Grundman, who in turn introduced him to his Hollywood mastering facility's technical director, Beno May, for research assistance. "Beno started reaching out to friends in Japan," says Kamran.

Meanwhile, Kamran discovered Richard Brice in France, whose Stereo Sauce restoration software can decode legacy formats for playback on 5.1 Dolby systems. Happily, the math behind the quad codec—which is credited to Peter Scheiber, who demonstrated it at the 1970 AES Convention—is essentially the same, whatever the codec type, Kamran reports. When he asked if Brice also had encode software, Brice replied that he could reverse-engineer it, and turned around Kamran's test file, quad-encoded, within a day.

Kamran, formerly technical director for Sonos Studio in Los Angeles, rejigged his Playbar, Connect boxes

(continued on page 26)

Ross Hogarth Takes Rita Coolidge Through *Time*

BY STEVE HARVEY

HOLLYWOOD, CA—Two-time Grammy-winning singer/songwriter Rita Coolidge releases her first album of new material in 25 years, *Safe in the Arms of Time*, on May 4. The album was recorded, produced and mixed by multi-Grammy-winner Ross Hogarth, with initial tracking sessions taking place at Sunset Sound in Hollywood, where Coolidge has recorded all her solo projects since 1971.

Now in her early 70s, Coolidge first attracted the attention of Delaney and Bonnie Bramlett, an influential rock and soul duo whose band, at one time or another, included the likes of Duane and Gregg Allman, George Harrison, Leon Russell and Eric Clapton. Coolidge also sang background vocals for Graham Nash, Stephen Stills, Joe Cocker and various Delaney & Bonnie & Friends alumni.

But her solo career veered away from pop music when she married Kris Kristofferson—with whom she won her Grammy Awards—into country music. "The vision I had from the very beginning was for this to be the record she never made when she was in Delaney & Bonnie & Friends and [recording Joe Cocker's] *Mad Dogs & Englishmen*, playing kickass rock 'n' roll," says Hogarth. "Those were some of the greatest musicians ever, who went on to record [Derek & The Dominoes'] *Layla and Other Assorted Love Songs* and [George Harrison's] *All Things Must Pass*."

Hogarth was introduced to Coolidge in 2015 by her attorney, a mutual friend, and signed on as producer. After helping Coolidge extricate herself from an ill-advised record deal and find a new home at L.A. indie label Blue Élan Records, Hogarth started putting together the songs and the musicians.

"I knew I could make a great-sounding record, but I also needed to make a record of great songs," he says. Coolidge already had one in her back pocket, "Doing Fine Without You," written by Graham Nash and Russ Kunkel. Hogarth introduced her to Keb' Mo', with whom he has won a couple of Grammys, and singer-songwriter Jill Colluci, which produced the first single,

Keb' Mo (left) and Ross Hogarth (center) recorded guitar and vocals for Rita Coolidge's new album at Gary Belz's (right) House of Blues Studios in Nashville.

(continued on page 26)

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Striking Gold at Eldorado

Chief engineer Phil English (sitting) and owner Rob Strickland, aside the new SSL Duality Delta console at Eldorado Recording Studio.

BY STEVE HARVEY

BURBANK, CA—Some studios take pride in having been in continuous operation for decades. Eldorado Recording Studio kicks that up a notch, proudly touting equipment that has been in daily use since the facility was established in the 1950s.

Eldorado started life as a workshop for Johnny "Willie and the Hand Jive" Otis at Hollywood and Vine in 1954. Damage caused by the 1987 Whittier Narrows earthquake forced Eldorado to relocate, first to a temporary home at Track Records in North Hollywood, then back to Hollywood, in Marvin Gaye's former studio on Sunset Boulevard. In 1996, owner Gary Gunton acquired a building in Burbank and renovated it completely, bringing in acoustician Steven Klein to design a one-room studio with multiple iso booths.

Eldorado's house engineer-turned-producer for many years was Dave Jerden, who racked up an impressive credit list ranging from Byrne and Eno's *My Life in the Bush of Ghosts* through Jane's Addiction (whose *Nothing's Shocking* was one of the last projects recorded at Hollywood and Vine) and The Offspring's mega-multi-million-seller, *Americana*. "This studio was specifically designed for Dave Jerden when it was built," says Rob Strickland, who acquired Eldorado's Burbank facility in January 2005, shortly after Jerden moved on.

"We're super proud of the live room; we feel like it's one of the great drum rooms, and a lot of people agree," he says, most notably FXpansion, which recorded its BFD acoustic drum library there.

As originally conceived, the facility—an anonymous gray block on the outside—encompassed a very large control room, over 28 feet by 28 feet, and a tracking room of almost the same dimensions. Five iso booths of varying sizes, plus a mic locker that doubles as an iso, with tielines interconnecting all the spaces, complete the studio floorplan.

"I also feel fortunate to have gotten this equipment lot in 2005. It goes back to that '50s start," continues Strickland, pointing to a triple-wide rack loaded with original UA 176s, Teletronix LA-2As, Cinema Engineering Type 4031-B equalizers, a Fairchild 660 and 670, and other units. Antelope Audio recently modeled one of the Lang PEQ-2 units for a plug-in, he reports.

"And I got all the original mics," adds Strickland, including a "really special" Telefunken 251.

The property was, for a time, under threat of acquisition by the City of Burbank under the rules of eminent domain. "As soon as we knew it wasn't going to happen, we remodeled this control room," says Strickland, who called in Bruce Millett of DeskDoctor. Subsequent remodeling work has also given the kitchen, lounge and office space a refresh.

Eldorado has long been a Solid State Logic house. The Burbank location opened with an E Series desk and soon attracted producer Rob Cavallo, who brought in projects including My Chemical Romance's *The Black Parade*. The studio also drew mixer Rich Costey, who took up residence and added Sigur Rós, Muse, Vampire Weekend and numerous others to the client list.

"During the six-year period that Rich was here, we put some G modules into the E Series, then we went to a K Series," says Strickland. About a month ago, a new SSL Duality Delta SuperAnalogue console replaced the K Series. "We felt it was a natural extension to our history with SSL," he says.

> "We wanted a large-format console because, in a way, we are the last of a dying breed of big, one-room studios."
> *Rob Strickland*

"The responses we've been getting so far really have been positive. We're excited because we feel this desk is so versatile that it will be able to handle a lot of different requests. We wanted a large-format console because, in a way, we are the last of a dying breed of big, one-room studios."

Chief engineer Phil English chimes in, "Obviously we looked at other consoles, but nothing has the same flexibility as this." The Duality offers familiar analog console functionality for old-school clients, he says, but with integrated DAW control and Delta-Control DAW-based automation features enabling modern workflows.

"It really is wonderful to be able to match the home studio experience in a facility of this size and be able to jump from song to song, depending on how the artist feels at any given moment," agrees Strickland. "And one of the nice things is that it has a feed for a second DAW. Some of our clients will be quite pleased to bring in their rigs."

The new console is flanked by racks of Neve, Focusrite, API and other modules, but, says English, "The thing that surprised me is that in the tracking sessions that we've done since it arrived, I've found myself using a lot more SSL console facilities than I would have imagined. The pre's are great and the VHD [variable harmonic distortion] is really useful. All the guitars on the record we're working on started out on 1073s and moved to those."

The control room may be large but it's cozy, and that's by design. "Rob's done fantastically well at making it feel comfortable and intimate. I've done sessions with five-piece bands, with both guitarists and the bass player playing in here with the producer, an engineer and an assistant—and there's still room for three big pedalboards—and no one is cramped," English reports.

"When people come in for the first time, you might be sitting chatting for five minutes before they even realize there's a Hammond organ over there. And a tape machine. And a grand piano," he laughs.

The piano used to be in the largest of the iso booths that, as part of the remodel, has been turned into a B room equipped with a Custom Series 75 powered by Neve console, racks of outboard and PMC monitors. "We can be a one-room facility, where you get the run of the entire building, but for local groups and people who don't have the budget, we also do business out of this B room. Dollar for dollar, it's a big bang for the buck," says Strickland.

"And we can still run the A room for mixing, or with the vocal booth, without getting in anybody's way. So we have the best of both worlds."

Eldorado Recording Studio
eldoradorecording.com

Software Tech: MIDI-CI Makes Its Debut

BY CRAIG ANDERTON

Thirty-five years after its adoption, MIDI is on the move again. We already covered the significance of MPE (MIDI Polyphonic Expression) in May 2016, and now the MIDI-CI (MIDI Capability Inquiry) specification—what appears to be the opening salvo in an additional series of MIDI enhancements—has been ratified by the MMA (MIDI Manufacturers Association).

The main challenge that MIDI-CI solves is the inability of pre-MIDI-CI gear to recognize the functionality of other gear. For example, if you hooked up a hardware control surface with 16 faders to a synth, the control surface wouldn't know what it was controlling, and the synth wouldn't know it was being controlled. There were two solutions. The first was hoping that the gear included templates written to accommodate other equipment. The Mackie protocol is a good example of this. If a controller is Mackie control-compatible, and the device being controlled understands the Mackie control spec, then the two can talk to each other somewhat—after you've made introductions, for example, by loading a template or changing a preference. The other option was to map each control to a parameter, which could be a laborious process. I use a Peavey PC-1600 hardware fader box to control software mixer faders in live performance, and neither is aware of the other's existence. This requires programming the hardware faders to control the software faders.

> MIDI-CI opens the door for transitioning from MIDI as we've known it to a 21st-century protocol.

To solve this problem, a device that meets the MIDI-CI spec will be able to recognize functionality of other MIDI equipment, and configure itself accordingly simply by being hooked up—but the concept goes deeper. MIDI inquiries also make it easier to adopt next-generation protocols because the spec includes a fallback option for older gear, so nothing is left out in the cold as the technology advances. Not to embarrass other industries, but once again the MMA and AMEI (the Japanese-based Association of Musical Electronics Industries that maintains the MIDI spec for Japan) have shown it's possible to work together to benefit their customers, not just themselves.

There are three main elements to MIDI-CI: Profile Configuration, Property Exchange and Protocol Negotiation. These will develop over time as new gear is introduced, but older devices may also be retrofittable. Profiles are the rules themselves for how MIDI equipment communicates. For example, the architecture for analog synths (virtual or hardware) is fairly mature. A hardware controller could recognize that it's controlling an analog synth and automatically map its controls to the synth. Furthermore, if you used a different virtual analog synth, the control mapping would be the same—you wouldn't need to remap controls or learn a new control configuration. It's much like MIDI Learn, but automatic and more comprehensive.

One of the main values of Property Exchange (PE) messages is bridging the hardware and software worlds. A DAW's project file could store device setups for external hardware so that controller names, patch names, metadata and other properties would be at your fingertips within the DAW. Essentially, this makes hardware appear like a plug-in within a DAW; merely connecting a hardware synthesizer would be conceptually the same as inserting a software plug-in. This was demonstrated at the MMA's

(continued on page 28)

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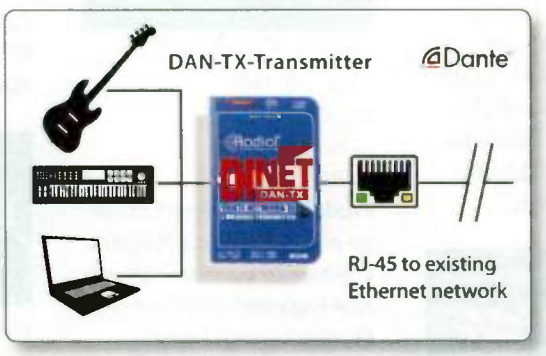

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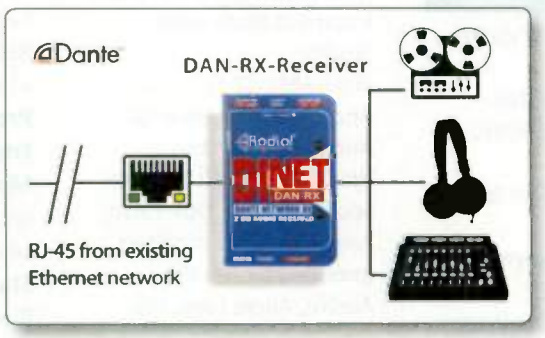

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ARTIST: DON MCLEAN
ALBUM: BOTANICAL GARDENS
LABEL: BMG
PERSONNEL:
Produced by: Mike Severs
Engineered by: Jim Dineen
Mix Engineer: Mike Severs
Studio: Watershed Studio (Nashville, TN)
Mastered by: Mike Severs at Sunny's Lab (Franklin, TN)
EQUIPMENT NOTES: Avid Control 24 control surface; Neve, Trident and API mic pre amps; Focal studio monitors; Avid Pro Tools HD

ARTIST: THIEVERY CORPORATION
ALBUM: TREASURES FROM THE TEMPLE
LABEL: ESL MUSIC
PERSONNEL:
Produced by: Gianmaria Conti
Engineered by: Gianmaria Conti
Mix Engineer: Gianmaria Conti
Mastered by: Vlado Meller, mastering assistant Jeremy Lubsey
EQUIPMENT NOTES: Avid Artist Mix, Pro Tools control surface, Tannoy monitors, Dynaudio AIR monitor series, Avid Pro Tools 11, Apollo 16 audio interface, BAE 1073, API 512c, Chandler TG2

ARTIST: DEL THE FUNKY HOMOSAPIEN AND AMP LIVE
ALBUM: GATE 13
LABEL: GATE 13 RECORDS
PERSONNEL:
Produced by: Amp Live
Engineered by: Ambrus Deak
Mix Engineer: Ambrus Deak
Studio: AMB Studios (Los Angeles, CA)
Mastered by: Ambrus Deak at AMB Mastering Studios (Los Angeles, CA)
EQUIPMENT NOTES: Sub Pac S2 and Genelec M040 monitors, produced/recorded in Ableton, mixed in Apple Logic Pro

ARTIST: ELLE BELLE
ALBUM: NO SIGNAL
LABEL: LITTLE RECORD COMPANY
PERSONNEL:
Produced by: Christopher Pappas
Engineered by: Pierre de Reeder (at 64 Sound) and Christopher Pappas (home studio)
Mix Engineers: Kyle Fredrickson ("American Dreamer"), Mike Bloom ("No Signal," "Nothing New Under the Sun") and Elle Belle (all other tracks)
Studio: 64 Sound (Los Angeles, CA)
Mastered by: Pete Lyman at Infrasonic Sound (Los Angeles, CA)
EQUIPMENT NOTES: 1977 MCI 428b console. Pre's: Neve 1272, Langevin AM16 and 5116, API 512 and 312, Avedis MA5, SSL 615E, Quad Eight MM71 and MM61. Compressors: UA 1176, UREI LA3A and LA2A, Quad 8 AM23, dbx 160 and 165. Studio monitors: Dynaudio BM5, Genelec 1031A, JBL 4341. Avid Pro Tools.

ARTIST: ROGER JOSEPH MANNING JR.
ALBUM: GLAMPING
LABEL: PLEDGEMUSIC
PERSONNEL:
Produced by: Roger Joseph Manning Jr.
Engineered by: Roger Joseph Manning Jr.
Mix Engineer: John Paterno
Studio: Stu-Stu-Studio (home studio), Velveteen Labs (Taylor Locke's home studio), Salamander Sound
Mastered by: John Paterno at his home studio
EQUIPMENT NOTES: Mackie HR-824 studio monitors, Avid Pro Tools, Avalon VT-737sp, UA UAD-Apollo

ARTIST: WAX IDOLS
ALBUM: HAPPY ENDING
LABEL: ETRUSCAN GOLD RECORDS
PERSONNEL:
Produced by: Hether Fortune, Peter Lightning and Monte Vallier
Engineered by: Monte Vallier
Mix Engineer: Monte Vallier
Studio: Ruminator Audio (San Francisco, CA)
EQUIPMENT NOTES: All basic live tracks (drums, bass, rhythm guitar) were recorded on tape to an Otari MX-70 1" 16 track using the mic pre's on the Trident 80C console, with some additional outboard Millennia, Neve, and Neotek mic pre's. Tape was transferred to Avid Pro Tools HD5 using Lynx Aurora converters.

ARTIST: EXITMUSIC
ALBUM: THE RECOGNITIONS
LABEL: FELTE
PERSONNEL:
Produced by: Devon Church, co-producer Aleksa Palladino
Engineered by: Devon Church
Mix Engineer: Devon Church
Studio: Various home studios in Brooklyn, NY
Mastered by: Rafael Anton Irasarri at Black Knoll Studios
EQUIPMENT NOTES: Apogee Duet, Universal Audio channel strip, Warm Audio 512 preamp, Speck preamp, UBK Fatso, Yamaha HS 80s monitors (modded by Zen Pro Audio), Apple Logic Pro

ARTIST: LUV DOT GOV
ALBUM: AT LEAST WE'VE GOT THIS MADNESS
LABEL: CIGAR CITY (US)
PERSONNEL:
Produced by: Graeme Young
Engineered by: Graeme Young, assistant engineer Andrew Johnstone
Mix Engineer: Graeme Young
Studio: Chamber Studio (Edinburgh, UK)
Mastered by: Stephen Foster at Chamber Studio (Edinburgh, UK)
EQUIPMENT NOTES: Neve Console, Barefoot studio monitors, Avid Pro Tools

ARTIST: THE AMORETTES
ALBUM: BORN TO BREAK
LABEL: SPV/ STEAMHAMMER
PERSONNEL:
Produced by: Luke Morley
Engineered by: Nick Brine
Mix Engineer: Nick Brine
Studio: Rockfield Studios (Monmouth, Wales)
Mastered by: Pete Maher at Pete Maher Sound
EQUIPMENT NOTES: MCI JH500 console. Studio monitors: KRK V8 Series 2, Yamaha NS10, JBL 4350 bi-amped with Crown PSA2 Power amp. Avid Pro Tools

ARTIST: THE CLAUDETTES
ALBUM: DANCE SCANDAL AT THE GYMNASIUM
LABEL: YELLOW DOG RECORDS
PERSONNEL:
Produced by: Mark Neill
Engineered by: Mark Neill
Mix Engineer: Mark Neill, with additional mixing at Lee Dyess studio
Studio: Soil of the South Productions (Valdosta, GA)
Mastered by: Lee Dyess
EQUIPMENT NOTES: Vintage Studer console, KEF and Tannoy monitors. RADAR, with additional mixing on Steinberg Nuendo/Cubase/WaveLab

notes

Losada Adds SSL in NYC

NEW YORK, NY—Grammy-winning songwriter, engineer, mixer and producer Juan Cristobal Losada, whose credits include Shakira, Santana, Ricky Martin, Enrique Iglesias and Plácido Domingo, has moved from Miami, setting up his Sonic Room facility in peermusic's New York office and installing a new SSL (solidstatelogic.com) AWS 948 δelta SuperAnalogue console.

WSDG Goes to College

BLUE BELL, PA—WSDG Walters-Storyk Design Group (wsdg.com) has created a 1,000-sq.-ft. teaching studio/mixing suite for the expanding Sound Recording and Music Technology program at Montgomery County Community College, just north of Philadelphia, outfitted with an SSL XL 9056K console, custom Augspurger speakers and a Genelec 5.1 surround system.

Mitchell Adopts ATC Monitors

NORTH HOLLYWOOD, CA—Producer and musician Mat Mitchell recently mixed the debut full-length from The Beta Machine, a project featuring A Perfect Circle's Matt McJunkins and Jeff Friedl, on new ATC SCM45As (transaudiogroup.com) at his private studio space, which features an SSL 6000E/G+ console with Apogee Symphony II converters anc tons of outboard gear.

College Goes with Audient

SACRAMENTO, CA—An Audient (audient.com) ASP8024 Heritage Edition console, reportedly the centerpiece of an entire facility upgrade, has replaced a 25-year-old desk in the Studio A control room of Sacramento City College's music department, where its double bus outputs feed both a 2-inch 24-track tape machine and a 32 x 32 Avid Pro Tools rig.

Producing David Bowie's Berlin Trilogy

BY CLIVE YOUNG

BROOKLYN, NY—While he's worked with everyone from T. Rex to Altered Images to D:Generation, producer Tony Visconti will forever be linked to the most famous artist he produced—David Bowie—and that creative relationship was the main focus at *Brooklyn Talks: Tony Visconti with Jeff Slate*, an on-stage discussion at the Brooklyn Museum on April 5.

The careening conversation touched on nearly all of the 14 albums Visconti produced with Bowie over 50 years, but one of the highlights was his vivid recollections of recording The Berlin Trilogy—*Low* (1977), *Heroes* (1977) and *Lodger* (1979)—with Bowie and Brian Eno in Europe and New York.

Recalling how he first became involved with the project, Visconti mused, "I hadn't heard from him for a while. He booked the Honky Chateau—Château d'Hérouville—in France. He and Brian phoned me and said, 'We have this idea based on Brian's ambient music,' and they already had a concept: 'We're going to do rock songs and we're going to do an ambient side, too.' With vinyl, you could have a Side 1, and then Side 2 was another vibe, and they took full advantage of this concept.

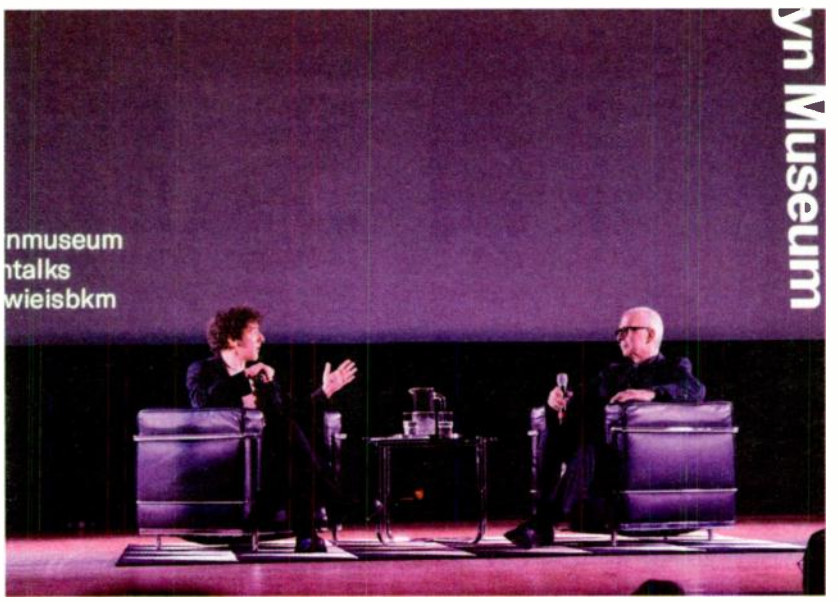
"They said, 'What can you bring to the table?' and it was the first time I ever heard that expression. 'Roast beef?' I didn't know what that meant, but I was quick; I caught on. David knew I had this home studio, and I said, 'Well, I've got this new thing from Eventide. I've got the only one in the country and it's called a Harmonizer [H910].' And they said, 'What's it do?' I started giving them the technical information—you can change the speed but not the—yaaaaaawn. So I said, 'It f---s with the fabric of time.' I should come up with a different phrase, but that's what happened. They both whooped in the background. 'Whooooooo!' I said, 'You're gonna love it, we'll use it'—so that's what I brought to the chateau."

"We started making radical sounds right off—I altered the drum sound immediately with the Harmonizer, which [session drummer] Dennis Davis went crazy over; he loved it. It was the first foray into changing pitch but not time, and changing time but not pitch, and he realized that with all the glitches in the machine, he could play it with dynamics. He played the Harmonizer very hard—it would splutter and go *brrrrrt!*—but if he hit it a little softer, it would go [a diving boom sound].

"So he was having a ball in the headphones. No one else heard this in the headphones—they did initially and they said 'Oh turn that off! It's terrible!' It was only on playbacks that I would go, 'Let me put the Harmonizer in a little bit,' and everyone got used to it after a few days. It was such a radical sound. One little bit of pleasure I had was that for months after that record was released, all my record producer friends would phone me up and say, 'Come on, Tony, how did you do it?' Because I still had the only Harmonizer!"

Recording in Berlin brought a different energy to *Heroes*—one that wasn't always comfortable, it seems. "It was like a travelogue," said Visconti. "We got a French kind of sound in France, and Berlin, that just turned David into some kind of passive, I won't say the word... you're in if it's a good room.' And you couldn't find a better place than the Grand Hall in Hansa Studio, because it could house 100 pieces and a 50-person choir. We had six musicians using that whole space and all the ambience, so I put microphones everywhere. Even when Brian Eno played his little suitcase synthesizer [EMS Synthi A] live, I didn't take a DI; I put a mic on it, and you could hear the piano, the drums coming down that mic. The whole album is charged with this Teutonic ambience."

While the three albums may be called the Berlin Trilogy, in fact, the last entry, *Lodger*, was recorded—under trying circumstances—in both Switzerland and New York City, as it dawned on the three collaborators that they were making a set of records.



Producer Tony Visconti (right) with interviewer Jeff Slate at the Brooklyn Museum

[whispers] Nazi. He got like 'Wow!' because the Reichstag is there and Berlin and the bombs and the city was blown out really bad and the studio was where a lot of the propaganda music for Hitler's rallies was recorded. The whole Hansa Tonstudio made you feel very strange; it was very strange to be there and you could summon that manic kind of energy, that manic aggression that is all over *Heroes*. There's no deep love songs on that album; it's all about being a hero just for one day, the song is about an angry, loser, alcoholic couple. Everyone thinks it's about 'heroes'—it's not! The themes were pretty aggressive; 'Joe the Lion' is a pretty aggressive song.

"The nice thing we had was that studio, because [producer] Denny Cordell taught me two things: 'Get a great drum and bass sound,' and 'If you're in a good room, take it home with you. Always record the room

"Brian and David talked about making a triptych—and that was a great idea," said Visconti. "We got some great tracks and it's unappreciated how great some of them are. We actually wanted to go more in the direction of [how we would later approach] *Scary Monsters*, getting this deeper, glossier, bigger sound. But the studio—Mountain Studios in Switzerland—had such a dead sound. The floor was carpeted, the walls were carpeted, and there were acoustic tiles in the ceiling! The purpose of that studio was to record the concerts of the big hall underneath us, where they held the Montreux Jazz Festival. Queen were the only band to successfully rent the hall, so if you had that little cabin of a studio up there and you had the hall, then you had the sound. We tried to get the hall, but we couldn't get it, so we had to record everything in this little, stuffy, hot room. I have so many pictures of Brian Eno topless!"

Frustrations only mounted once the recording process moved to New York City, where more hurdles got in their way, ranging from a lack of available studios to underhanded moves by an old pal.

"We came to New York and there were some great studios here in those days—Power Station, Hit Factory," said Visconti. "We ended up at Record Plant and we wanted Studio A and we got Studio F. Every studio was booked in New York because there were so many people making records. Mick Jagger visited us and he looked around at this dank studio. David played him a track and Mick was putting it down: 'Eh, that drum. I don't know if that fill was any good....' He kept trying to tear it down! I said, 'Will you stop this? Why are you doing this?!' And he said, 'OK, I guess I'll go up the road and sabotage Joni Mitchell's album.' He was playing a mind game on us, and David's energy was going uh-oh. He didn't feel good about being in Studio F and then here's Jagger trashing our work!"

It might have been a lasting sense of uneasiness—and the lukewarm reception to the album—that led to *Lodger* getting remixed decades later by Visconti, who aimed to bring out more harmonies and percussion: "We were making *Blackstar* at the time, and I said, 'I've got a surprise for you.' He was working on [the musical] *Lazarus*. I had some time on my hands and I said, 'Let me start getting into this.' We'd always said we wanted to remix it, but when do you book time to remix something? You never do; you book time to make a new album.

"So I did this in my spare time; I got five tracks in good shape, and as soon as I played the first 15 seconds of 'Fantastic Voyage,' he just broke out into this big grin. I played it and said, 'You want to hear 'Africa Night Flight?' He smiled broadly again; he said, 'This is fantastic.... I'm so happy.' So I finished it after he passed away, but he had given it the green-light; he loved it and approved of the direction it was going in."

The *Brooklyn Talks* event was part of an ongoing series of discussions at the Brooklyn Museum, but it also was in support of the museum's current *David Bowie Is* exhibition, presenting more than 500 artifacts from across the artist's career. The exhibit runs through July 15, 2018.

Brooklyn Museum
brooklynmuseum.org
Eventide
eventide.com

Quad

(continued from page 20)

and wireless Play One 5.1 speaker setup so he could listen to the test file out of his Mac laptop and through Brice's Dolby converter. "The math worked, so I knew I could do it. But would it work on vinyl?"

May and Scott Sedillo, the other member of Bernie Grundman Mastering's technical department, were kind enough to do a test cut on a flawed dub plate, says Kamran, who lugged his hardware decoder to the facility for playback. "There are only two speakers in the mastering room, but it worked," he says.

"If you listen to QS or SQ records, they have crazy psychoacoustics just from two speakers. The reason why SQ picked up so much popularity is because the stereo spread was better in the two-track."

He took the dub plate home and played it on his quad Sonos rig, and it worked. "Now I know I can make it—but how can everyone else hear it?"

> "The math worked, so I knew I could do it. But would it work on vinyl?"
> *KamranV*

Kamran reached out to "Quad Bob" Herndon, formerly of San Diego and now resident of Japan, whom he had found though an internet forum. "Bob, it turns out, is the second-largest collector of quadrophonic equipment in the world. And, of course, he knows the biggest collector."

Herndon hooked him up with Odaka Shuichi, who was building his own analog encoder and decoder. "Odaka-san has done a bunch of tests and listening for me. They've both been amazing collaborators."

Herndon also turned Kamran on to an Australian company, Involve Audio. "They make spatializers and high-end audiophile equipment and have these prototype quad kits in their own flavor of QS. The steering logic is a little bit different, but it works just like '70s encoders and decoders."

The Suzanne Ciani album *LIVE Quadrophonic*, mastered by Sedillo and cut to 12-inch vinyl at 45 rpm by Chris Bellman and Sedillo, will be available this summer via Kamran's company, Cykik, in a package roughly the size of a 2-inch tape reel box that will include an Involve Audio hardware decoder. "We're only going to sell 200 of them," says Kamran, adding, "Bob [Herndon] says this is the first quad vinyl release that he has heard of in about 30 years."

The release, complete with decoder, could kick-start a quad resurgence. Sedillo, who is also the founder of Pueblo Audio, which makes preamps and DI boxes, specializes in live recording and can see the potential. "My argument is that the real music is being performed live these days," says Sedillo. "If you were to make a recording that was minimalist, intended for the quad format, it would have potency and vitality. Just get a good performer, some good mics, a good engineer and cut it to vinyl from tape."

Kamran agrees, and comments, "We're past making it possible; now it's about making it good."

Cykik
cykik.com/quad

Suzanne Ciani
sevwave.com

Coolidge

(continued from page 20)

"Walking on Water," and "Naked All Night," a song about Coolidge's parents. Additional material came from the late Stephen Bruton, Hogarth's longtime best friend; Tom Petty's former drummer, Stan Lynch; and Grammy-winning songwriters Gordon Kennedy and Tom Douglas.

It was reportedly an emotional project for Coolidge, whose sister was killed in a murder-suicide in 2014. "The thread through these songs is spirituality, positivity and love, and making this record through adverse times," says Hogarth, whose older brother passed away during the making of the album. "You don't always get to make a record where your life is tied like a thread through it. It's a powerful record in that respect. Ultimately, Rita dedicated this record to her sister and my brother," he says.

Hogarth knew that the all-star lineup of musicians had to include guitarist Dave Grissom, one of his best friends from Texas. Bob Glaub, another old friend, from Hogarth's days as a roadie, came in on bass.

"I've made a ton of records with drummer Brian MacLeod. He knows how to play a song, with great dynamics and a great feel," he adds.

Rounding out the core lineup was keyboardist John "J.T." Thomas: "He's been with Rita for 20-some-odd years and knows her phrasing and how to play piano against her legato."

The musicians went into Sunset's Studio 2 for five days in May 2017, he reports, tracking live through the Neve 8088 desk. Vocals and overdubs were recorded at Matt "Linny" Linesch's Infinitespin Recorders in L.A.'s San Fernando Valley, which is equipped with an API from 1972. Canadian Joey Landreth added slide- and second guitar and vocals to several songs, Hogarth reports. "His tunings and how he uses the guitar are very special. He really added an extra layer of spice." Hogarth flew to Nashville to record guitar and vocals by Keb' Mo' at Gary Belz's House of Blues Studios.

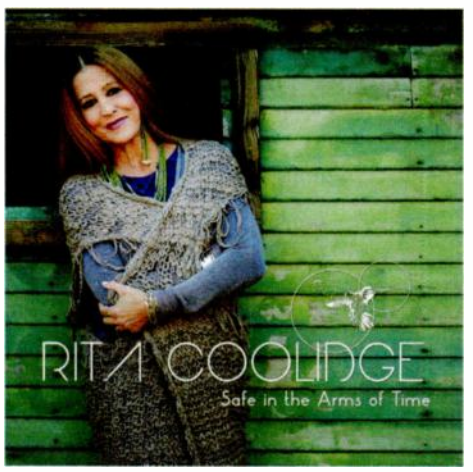
Before making the record, Hogarth sent his Neumann U67 to mic guru Klaus Heyne for a service. "It came back really stellar," he says. "The vocal on every song is the U67.

"Rita's got a big, rich voice and I wanted to capture all of that, so I'm super-tubing it. It's going into a Retro Instruments OP6, the RCA re-creation mic pre, and I'm compressing it with Steve Firlotte's Inward Connections Vac Rac TSL4 stereo tube limiter."

Her voice also has some sibilance, he says. "If you use a microphone that captures everything, sometimes you have to knock some things down, so there's a fair amount of shaping in the mix. I try to record everything really well so that I have some flexibility to shape tones when I mix."

As for the instrument tracks, he says, "A big part of my sound is ribbon mics. One of the things I always use is the stereo Royer mic, the SF-24."

For drums, he says, "It moves around the room and is either in the center stereo overhead or in front of the drums. There was also one on the Hammond B3 and in the crook of the piano. The guitars were Royers, with a [Shure SM]57."



Rita Coolidge releases her first album of new material in 25 years, *Safe in the Arms of Time*, on May 4.

He continues, "I like a rich, note-y acoustic guitar. To get that, I used Chandler's Germanium mic preamp, which adds a lot of harmonic distortion. The Germanium pre is a major part of something I've been doing for quite a while. I tend to drive it into Pultecs and other tubes and transformers that give even more harmonic distortion. I end up with acoustics that have a lot of tone."

Hogarth mixed at his hybrid home facility, BoogieMotel, which is well stocked with outboard hardware and plug-ins. "I try to not over-compress when I'm tracking a vocal; I just knock down the peaks. When I mix, I can then pull out my arsenal of compressors," he says.

"I found a really nice combo platter on Rita's vocal in mixing where I would go into a Distressor—either 3:1 or 4:1 with some of the different buttons pushed in—then into a Retro compressor, the 176 re-creation, which is super-versatile. For most of the songs it's that chain, but on a couple of songs it's the Retro Sta-Level on her vocal with a Distressor in front."

Hogarth discovered a new secret weapon while recording the Taj Mahal and Keb' Mo' TajMo project, he says. "My friend Bryce Gonzales, who is the tech at United Recording Studios, has a company named Highland Dynamics and makes a compressor called the BG2. I used that on Keb' Mo's vocal."

Hogarth has been using the Eiossis de-essing plug-in "forever," he says, but the new version's GUI altered the sound. "I went back and forth with Fabrice [Gabriel, company founder] and created some presets of what I used to do with it. Those came in handy."

One plug-in, released while Hogarth was mixing this album, was a revelation, he says. "The Oeksound Soothe blew my mind. It's sort of a multiband active EQ, but it's very intuitive. It soothes a sound that might have a little harshness or grain that you want to get rid of before compressing or doing some other processing. I found it very useful on this record."

One final shout out, he says, for the album's mastering engineer, Richard Dodd: "He made some of the greatest records before becoming a mastering engineer. He mastered my last few Keb' Mo' records. When I get back his mastering, it still sounds like my record, but better."

Ross Hogarth
hoaxproductions.com

briefs

Royers Record *Death Wish*

LOS ANGELES, CA—Chris Fogel, C.A.S Award-winning engineer and scoring mixer, used two Royer Labs (royerlabs.com) R-122V vacuum tube ribbon mics for the contrabass ensemble, two R-122Vs as orchestral woodwind overheads, and R-121, SF-12 and SF-24V ribbons on various instruments during the soundtrack recording for the recent *Death Wish* reboot.

Gratitude Sound Goes West

BOSTON, MA—Music company Gratitude Sound (gratitudesound.com), headquartered in Boston, MA, has opened a West Coast office in Los Angeles, where producer Scott Feldman will pursue new clientele across the film, TV and advertising industries. The current client roster includes Reebok, Dunkin' Donuts, GMC and Planet Fitness.

RSM Celebrates Five Years

HOLLYWOOD, CA—Really Slow Motion Music & Sound Design (RSM; reallyslowmotion.com), which specializes in providing sonic branding for motion picture advertising, is celebrating its fifth anniversary. The company was founded in the U.K. in 2013 by owner and creative director Agus Gonzalez-Lancharro, who is from Barcelona, Spain, and subsequently relocated to Los Angeles.

Hernandez Is Armed with DPA Mics

CHATSWORTH, CA—During Rick Hernandez's time as audio director on Respawn Entertainment's *Titanfall 2* video game, he came to use DPA (dpamicrophones.com) d:dicate 4017B-R shotguns with Rycote windshields to record point source ambiences, d:screet 4060 omnis mostly for live weapons and the d:mension 5100 mobile surround mic for 5.1 ambiences.

Firehouse Nets NBA All-Star Game

LOS ANGELES, CA—Firehouse Productions ran RF coverage throughout the Staples Center in Los Angeles for NBA All-Star Game weekend. Audio coordinator Mark Dittmar based his system on 64 channels of Shure (shure.com) wireless mics and IEMs feeding a custom antenna system covering the entire arena, including 100 feet of vertical coverage in the seating bowl.

Fortium Aims to Prevent Entertainment Hacking

BY STEVE HARVEY

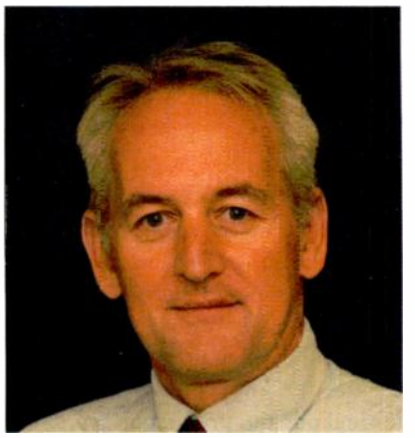
BRIDGEND, UK—Apparently there are now three things of which we can be certain: death, taxes and data breaches. Not only does it seem inevitable that we will all become victims of cybercrime at some point in our lives, but the fact that Equifax—a credit bureau whose lifeblood is secure data—can be hacked also fosters the impression that none of us is safe.

While the hacking headline-grabbers have recently included big names like retailers Saks, Under Armour and Orbitz, the media and entertainment business is hardly immune. UK-based Fortium Technologies, founded in 1999, was well placed to respond to the rapid—and apparently rapidly increasing—growth of cybercrime in the media and entertainment industry, having become involved in content security about 12 years ago, according to co-founder and CEO Mathew Gilliat-Smith. At that time, Fortium was helping the Academy of Motion Picture Arts and Sciences secure its annual Academy Awards screeners.

As the industry began to adopt a file-based workflow, he says, "One issue was working in sound or picture editing, where you have a reference file. You are working on the Avids and the content effectively is in the clear; it's unprotected, therefore it's vulnerable."

Breaches fall into three categories, he reports. "There was an interesting survey done by Pricewaterhouse-Coopers at the end of 2016. It showed that 30 percent of the worst breaches are caused by human error. That's something that is always going to happen"—for instance, someone in a hurry mistakenly forwarding an email to the wrong person containing a link to content or data.

The second area is cybercrime, which falls into two areas. "One is the issue of cybertheft, where someone tunnels into a network—like in the case of Larson Studios—and they steal the content," he says. The perpetrator then holds the company to ransom, threatening to release the material unless they pay a ransom.



Mathew Gilliat-Smith of Fortium Technologies

In Larson's case, in 2017, even when payment was forthcoming, the hackers released 10 episodes from the next season of Netflix's *Orange Is the New Black*.

"The other is where crypto-ransomware works its way in through some malware, locks everything and the company is held to ransom." The ransomware locks the user out of his or her own files: "There's nothing you can do until you pay the ransom."

Thirdly, he says, "There is pure theft. Someone on the outside is paying someone on the inside to steal content. In some of the big, high-profile leaks we heard about last year, had that content been encrypted at-rest, then the criminal would not have

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Central Post LA Centers on Security

BY STEVE HARVEY

LOS ANGELES, CA—Central Post LA is the very model of a modern post facility, packing the latest audio and video technologies into seven studios occupying a modest two-story building located close to some of the biggest content producers in Hollywood, Studio City and Burbank. Designed and built in close collaboration with Audio Intervisual Design (AID), the facility offers a comprehensive menu of post services, with a focus on localization and voice recording, and features a Dolby Atmos-At-Home mixing room, all backed by CDSA security certification.

Los Angeles-based integrator and retailer AID was involved every step of the way, says re-recording mixer Reid Caulfield, vice president of operations for Central Post. Caulfield has been working with AID president Jim Pace and his team since soon after moving to Los Angeles from Montreal in 1991.

"There's nothing in this building that AID did not touch, including the selection of the building itself," says Caulfield. He and managing partner Chris Davies had Pace accompany them to a dozen locations over a five-month period before finding the right spot.

PHOTO BY DAVID GOGGIN

Vice president of operations/re-recording mixer Reid Caulfield (seated) with (l-r) AID president Jim Pace and Central Post LA managing partner Chris Davies in the Dolby Atmos mix room at the new Los Angeles facility, which focuses on voice recording and localization services.

The building, formerly a video post shop, had to be completely reconfigured for its new owners. "AID had always said it would be a week per room of installation and a week per room working out bugs, and then probably a month per room figuring stuff out if you haven't worked with the gear before," says Caulfield.

Three rooms—two outfitted with 7.1 monitoring, plus a QC room with a 5.1 system—were up and running by October 2017. A fourth room was on track to also be configured for 7.1 work when Pace suggested it could support Dolby Atmos mixing.

"I said, 'No, let's do what we planned,'" Caulfield says. "He said,

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Fortium

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had access because he wouldn't have had the authentication rights. What we're providing is access control by individual user and individual file."

Fortium's MediaSeal security product provides at-rest, in-use and on-the-fly encryption protection throughout the production workflow. MediaSeal is available via a per-user, per-month subscription, or a usage-based pay-as-you-go plan.

"Having encryption on your files while you're working on them is difficult to do," says Gilliat-Smith. Indeed, the perceived level of complexity in developing such security software has dissuaded most vendors from offering similar solutions, he says. With Fortium's approach, encryption is in the workflow, working in the background, without impacting the way people interact with their files.

User access follows a multi-tiered approach. Three-level authentication requires an iLok or soft key, a password and authentication against the server. Access permissions can be specified for specific individuals and time periods. "You might have the rights today to work on the file," he says, "but tomorrow, if the time window has passed, those rights may have been revoked."

In one major growth area of the film and TV production business, localization, there can be dozens of vendors working on foreign-language dubs. "A file can be sent with access control for a particular vendor. They might have 20 people, but only three have been given studio permissions to work on that file," he says. "That's an effective way of locking it down to make sure there are no 'accidents.'"

> "No one wants to change the way they do things. But, on the other hand, no one wants a financial disaster caused by a breach on their watch, either."
> *Mathew Gilliat-Smith, Fortium Technologies*

The two-level authentication model requires just a key and password. Single-level security is password-only: "That means you can protect a file and send it anywhere. The protection stays with that file and you don't need any other hardware or software tokens to access it," he says.

MediaSeal is part of a recommended blended solution, he says, combining digital and physical security. Workstations might be air-gapped, but users still need to protect with encryption at-rest, even in a facility with cameras, alarms, controlled area access and other measures.

There are a couple of barriers to wider adoption of all security measures by large and small companies and third-party vendors. "Awareness and education are not always there," says Gilliat-Smith, who frequently travels to the U.S. to help spread the message.

And, of course, there's always the issue of cost: "The smarter TV and film production companies include security as a budgeted line item. Once it's in there, people have to follow it."

That's a sensible way to avoid cybersecurity breaches, he believes. "No one wants to change the way they do things. But, on the other hand, no one wants a financial disaster caused by a breach on their watch, either."

Fortium Technologies
fortiumtech.com

Central Post

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'Well, we told Dolby what's going on and they want to design the room for you.'" Happily, says Caulfield, the process didn't add much to the budget, although it did extend the construction and integration schedule.

"It's one of the smallest Dolby Atmos-At-Home rooms, but that was the point. It has the footprint of a living room. Dolby is trying to figure out how to mix something on a stage the size of an aircraft hangar, then scale that down. How accurate is it? It's a challenge to them. We're a bit of a guinea pig, but so far everything that has come through here translates beautifully."

Having Dolby Atmos mix capabilities nicely positions Central Post for the new content distribution landscape in which over-the-top streamers are moving toward a single deliverable format that carries multiple language tracks as separate audio objects, plus subtitles, closed captioning and other features with the picture. For the past 10 or 15 years, people have been getting out of the localization business, observes Caulfield, who says that Central Post focuses on the top 10 most-common languages. "But now people are clamoring to get back in because of Netflix, Amazon, Hulu, Apple, Vudu and YouTube Red."

Doing business with studios and other primary content creators requires a high level of security. One of the company's partners was on the team that developed multi-billion-dollar data centers for UPS, he says, "so we had security in mind from the get-go."

Central Post received its CDSA certification in October 2017. An active directory server handles rights and restrictions for anyone working in the facility, which is also protected by keycard access and cameras.

All projects are ingested, then passed through a firewall to the content server. "People turn up with terabytes of data and expect us to work from their drives. We're not allowed to do that anymore," he says. Nor may anyone take projects home to work on them, he adds.

Some equipment, including an Avid D-Command, is on permanent loan in exchange for a preferential rate from Caulfield's previous employer, who got out of the business and is now a client. The Dolby Atmos room houses an Avid S6, while another room is equipped with a new Avid S3 and Dock. All four rooms feature Argosy desks for the control surfaces and outboard gear.

The four audio rooms are variously equipped with JBL LSR305 5-inch and LSR308 8-inch monitors managed by JBL Intonato 24 monitor controllers. The QC room is using a Blue Sky controller with new LSR305 monitors, while another room is using Intonato with legacy JBL speakers.

The rooms are all Dante networked; as a result, says Caulfield, "Everything is cross-patchable, so we can run QC in the QC room with talent in a booth being recorded in one of the other rooms."

The Dante system is largely enabled by Focusrite boxes, including a couple of Red 8Pre units. "I really like the sound of the Red 8Pre's," says Caulfield, noting that the facility also offers Avalon, Grace, Millennia, UA and Avid microphone preamps. With so much of the business centered on voice recording, 15 Focusrite RedNet AM2 units are additionally available for deployment in the iso booths. Dante-networked Audio-Technica gooseneck mics are also employed in each control room for talkback to the talent.

Caulfield recently built out Central Post's video infrastructure in response to client demand. The upper floor houses three picture edit suites, with two kitchens, lounge areas and a conference room rounding out the amenities.

The company also recently added a new project manager, Caulfield reports. "We're training her from the ground up. We couldn't have done that without the tax cuts. We're a small company, so every little bit helps."

Dolby Laboratories
dolby.com

Central Post LA
centralpostla.com

Audio Intervisual Design
aidinc.com

Anderton

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annual NAMM meeting, where Cubase did a "total recall" of settings from Yamaha, Roland and Korg hardware synthesizers. Although we always had sys ex to save and load data, being able to access parameters seamlessly from within a DAW is welcome.

Protocol Negotiation is the most forward-looking aspect of MIDI-CI. Both the MMA and AMEI are working on a next-generation protocol that has the potential for higher resolution, additional expressiveness, a greater number of channels and more—essentially, the wish list that many have expressed for a "MIDI 2.0." MIDI gear can determine whether other MIDI gear can take advantage of new features, but if not, devices that lack these capabilities will simply continue to use MIDI 1.0. For example, a new controller with dramatically increased expressiveness would be able to use sound generators that take advantage of the increased expressive capabilities, but continue to work at the existing MIDI 1.0 level with older synthesizers.

MIDI-CI opens the door for transitioning from MIDI as we've known it to a 21st-century protocol. But perhaps the most important aspect is everything that works today is intended to work in the future, and changes can roll out over time to ensure a smooth transition. If only the world of computers worked this way. I can dream, can't I? (Note: For updates on MIDI-CI and other MIDI enhancements, go to midi.org.)

Author/musician Craig Anderton updates craiganderton.com every Friday with news and tips. His latest album, Simplicity, *is now available on Spotify and cdbaby.*

innovations: the manufacturer's view

Analyzing and Answering Networking Challenges:

AUDINATE DANTE DOMAIN MANAGER PLATFORM

BY BRAD PRICE

As AV systems move toward using IP networks for connectivity, we now see much deeper levels of integration for control and configuration. How is this affecting what it means for AV gear and what it means to be an AV professional?

NEW AUDIO DEVICES AND NETWORKING

Newer audio products and devices now commonly offer networking options for audio transport and configuration. In some earlier implementations, we saw separate network connections for control and audio connectivity. Now this is not necessary because of how IP networks are configured.

IP networks are designed to accommodate a nearly infinite variety of data types simultaneously. In computer networking environments, thousands of transactions are conducted between many devices every second, delivering everything from emails to software updates and location data on your phone to an upload of your latest novel without worry of data loss or corruption. AV networks are no different. Audio and video signals are simply types of data sharing cables and ports with all the rest. It makes economic sense to treat AV products as devices that can use the network for any and all communications.

GETTING LEGACY DEVICES ONTO NEXT-GENERATION NETWORKS

Older equipment cannot be blamed for being "network unaware," since it still may work well and have value—such as analog and digital devices—and point-to-point digital audio transports like MADI and AES3. This also applies to early implementations of "audio over Ethernet" that are not compatible with general purpose networks, such as EtherSound or CobraNet.

Fortunately, manufacturers have stepped into this breach with a wide array of converter products that can help migrate both analog and digital signals to audio networking. Dante, for example, is built into more than 250 input/output (I/O) products available to handle nearly any number of channels in nearly any type of format.

Brad Price

It must be noted that while I/O converters are incredibly useful for getting audio into and out of older gear, they cannot provide any type of internal control for the products to which they are connected, which limits the capabilities of the system. Individual devices must still be managed using non-networked workflows.

Adapting older equipment to audio networks is key to preserving their value. With that in mind, Audinate has created a family of cost-effective, low-channel-count adapters for use with non-networked mixers, direct boxes, amplifiers, powered speakers and more. Dante AVIO adapters are available for one- or two-channel analog input, one- or two-channel analog output, bidirectional two-channel AES3 and bidirectional two-channel USB. Dante AVIO helps older equipment remain useful for years to come.

NETWORKS DO MORE THAN TRANSPORT MEDIA

Because an IP network may carry many data types simultaneously, AV systems are evolving toward a completely IP-based model for all tasks. This consolidates connections and technology, and provides a consistent, reliable platform upon which software applications can run to perform a wide range of common—and uncommon—tasks.

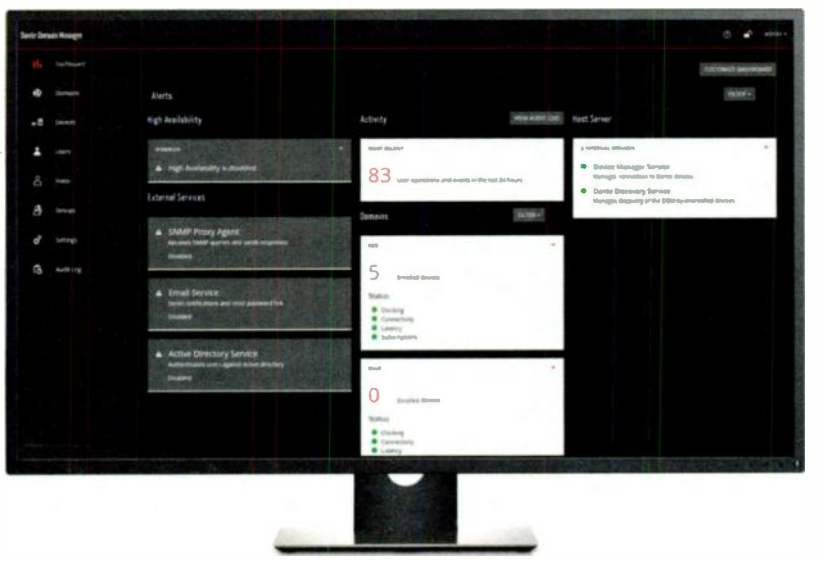
System Configuration: One of the more obvious applications is the control and configuration of AV gear beyond interconnection. This may include adjusting channel gain on a mixer, creating submixes or summoning different effects presets on a DSP. The flexibility of IP technology allows all of these things to be performed using software from anywhere on a network, without the need to physically contact equipment that may be difficult to reach.

Subnets: Many past and present IP and AV transport systems are designed to work on single segments of an IP network, also called subnets, limiting the expandability and range of an AV network. These barriers are coming down as technologies—like Dante—mature and allow media to be distributed over much larger and more complex networks composed of many subnets.

Security: Prior to the use of IP networking, AV systems offered very little protection for data or tampering. This made sense in closed, point-to-point systems like analog, but with networking comes the need to manage and protect all easily accessible devices. Administrators are now realizing that AV networks require robust access protection, just like any other IP network. Fortunately, IT has a long history of solving these problems, and AV-centric management and security products are starting to appear.

Dante Domain Manager allows Dante audio network administrators to determine who can access selected sections of the system, using a familiar system of user authentication that can be tied to existing management infrastructure, such as Active Directory. Dante Domain Manager organizes a network into zones called "domains" that each have individual access requirements, making it clear and easy to know who can access any area of the system. All activity is logged, tagged and date-stamped so problems can be quickly identified and solved.

Dante Domain Manager also coordinates multiple subnets, allowing Dante audio to be used across networks of nearly any complexity or size. Users of Dante-enabled devices don't have to perform any special configuration since this task is completely automated by DDM.



Audinate Dante Domain Manager

CONCLUSION: WHAT WE'VE LEARNED FROM IT

The AV world is migrating away from the point-to-point devices employed for decades and quickly moving toward networking. This does far more than simply change what wire carries a signal; it alters the landscape completely, allowing for far greater degrees of control, flexibility and responsibility. With that comes the need to understand the basic tenets of security that IT has developed from decades of experience. The much talked-about IT/AV convergence is as much about people learning from people as it is new products and technologies coming our way.

Brad Price is the senior product manager at Audinate.

Audinate
audinate.com

Rich Tozzoli's Fifth Annual St. John Recording Retreat

BY RICH TOZZOLI

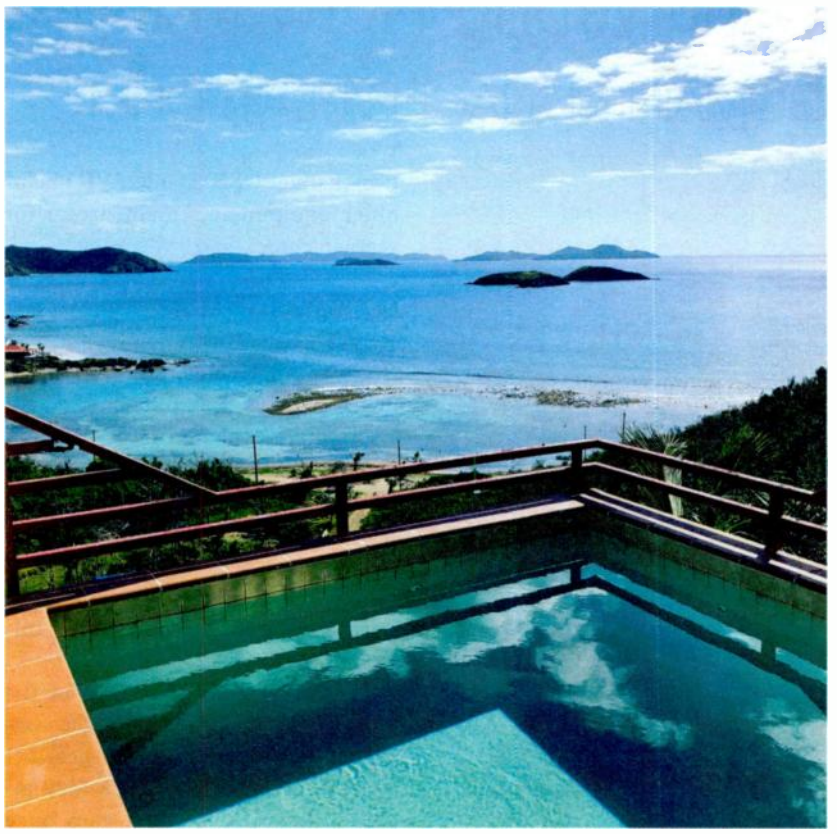
Rich Tozzoli is an award-winning, Grammy-nominated producer, engineer and composer for programming such as *FOX NFL, Pawn Stars, Duck Dynasty* and *Oprah & Deepak Chopra*. richtozzoli.com

This year's St. John (U.S. Virgin Islands) recording retreat carried with it a special energy and unique set of circumstances. Six months earlier, the island had been ravaged by Irma, a Category 5 hurricane with 180 m.p.h. sustained winds, gusts of 240 m.p.h. and random micro tornadoes. That was followed by another hurricane a few weeks later, which left the residents with untold damage. Thankfully, there was no loss of life on the tight-knit island, and each day the rebuilding effort and spirit of perseverance grows—something that was obvious to us immediately on our arrival.

We went down to the Virgin Islands with a certain sense of unease, having heard reports of what the storm had been like and having seen some shocking pictures. But we knew the house where we were staying, owned by bassist Hank Skalka, had been mostly spared, suffering only minor damage. Most years our entire band comes down, ready to do shows and record, but circumstances had only some of us flying in—not to mention that some of the venues we usually play were literally shattered slabs of concrete after the storm.

Despite the circumstances, we could still create music, support the local economy, sit in with some of the local musicians and, of course, get some sun in our soul. This year's crew included bass player/homeowner Skalka, engineer Mike Dwyer (Shawn Mendes, Bob Weir), keyboardist/programmer Bruce MacPherson (Fleetwood Mac, Yes), drummer Ray Levier (KJ Denhert, Mike Stern) and entertainment attorney Alice Barstow.

We decided ahead of time to keep things lean, mean and highly portable, working mostly with software, keyboard controllers, few mics (one!) and a handful of good old fashioned (but new) stomp pedals. Sometimes you're challenged to make it work with what you've got on hand, and that's exactly what we did.



Every year, Rich Tozzoli and friends head to St. John in the U.S. Virgin Islands for their annual recording retreat, creating TV music cues in paradise while also reviewing new gear.

Since St. John is still recovering from hurricane damage—it was pounded by back-to-back Category 5 hurricanes Irma and Maria in 2017—the name of the game this year was to travel light; here's the majority of the recording setup.

The music writing this year had a pointed purpose, as we had a handful of TV assignments due, some for several Discovery Channel shows and some for shows on Bravo and TLC. The setup was based around a single Universal Audio Apollo Twin running through my trusty NHT Pro speakers (which live at the house); a small Novation Launchkey Mini for me; a Novation Launchkey 61 and loaded Mac laptop for MacPherson; a single Sony C100 mic; a Tech21 SansAmp Bass Driver DI; and some great guitar stomp pedals from TC Electronic, Digitech and MXR, supplied by Dwyer. Skalka had his 6-string Zon bass and I had my custom Telecaster and an additional custom short-scale 4-string bass. For drums, Levier had the Manu Katche Hip Gig Kit from Yamaha and some Paiste cymbals.

For software, we ran Avid Pro Tools 12.8 as our primary DAW with the Apollo Twin, with focus on the use of SoundToys Little Plate, Empirical Labs Arousor, Steven Slate Trigger 2, Sound Radix Drum Leveler, FabFilter Pro-Q 2 EQ, Sonnox Oxford Envolution and the Eventide Blackhole.

Additional instrument software included Xfer Records Serum, Vienna Symphonic Library, Heavyocity Ensemble Drums, Spectrasonics Omnisphere, Avid Mini Grand and Air Music Technology Hybrid.

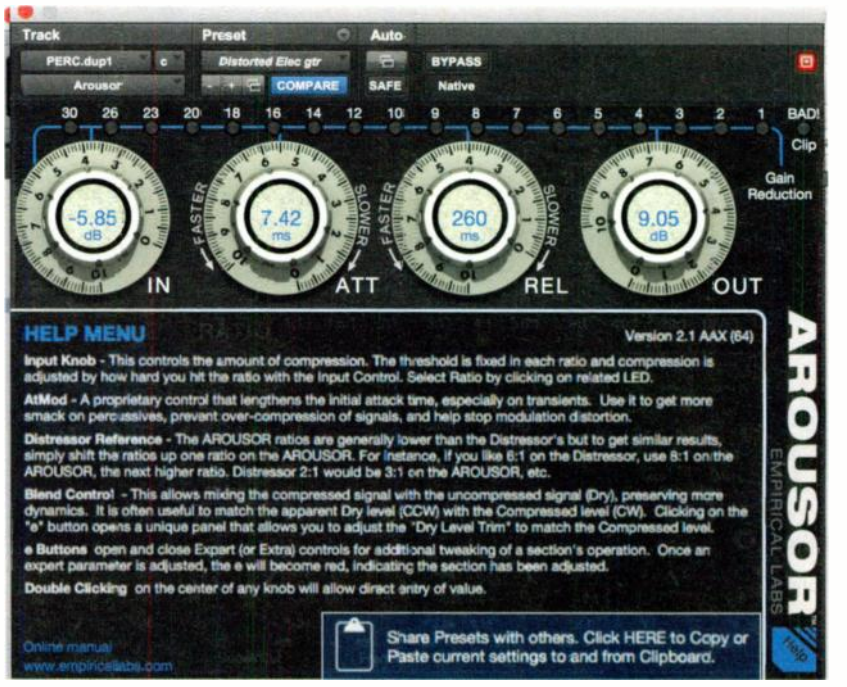
Working through numerous power outages and without internet access for the week (we made sure to save often, and some gear didn't survive), we not only got lots of tracks done, but we learned a lot from each other in the process. Here's a look at some of the gear that caught our eyes and ears on this trip.

AMS RMX16 EXPANDED

The AMS RMX16 is a Universal Au-

AMS RMX16 Expanded

FabFilter Pro-Q 2 EQ



Empirical Labs Arousor

dio UAD/Apollo software version of a hardware classic and studio stalwart first released in 1982. The original software version was released with nine Ambience, Nonlinear, Room, Hall, Plate, Echo, Chorus and Reverse effects; the expanded version adds nine more algorithms and some additional presets.

This plug-in creates a special depth that sounds like it has height and width—with a customizable sense of diffusion and reflection. Our favorite, and the one we used the most, was NonLin2, which was added to snare drums, loops, percussion and sound design elements for a sense of stereo space. To push the effect even harder, we increased the decay time, pre-delay and high decay filter to brighten the overall feel, and turned up both In and Out levels. The expanded version adds NonLin1, where the decay rapidly dies away, which sounds almost like a creative gate. Also available in the expanded version are Reverse 2, Freeze, Room A0 and Room B1, Hall A1, Plate B1, Delay and Image P1.

The other main effect used in later mixing was the echo setting, which offers two discrete delay lines that are independently adjustable using the A and B buttons on the right side of the keypad. We added it to several guitar parts, with differing left and right settings to create a huge sound. You can click anywhere to select a band, then use your mouse or trackpad to narrow it down.

FABFILTER PRO-Q 2 EQ

What we like best about Pro-Q 2 is not only how it sounds, but how quick and easy it is to use. To begin with, by clicking in the small box in the upper right corner, the EQ GUI will fill your entire screen, or you can select small, medium, large or extra large. Clicking anywhere on the real-time audio spectrum will instantiate a band (up to 24), and you simply drag to boost or cut. To change the shape of the band, simply right-click for a drop-down menu of options and make selections under the shape menu including bell, shelf, cut and notch. You can also change the slope with the mouse/trackpad or drop-down menu (up to 96 dB/octave under the slope menu).

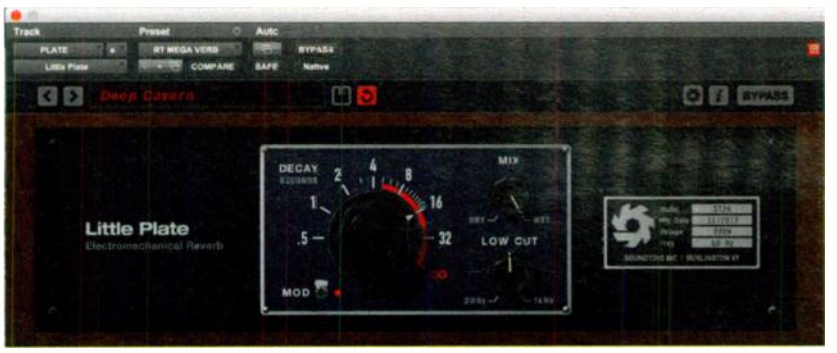
There's also an auto-gain option that allows for compensation of EQ boosts and dips. It seems to be an intelligent algorithm that works according to the bands and material presented, but additional gain work can also be done to achieve the desired results. There are many other features, such as adjustable display range, piano roll display (allowing you to snap bands to exact notes), Zero Latency, Linear Phase or Natural Phase modes, an EQ Match feature, and the ability to spectrum freeze and simply grab a band. Pro-Q 2 offers a useful, creative and musical way to interact with an EQ.

EMPIRICAL LABS AROUSOR

Arousor is basically a full-blown Distressor with some additional touches from Dave Derr. Like Distressor—or an 1176, for that matter—the input drives the signal against the fixed threshold, and you've got Attack, Release and Output gain. Arousor has a few unique features, including a 1.5:1 and 2:1 ratio, and the Rivet setting replaces the Nuke setting on the hardware. Another sonically important feature is Attack Modification, which helps to change the shape of the attack and is part of what makes this plug-in so powerful. Next to that is a Soft Clipping section, to add some warm saturation into the signal.

I like that there's a full parametric band on the Detector Sidechain with 30 dB of cut or gain and a high-pass filter and Blend knob for wet/dry control. We used the sidechain quite a bit to alter what went into the compressor, allowing us to dull and brighten the character of some drum and percussion loops, as well as snare samples. But that section could also be creatively used as a de-esser section when using the Arousor on vocals.

Presets are a great way to learn this plug-in, but what's really cool is that the presets are actually a sharable file—you can upload them to the Empirical Labs website or download others. Simply click the Help button on the lower-right corner of the plug-in and a Share Presets box appears. Follow the steps and you've got many more sonic options at your fingertips.



SoundToys Plate

SOUNDTOYS PLATE

Less is more when it comes to the Plate plug-in. A spot-on emulation of the Classic EMT 140 plate, though it takes the original plate reverberator a few steps farther with the addition of decay times of 0.5 seconds up to infinity (the original had 1 to 5 seconds). It also features a MOD switch for reverb tail variations and oddities. We used it because it's deep and dark and full of character. On guitars, you can set it short and tight to get a bit of ambience (try panning to one side) and with the crime-related cues, you can swim things like pads and cymbal swells into reverb times over 10 seconds, which creates its own sonic world.

SONY C100 HIGH-RESOLUTION CONDENSER MICROPHONE

The Sony C100 is 2-way (condenser/back electret condenser) mic with a C-800G lineage that features a 20 Hz to 50 kHz frequency range, three polar patterns (cardioid, omnidirectional, figure-8) and a highpass filter and 10 dB pad.

Sony C100 high-resolution condenser microphone

Sound Radix Drum Leveler

Universal Audio Apollo Twin Mk II

When you say "minimal mic recording," using one mic is as simple as it gets. Whether it was drummer Ray Levier's full kit or just us tracking single percussion, toms or cymbal overdubs, a single mic was all we had. Since the room we were recording in had tile floors and a high ceiling, we mostly used cardioid mode, pointing the mic directly at the source from just a few feet away and often "hypermiking," which is a term we used for recording 1 to 3 inches from the source. For example, recording a cymbal or floor tom that close will pick up all kinds of crazy overtones, which sound great in certain drama- or crime-related cues. (We simply EQ'ed out any unwanted frequencies or low-end boom.)

The Sony took compression well—we hit it hard with the Arouser and an 1176. Without question, it delivers a clean, clear and rich sound. In addition, we used it creatively in conjunction with the Sound Radix Drum Leveler to trigger additional kicks and snares (see below). This might be my new desert (well, Virgin) island choice mic for my travel bag.

UNIVERSAL AUDIO APOLLO TWIN MK II

The central brains to our portable operation on this trip was the Apollo Twin Mk II Quad Thunderbolt interface. This small powerhouse was our mic preamps, line inputs, headphone station and monitor controller, as well as the chips running our various UAD plug-ins. While we could have connected an 8-channel optical preamp to it, we decided to strip it down and do the whole trip with 2 channels, tracking instruments one at a time and building the productions as needed.

I own both the Apollo Twin and the Mk II version, and the preamps are certainly a step up on the Mk II. We would plug in the bass and guitar direct (also through the SansAmp Bass Driver DI), or run the stereo output of some of the pedals into line inputs 1 and 2. Also, McPherson ran his laptop samples into 1 and 2, and when we did record with the mic, we used the XLR input. The headphone and monitor output have plenty of gain. Overall, it's amazing what this little thing can do on a mobile session.

SOUND RADIX DRUM LEVELER

Mike Dwyer noted, "Drum Leveler is an upward and downward expander, compressor and gate, but in practice, it's more. The most obvious use—as the name implies—is to level out drum hits. If you find yourself with a drummer whose dynamics are all over the place, Drum Leveler can gain up the quiet hits and gain down the loud hits to even out the performance without really changing the shape of the sound, the way typical dynamics processors would. You can control just how much it levels the performance by using the compression knob; turning it all the way to 100 will make every hit the exact same level; alternately, by turning the compression knob below 0, you can increase the dynamics of a performance. This could be useful, for instance, if you find there's not enough of a difference between the level of your normal snare hits and ghost notes.

"On our trip, we dove a little deeper into Drum Leveler and found some interesting uses for it. We were doing a lot of single-mic drum recordings and were able to use the sidechain filters and high and low thresholds to focus Drum Leveler's beat detection on individual elements of the drum kit. From here, we could use the compression knob and target level to do things like turn the snare up or turn the hi-hat down, giving us incredible control over our single mic. We then took this idea one step further by using the built-in gate to isolate the kick or the snare on duplicate tracks. We then used Steven Slate Trigger to add samples, giving us a great rock drum sound quickly and easily, all from a single microphone. Another cool trick we stumbled on was soloing the sidechain filter and automating the cutoff points on drum and percussion loops to get filter effects without having to bring up a separate EQ plug-in. We've only scratched the surface of what this tool can do, and I'm confident we'll be finding plenty of new uses for it for some time to come."

STEVEN SLATE TRIGGER 2 PLATINUM

Allowing you to trigger and customize up to eight stereo samples at once, Trigger 2 Platinum was a useful and creative tool on our trip. Most of us already turn to it in our daily production work, but this time it helped us make some cool drum sounds using a single mic, when used in combination with Sound Radix Drum Leveler.

There are several reasons why we like this plug-in so much. First, it's quick and easy to use, allowing us to layer in sounds in combination with the original tracks (or replace them entirely). Second, the stock sounds are excellent quality, though we also used some of our own samples created at Clubhouse Studios in Rhinebeck, NY, including Dywer's own hand-built snares (which are featured on several No. 1 records). Third, we can tune the samples to fit the track and blend in a combination of them—for example, taking a few rock kicks and adding in an 808 under it. It's a valuable tool to have on any recording session when you want to kick your drums up a few levels.

XFER RECORDS SERUM

Bruce MacPherson said, "One of the hits of our trip turned out to be Xfer Records' Serum, a very capable plug-in wavetable virtual instrument. There is a sweetness and smoothness in the quality of sound that can quickly be changed to a rude and aggressive, throat-gripping assault. Also present is a nice selection of presets that can be edited easily to suit your mission. When you want to dig deeper, the user interface makes it easy and inviting.

"The most powerful aspect is the matrix section, which can be a very flexible modulation 'amusement park.' All the effects seem to have a very creative vibe rarely felt inside a synth plug-in. I found using Serum's built-in effects more appropriate for what we were after rather than some other popular and pricey dedicated plug-ins. Serum also has a very entertaining graphic for indicating activity, with useful movement and info about LFO speed, envelope cycles and more. With a quick glance, it will give you the info you need to fuel

your ideas. The ability to automate parameters with my MIDI controller, such as the wavetable itself, was mind-expanding. This is my new 'go to' synthesizer for some of my more demanding sound design challenges."

SONNOX OXFORD ENVOLUTION

The Oxford Envolution plug-in is a frequency-dependent envelope shaper with separate sections for sustain and transients. I've been using it for some time now as a creative gate for many percussive elements. At the risk of oversimplification, I tend to use only three knobs on this plug-in—but that's part of what makes it so great. The first knob I turn to is the Sustain feature, which quickly and easily pulls back the sustain on your audio. For example, we used a lot of rhythmic sample loops on our sessions, and by pulling the Sustain knob, you can gate off much of the sample after the initial attack in a clean and very musical way. We also recorded a lot of shakers and cymbal effects and used the same technique, making them tighter and cleaner.

Sonnox Oxford Envolution

Transients is the other knob I turn to, and by turning it up, you increase the attack of the audio. By turning it down, you reduce the attack, which is great for helping certain rhythmic elements "sit back" in the pocket. It's also useful to visualize the Transients (yellow) and Sustain (purple) features in the on-screen display, which helps you understand the processing you are applying. I also tend to turn up the Warmth feature, which adds a bit of extra harmonic saturation. There is the option to process certain frequencies of the effect, but I tend to work quickly and simply with it and just tweak a few knobs, which part of its usefulness.

STOMP CITY

We turned to a variety of stomp pedals this year, which we used almost like modules in a synthesizer. We would chain certain pedals together to go for a sound we wanted, or experiment with combinations. They included the SansAmp Bass Driver DI, along with the Boss TU-3 Chromatic Tuner, TC Hall of Fame Reverb and Flashback Mini Delay, and DigiTech Ventura Vibe. It's fun to get your hands on hardware and tweak knobs until you hear what you like.

TECH 21 SANSAMP BASS DRIVER DI

Talk about a useful studio tool! The classic Bass Driver DI was the front end of both our guitar and bass signal paths. It allows you to quickly get a warm tone from your instrument, and with EQ controls, a Blend knob (wet/dry), EQ shift button and useful Presence and Drive controls, you

(continued on page 34)

Tech 21 SansAmp Bass Driver DI

Roland R-07 High-Resolution Audio Recorder

BY CLIVE YOUNG

In April, Roland shipped the R-07, a high-resolution audio recorder aimed primarily at musicians that received its introduction to the world at the NAMM Show in January. In my time with an early production model of the R-07, it proved itself a dependable workhorse that does what you expect of it—and once you dig into its controls, it also offers some comprehensive features that will appeal to those who need more from a convenient recorder than just the basics.

The R-07 sits in a nice middle ground, easily surpassing the recording quality of a smartphone (likely its biggest competition), but without saddling users with niche features they'd never use that might be found on high-end professional recorders. As an analogy, the R-07 is somewhat akin to a mid-level DSLR, offering increased photo quality over a smartphone or budget point-and-shoot without photojournalist-level camera features beyond their needs.

The first thing that jumps out about this handheld recorder is simply that it captures sound nicely. The R-07 will awaken the ears of anyone who's been capturing sound on a smartphone, whether for a songwriting session, interviews, lectures or something similar. If you've gotten used to accepting smartphone tracks as "good enough," the R-07's crisp recordings provide a nice reminder that "good enough" still isn't necessarily good.

While the recorder can use an external mic via a 1/8" plug, most people will use the built-in mic pair. Recordings can be captured as mono or stereo WAV files up to 24-bit/96 kHz and MP3s up to 320 Kb/s. That's where some of the more advanced features come into play: the R-07 offers a Dual Recording feature that makes simultaneous recordings in both formats, allowing users to capture audio at both a high input level and a lower one with more headroom; thus, if the mics get overloaded or there's clipping, users still have material to edit down the line.

The Roland R-07 high-resolution audio recorder shipped in April.

As for those input levels, they can be set at the touch of a button—the Rehearsal button, to be exact. Nine presets, referred to as Scenes, are also available that adjust sample rate, recording mode, limiter, low cut and input level settings to match the task at hand. Scenes—the list includes Music HiRes, Field, Loud Practice, Vocal and Vocal Memo—can be customized to taste and saved for future recall.

While the controls on the unit are usually self-evident, the R-07 can also be remote-controlled via Bluetooth from Android and iOS devices, including the Apple Watch—a feature that will no doubt come in handy for recording lectures or controlling the recorder after it's been placed in just the perfect spot during a rehearsal. Moving beyond mere record/stop functions, the remote control apps can depict and adjust levels during recording, change Scenes as needed, and also affect playback from the recorder, including changing the speed and volume. Playback itself can be monitored via the small but strident built-in speaker or over headphones, both wired and Bluetooth wireless, the latter with Qualcomm aptX technology applied for streaming performance.

The results of R-07 recordings can be found all over this issue, from the Tony Visconti stage discussion on page 24, recorded from eighth row center of a pin drop-quiet theater, to multiple interviews on the NAB Show floor yelled amid a typhoon of ambient sound. In every case, the R-07 captured voices with acuity, a sense of spatial relationships and a minimum of fuss. (One wishes the recorder would boot up in less than 12 seconds, however.) Another time, when recording an unexpected jam session, the R-07 captured the moment and the mics never overloaded, despite their proximity to the drummer, thanks to a quick tap of the Rehearsal button. The R-07's graphic tuner function got used that day, too, though use of its metronome was (loudly) vetoed.

Results and functionality should always be a product's priority, but it's fair to note that the R-07 is rather nicely designed as well. Available in white, black and red, the recorder is slightly smaller than a deck of cards, fits comfortably in the hand and allows every control to be reached with a thumb, aiding single-handed use. A slightly rubberized back helps reduce handling noise while adding a little tack to the surface to ensure it doesn't slip from your fingers. Four tiny feet minimize contact with any surface the recorder is laid on, further helping minimize vibrations. Small and lightweight, the R-07 can easily fit in a pocket—or an instrument case—without becoming a nuisance or a weight over the course of a day.

The R-07 does a nice job of simplifying considerable technologies into something its main audience—consumers—can understand and use, while giving more advanced users results that won't cause eyeballs to roll into the back of the head. Street-priced at $230, it's all the recorder that some folks will ever need, and for the rest, it's the first step into a larger professional world.

Roland
roland.com

St. John Retreat

(continued from page 33)

can dial in a wide variety of tones. Using the mono output, we fed it to a variety of other pedals, some of which had stereo outs, where we ran them directly into channels 1 and 2 of the Universal Audio Apollo Twin Mk II. Bass Driver takes away some of the midrange "honk" of direct guitar and bass sounds, and warms it up almost like an amplifier. From there, you can adjust the controls to keep the signal pure or change it as needed. I take one to every session and I'm glad we had it on this trip.

AVID SANSAMP PSA-1

The software version of the SansAmp from Avid is another staple in my home Pro Tools HD system, used for adding harmonic grit to just about anything, including snare drums, keyboard pads and sound effects. I've found it quite effective on bass and guitars, even after running the signal into the Bass Driver DI. Between the Buzz, Punch, Crunch and Drive, you can get as much or as little attitude as you want, all the way up to full-blown power fuzz. Low and Hi allow for a bit more EQ tailoring, and often I will place an additional software EQ after it to really carve out those sounds. SansAmp is in every one of my sessions, and we used it on every mix for extra grit.

Avid SansAmp PSA-1

Pro Sound News Names NAB Best of Show Award Winners for 2018

The 2018 NAB Show, held in April in sunny Las Vegas, was loaded with product introductions. The editors of *Pro Sound News*, representing the NewBay Pro A/V Group, roamed the aisles and came away with our picks for Best of Show. These awards, part of the fifth annual NewBay Best of Show Awards program, honor outstanding new products exhibited at the spring show. The product descriptions that follow were provided by the winners themselves, shortened for brevity.

ALTEROS GTX SERIES L.A.W.N. 6.5 GHZ UWB SYSTEM

Modern facilities and systems are taking advantage of IP-based networking technology to reduce operational costs, simplify workflows, ensure high production quality and

Jackie Green, president and CTO of Alteros with the GTX Series' award.

simplify equipment setup and operation. Alteros' GTX Series L.A.W.N. (Local Area Wireless mic Network) 6.5 GHz UWB system gives users access to the performance of a modern workflow in a complete, high-performance package, along with the added benefits of operation outside of the increasingly crowded UHF spectrum, free from database registration, licensing and RF coordination requirements. The system allows 24 channels of wireless microphone operation to be deployed and operated with nearly "plug and play" ease, according to Alteros.

The GTX Series L.A.W.N. system includes two wireless handheld transmitters. The Performer version features a lightweight, comfortable design that accepts thread-on microphone capsules using a 1.25"/28 thread pitch. The Broadcast version includes additional features such as a dedicated flag mount section and incorporated talkback button. The broadcast version also incorporates interchangeable microphone capsule mounts.

AUDINATE DANTE AVIO ADAPTERS

Audinate's Dante AVIO Adapters enable audio professionals, sound engineers, system integrators and even home recording enthusiasts to con-

Josh Rush (right) of Audinate helped celebrate the company's Best of Show award for its Dante AVIO line.

nect legacy analog and digital audio equipment to Dante networks and Dante-enabled products. The family comprises four adapters: line-in and line-out analog adapters, a bi-directional AES3/EBU adapter and a bi-directional stereo USB adapter. Each adapter acts as a completely independent Dante network device with dedicated inputs and outputs and one or two channels of audio.

Analog input adapters allow outputs of mixes, mic preamps, stage DIs and more, while analog outputs are appropriate for driving amplifiers, powered speakers or recorders. The Dante AVIO USB adapter connects any computer to a Dante audio network without additional software, providing class-complaint stereo input and output that can be used by any audio application. The Dante AVIO AES3 adapter provides stereo input and output, preserving investments in AES3-connected DSPs, mixers, compressors, preamps and more.

BITTREE PROSTUDIO PS96DB25 AUDIO PATCHBAY SERIES

Bittree's ProStudio PS96DB25 series of audio patchbays provides the dependability, sound quality and cost-effectiveness of Bittree's ProStudio family in space-efficient, 96-connector rackmount configurations. With ProStudio patchbays, price-sensitive users no longer need to sacrifice audio quality for budget efficiency.

The front-programmable ProStudio PS96DB25F sports a 1.5 RU rackmount form factor with 96 TT (bantam) jacks in a high-density 2x48 configuration, with 12 DB25 rear connectors for interfacing with Avid

Bittree won for its ProStudio PS96DB25 series of audio patchbays.

ProTools and Tascam gear. The internally-configurable ProStudio PS-96DB25i packs similar connectivity into just 1RU of rack space.

Professional-grade, front-accessible shunts on the PS96DB25F enable easy reconfiguration of circuit normaling, grounding and bussing, and are protected from dust, electrical interference and other elements by the unit's two removable stainless steel designation strips. The fully-enclosed 1.5 RU chassis measures 7 inches deep, and, despite its robustness, weighs in at just 8.5 pounds.

Circuit normaling, grounding and bussing on the PS96DB25i can be reprogrammed via internal, professional-grade shunts that are accessed by opening the top of the 7.6-pound device.

GLENSOUND BEATRICE R8 8-CHANNEL DANTE/AES67 NETWORK INTERCOM

The Glensound BEATRICE range includes five network intercom units: the 4-channel B4 Beltpack, 4-channel D4 Desktop, 4-channel R4 Rackmount, 8-channel D8 Desktop and

Chris Hill (left) and Gavin Davis of Glensound, with their award for the BEATRICE R8 Intercom

8-channel R8 Rackmount. Two BEATRICE R8 racks can be joined into a 2 RU 16-channel intercom unit. All units in the range can be powered by PoE or internal wide range power supplies, terminated with a standard IEC plug. Rugged and robust build quality makes them ideal for outside broadcast settings.

The BEATRICE intercom system harnesses the Dante network audio transmission protocol to allow real-time distribution of uncompressed audio across standard networks; the system is also AES67-compliant. The BEATRICE line works with standard network switches and has no requirement for a central processing rack.

BEATRICE R8 is an 8 key intercom panel in a 19-inch 1 RU sub-rack unit. It connects to 32 Dante network audio channels and also two local analog inputs and outputs. It includes a high-quality microphone amplifier with compressor/

Jerry Lynch (left) and the team at Heil Sound.

limiter circuit for enhanced communications.

HEIL SOUND PR 77D PROFESSIONAL DYNAMIC MICROPHONE

Heil Sound's PR 77D large-diaphragm microphone provides focused directionality, full-range response and a vintage appearance for use in podcast, broadcast, recording and live stage applications. It features a classic side-address design based on popular RCA microphones from the 1950s and '60s.

Its cardioid polar pattern delivers 40 dB of attenuation 180° off-axis, resulting in a tight pickup area and minimized bleed. The PR 77D is an updated version of the PR 77 from Heil Sound.

The mic's two-position switch allows the selection of the best characteristics of voice or music. The voice position rolls the audio off at 120 Hz at -6 dB per octave, while the music selection removes the filter and the entire audio spectrum of 60 Hz to 16 kHz is present.

NIXER PRO AUDIO PD DANTE PORTABLE MONITORING SYSTEM

PD Dante from Nixer Pro Audio is a small, portable monitoring and diagnostic system that allows monitoring of single or locally mixed Dante or AES67 streams at 48 kHz. The user-friendly LCD touch display shows all 64 channels, with their individual routing to the L and/or R outputs, signal level meter and 0 dBFS peak indicator.

The main output level (headphones, line out or AES out) of the selected channel/mix is displayed on two large signal meters. The user may select any of the 64 possible Dante channels or define a specific channel mix via the capacitive touchscreen and listen to them via the on-board loudspeakers and headphone connector. The speakers are muted on insertion of headphone jack.

Ulrike Lauterbach, director of sales and marketing for RTW, Nixer Pro Audio's distributor.

Calrec Type R

Expanding its product line to reach new customers in radio, Calrec launches Type R, a modular, expandable, IP-based radio system that combines standard networking technology with configurable soft panels that can be tailored to operator needs. Type R's physical control system consists of three slimline panels: a fader panel and a large and small touchscreen soft panel. Each is compatible with COTS hardware and powered over Ethernet to reduce cabling. Type R has a simple 2 RU core with integrated I/O resources. Whether used as independent studio consoles, microphone processors or utility mixing, the ability to use multiple mixing engines combined with the flexibility of an AES67-compatible network provides the tools to keep pace with radio's changing requirements.

NTP Penta 720 and 721

NTP Technology's new Dante/AES67 Penta 720 and Penta 721 audio routing interfaces allow more Dante channels and provide compliance with the new Dante Domain Manager software for management of multiple network domains and IP subnets. Penta 720 is a 2 RU modular audio interface with a variety of analog and digital interface options. It has dual power supplies and supports hot swap of the eight configurable interface cards. The Penta 721 is a 1 RU digital-only unit, with dual power supplies, that can be configured with various build-in options.

RME Digiface Dante, AVB

RME recently introduced Digiface Dante (pictured) and Digiface AVB mobile audio interfaces. The Digiface Dante interface provides transmission of up to 64 Dante channels and 64 MADI channels via a USB 3.0 connection. It adds an external option for mobile operation to the previously available internal Dante PCIe card. The Digiface AVB interface enables the transmission of up to 256 network audio channels between a Windows computer and other AVB devices within an audio Gigabit network via a single USB 3.0 cable. The USB 3.0 connection allows up to 128 audio channels to be streamed back to the AVB network and another 128 channels to the computer, with sampling rates of up to 192 kHz.

Sanken CS-M1 Short Shotgun

Introduced at the 2018 NAB Show, the CS-M1 super cardioid shotgun microphone from Sanken is 4 inches long and weighs less than 2 ounces, making it intended for use in tight mic situations and on booms. According to Sanken, the CS-M1 is especially suited to shoots where tight patterns and premium sound are required. It can be mounted on a camera without interfering with a short lens. The CS-M1's design provides resistance to humidity and adverse temperature changes. Sanken Microphones are distributed in North America by plus24.

SSL System T Version 2

SSL's v2.0 software release for the System T broadcast audio production platform introduces new features including immersive audio, "appified" software and DAW control. SSL's immersive audio implementation for System T reportedly places support of immersive audio for ATSC 3.0, Dolby Atmos and MPEG-H at the heart of the console architecture. With the emergence of 3D immersive audio, SSL's new 3-axis coordinate panning for System T incorporates 2- or 4-channel overhead speakers into the available channel and bus formats. As well as positioning mono and stereo sources in a 3D soundfield, System T can accept multichannel 3D sources and fine-tune their spatial components as they are added to the final production mix.

firstlook

Blue Bottle Limited Edition Mic

The first release from Blue's new Custom Shop, the Bottle Limited Edition microphone, features new colors and finishes—including hot rod colors, and textured hammertone and matte options—intended to deliver a blend of soul and style. Bottle features a discrete Class A tube circuit powered by a EF86 pentode vacuum tube in triode mode. Bottle includes Blue's B6 large-diaphragm dual-backplate cardioid capsule, configured to provide enhanced lows and extended high-frequency response, according to the company. Blue is also offering the Bottle Limited Edition Mic Locker, an expanded edition that includes the Custom Shop Bottle Limited Edition, plus the B0, B6, B7 and B8 Bottle Caps, housed in an SKB hard-shell case.

Steinberg, Rupert Neve UR-RT2 and RT4

The new UR-RT2 and UR-RT4 USB audio interfaces from Steinberg Media Technologies, developed with Rupert Neve Designs, are expected to ship in June. The UR-RT2 comes with four inputs—two analog XLR/TRS combo inputs (Hi-Z switch on input 1 for electric guitar), plus two TRS line inputs, headphones jack with independent level control—and two outputs. The UR-RT4 offers six inputs and four outputs—four analog XLR/TRS combo inputs (Mic/Hi-Z on input 1/2 and Mic/Line on input 3/4), plus two TRS line inputs, and a pair of separate headphone buses with individual outputs. The units offer two Class-A D-PRE mic preamps by Yamaha supporting +48V phantom power.

Yamaha NUAGE v2

The version 2 update of DAW software/hardware control offering NUAGE is configured to provide further DAW control and monitor processing for various applications, and offers expanded integration with the Yamaha MMP1 Studio Monitor Management System. While primarily focused on monitor control, MMP1—a monitoring, communication and processing solution for audio formats, from basic stereo to complex immersive surround—offers audio processing capabilities such as a 32 x 32-speaker matrix with crossover filters on all channels. The Yamaha MMP1 can be used with most DAWs or peripherals, but NUAGE v2 adds remote control capability so that source selection, levels, downmix and dimmer switching, talkback and other functions can be controlled directly from physical controls on a NUAGE Master or NUAGE Fader unit. The v2 update is available free of charge from the Yamaha Professional Audio website.

There's more information on all the products featured at prosoundnetwork.com/archive/may2018.

Avid Venue S6L Modular Platform

At an event prior to April's NAB Show, Avid unveiled no fewer than three new control surfaces, a new engine, and two new I/O racks for its Venue S6L family of live sound mixers. Dubbed the Avid Venue S6L Modular Platform, the collection is intended to offer surfaces and features that will scale with users' production needs; as such, the line will have complete software, hardware and show file compatibility at all levels. With the additions, the S6L family now comprises five surfaces, including the new S6L-48D, S6L-24C and S6L-16C, that offer from 16 to 48 faders, all of which can be paired with a choice of three engines, including the new E6L-112, and be connected to any combination of S6L's four I/O rack options, including the new Stage 32 and Local 16.

Crest XD-16 and XD-28 Mixers

Crest Audio's XD-16 and XD-28 2 RU rackmount digital mixers offer optional Dante networking as well as real-time remote control and monitoring from any Android, Windows or iOS device. An integrated Wi-Fi module allows real-time control and monitoring of mixer processing functions, either by acting as a Wi-Fi router for direct connection of up to four external devices for remote control, or by connecting to an external Wi-Fi network, extending the mixer's range for applications where the remote control devices are a long way from the mixer. An optional 4x4 Dante network module allows up to eight channels (4-in/4-out) of audio streaming over a Dante network, also extends the physical inputs of the XD-16/XD-28 by four AUX channels, and also adds four outputs (MON 1-2 and AUX 1-2).

d&b GSL System

d&b audiotechnik has launched the SL-Series, GSL System as its new flagship, built for use in large arenas, stadiums and festivals. The GSL8 and GSL12 loudspeakers from the SL-Series are the largest line array modules developed by d&b. With 80° and 120° horizontal dispersion, respectively, the units provide consistent pattern control down to 45 Hz. According to d&b, the geometry of two front-facing 14" drivers and two side-firing 10" drivers creates such low frequency extension and headroom that flown subwoofers are usually unnecessary. Mid-range is delivered by a high-sensitivity horn loaded with a 10" driver, while three 3.4" diaphragm HF drivers mounted on a wave-shaping device provide high-frequency output.

DiGiCo 4REA4

DiGiCo's 4REA4 Installed Audio Solution is positioned to meet the growing requirements of large broadcast facilities, entertainment venues, houses of worship, theaters and shared stages. The 4REA4 processing engine sports connectivity options and control software to provide routing, processing and mix control that will allow a performance area to expand across an installation. The 4REA4 processing engine rack has four dedicated mix areas, or zones, each with its own stereo master output, CGs and allocated FX. With an available 128 input channels and 48 bus output processing strips, users can independently allocate processing to each area as required. Managing the mixing and routing of each individual local performance area is a new range of hardware control panels and external I/O units that work with the 4REA4 processing engine and control software.

Optocore Festival Box

Festival Box is a signal transport system that builds on broadcast-oriented fiber technology introduced by Optocore's technology partner, BroaMan. Festival Box allows multiple sound engineers in a festival environment to connect different consoles and run different protocols to the stage box—all of it transported on a single duplex fiber, thereby saving a tremendous amount of cabling between FOH and stage. Festival Box uses Repeat48-2Fiber modules at its source, allowing different conversion options, such as 12 duplex SFP slots multiplexed into a quad fiber, six duplex SFP slots multiplexed into a duplex fiber, six duplex SFP slots plus 12 BNC (which can be used for 3G-SDI and coax MADI) ports, 24 BNC ports, and 12 BNC ports. The SFP optical module transceivers are hot-swappable.

Radial Tonebone AC-Driver

The Tonebone AC-Driver from Radial Engineering is a compact acoustic instrument preamp designed for use on stage. It offers features to streamline performances and aims to provide the best possible tone from instruments. Radial's Class-A buffer circuit protects audio quality and allows the use of longer cables or pedal chains without signal loss or degradation. The AC-Driver has a 1/4" amp output for on-stage monitoring and a balanced line to feed the PA system or a powered speaker for the audience. The mute footswitch silences everything but the tuner output on the AC-Driver, allowing users to tune silently or switch between instruments without clicking or popping.

Yamaha's New Loudspeaker Lines

Yamaha introduces two new lines of loudspeakers and subwoofers: the powered DZR/DXS-XLF collection and passive CZR/CXS-XLF family. The DZR line of powered speakers, along with the DXS-XLF powered subwoofers, offer DSP done at 96 kHz, as well as newly developed Advanced FIR-X tuning technology intended to minimize latency and phase distortion. The DZR and DXS series are also available with Dante integration—the "D" models incorporate smart system integration with Dante devices via a 2-in/2-out I/O configuration.

The CZR series of passive speakers are aimed for installations where power amplifiers are used remotely. Adding companion CXS-XLF subwoofers will reportedly extend a sound system's bottom end down to 29 Hz. When paired with Yamaha PX Series amplifiers or other compatible processors, the loudspeakers use dedicated speaker processor tuning settings to produce DZR-quality sound.

firstlook

Audio-Technica ATW-T6002x

Audio-Technica has added the ATW-T6002x handheld transmitter to its 6000 Series high density wireless system. The ATW-T6002x is said to provide low handling noise and features a metal construction body, OLED screen, soft-touch controls and switchable RF power (2 mW/10 mW/50 mW). Sporting a typical industry thread mount, the transmitter can work with a half-dozen new interchangeable A-T microphone capsules, as well as other compatible capsules.

Audio-Technica's 6000 Series high density wireless system is a spectrum-efficient solution that allows users to pack 31 channels in 4 MHz of bandwidth. It operates in the 944-952 MHz band, which is free of broadcast TV. The 6000 Series system consists of the ATW-R6200S receiver, ATW-T6001S body-pack transmitter and ATW-T6002x handheld transmitter, an optional ATW-DA410 antenna distribution system, and a number of compatible Audio-Technica lavalier and headworn microphones.

AIMS's Showcase Theater Brings IP to the Masses at NAB Show

BY CLIVE YOUNG

Across the four days of NAB Show, the IP Showcase Theater hosted, recorded and broadcast 45 presentations by 56 presenters discussing IP installations and technologies.

LAS VEGAS, NV—Taking over all three halls of the Las Vegas Convention Center, the NAB Show is a massive undertaking for exhibitors and attendees alike, but while there is gear to check out as far as the eye can see, education plays a strong role in the show, too. Underlining that fact, the Alliance for IP Media Solutions (AIMS) used this year's NAB Show to host its IP Showcase on the exhibition floor in the Central Hall.

Designed as a one-stop destination where visitors could learn about unlocking the full potential of IP for real-time media, the booth's offerings including an all-IP production room built out of gear from participating AIMS members. Also, one of the busiest locations in the booth was the IP Showcase Theater. Over the course of the show's four days, the micro-venue on the side of the booth, seating roughly 20 people, served up 45 presentations and panels, featuring 56 speakers in all. Each discussion, which ranged in length from 20 minutes to a full hour, dished on IP installations or IP technology based on and in support of the AIMS roadmap.

The theater was a crucial part of the AIMS booth, and not merely for the fact that it was educating professionals. As part of the larger booth, it also demonstrated networking ecosystems—open standards like AES67 and SMPTE 2110-30—working together.

"I'm doing a presentation tomorrow where I go through [the booth's systems] and say, you've got to use the right tool for the job," explained Patrick Killianey, network systems applications engineer for Yamaha Commercial Audio Systems, who designed the production system for the theater. "The whole booth is the AES67/SMPTE 2110 open standards

(continued on page 45)

Over the Moon with Lana Del Rey

Kevin Madigan with a Royer mic at his DiGiCo SD5 FOH console on the Lana Del Rey tour

BURBANK, CA—Supporting her most recent album, *Lust for Life*, Lana Del Rey went all over the place on her recent concert jaunt, duly dubbed the LA to the Moon tour. Knocking out nearly two dozen shows in less than six weeks, the tour—her first since 2014—was a quick-paced production. Along for the ride was FOH engineer Kevin Madigan, who oversaw an extensive audio system from Sound Image (Escondido, CA).

Both Madigan and monitor engineer John Lammi looked after DiGiCo mixing consoles, with the house mix handled on an SD5, while monitorworld centered around an SD10. Having toured with the likes of David Gilmour and Crosby, Stills and Nash over the years, Madigan knows a bit about miking guitars, and for Del Rey's shows, he opted to use a Royer R-121 and adjacent dynamic mic to close-mic a Marshall 4x12 cabinet powered by a Metropoulos head. On a Vox AC30, he used a single R-10 centered on one speaker's dome. The guitar cabinets were positioned under the stage to keep the onstage level down.

"For the LA to the Moon tour, I'm using one R-10 and one R-121 specifically for miking the electric guitar cabs," he explained. "The R-121 is a long-term favorite, and the R-10 is new for me—it's on its first outing for this tour. I was excited to try it out after hearing about it from Royer and it's working out perfectly. It has a slightly brighter tone, which has been just right for use on a Vox AC30 guitar amp. When I put Royers on my guitar cabinets, what I get in the FOH system sounds like I'm standing in front of the amps; the reproduction is amazing."

The FOH system in question was a sizable L-Acoustics K1 system. "We're not trying to get huge SPLs—quality is the key, and that was taken into account with the PA choice and system design," Madigan noted. "It really is a show that's very vocal-based. It's all about the songs and her voice. Keeping that in mind, I initially met with L-Acoustics' Dave Brooks [application engineer, touring liaison] and we came up with a system design that allowed us to maintain the feel of intimacy in a large arena show. The coverage and the quality of the system make that possible. The linear reproduction of sound everywhere really helps people to feel as if they're quite close up, [going for] the idea that, sonically, no one ever feels far away from the stage. To achieve that, we take a lot of care and spend a good deal of time every day listening and measuring so that the sound is consistent all the way to the highest seats in the arena."

Making that happen was a system based around 14 K1s over four K2s as the main left and right hangs, with eight K1-SBs flown outside of the main

(continued on page 45)

briefs

DPA Captures Celine at Caesars

LAS VEGAS, NV—Celine Dion has performed more than 1,000 shows at Caesars Palace, and these days, more than 40 DPA (dpamicrophones.com) mics are used nightly, including her three d:facto FA4018V vocal mics (plus four for backup singers), 19 DPA d:vote 4099 instrument mics, two d:dicate 2011A on the snare, two d:dicate 4007 omnis for tuning and more.

Shure Extends 600 MHz Rebate

LAS VEGAS, NV—Shure (shure.com) has extended its 600 MHz wireless rebate program through Oct. 31, 2018. The rebate offers up to $500 per channel on the purchase of new Shure wireless mics and IEM systems accompanied by the trade-in of wireless systems operating in the 600 MHz frequency band (614-698 MHz).

OSA's Record-Breaking Purchase

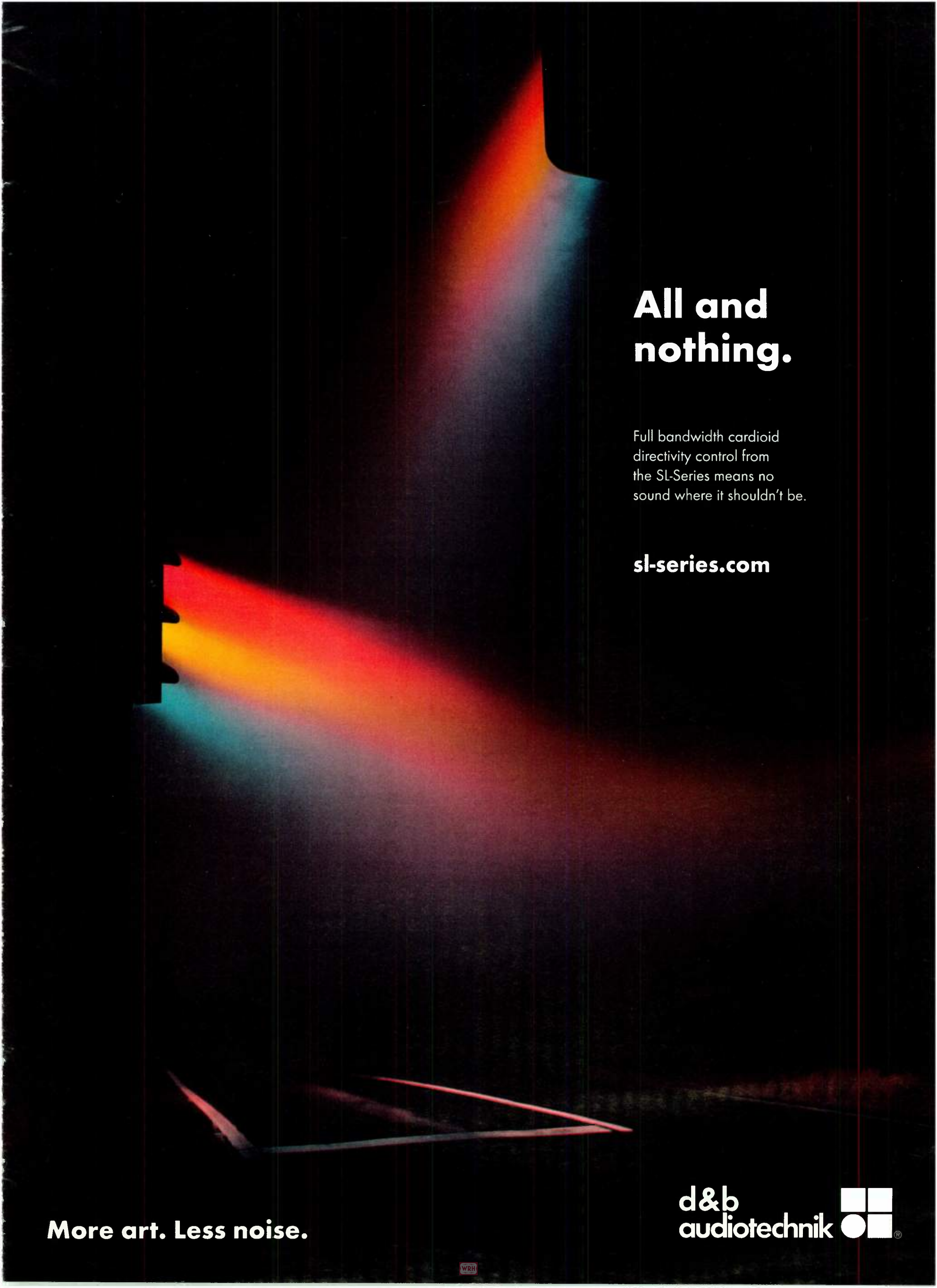
LAS VEGAS, NV—OSA International recently became the largest rental house for Martin Audio (martin-audio.com) systems in the world when it purchased 248 Wavefront Precision Compact and Mini line array cabinets. The purchase also included system iKON amplifiers, iK42 and iK81, as well as the new SXH218 subwoofers.

Zebulon Lands in L.A.

LOS ANGELES, CA—Rat Sound (ratsound.com) recently designed and installed an L-Acoustics (l-acoustics.com) audio system in Zebulon, a new venue in Atwater Village. Performers are heard via an Arcs WiFo system with two Arcs Wide and one Arcs Focus per side. A pair of SB18i's are flown behind each array for low-frequency support, while a four-mix monitor system using X12 wedges is found on stage.

Savannah's Sound is DiGiCo

SAVANNAH, GA—The annual Savannah Music Festival in April hosted more than 100 productions across its 17-day run, and at all four of its major venues, DiGiCo desks provided by Atlanta-based Rock N Road Audio were used at both FOH and monitorworld.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At the Wiltern theater in Los Angeles for two nights of deadmau5 delivered through an L-Acoustics L-ISA processor and K2/Kara speaker system are (l-r) Jeff Pickman, director of operations, DSS Inc.; FOH mixer Fred Vogler; Dean Malton, producer and engineer for deadmau5; Carlos Mosquera, L-ISA Labs engineer; Jesse Stevens, L-Acoustics regional applications engineer; and Alex Soto, Mexico-based L-Acoustics applications engineer

deadmau5 Drops the Beat at L.A.'s Wiltern Theater

BY STEVE HARVEY

LOS ANGELES, CA—Joel Zimmerman, known to EDM fans worldwide as deadmau5, branched out in more ways than one at the end of March when he presented his music orchestrated for strings, brass and woodwinds—but no percussion—at the Wiltern theater in Los Angeles. The two nights of performances, featuring a full orchestra plus synthesizers, were presented using the L-Acoustics L-ISA "immersive hyperrealism" processor—another first for the Canadian record producer, musician, composer and DJ.

By all accounts, the event came together fast. Toward the end of last year, Zimmerman asked French-born film composer and producer Gregory Reveret to orchestrate the tracks on his *7* album, from 2013. By February of this year, they were at EastWest Studios in Hollywood with the CMG Music Recording Orchestra to produce *where's the drop?*, a compilation of orchestral versions of 15 deadmau5 tracks that was released exclusively on Tidal.com on March 30.

Music scoring mixer Alan Meyerson mixed the album, but when Zimmerman asked if he would man the FOH position at a live orchestral show to coincide with the release, he demurred, suggesting Fred Vogler, the multi-Grammy Award-winning principal sound designer for the Hollywood Bowl and Walt Disney Concert Hall. "I hadn't worked with this artist before," says Vogler, "but I enjoy combining electronics and acoustics, and the idea of working with deadmau5 was exciting because of his reputation and following."

L-Acoustics K2/Kara speaker setup at hte Wiltern during *where's the drop?* soundcheck.

Vogler has long championed L-Acoustics products, which have been operating at the Hollywood Bowl for years, and was encouraged to discover that deadmau5 and his production team typically prefer K1/K2 systems. He pitched the idea of integrating L-ISA at the Wiltern shows. "When we gave them some illustrations and spoke to them about the experiential differences—that somebody would have grander, more spatial sound throughout the venue rather than just the more focused area at front of house—it appealed to him. L-Acoustics was very supportive in wanting to make this happen," Vogler reports.

L-ISA is an object-based processing system that L-Acoustics has rolled out with relatively little fanfare over recent years, initially in Europe. The recent Lorde tour was one of the first opportunities for fans across the U.S. to experience the system, which uses a minimum of five speaker arrays evenly spaced across the front of the stage to generate a three-dimensional soundfield that can be experienced throughout the audience.

"It doesn't matter where you are in the room; if you are in the L-ISA zone, you hear the spatialization," says Carlos Mosquera, U.S.-based L-ISA Labs engineer, during soundcheck for the deadmau5 shows. "We use a controller and a processor, but the rest of the gear is the same—same boxes, same desk."

At the Wiltern, that gear comprised three hangs each of six K2 plus three Kara downfill, flanked by an array of 10 Kara modules each side, and with three KS28 subs on the deck per side in a cardioid array. That configuration is known as a Focus system; if the five hangs are identical, it is referred to as a Wide system. (There can be more than five across the front, and systems can include speakers to the sides, behind and above the audience.) Six L-Acoustics X8 speakers provided lip fill at the Wiltern. Vogler collaborated with Scott Sugden, L-Acoustics' head of application, touring, on the design of the sound system.

The equipment was trucked in by DSS Inc., a Kansas-based sound production, integration and rental provider. Vogler, who specified the stage layout and mic plan, sub-rented the DPA mics for the strings from the local VER office.

L-ISA accepts 96 inputs and generates 64 outputs, all over MADI. "With every object, you can apply panning, you can make it wider, apply distance, and we have an aux

send; right now, that's feeding the subs," continues Mosquera. "If we have overheads, we can pan it anywhere in the vertical plane."

A handful of manufacturers have partnered with L-Acoustics to offer remote control software or plug-ins for their products incorporating the OSC (Open Source Control) protocol. DiGiCo is one of those, but its software has not yet been released, so Vogler mixed on an SD7 in collaboration with Mosquera, who managed positional information on his laptop and used a motion controller to pan featured sound sources, such as Zimmerman's synthesizers, using hand gestures.

"Today is 5.1," says Mosquera, referring to the five hangs plus subs, "but maybe tomorrow is 9.1. I don't have to remix it. I just open the new configuration from the L-Acoustics Soundvision software and it scales, because you're mixing to a position, not to a speaker box."

FOH mixer Fred Vogler

To prepare himself for the shows, Vogler took some of the elements from the EastWest sessions to the L-ISA Lab at L-Acoustics' U.S. headquarters near Los Angeles. "We had more than 100 inputs at front of house and just a rehearsal afternoon, then the first concert that night," says Vogler. "So I needed some advanced warning about what we were getting."

It wasn't necessary to have every violin and viola as an independent audio object, he says, so he grouped various instruments in the SD7. "But we ended up using all 96 L-ISA inputs," he reports.

"We took on a lot given the short amount of rehearsal. It was fast and furious. But the idea was to get it to sound as glorious as possible; I really wanted it to be something special. And I thought it went well."

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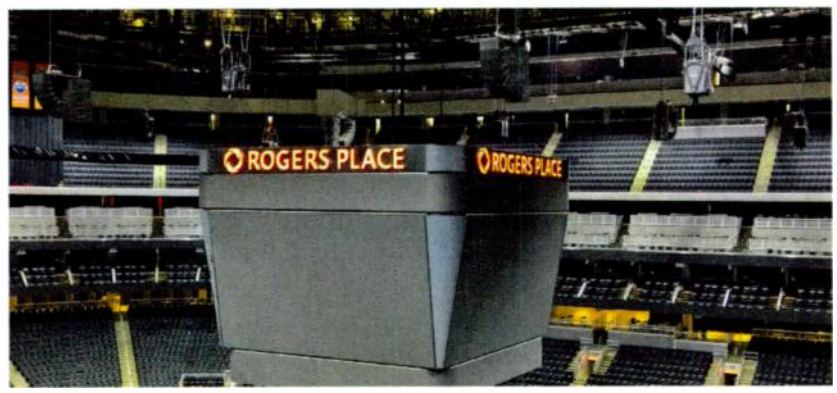
Oilers Fans Get Something to Gush About

EDMONTON, CANADA—The new Rogers Place arena in Edmonton, Canada, houses the NHL's Edmonton Oilers Hockey Club, crowds of up to 18,000 and a massive sound system from d&b audiotechnik. Oilers Entertainment Group's consulting team, led by Vernon Mason, worked with acoustic consultancy Orchestral Arts Inc. (OAi) to create the system.

Dale Fawcett, principal of OAi, observed, "When an architectural drawing set for Rogers Place was presented to Orchestral Arts, some acoustical challenges became immediately apparent. Unlike arenas that position loudspeakers above and around the center ice score clock, the main loudspeakers in this arena would need to be lowered and moved closer to the listeners."

To alleviate undesirable audio reflections, the main seating bowl within the arena has a number of acoustical features, and the extent of the acoustic treatments required principal architectural firm HOK Architects to play a role in guiding their completion through the construction processes.

Fawcett used EASE acoustics simulator software to verify an installation solution founded on 10 line arrays of d&b V-Series arranged around the seating bowl. Specifically, the Vi8 installation version was used to shape the main arrays, with three cardioid Vi-SUBs deployed immediately behind each array, all powered by D80 amplifiers. Delays for the upper concourse seating, fill speakers for seating immediately bordering the mid-bowl dasher boards, and fills for the players and officials on the ice was accomplished using the d&b Yi10P point source loudspeaker. A combination of d&b D20 and D80 amplifiers were used for the Y-Series enclosures.



Rogers Place in Edmonton, Canada, is the home of the Oilers NHL hockey team and a massive d&b audiotechnik house PA.

The ten subwoofer arrays are timed to the full range Vi8 arrays for maximum LF impact. Three V-SUBs are the same height as each of the mains. This presents a small profile when viewed from the front of each array, allowing them to sit just above the score clock's four 22 feet by 38 feet 16:9 HD video displays. The passive designs of the Vi8 loudspeaker and Vi-SUB cardioid subwoofer, plus their smaller size and weight, help in putting together a straightforward installation.

Beyond the arena bowl, Oilers Entertainment Group provided Orchestral Arts with detailed input lists for every room. Coordination with the Oilers Entertainment Group team during construction was the task of Calgary-based Daryl Yakielashek. "I introduced the idea of a QSC Q-SYS solution," said Fawcett. "Ray Rayburn of Sound First in Colorado created the design for the dedicated dual redundant digital audio network, as well as extensive software for Q-SYS. Ray Rayburn, an AES Life Fellow, is one of the most capable audio professionals worldwide. The system has more than 480 inputs and 420 outputs, and includes 1,500 distributed loudspeakers throughout the facility on many signal delays, all timed off the respective d&b arrays. Dedicated Q-SYS outputs exist for each of the d&b amplifier channels."

While the acoustic and sound system was designed for hockey, it is also available for touring acts. "The bowl system has the capability to connect the d&b arrays and subwoofers to a touring system, specifically to the far end zone but also other zones," said Fawcett. "With d&b included on many riders, it is hoped that this use will develop over time, and maybe even operatic events. For touring acts—an important revenue stream for the facility—the acoustic treatment in the bowl was envisioned to provide a good feel for artists and engineers first entering and then rehearsing in the space. Keith Urban, who gave the inaugural concert, was quoted on the Rogers Place website: "So many arenas are purely built for sport and the concert sound suffers, but not Rogers Place. It's one of the best sounding arenas I've played in."

d&b audiotechnik
dbaudio.com

QSC Invades Southwest Invasion in Austin

AUSTIN, TX—Concurrent with the SXSW Conference & Festivals, the annual Southwest Invasion concert series/lifestyle event took place in downtown Austin, TX, in March. Up-and-comers and music notables like Dashboard Confessional's Chris Cabbarra and National Recording Registry inductee DMC (see page 15) performed at the venue, which was outfitted with gear from QSC Professional.

The on-site system included WideLine 10 Series and KLA Series line array loudspeaker systems, KW Series and K.2 Series loudspeakers, and PLD4.5 amplifiers, with a TouchMix-30 Pro compact digital mixer at front-of-house. The gear supported a series of 30 concerts that ultimately attracted more than 12,000 attendees.

"Southwest Invasion worked with QSC for the first time last year when they did the sound for our Homegrown Stage," says Liz Leahy, co-founder of Southwest Invasion. "This year, both the Homegrown Stage and Plaza Main Stage were powered by QSC. While all the musicians that perform at Southwest Invasion are incredible, the QSC loudspeakers made such a significant difference in the sound that we were all blown away."

The event was held on the 25,000-square-foot rooftop plaza of the Whole Foods Market flagship store and global support offices. Production director Rion King, a partner of the event's audio vendor, Nomad Sound, oversaw a PA system on the Plaza Main Stage comprising two hangs each of four QSC WideLine 10 line array modules. "We also had four GP212-sw double-18-inch subwoofers across the front of the stage," he says. "Everything was powered by PLD4.5 series amplifiers."

On stage were K12.2 speakers downstage left and right, doing double duty as both side fill and front audience in fill. Additional K.2 Series loudspeakers were deployed as floor monitors across the front of the stage and as audience out fill. A KW122 e loudspeaker atop a KLA181 18-inch self-powered subwoofer provided drum fill.

Philip Ramirez, owner and operator of Headwater Audio in San Marcos, TX, ran the Homegrown Stage, located at the opposite end of the plaza from the main stage. "I had a pair of KLA12 loudspeakers on each side on a pole coming off a pair of KLA181 subwoofers," Ramirez said. "And we had five K12.2s for monitors—four across the front and one at the back for the drums."

VINCENT ROAZZI JR.

Dashboard Confessional's Chris Cabbarra was among the performers at the Southwest Invasion concert series/lifestyle event in downtown Austin, TX.

Ramirez had a QSC TouchMix-30 Pro 32-channel mixer at front-of-house. "I like it a lot; it's easy to use," he says. "It was easy to teach the bands' engineers how to use it. I had a good turnout of front-of-house engineers showing up with their bands. It was usually a 20-minute soundcheck, then a 20-minute performance—five minutes getting the band up and mixing their first song, then the next 15 minutes figuring out what was going to be the next act and cuing their engineer."

QSC
qsc.com

NAB Show Audio

(continued from page 1)

year's show, is instead a set of network objects, including processing engines, traditional audio I/O devices and control interfaces, that can be distributed throughout a facility. At NAB Show, SSL also took the opportunity to debut its new "appified" System T v2.0 software, which includes native immersive audio support, and introduced System T S300-32, a compact control surface with fixed 32+1 fader configuration that can be combined with the complete portfolio of SSL's System T control, processing and I/O options.

IP has also enabled the streamlined and cost-efficient remote broadcast audio production method referred to as REMI (REMote Integration) or at-home production, where mic inputs and IFBs at a venue are managed remotely, sometimes thousands of miles away, from the mixing desk at the plant. Console manufacturers including Calrec, Lawo and Wheatstone have all launched REMI products in recent years. Calrec participated in live demos at its NAB Show booth, using its RP1 unit to contribute audio across the floor of the Central Hall to a production hub at the Grass Valley booth, which provided live mixing for distribution to the booth of signal transport specialists Net Insight.

Podcast listenership has exploded over the last couple of years, thanks in no small part to the ubiquitous smartphone. According to figures from industry researchers, nearly half of all U.S. households are podcast fans, and a quarter of the population has listened to at least one podcast in the last month.

In the run-up to this year's NAB Show, Chris Brown, NAB executive vice president of conventions and business operations, stated, "We have greatly expanded podcasting's presence at NAB Show to help individuals and businesses understand and implement the latest technologies and content strategies to capitalize on the medium's growing popularity and potential." In the new Podcast Pavilion area, companies including Blubrry, Libsyn, Podbean, TuneVu, VoxNest and Zype had their hosting, management and monetization solutions on display.

Representatives from the Podcast Engineering School were also on hand to offer advice and assistance. As founder Chris Curran comments on the school's website, "Since I entered the world of podcasting in early 2012, I realized that most podcasters and podcast producers have very little or no audio engineering skills, which virtually cripples the quality of their sound from the very beginning. That's why I opened Podcast Engineering School."

> IP has brought about a sea change in the world of broadcast.

"What if you had your own virtual development platform with the AI to do virtually anything you wanted to do in the studio? And what if you could apply the same concept to hardware? What if your studio console could be as dynamically changeable as any software interface?" asked Dee McVicker, marketing communications director for Wheatstone.

Version 2 of Wheatstone's ScreenBuilder virtual development platform answers those questions, and adds new scripting for capturing RSS news, sports and weather feeds, while providing users with the tools to design display and control panels for tablets and touchscreens. Leveraging the IP-connectedness of every component in a WheatNet-IP facility, that virtual control panel could be as simple as a single fader, mute and level control that allows the talent to handle his or her own mic remotely, to a complex screen enabling a producer to manage all aspects of a multi-person talk show.

Clear-Com's Agent-IC 2.2 app feels as futuristic as AI, with its ability to control a partyline intercom system from an Apple Watch. With a tap on the wrist, Apple Watch users on a Clear-Com partyline system are discreetly notified—via haptics—of an intercom call, can see the caller's I.D. at a glance and can respond via a paired Bluetooth headset or iPhone.

On a grander scale, Clear-Com's new E-IPA card allows users to build out high-density audio distribution and intercom systems. Potentially, up to a maximum of 256 IP ports may be added to Eclipse HX-Median and Omega systems—the highest density matrix intercom system available on the market, according to the company.

The Telos Alliance has taken a different approach, eliminating the digital matrix and leveraging IP to take the intercom system to infinity, if not beyond. The Telos Infinity, which had its own booth at this year's NAB Show, is a distributed IP network solution that brings together voice communication and contribution audio on a single IT backbone. Employing the latest standards-based VoIP and Livewire+ AES67 AoIP transports, it also integrates easily into existing analog, AES, SDI and MADI systems using Telos Alliance xNode baseband-to-IP interfaces and other AES67 partner devices.

Praise Tour Sings RCF's Praises

EDISON, NJ—Currently on the road, the 2018 Festival of Praise tour features Grammy Award-winning singer/multi-platinum producer Fred Hammond, 10-time Grammy winning a capella group Take 6, multi-Grammy winner Donnie McClurkin, and Gospel hitmakers James Fortune and Pastor Charles Jenkins. Along for the ride is a sizable RCF line array system to ensure that audiences catch every note.

Manager Ray Hammond reported that the tour was once again turning to an RCF system for the production. This year's edition is carrying a RCF HDL50-A large format line array system with 24 HDL50-A dual 12-inch three-way line array cabinets.

The line arrays are supported by a dozen RCF SUB9007-AS dual 21-inch subwoofers, along with 12 HDL20-A dual 10-inch line array cabinets for side fills when necessary.

RCF
rcf-usa.com

Festival of Praise Tour
festivalofpraisetour.com

TOP 10 TOURS OF THE MONTH

ACT / STATISTICS	CREW	EQUIPMENT
1 DEMI LOVATO | CLAIR GLOBAL	**Chris Aman** (be); **Tim Coakley** (me); **Shawn Dier** (se); **Kyle Fletcher** (RF tech); **Robert Taylor, James Ellison** (techs)	**HC:** DiGiCo SD5; **MC:** DiGiCo SD5; **HS:** Clair Cohesion CO-12, CO-8, CP-6, CP-118, CP-218; **HA:** Lab.gruppen PLM 20000Q; **MA:** Lab.gruppen PLM 20000Q
2 ROMEO SANTOS | EIGHTH DAY SOUND	**Franklin Espinal** (he); **Javier Morales** (me); **Krysten Dean** (cc); **Danny Paleaz** (ae); **Jay Butler, Chris Smith** (tech)	**HC:** Avid Venue S6L; **MC:** Avid Venue S6L; **HS:** d&b audiotechnik; **MS:** d&b audiotechnik; **IEM:** Aviom; **HA:** d&b audiotechnik; **MA:** d&b audiotechnik; **HARDWIRED MICS:** Shure; Sennheiser; **WIRELESS MICS:** Shure Axient
3 BLAKE SHELTON | CLAIR GLOBAL	**Jeff "Pig" Parsons** (be); **Brad Baisley** (me); **Dave Moncrieff** (cc/se); **Nathan Lowe** (mse); **Sean Bacca, Brandon Allison, David Enderle** (techs)	**HC:** Avid Venue Profile; **MC:** Avid Venue S6L; **HS:** Clair I-5D, I-5, I-3, Cohesion CO-8, CP-218; **MS:** Clair CM-22, P-2; **IEM:** Sennheiser G3; **HA:** Lab.gruppen PLM 20000Q; **MA:** Lab.gruppen PLM 20000Q; **HARDWIRED MICS:** Sennheiser; Audio-Technica AT4081; Radial J48 DI, JDI, SW8, ProD1, SGI, ProRMP; **WIRELESS MICS:** Sennheiser; **FOH EQUIPMENT:** Rane Seratto EQ
4 DEAD & COMPANY | PROMEDIA/ULTRASOUND	**Derek Featherstone** (be/se); **Matt Haasch, Ryan Cornelious** (me); **Lonnie Quinn** (mse); **Michal Kacunel** (cc/se); **Sean McAdam** (se); **Michael Bollella, Cody Scott** (techs)	**HC:** Gamble EX56; Avid S6L (96 Ch. drums) with Pro Tools 12.7; **MC:** Avid Venue D-Show (96 Ch.), Venue Profile (96 Ch.); **HS:** (36) Meyer Sound Leo, (22) 1100-LFC, (16) 700-HP, (32) Milo, (16) Mica, (6) Leopard; **MS:** Meyer Sound MJF-212, MJF-210, 1100-LFC; **IEM:** Sensaphonics; JH Audio; Future Sonics; **HARDWIRED MICS:** Milab LC-28, LSR3000; Shure KSM8, KSM9, Beta91, Beta2, SM57; Sennheiser 421, 409, 904, 935; Neumann KMS104; Helpinstill model 280 piano pick-up system; AKG 414, 460; Telefunken M-80; **FOH EQUIPMENT:** Summit DCL-200, TLA-100; Empirical Labs Distressor; TC Electronic M5000, D-Two; Aphex 622 gates; KNAS Das Ekdahl Quad Massager; UltraSound DRSE Quad Panners; Metric Halo UNL2; TubeTech LCA-2B; UREI 1176; **MONITOR EQUIPMENT:** Sennheiser EW300G3
5 PINK | BRITANNIA ROW	**Dave Bracey** (he); **Jon Lewis** (me-Pink); **Horst Hartmann** (me-Band); **Guillaume Burguez** (cc); **Johnny Keirle** (se); **Juan Beilin, Shaun Ayles** (ae); **Jack Murphy** (tech)	**HC:** DiGiCo SD7; **MC:** DiGiCo SD7; Yamaha PM10; **HS:** L-Acoustics K1, K2, K1SB, KARA, KS28; **MS:** L-Acoustics X15, Clair CM-2; **IEM:** Sennheiser 2050; **HA:** L-Acoustics LA12X; **MA:** Lab.gruppen; **WIRELESS MICS:** Sennheiser 6000 series
6 KID ROCK | SOUND IMAGE	**Russell Fischer** (be); **Luke Johnson** (cc/band me); **Mike Clark** (artist me); **Ted Bible** (se); **Ian "Squid" Walsh; Bill Collyer** (tech)	**HC:** Avid Venue S6L, (2) Stage 64 Racks; **MC:** (2) Avid Venue Profile (96 Ch.); **HS:** L-Acoustics K1, Kudo, SB-28, K1SB; **MS:** Sound Image MA 2x12, 1x15; **IEM:** (18) Shure PSM 1000; JH Audio Layla; **HA:** L-Acoustics LA8; **MA:** Crown HD12000; **HARDWIRED MICS:** Shure KSM32; AKG C 414; Sennheiser e904, e902; **WIRELESS MICS:** Shure UR4D, ULXD; **FOH EQUIPMENT:** Dolby Lake Processor; **MONITOR EQUIPMENT:** Avid Venue Personal Q
7 JUSTIN TIMBERLAKE | CLAIR GLOBAL	**Andy Meyer** (he); **Paul Klimson** (me); **Phil Kriz, Justin Lenards** (se); **Hugo Gudino Jr., Elliott Wiley** (mse); **Paul Manuel** (ae); **Dustin Chrysler, Carlos Lopez-Olavarria, Rachel Rozzi, Nathan Sonnenberg** (techs); **Kevin Leas** (RF tech)	**HC:** DiGiCo SD7; **MC:** DiGiCo SD7; **HS:** Clair Cohesion CO-12, CO-10, CP-6, CP-118, CP-218; **HA:** Lab.gruppen PLM 20000Q; **MA:** Lab. gruppen PLM 20000Q
8 KATY PERRY | CLAIR GLOBAL	**Toby Francis** (he); **Dave "Supa" Rupsch** (me); **Paul Jump** (cc/se); **Ben David** (ame); **Justin Robinson** (rf); **Andrew Kastrinelis, Jesse Cole** (techs); **Jay Schmit** (pm)	**HC:** Yamaha PM10; **MC:** DiGiCo SD7; **HS:** Clair Cohesion CO-12, CO-8, i-3, CP-218 Sub; **MS:** Clair 12AM; **IEM:** Shure PSM 1000; **HA:** Clair StakRak (Lab.gruppen PLM 20000Q); **MA:** Clair StakRak (Lab.gruppen PLM 20000Q); **HARDWIRED MICS:** Sennheiser e901, e904, e905, e914; Telefunken M82, M80; AKG 414, 214; Nuemann KM184; Radial SW8; **WIRELESS MICS:** Sennheiser EM 3732; **FOH EQUIPMENT:** Neve Portico II MBP; Neve 5059, API 500; Smart C2; API 2500; Crane Song STC-8; Tube Tech SMC-2b; Lake LM44; **MISC:** Clear-Com FreeSpeak
9 BON JOVI | CLAIR GLOBAL	**Dave Kob** (be); **Dave Skaff** (me); **Adam Stuart** (cc/se); **Dave Ferretti** (ae); **Ken McDowell** (rf tech); **Katie Hughes** (tech)	**HC:** Yamaha PM5000, QL1; **MC:** DiGiCo SD7 with SD Rack; **HS:** Clair Cohesion CO-12, CP-218, CO-10; **MS:** Clair CP-118; **IEM:** Shure PSM 1000; **HA:** Lab.gruppen; **MA:** Lab.gruppen; **HARDWIRED MICS:** Shure SM 81, 91a, 52a, Beta 181, SM 58; Sennheiser MKH 416, MD 421, MD 409; Audio-Technica AT4047; Neumann TLM 103; Radial J48, JX44, Firefly Tube DI; Countryman DI; **WIRELESS MICS:** Shure Axient AD4D; **FOH EQUIPMENT:** Bricasti M7; Summit TLA 100; Empirical Labs Distressor; Yamaha SPX2000; Aphex 612 gates; TC Electronic D-Two; dbx 160A; **MONITOR EQUIPMENT:** Waves Mercury Bundle; API 3124
10 LANA DEL REY | SOUND IMAGE	**Kevin Madigan** (he); **John Lammi** (me); **Sean Herman, Dave Shatto**	**HC:** DiGiCo SD5; **MC:** DiGICo SD10; **HS:** L-Acoustics K1, K2, K1-SB, SB28; **IEM:** Sennheiser 2050; JH Audio Roxanne; Sensaphonics; **HARDWIRED MICS:** Royer Labs Ribbon R-121, R-10; Audio-Technica; Beyerdynamic M 201 TG; Audix; **WIRELESS MICS:** DPA d:facto II; **FOH EQUIPMENT:** Waves CLA2A, CLA76, H-Delay, H-Reverb; Avalon VT737p; Bricasti M7

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.

AIMS

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area, and our feeling is that open standards are a good addition to the solutions we have."

As an inadvertent case-in-point, while the theater's production system used Dante, its results were sent via AES67 to the video broadcast team, as every presentation was livestreamed on Ustream as well as recorded for use on AIMS' social media and various online channels—a move all too appropriate for a broadcasting show, after all.

On hand at the IP Showcase Theater throughout the four days, Killianey not only designed the system for the theater but also was its production crew. That in itself was a challenge due to the hectic pace of the show schedule.

"One of the challenges here is that most of the time, we have presentations every 20 minutes, one person after another," said Killianey. "As someone's up there, you're miking up the next one and saying, 'What do you need? Where's your PowerPoint?' Oh, you need a sound connection—what do you have?' And we need to be able to do that in five minutes."

Ensuring that every device a presenter brought along could be integrated into a presentation, the IP Theater made use of a Radial DiNet DAN-TX Dante Network DI at stageside.

Being able to provide audio for presentations was no small task; with 56 presenters across four days, the variety of needs was endless. As part of the production system, the theater had an ASUS laptop that presenters could use for PowerPoint presentations, which, in turn, was connected to an Attero Tech unDUSB 2x2 Dante Networked Audio Interface. Nonetheless, many presenters eschewed the provided laptop, preferring their own gear. "What if someone walks up and they have a clip they want to use that's on their phone?" said Killianey. "These things just happen—someone brings up a smartphone, an iPad, another computer. What if they bring their own laptop and they don't have the USB connector size that we have?"

The answer was a Radial DiNet DAN-TX Dante Network DI/2-channel audio transmitter. "It's basically a problem-solver for how I react to people coming up with things," said Killianey. "People may have a different device or USB connector, but they usually still have a headphone jack—so we can get sound back into the system via the Radial box because it's PoE Dante, and then it has RCA and 3.5 mm inputs, so anything that someone walks up with, I can connect with it—I just plug into the Radial and all those levels are taken care of. I haven't been able to overload it, either. I've used them in other shows; I don't work for Radial, but their DI boxes sound amazing."

When the DAN-TX box wasn't acting as a consumer electronics-to-Dante Rosetta Stone, Killianey still was putting it to use between presentations: "I have used it just for background music—I'll bring my iPad and plug it in. When you do that, you have to put [the iPad] in airplane mode so it doesn't dip in to announce 'You've got an email!' and come back up," he laughed.

Because the theater required only one-way audio conversion ("It goes to Dante and then I just feed it to my mixer"), its counterpart DiNet DAN-RX Dante audio receiver was unnecessary, but being that the NAB Show is about broadcasting, the receiver was still a topic of discussion. "We don't have the output box here," said Killianey, "[but] with broadcast events, I've seen a lot of camera guys really want that, because the system they're on is Dante [using] Sound Devices or something like that for location recording. They say, 'I need to jack it into my camera so I can get the audio. Just give me a mix—I know you're going to multitrack it over there, but give me a mix over here.'—and they get that thing [the DAN-RX box], which has an XLR, and go right into the camera. If the camera's not Dante, now it's no big deal, and it's PoE so they don't have to run another power supply out there."

During the four days of the NAB Show, the IP Showcase was a bustling stand—a true accomplishment, given the number of exhibitors on hand and the fact that it was located at the very back of the Central Hall. Anyone who wanted to learn about AIMS or take in a lecture at the IP Showcase Theater had to make a concerted effort to get there—and they did, in droves.

"People are coming to see this," Killianey confirmed, gesturing at the theater, which was still full as he spoke, 20 minutes before the show closed for the day. "It's been busy! I took a photo at 10:30 during the first presentation—which is a little early for people to get all the way to the back of the hall—and it was full, and they jammed the aisle as well."

As a result, the overall message of the IP Showcase was heard, both figuratively and literally, loud and clear. "They need to learn about open standards," he said, "but also people are coming here to see [the IP Showcase and the presentations] because an open standard does not stand alone. There are other things that you have to integrate with, and this shows how to do that."

Alliance for IP Media Solutions (AIMS)
aimsalliance.org

Radial Engineering
radialeng.com

Lana Del Rey

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hangs. In addition, 18 SB28 subs were ground-stacked in groups of three across the stage in a cardioid configuration. "I know that sounds like a really large number of subs for a show with this kind of intimate, vocal-based music," Madigan said, "but while the flown K1-SBs allow us to get really even sub coverage thorough a large arena, the main use is actually about cancellation of sound on the stage itself."

As he explained, flying the K1-SBs alongside the main K1 hangs created a cancellation node on the stage that went up to about 200 Hz. "So the LF intensity on the stage is much, much less, which makes things so much more comfortable for the artist. Whether you're standing in the highest reaches of the arena or on the stage,

L-Acoustics' K1-SB arrays (far left and right) were used to minimize LF intensity on the stage.

you're hearing different aspects of what the K1-SBs are doing. Turning them on and off makes a marked difference in overall sound consistency in the room and results in a large drop in sound energy on the stage. It's really the best of all possible worlds."

Keeping the energy on stage low was crucial to maintaining the mood of the show and lessening the need for vocalist Del Rey to push—a necessity given the numerous shows in the whirlwind tour. Also aiding the quest for a quiet stage was the presence of personal monitors—the musicians all wore JH Audio Roxanne and Sensaphonics earpieces, and those, too, were affected by the Royer guitar mics.

"We're trying to capture an authentic sound for our guitarist, who is using in-ear monitors," said Madigan. "In-ears can be hard sounding, but when I put Royers on the cabinets, the in-ears sound and feel much more organic, less pointy and hard, which musicians really appreciate. We're also running these offstage amps quite loud, but with the R-10 and R-121, the high SPLs have proven to be no problem for either mic."

Every tour is a learning process, offering the audio team opportunities to take away insights that can applied to the next gig. With the Del Rey tour, Madigan noted he found ways to use what he's learned over the last eight years working with the various members of Crosby, Stills and Nash, and likewise came away from the chanteuse's production with new ideas: "[CSN] certainly prepared me for this gig. CSN is kind of the ultimate training ground for mixing important vocals in music, and it stands you in good stead for about anything else. There are really quite a number of musical styles represented in Lana's music, and the audience is completely different. It's a real pleasure to be able to be around her music and crew, and take on board new things and new ways of hearing and seeing."

Royer Labs
royerlabs.com

L-Acoustics
l-acoustics.com

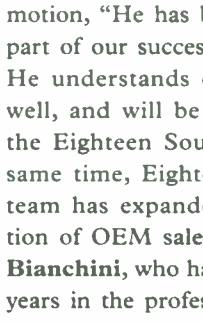
Sound Image
sound-image.com

Lana Del Rey
lanadelrey.com

Francesco Spapperi

Coinciding with news of new corporate ownership, transducer manufacturer Eighteen Sound has appointed **Francesco Spapperi** CEO. He was previously the controller at B&C Speakers. Eighteen Sound and loudspeaker company Ciare were acquired by B&C Speakers in December. B&C Speakers Group CEO Lorenzo Coppini said of Spapperi's promotion, "He has been an important part of our success in the last years. He understands our business very well, and will be a strong asset to the Eighteen Sound team." At the same time, Eighteen Sound's sales team has expanded with the addition of OEM sales director **Matteo Bianchini**, who has spent the last 10 years in the professional power amp module business.

Matteo Bianchini



Eric Carmichel

Countryman Associates has appointed **Eric Carmichel** to the position of chief engineer. With a background that spans physics, audio electronics, hearing science and more, Carmichel will be active in numerous aspects of the company's technical operations. Among his responsibilities, he will be involved in defining feature sets for new products, working with the mechanical design team to tune the acoustic properties of new microphones and testing prototype PCBs.

John Maier

Private equity firm Transom Capital has announced the appointment of **John Maier** to the board of directors at LOUD Audio. Maier is CEO of Blue, a designer of microphones, headphones and accessories. He helped leverage the company's professional recording studio heritage into the consumer electronics space. Before Blue, Maier was the CEO of TC Group Americas, where he helped the Danish company build its brand's presence in the region. Prior to TC, Maier held several leadership positions in the audio industry, including at Alesis, Guitar Center and Sound Marketing.

John Whitcore

Paul Stewart

Genelec has promoted two of its key U.S. sales personnel: **John Whitcore** becomes national sales manager and **Paul Stewart** becomes senior technical sales manager. Whitcore has more than 20 years of industry experience. Previous to his time at Genelec, he managed U.S./Canadian East Coast pro audio sales for Avid Technology. He is driven by his passion for music, great sound and technology. Stewart, a graduate of the Berklee College of Music, draws on nearly 20 years of experience—12 of which have been at Genelec—in professional audio sales to production facilities and individual artists. Prior to joining Genelec, he was a project consultant, providing design expertise in areas including equipment specification, layout and system integration.

Dudley McLaughlin

Renkus-Heinz has appointed **Dudley McLaughlin** to the position of western regional sales manager. McLaughlin comes to Renkus-Heinz after several years in management positions with TC Group Americas, moving to director level after that company's acquisition by Music Group. His more than two decades of experience in pro audio integration also includes held sales and support roles with Pacific Audio Visual, Audio Geer and Kaman Music. McLaughlin will be based out of the Renkus-Heinz offices in Foothill Ranch, CA.

Scott Esterson

Audionamix has hired **Scott Esterson**, who joins the team as sales manager operating from the company's Los Angeles area office. Esterson brings experience in the music, broadcast and post-production markets to Audionamix, where he will be responsible for sales of the company's software products as well as speech/vocal separation services provided by Audionamix's in-house team. His previous experience has been at brands including TS, Lexicon, Genelec, Tascam and Adam Audio.

Jeff Taylor has been appointed sales director at CODA Audio USA, where he brings his more than 20 years experience in professional audio. He said of the company, "Today's sound reinforcement challenges require not only exceptional speaker systems but also a solid platform of business solutions that have to be as wide-ranging as the scope of the work they support. I look forward to helping CODA Audio USA in this respect and establishing the brand as a leading light in the U.S. market."

Jeff Taylor

60SECONDS

James Greenspan
Yorkville Sound

Q: What is your new position, and what does it entail?
A: I am the new marketing and communications manager at Yorkville Sound. The role entails making sure strategic and effective product messaging gets out through our media channels and outreach to our ambassadors. On my first day, I was given a collage of all the Yorkville Sound partner and distributed brand logos. There are more than 25 of them. It's a good visual of what we are working on and a reminder to keep pushing the needle forward.

Q: How has your background prepared you for your new role?
A: I started in the marketing side of the music industry at record labels. That gave me a good foundation as to how to build an interconnected marketing campaign, along with the experience of working with artists, venues, studios and road managers—people who are passionate about gear and sound. I have a good idea of sound reinforcement needs and am able to create an engaging campaign to reach our core consumers.

Q: What new marketing initiatives are we likely to see from the company?
A: When our users talk about our products, you get the sense that they feel they stumbled on this great under-the-radar "tip" or industry secret. We hear a lot of road stories about how a Yorkville product a sound tech rented saved a gig. This is a surefire way to win lifelong loyalty. After 50+ years, this has proved true time and time again. It also establishes a feeling of a "clubhouse" of people who are in the know about Yorkville's products, history and culture. We are always celebrating something here, whether it be a new product development, a new design, an industry award, an event or something else. We will be getting more of that information out to the media and social networks to expand that clubhouse and keep our users and retailers proud of Yorkville.

Q: What are your short- and long-term goals?
A: The social media comments from our users speak volumes and played a hand in establishing our goals. On the Yorkville end, pro audio enthusiasts rave about performance, value, fidelity and durability. On the Traynor side, longtime users share their Traynor stories dating back to the '60s and refer to their Traynor amp as their "workhorse." These aren't marketing slogans or ad campaigns. This is the wonderful reality about our brands and the people who use them.

Yorkville has always been focused on people, quality and service. I noticed in just my first few weeks here that at any given time, our product specialists would be hitting the road, going to stores and giving product demonstrations at local retailers in markets big and small. They are meeting our community personally and establishing face-to-face dialogue with end users.

The long-term goal is to keep that dialogue going, develop this community and bring this positive messaging to the surface. We need to make sure people are hearing about us and talking about us.

Q: What is the greatest challenge you face?
A: I am new to the pro audio/MI industry, so I am getting acclimated and introducing myself to media contacts, partners and our extended team. I am planning our next round of trade shows, and evaluating our website and social media opportunities. I am doing a lot of new things with a lot of moving parts and people involved. The team here is made up of people who are experts, and who want to see our end users succeed by getting the most out of our products. With a team like this, challenges can be taken on with confidence.

Building Up Business Solutions

DOUG CARNELL, VICE PRESIDENT OF BUSINESS SOLUTIONS, GUITAR CENTER

BY CLIVE YOUNG

Guitar Center is well-known for its more than 280 stores, and its GC Professional arm has long helped pros design and outfit the recording studios of their dreams, but now the retailer has another division that really means business—literally.

Doug Carnell, vice president of Business Solutions, Guitar Center

"Business Solutions is a brand-new division of GC Pro that provides technology solutions for businesses through the many worlds of pro audio, visual and lighting," explains Doug Carnell, Guitar Center vice president of Business Solutions. "My group has started to acquire and develop sales channels to meet the business customer's needs and expand GC's reach to the industry."

That's no understatement. The Business Solutions division first came to the attention of many in the industry late last year, when it acquired San Francisco Bay Area-based Audio Visual Design Group (AVDG)—a clear statement of intent signaling Guitar Center's expansion into integrated solutions.

Anyone can acquire a business, however. Understanding what makes that business successful and how its industry works is something else entirely—and that's where Carnell comes in. He's intimately familiar with the integrated solutions world, having worked in it for more than 30 years at both small and extremely large AV companies.

After working for a hotel AV department during school, Carnell moved on to work in the operations side of a small AV company—a job that became a formative experience.

"I did everything you could there—worked services, rentals, marketing and eventually sales," he recalls. "During that time in the early '90s, we started to add system integration. Selling solutions to customers led to me understanding not only how to sell a system, but also how to make sure it all worked together."

As time went on, Carnell worked his way up the industry, gaining experience and new roles along the way. "As head of operations for one of the largest AV firms in the world, I was responsible for making sure our company could operate on a larger scale and do so consistently," he says. "Our operational goal was making sure that the right talent was in the right place, in order to grow our revenue and increase our customers' appreciation that they could build a system from the same integrator in multiple cities with exactly the same results."

During his tenure, he learned crucial insights ("Our belief was to tie great operations with great sales."), but eventually he found it was time to move on. He recalls, "It was bittersweet, as I loved being a part of a growing successful team, but honestly, I disagreed with what was needed next in the company's transition. When I left, I wanted to stay tied to the industry, so I became a COO for a small AV e-commerce company. Our goal was to highlight what made us great while building for the future; we wanted to take a founder-based organization and build it into a corporation that had a common goal, yet with the ability to make decisions without its founders. I found the experience wonderful. Over these two roles, I learned so much—and grew as a person to better understand how to navigate obstacles and focus on what's best for the customer."

Those experiences and insights have provided both fuel and focus as Carnell has taken on the challenge of creating the new Business Solutions Group at Guitar Center. The process of building a team draws on his background ("I have years of experience in management of creative and unbelievably intelligent people."), but fostering a common goal for all those individuals and resources requires a focal point, and in Carnell's eyes, it all comes down to one thing: the customer.

> "We want to build a team that is focused on going at the market a little differently than just looking for that next bid to answer, and to become a force within the industry that not only hits the sales numbers, but brings that creative process back to its important role of solving customer problems."
>
> *Doug Carnell*

He elaborates, "The customer—business or consumer—has changed dramatically, from how they want to find a solution and how they purchase to how technology can help them. These shifts have required all industries to change, and in the commercial sound business, it is as much about how the technology is handled—how sound travels, great installation, the technology used—as it is about the people who help put it together. In order for the business side to succeed, we have to have the ability to tie great design with being an expert in technology."

Being an expert, he notes, also means being able to create custom solutions that truly answer each customer's problems, rather than leaning on a selection of one-size-fits-all solutions in order to increase profit margins. "In the end, the customers don't get the best results and are left with cookie-cutter solutions," he notes.

His answer, then—which will also provide further focus for that emerging Business Solutions team—is to hone in on the business division's ability to develop a customized result that fully answers each customer's needs.

"We are very focused on how we can bring the creative process back into the operational model of AV integration," says Carnell. "Over the last several years, many companies have been putting too much emphasis on building a massive operation, while ignoring the custom market. We want to put together a great design/build firm, offering a client the best experience, both during the process and after it is complete. We will accomplish this by considering growth through acquisition, as well as adding resources to our portfolio. We want to build a team that is focused on going at the market a little differently than just looking for that next bid to answer, and to become a force within the industry that not only hits the sales numbers, but brings that creative process back to its important role of solving customer problems."

Becoming a force in the industry is a tall order, and Carnell is readily aware of the challenges ahead, noting that there will "always be a competitive marketplace." Nonetheless, he sees Business Solutions as primed to make inroads. "The acquisition of AVDG this last year is just the beginning for us in the AV channel," he shares. "Our goal is to acquire and grow organically in the major markets over the next few years. We are focusing on finding unique companies that can grow our design build business as well as offer ways we can partner with our customers for their continued success."

Carnell has no shortage of aspirations for the division. "The goal is to utilize the best in creative minds to solve our customers' problems and utilize our strengths in engineering and design." That high-flying vision, however, keeps its feet on the ground thanks to Carnell's ultimate objective: "We are very focused on becoming the best AV integration company out there—so that we can benefit our customers."

GC Professional – Business Solutions
guitarcenter.com/GC-Pro/

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Pro Sound News (ISSN# 0164-6338) is published monthly by NewBay Media, L.L.C., 28 E 28th Street - 12th Fl, New York, NY 10016. Pro Sound News is available without charge in the USA to qualified professionals engaged in sound recording, broadcast, video recording, audio-visual, sound reinforcement and associated business. The publisher reserves the right to refuse applications and restrict free copies sent to a company or organization. For subscription information or to email customer service, please visit our online Subscribe Center at www.MyPSNmag.com. Reprints available upon request, call our Reprint Coordinator at Wright's Reprints: 877-652-5295. Periodical postage paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to: Pro Sound News, P.O. Box 234, Lowell, MA 01853. Please allow 6-8 weeks for address changes to take effect. © Copyright 2018 by NewBay Media, L.L.C. PRINTED IN U.S.A.

Consumer/Pro Audio

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tems, immersive entertainment, high-end streaming services, and yes, better digital formats than the MP3 have all served to raise consumer awareness—and expectations—as to what makes for a quality listening experience.

As consumer audio offerings have improved, they've also created an opportunity for many pro-audio manufacturers to apply their expertise to a wider audience, whether creating their own products for the consumer marketplace or licensing their technologies to other manufacturers in that space. As consumers become increasingly sophisticated, in some cases, the lines between the consumer and pro-audio worlds are beginning to blur.

When it comes to balancing pro-audio and consumer presences, Shure, known for its microphones and IEMs among other pro products, has brought its audio sensibilities to consumers ever since it began selling phonograph cartridges in 1933. "As a company that provides quality products to the professional audio community, we are able to scale our technologies to every price point while maintaining the performance, quality and reliability expected from Shure," said Scott Sullivan, vice president of Global Product Management. "By bringing quality products to consumers, you can extend your reach if you're able to scale the look, feel and functionality of a professional-use product to meet the needs of a consumer."

Conversely, he said, developing consumer goods can provide insight into rethinking professional offerings: "It's not about determining what features stay and which ones go [in consumer models]; it's about understanding what features make the most sense to include in the scaled-down model for each price point [because] it is incumbent on us to manufacture products that meet consumers' needs. For example, not every independent musician has a crew, so they need to be able to conduct set up and sound check by themselves. At Shure, we provide tools with the right features to enable them to do that easily. From our viewpoint, that doesn't take away from the professional users as we've created products to serve both use cases. If anything, this provides an opportunity not to undermine, but to create a more intuitive product for the professional users."

Scott Sullivan

There are many consumers who will never need pro-level features in the audio products they use, but at the same time, introducing those advanced offerings to potential entry-level pro users can prove enough of an enticement to draw some to more robust pro products down the road. That's part of Avid's gameplan with its First family of free software, which offers abridged versions of Pro Tools, Media Composer and Sibelius.

"It's really an entry point; that's what it's designed to be," said Adam Lebowski, Avid's market solutions manager, Pro Audio. "There's casual users that might want to dip their toes into the world of Pro Tools and maybe they're familiar with DAWs and recording, or maybe they need to collaborate with somebody who uses Pro Tools. Regardless, they want to see what the world of Pro Tools has to offer them, so we meet those entry-level users, bringing the competencies that the Pro Tools family product line has to offer to them, and as their skills increase, they have a viable ladder to climb and progress to the next level.... You want to give people enough that they can latch on, understand it and feel comfortable with it, and then progress. But like anything else, they bump into the limitations and they realize, 'Well, that part was very important and maybe that other part wasn't,' and they can make an informed decision about how they want to move forward after that."

Established in 2012, German software developer Sonarworks has made a name for itself with its Reference software, which aims to make all speakers sound the same so that engineers can have a uniform listening experience while working, regardless of the equipment or space they're using. Now the company has turned its eye to the consumer experience with its True-Fi software, which revamps some of that technology for end users.

Martins Popelis, VP of Professional Products, Sonarworks, explained, "Currently the music industry at large is spending considerable time and effort making sure songs 'translate.' At its core, this issue only exists because all speakers and headphones on both ends of the equation sound different.... "Good sound" has been a really elusive concept as it is heavily influenced by the rooms, speakers, headphones and varied consumer taste. Sonarworks firmly believes that it's time to leap ahead and embrace the future where "good sound" is primarily defined by the creative team in the studio. This is exactly what Sonarworks' SR standard delivers; an engineer in a studio with Reference 4 can confidently mix knowing that the consumer will hear music as they intended on the Sonarworks-enabled consumer device."

Jack Joseph Puig

One person standing in the nexus where consumer electronics, pro audio technology and the music people listen to all meet, is Jack Joseph Puig. While he's produced, engineered and mixed a seemingly endless list of household names, in recent years, Puig has been also using his experience, ears and position as Waves' director of Creative Innovation to influence the development of consumer products' audio offerings, and has been involved in the creation of a slew of high-profile consumer products from Google, Fitbit, Dell and others, employing Waves MaxxAudio Technology. (For more on that creative process, see page 8.)

From his vantage point, Puig sees the levels in quality between consumer and pro audio blurring only more and more, and that's due to end users who are increasingly discovering the pleasures of an engaging audio experience—and the consumer brands that understand the value of providing it in their products.

"The bottom line is, 'What does it sound like? How does that experience with that device make you feel?'" said Puig. "If it sounds great and you enjoy listening and interacting with it, that's the value-add.... When a consumer hears and feels what they have been missing, there will be no turning back and they will gravitate to consumer electronics products that give them a higher quality audio experience."

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The Fire Inside

BY JACQUES SONYIEUX

Neko Case has never really fit into a specific genre classification, drawing roots and influence from Canadian folk, alt-country and indie-rock in equal parts. As an artist, she's always been a bit of a rebel—a songwriter with strong, often lyrically haunting ideas and an extraordinary voice that could draw tears from a stone. *Hell-On* is her first album in five years, which she completed after finishing up projects with The New Pornographers and her female Canadian supergroup case/lang/veirs. The album delivers the exceptional vocal performances that we have now come to expect from Case, with some fresh sonic flourishes courtesy of a new co-production arrangement with Björn Yttling from Peter, Bjorn and John. *Pro Sound News* spoke with Case about working in Sweden and getting outside her comfort zone.

EMILY SHUR

Neko Case is back with her first solo album in five years, *Hell-On*.

ON MULTI-TASKING:

This album took a long time because I had the case/lang/veirs project to work with, which involved making a record and touring. Then the New Pornographers record came out and we had a lot of touring for that, too. It is kind of like being in three full-time bands, and if you figure two years per band, I am actually ahead of schedule in a strange way. As far as my production role on this record, I felt really good about ceding some control because I wanted to push myself to new places. And sometimes you can't do that just thinking about yourself and working the same way that you always do. I always have lots of guests on my albums and that makes things exciting, but I specifically wanted to go outside my comfort zone.

ON NEW DIRECTIONS:

I decided to work with somebody I didn't know at all, but whose work I admired: Björn Yttling from Peter, Bjorn and John. I had done a lot of research and really like what he does—I like his musicality, and he can do pretty much anything. He's a multi-talented musician, producer and arranger and had some things going on that I really wanted to be a part of. I think he probably felt good because I didn't want to go in there and control him; instead, I wanted to go in there and see his reaction to things. Also, Björn had a connection to a lot of great musicians in Sweden, as well as Lasse Mårtén, the mix engineer on this record. There was so much hometown goin' on that it felt like I was part of this friendly, super-warm musical community that is kind of a worldwide thing now.

ON BREAKING THE SEAL:

Looking back over the records I've made, I'll usually have about three songs that are more or less "ready to go"—maybe I will tour them for a bit and break them in so we have three solid things to lay down. These three songs will give you the confidence of "breaking the seal" in the studio. Then I'll bring in three more songs that are half or three-quarters done and kind of finish those up. Finally, there will be about three or four songs that I have no idea what to do with, and they will become what they are in the studio with experimentation. I like having that variety, and it naturally sets up well for spontaneity. But it's spontaneity with a safety net, because some things are already done and they sound good, and you get confidence from that.

ON STUDIO TOOLS:

Right when I got into the studio with Björn, he started playing Farfisa on things, and I think this elevated things a bit. I love Farfisa, but he played it in a very strange way that created a lot of tension. This kind of instrumentation was helpful in elevating some ideas that I was already married to but which hadn't hit their stride yet. As far as guitars, I fall more in love with my Jazzmaster every year. I used a lot of severe distortion on this record—I am still in love with the Hotcake distortion pedal. For vocals, the Audio-Technica AT4050 and I are good friends. But I also used a 58 on this record a few times. I am really nasal, so some of these expensive, high-end mics don't really work for me. I think what I like about the Audio-Technica is that it is the most "invisible mic" on my voice. It can take a lot of volume and is also friendly to my nasal quality.

ON DEVILS IN THE DETAILS:

I touched no knobs on this record, but I was there and would ask for certain things. I am really nitpicky—to the point where people probably want me to go away sometimes. There will be 14 different versions of something in the end before it is narrowed down. I really fight for the little, tiny parts, because if somebody comes in and does this guitar part, and let's say their thumb slips on the guitar in this one spot, I want to make sure that moment is not forgotten,s because of how it made me feel at the time. I want to make sure those little landmines are all over the record, and so the people who played them can find themselves on the record. Things can get lost in a big wall of sound. I like the wall of sound, but I want the details as well.

ON TAKING VISUAL CUES:

Since I am not a trained musician, I had to say things differently, and the mix engineer, Lasse Mårtén, always got it. At one point, I actually sent him a photo of a painting and said, 'Can you just make it sound like this guy is singing it?' I think it was a drawing for "Night on Bald Mountain" from *Fantasia* where the Devil is on the top. He burst out laughing and said, "That's all I needed right there, thank you!"

Jacques Sonyieux is a devout explorer of recording studios and the artists who occasionally inhabit them. Please send any tips or feedback to Jacques at jacquessonyieux@gmail.com.

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