

prosound

METAlliance ON
Improving Your Room
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September 2019



BABS BRINGS IT ALL HOME—While never one to tour extensively, Barbra Streisand played a trio of dates this summer that included a stop in her old hometown of New York City to play Madison Square Garden. Along for the ride were a d&b audiotechnik GSL System, DiGiCo desks and customized Audio-Technica AE5400 handheld mics, not to mention a 15-piece orchestra. For more, see page 38.

KEVIN KANE/CONTRIBUTOR/GETTY IMAGES ENTERTAINMENT

Reinvented AES Convention More Relevant Than Ever

BY STEVE HARVEY

NEW YORK, NY—As regular as Christmas, the AES Convention is nearly upon us, once again co-locating with the NAB Show New York at the Javits Center in New York, October 16–19. This year's technical program prom-

ises to be more comprehensive than ever, adding master classes and workshops focusing on hip-hop, R&B and EDM, as well as several events that shine a light on podcasting and a wider selection of product development sessions.

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Preserving the Past in Philly

Drexel University is preserving, archiving and researching 7,000 tapes left unclaimed after Sigma Sound Studios, the home of Philly Soul, closed in the early 2000s. Now Drexel's Music Industry Program has unearthed and issued a previously unreleased 1969 album by Nat Turner Rebellion.



Metadata Gains Momentum

BY CLIVE YOUNG

NEW YORK, NY—It's always smart to give credit where credit is due, but in recent

years, the music industry has had problems doing just that. Collecting and using metadata—information associated with a recording

that denotes technical specs, creative information and a list of people involved in a recording's creation—is an issue that has dogged the industry since consumers began shifting to digital downloads in the early 2000s. As the public continues that migration, increasingly opting to stream music rather than own it, the need for accurate, accessible metadata is more crucial than ever to ensure that everyone involved, from musicians to song publishers to recording personnel, gets

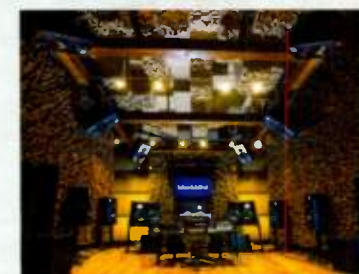
the credit they deserve.

Fortunately, music industry professionals at all levels are recognizing the increasing importance of metadata and its implementation. In June, streaming platform Tidal introduced an interactive credits feature that provides individual profile pages for everyone involved in the creation of a track, from musicians to mix engineers, allowing users to discover other music the individuals worked on. In early 2018, Spotify, too, began presenting songwriter and producer credits.

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Blackbird's Next-Level Immersive Room

John McBride, co-founder of Nashville's Blackbird Studio, explains how and why the facility revamped its Studio C—famously outfitted with 138,646 individual pieces of wood for diffusion—into a 9.1.6 Dolby Atmos mix space.



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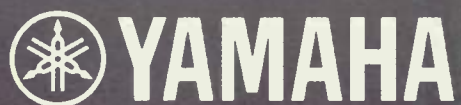
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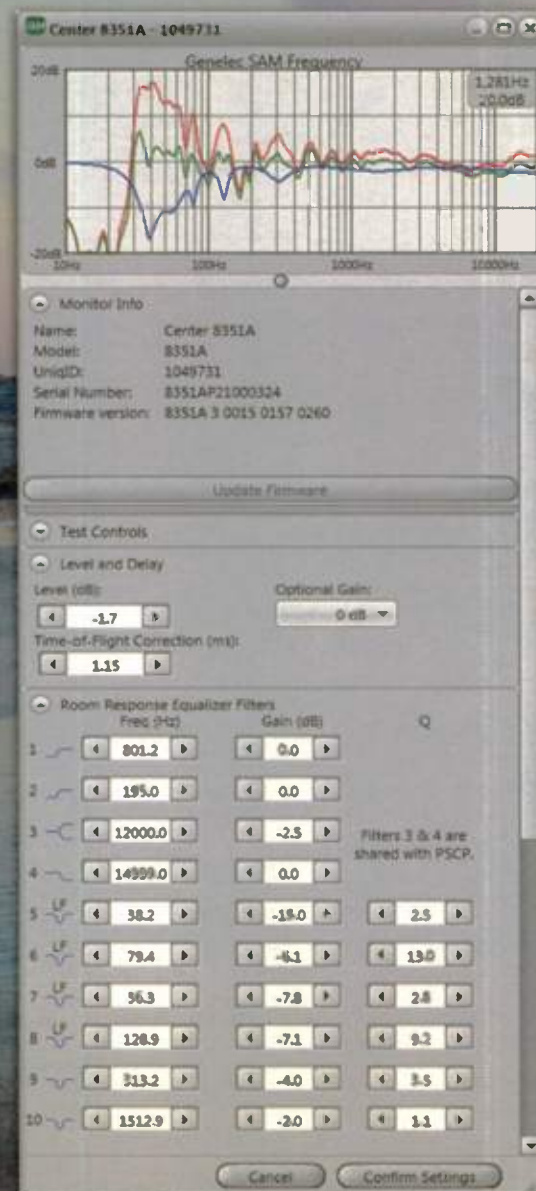
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Apple Unveils Digital Masters

BY STEVE HARVEY

CUPERTINO, CA—Music and tech websites were abuzz on August 7 with the news that Apple had launched Apple Digital Masters, using its catalog of

high-resolution Music for iTunes audio files to deliver what some reported as “lossless quality” music.

Billboard was the first news site to report the Apple announcement, which was quickly re-reported by other organizations, some of them speculating that the new initiative offered high-resolution streaming.

Apple’s media advisory states that Apple Music “has been slowly rolling out Apple Digital Masters,” adding, “By encoding from high-resolution masters, Apple music engineers are able to capture all of the detail of a recording in a size that is convenient for streaming and downloading. Using 24-bit files means less noise and higher encoding efficiency.”

Apple’s iTunes webpage now refers only to the new branding and includes a link to a downloadable PDF detailing its new mastering guidelines, dated July 2019.

In addition to introducing a new set of guidelines for Apple Digital Masters, the company has made available a variety of tools—automated drop-lets and command line utilities—that

enable mastering engineers to convert their LPCM files (AIFF or WAV) to 256 Kbps AAC format and monitor for clipping. There is no mention of the native high-resolution or lossless files being made available to consumers.

The PDF notes, “Apple Digital Masters replaces Mastered for iTunes as the name of the program to better reflect the fact that these audio advantages are available to our entire music catalog across the Apple ecosystem, whether streamed or downloaded. All Mastered for iTunes releases are now badged as Apple Digital Masters. All of the Mastered for iTunes software tools are still usable for Apple Digital Masters creation.”

Apple launched its Mastered for iTunes (MFiT) guidelines in 2012, with the aim of improving the quality of audio on the platform. MFiT raised the bar by requiring that mastering engineers encode to 256 Kbps AAC directly from uncompressed masters originally recorded at 24 bits and any sample rate from 44.1 kHz through 192 kHz. Apple



iTunes has gotten a behind-the-scenes upgrade with the Apple Digital Masters Initiative.

Digital Masters are also encoded to 256 Kbps AAC format.

Apple’s media advisory notes that approximately 75 percent of the U.S. Top 100 and 71 percent of the global Top 100 are currently available as Apple Digital Masters.

It would appear to be wishful thinking on the part of some commentators that Apple was making high-resolution files available for streaming and download—for the moment, anyway. But for Apple to remain competitive with the likes of Tidal, Deezer and Qobuz, platforms that all offer top-tier subscription plans streaming lossless high-resolution audio, it’s not a stretch to imagine that the company might implement a similar program in the future.

Apple
www.apple.com

briefs

Berklee Brings On Cubase

BOSTON, MA—Berklee College of Music (www.berklee.edu) has partnered with Steinberg (www.steinberg.net) to integrate Cubase 10 software into its curriculum. Beginning in the fall term, Berklee’s Film Scoring Department will introduce Cubase 10 into its on-campus course offerings using 100 licenses provided by Steinberg. Initially the software will be incorporated into Berklee’s student labs, studios and learning resource areas, and made available to the school’s faculty and support staff. In the next phase of integration, Cubase will be used by and taught to students in the Film Scoring Department as their principal instrument of composition. The college expects to grow the initiative’s footprint and secure additional Cubase licenses.

Inner Ear Studio Burgled

ARLINGTON, VA—A mainstay of the Washington, D.C., punk scene since the 1970s, Inner Ear Studio (www.innerearstudio.com) was burgled on July 17. The selective thief made off with what owner Don Zientara estimated was \$10,000 in recording equipment, including a Telefunken AR-51 tube condenser and several mic preamplifiers. Over the years, the facility has recorded the likes of Foo Fighters, Minor Threat, Bad Brains, Fugazi, Vic Chesnutt, Shudder to Think, Betty, Bob Mould, Jimmy Eat World and many others.

Etsy Acquires Reverb

CHICAGO, IL—Etsy, an e-commerce website focused on handmade and vintage items and craft supplies, has acquired Reverb (www.reverb.com), an online marketplace for new, used and vintage musical instruments and pro audio equipment, in a cash deal reported to be worth approximately \$275 million. Reverb, founded in 2012, will remain a standalone business, and founder David Kalt will remain in place as CEO for now.



Rethinking VR Sound Synthesis

BY STEVE HARVEY

STANFORD, CA—Austrian composer Fritz Heinrich Klein’s creation of the 12-tone Mother Chord (Mutterakkord) in 1921, which contains one instance of each interval in an octave, has inspired a new approach to the synthesis of modal sound effects in virtual reality.

Unlike television or motion pictures, where sound effects are generally synchronized to picture during post-production, VR is often unscripted and unpredictable, making the generation of realistic, accurately localized sounds within the environment a significant challenge. But a paper presented at the recent ACM SIGGRAPH 2019 conference on computer graphics and interactive techniques by Stanford University professor of computer science Doug James and graduate student collaborator Jui-Hsien Wang offers a solution that can synthesize realistic sound models, and with greater efficiency than current algorithms.

Previous algorithms have relied on the work of Hermann von Helmholtz, the 19th century German scientist who developed an equation describing the propagation of sound. Scientists have created 3D sound algorithms based on his work

to synthesize audio that, by changing volume and direction relative to the listener, appears realistic. But these modeling algorithms also rely on the boundary element method (BEM), an integral equation that requires costly computational power and time.

Rather than use the Helmholtz equation and BEM, the research scientists turned instead to Klein’s Mother Chord, initially used in his chamber orchestra composition “Die Maschine” in 1921, which harmoniously combines numerous notes and tones into a single sound. They named their algorithm KleinPAT in his honor. “Our KleinPAT algorithm optimally arranges different modal tones of a vibrating 3D object into chords, which are then played together by a time-domain vector wavesolver in order to efficiently estimate all acoustic transfer fields,” they write in the prologue of their paper.

The abstract for the paper, “KleinPAT: Optimal Mode Conflation for Time-Domain Precomputation of Acoustic Transfer,” sums up the scientists’ work. “We propose a new modal sound synthesis method that rapidly estimates all acoustic transfer fields of a linear modal vibration model, and greatly reduces preprocessing costs. Instead of performing a separate frequency-domain Helm-

holtz radiation analysis for each mode, our method partitions vibration modes into chords using optimal mode conflation, then performs a single time-domain wave simulation for each chord. We then perform transfer deconflation on each chord’s time-domain radiation field using a specialized QR solver, and thereby extract the frequency-domain transfer functions of each mode. The precomputed transfer functions are represented for fast far-field evaluation, e.g., using multipole expansions.

“In this paper, we propose to use a single scalar-valued far-field acoustic transfer (FFAT) cube map,” the abstract continues. “We describe a GPU-accelerated vector wavesolver that achieves high-throughput acoustic transfer computation at accuracy sufficient for sound synthesis. Our implementation, KleinPAT, can achieve hundred- to thousand-fold speed-ups compared to existing Helmholtz-based transfer solvers, thereby enabling large-scale generation of modal sound models for audiovisual applications.”

As James comments in an article in the latest issue of *Stanford Engineering* magazine, “We think this is a game-changer for interactive environments.” Stanford University School of Engineering <http://engineering.stanford.edu>



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Should the South's First Studio Be Saved?

The site where the first country music hit was recorded stands at the center of a legal battle in Atlanta that pits local preservationists against a major resort developer. At stake is nothing less than a \$100 million-plus hotel project and—at press time—a half-demolished building where music history was made.

In 1923, New York record label OKeh Records set up a “recording laboratory” on Nassau Street in Atlanta, where engineer Ralph Peer recorded numerous regional musicians. Though in service for only one week, it was the first studio in the South, and moreover, it was where Fiddlin’ John Carson recorded “The Little Old Log Cabin in the Lane” on June 19, 1923. Peer wasn’t impressed by the song, but OKeh pressed it anyway—a smart move, as it sold more than 500,000 copies, and is now considered the first country music hit.

On Aug. 8 of this year, demolition crews began tearing down the building to make way for a Jimmy Buffett’s Margaritaville hotel. They stopped just hours later, however, when a temporary restraining order was issued by Judge Shawn Ellen LaGrúa, preventing further work until an Aug. 29 hearing. To obtain the order, preservationists argued that

a Nov. 6, 2017, agreement between the city and developer Strand Capital Group of North Myrtle Beach, SC, was unlawful because it sidestepped the city’s zoning processes, depriving the public of due process.

Ironically, the contested agreement was reached less than six months after Atlanta Planning Commissioner Tim Keane announced in May 2017 that the building would be designated a historic landmark.

Initially sailing through City Hall, the designation inexplicably stalled out at the final stop—Zoning Board approval—until the city, under then-Mayor Kasim Reed, reached a deal with Strand Capital Group to build a 21-story, \$100 million-plus hotel on a plot of land adjacent to the former studio. The current project design wouldn’t demolish the building to make way for the hotel; instead, it would be torn down to create space for Margaritaville’s dumpsters.

Local preservationist group Historic Atlanta claimed on Facebook, “This sweetheart deal gave Margaritaville a ‘golden ticket’ through the demo permitting process and was done without any review by the public or even City Council.” When reached by NPR station WGPB in July, J. Patrick Lowe, representing

Strand Capital Group, commented, “We care about the history of country music and the rich, diverse history of Atlanta. As part of the development, we are considering ways to respectfully acknowledge that OKeh Music recorded an early country music song there.”

The courts may have reached a decision about the site by the time you read this, as we go to press just days before the hearing on Aug. 29. Certainly many aspects will have to be considered, not least that the building has already been partially demolished—though, crucially, its street-facing façade is still standing. No doubt the ongoing economic benefits that a \$100 million-plus hotel will bring the area, too, will be weighed. There’s also the fact that the studio was there for only one week nearly 100 years ago.

Still, who gets to decide just how historically important a site is and how worthy it is to be preserved for future generations? Unfortunately, those calls tend to be made these days by whoever has the deepest pockets; that’s not always fair, especially if the public gets left out of the process, as it was in this case. Other areas around the country—most prominently Nashville’s Music Row—are facing their own “music history versus redevelopment” crises, so whatever the courts decree about 152 Nassau St., it will likely be considered an important legal precedent. Here’s hoping they make a wise decision.

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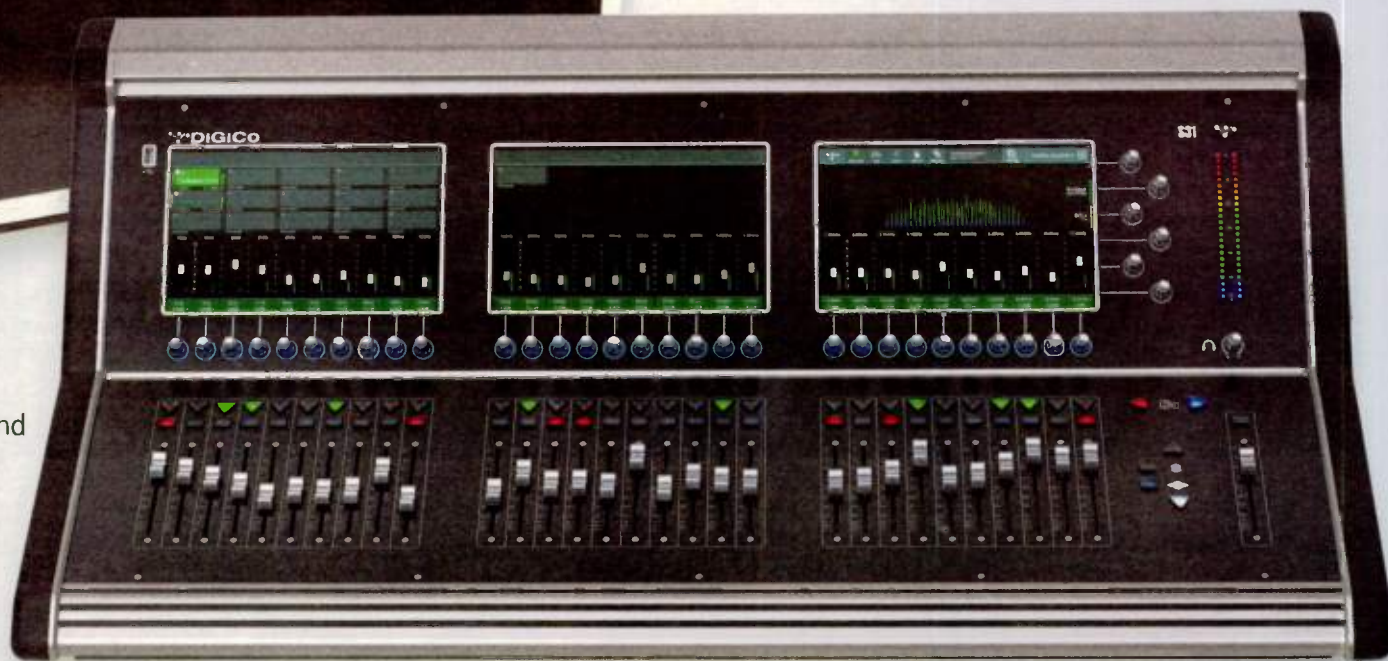
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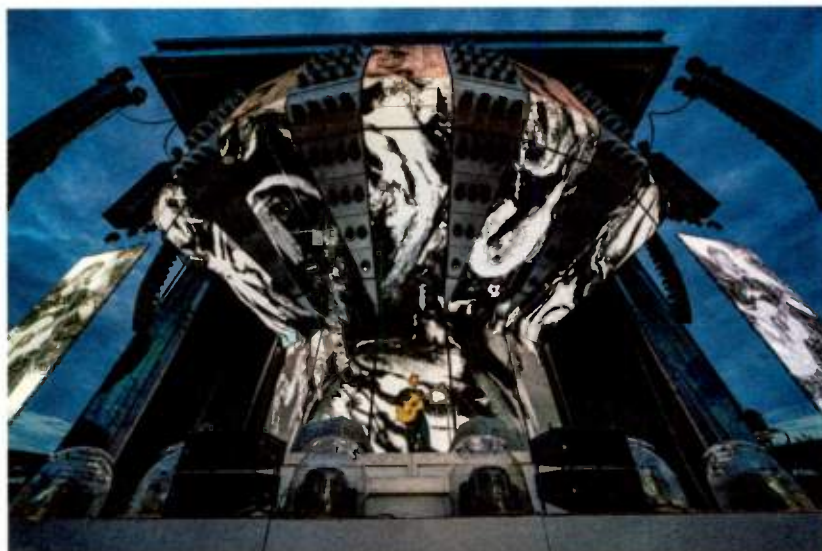
Music Instruments & Pro Audio

Sheeran Sets All-Time Tour Record

NEW YORK, NY—By the time Ed Sheeran finally called it a day on his two-year Divide tour in late August, the troubadour had played a whopping 255 shows for a combined audience of 8.5 million people. That made it not only the most-attended tour ever, but the highest-grossing one as well, as Sheeran passed the previous record of \$736 million set by U2 on its U2360 stadium tour.

Throughout the two-year journey, Sheeran's audio crew used a Meyer Sound Leo Family system provided by UK-based Major Tom to cover the crowds in attendance. The Divide tour system is built around four main hangs of 18-each Leo line array loudspeakers, augmented on the low end by nine flown 1100-LFC low-frequency control elements and 24 1100-LFC elements on the ground in dual end-fire arrays. Stage front and fill systems comprise Lina and UPA-1P loudspeakers. Delays are Milo line array loudspeakers, 14 per hang, with Leopard line array loudspeakers added when required as delay ground fill.

Production manager and FOH engineer Chris Marsh, who has been with Sheeran since his first headline tour in 2011, has used Leo boxes since 2013. "We started using Leo on the earlier arena tours before we got into stadiums, and the first thing that was really noticeable was head-room," Marsh recalled. "It seemed like we never would run out of it.



Ed Sheeran's record-breaking Divide tour saw the singer/songwriter supported by Major Tom, which provided a Meyer Sound Leo system at nearly all of the journey's 255 shows, including this one at Malmi Airport in Helsinki, Finland.

Also the clarity and definition are exceptional. Ed's looping has many layers to it, and sometimes other P.A.s just seemed to make noise. With Leo, there is a separation in the mix I can't find in the other systems I've worked with."

A somewhat unusual twist on the tour's final leg through Europe is the mix of large football stadiums and open "greenfield" sites—parks, fairgrounds and, in Helsinki, a decommissioned airfield. The unusual venues were creative solutions to the problem of finding locations along the route able to accommodate the numbers dictated by ticket demand,

according to Marsh. It fell to audio systems engineer Charlie Albin to ensure the system was re-adapted to different circumstances on a show-to-show basis.

"We were fortunate that we were able to take Major Tom's Meyer P.A. with us almost everywhere on this tour," said Marsh. "We've taken it on and off airplanes a dozen times, in and out of oceangoing containers eight times, plus through torrential rain and heavy winds and even sand pits. And that same system is still going."

Meyer Sound
www.meyersound.com

Solotech Acquires J Sound Services

NASHVILLE, TN—Solotech has acquired the assets of Nashville-based J Sound Services (JSS), a design-build company that provides integration and sales of acoustics, professional audio, video and lighting systems.

The acquisition is intended to strengthen Solotech's positioning in Nashville, allowing it to add systems integration to its offerings. "Our vision has always been to offer both sales and systems integration and live production services in all our offices," said Philip Giffard, president of the sales and systems integration division at Solotech. "We have been partnering with JSS for many years already, so this acquisition opportunity is therefore not only momentous but also very well thought out. This addition is in line with our growth strategy."

Solotech expects the acquisition to give it access to and facilitate work in markets such as cultural and special event centers, sports facilities, houses of worship, studio and broadcast, hospitality and retail, corporate enterprise, education and government.

"Solotech is irrefutably growing rapidly and we are thrilled to join the team," said Jason Spence, founder and president of JSS. "Our clients will continue to benefit from the high quality of products and services they've come to expect from JSS, with the added benefits of the economic strength and geographic reach of [Solotech]. This synergy will definitely answer the needs of all our clients, whether straightforward or complex."

Solotech
www.solotech.com

J Sound Services
www.jss.net



Solotech's combined Nashville team.

Sennheiser Brings AMBEO to Cars

IRVINE, CA—In August, Sennheiser revealed it had teamed with Southern California-based luxury automaker Karma Automotive to implement an AMBEO immersive audio solution for in-car entertainment and communication. The system debuted inside a 2020 Karma Revero GT during Monterey Car Week in Pebble Beach.

In development for the last two years, the system in the car consists of a multichannel loudspeaker setup arranged in two main layers, plus a subwoofer; the vehicle's headrests have also been integrated into the loudspeaker concept. While the system can reportedly handle specific 3D audio sources, its AMBEO upmix algorithm is claimed to be able to turn stereo material into an immersive mix. Audio sources and levels are managed via a GUI that allows the driver and passengers to personalize the sound according to their preferences, with options including the listener's preferred degree of im-



Two years in development, Sennheiser's AMBEO immersive audio solution for automobile sound debuted in a 2020 Karma Revero GT during Monterey Car Week.

mersiveness and position within the soundstage. For phone conversations, the system includes beamforming microphone arrays integrated into both sides of the cabin.

"The main challenge was to bring immersive, high-quality audio into the complex and difficult environment of the car, which is quite unlike our usual use cases for immersive

audio and beamforming technologies," said Véronique Larcher, director, AMBEO Immersive Audio at Sennheiser. "We almost had to start from zero, with the objective of not only bringing a good solution to market, but creating the very best available."

Sennheiser
www.sennheiser.com

AES Reveals 2019 Election Results

NEW YORK, NY—The Audio Engineering Society recently held elections for the 2019 Board of Governors and has announced its incoming officers and governors, who will begin their terms on Jan. 1, 2020.

The society's membership has elected Jonathan Wyner as president-elect and re-elected Richard Wollrich as treasurer. Additionally, Thomas Görne has been re-elected as vice president Central Region, Europe; Cesar Lamschein has been re-elected as vice president Latin America Region; Shusen Wang has been re-elected as vice president Asia-Pacific Region; Ian Corbett will join the Board of Governors as vice president Central Region, USA/Canada; and Alberto Pinto will join the board as vice president Southern Europe/Middle East/Africa Region. Newly elected governors are Brecht De Man, Valeria Palomino and Magdalena Piotrowska.

Save for the president-elect, each newly elected individual will serve a two-year term, while those re-elected will have their current term extended for two years. Wyner will serve a year as president-elect, in 2021 as president, in 2022 as past-president, and

two years as a governor.

Outgoing from the Board of Governors as regional vice presidents are Ufuk Önen (Southern Europe/Middle East/Africa Region) and Mike Porter (Central Region, USA/Canada). Governors with terms ending at the end of 2019 are Martha de Francisco, Kyle P. Snyder and, as he assumes the position of president-elect, Jonathan Wyner. Additionally, governor (and past-president, twice removed) John Krivit will complete his

five-year commitment to the Board of Governors, while current past-president David Scheirman will transition to governor for a two-year term.

Per the AES bylaws amendment passed in the 2019 elections, the society's governing structure will be revised to conform to legal requirements, effective in August of 2019. A newly formed Board of Directors (BoD), the governing body of the society, will consist of the society's member-elected officers plus two

directors to be elected by Board of Governors (BoG). Those eligible to become BoG-elected directors must be either a current or recent member of the BoG. The BoG will retain many of its current responsibilities and will continue to be composed of the regional vice presidents and governors-at-large, along with the members of the BoD. The responsibilities currently held by the Executive Committee of the BoG, which will cease to exist, will be filled primarily by the BoD.

AES
www.aes.org

Grammy Pros Team at Summer NAMM

NASHVILLE, TN—The Recording Academy Producers & Engineers Wing hosted a panel, "The Road to Great Recordings: Meeting Challenges, Overcoming Obstacles," at the recent Summer NAMM Show in Nashville.

Panelists were Aaron Pearce (Grammy-winning songwriter and producer; Justin Bieber, Lauren Alaina, Brian McKnight), Leslie Richter (engineer; Ben Folds, Di-

erks Bentley, Kings of Leon) and Dave Way (Grammy-winning producer and engineer; Christina Aguilera, Fiona Apple, Ziggy Marley). Shannon Sanders (Grammy-winning producer, engineer, composer and arranger; India.Arie, Jonny Lang, John Legend) served as moderator. Grammy-nominated engineer and producer Jeff Balding, known for his work with Don Henley/Eagles, Taylor Swift, and

Maren Morris to Megadeth, helped organize the panel and selected the panelists and moderator.

The discussion covered topics including "demo attachment," positive ways to keep sessions moving forward, and the role of a producer in getting the most out of a song. A Q&A completed the event.

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Plugging Into Abbey Road

BY FRANK WELLS

LONDON, UK—Abbey Road Studio 3 has a legacy as storied as its larger brethren. Studio 3 is where Pink Floyd recorded *The Dark Side of the Moon*, Amy Winehouse recorded her final tracks and, more recently, where the band Brockhampton recorded its U.S. Number One album from last year, *Iridescence*. The studio has hosted recent projects for artists including Paul McCartney, Royal Blood, Florence + The Machine, Nile Rodgers & CHIC, Anderson .Paak, and Yusef Dayes, to name but a few. Part of what draws them there is Studio 3's large control room, powering what's known as one of the world's finest mixing environments.

On July 10, the facility drew a contingent of pro and consumer audio journalists for the launch of Waves' Abbey Road Studio 3 plug-in. A collaboration between Waves Audio and Abbey Road Studios, the plug-in emulates the monitoring environment of Studio 3 in software for virtual monitoring with headphones; it's enabled by the combination of Waves Nx technology and 360° measurements of Studio 3's acoustic characteristics and its loudspeaker complement. The result, said Mick Olesh, executive vice president of sales and marketing at Waves, lets users "virtually pop in to Abbey Road and check their mixes."

To make their case, the launch at Abbey Road featured four DAW stations set up in Studio 3's live room that let attendees experience stereo

and surround mixes through the plug-in and headphones, while the same mixes were cycling in the Studio 3 control room for comparison.

The plug-in combines room emulation (the way sounds from two or more loudspeakers interact within a listening environment), human hearing modeling, and motion tracking of the listener's head position within a virtual "sweet spot" in an effort to make headphone use practical when making decisions on elements such as spatial imaging, reverb and panning (including surround panning).

The software emulates the control room's array of speakers—its large Quested Q412 main monitors, B&W 800D midfields for 5.1 and 7.1 mixing, and a pair of SCM25 nearfields from ATC—as well as the way the room acoustically interacts with the loudspeakers.

"It's a room you can trust," said Myrek Stiles, Abbey Road's head of audio products. Mixes from Studio 3 "translate to the outside world in meaningful way," he said. "Sometimes people are forced into situations where they've got to make an important decision over headphones. This [plug-in] gives them a fighting chance."

While the Studio 3 control room is amply sized, Waves product manager Yoni Zlotkin noted, "The room has a very short and dry and precise character. The Questeds have lots of low end, and you really hear that rolling and rumbling in the room. You get this sense of sustain in the low end in the room, and it comes through the plug-in. The B&Ws are a great



Waves executive vice president of sales and marketing Mick Olesh (left) and Abbey Road head of audio products Myrek Stiles in the Studio 3 control room during the launch of Waves' Abbey Road Studio 3 plug-in.

Hi-Fi reference, and they sound great for surround. The ATC nearfields are more isolated from the room acoustics because they're closer up to the mixer; there's less room and more speaker."

Adaptation for individual headphones is based on measurements of the various headphone models specifically supported. "We developed an inverse fitting and smoothing of the curves," said Zlotkin. "It's pretty subtle. It just touches it where each headphone might have quirks in their curves. I think the plug-in also works great even without needing to correct professional headphones."

"Some users might experience the stereo field as being too wide or too narrow because their head size varies from the default," explained Zlotkin. The solution is a tweakable head circumference parameter included in

the feature set.

While head tracking—using a webcam to track head movement $\pm 30^\circ$ or, for faster and more accurate capture of a full 360° of rotational motion, by using the optional Nx Head Tracker device—can be turned off within the plug-in's control panel, Zlotkin noted, "The head movements you naturally do affect the sound and reinforce the spatial image your mind perceives." When monitoring in surround, he added, "even the slightest head movement instantly reveals the front from back."

The Abbey Road Studio 3 monitoring plug-in is "another tool in your arsenal," Stiles concluded. "For me, and I think for most people it'll be the same, once you switch it off, you miss it."

Waves Audio
www.waves.com

Yorkville Sound Digs Into Oh Canada Ribfest

BY CLIVE YOUNG

WATERDOWN, CANADA—Waterdown's Oh Canada Ribfest, held over four days from June 28 to July 1 in Memorial Park, drew its largest attendance ever as 54,000 people came to enjoy ribs, family fun, entertainment and more ribs. Celebrating the event's 10th year, six ribbers, 40 vendors and hundreds of volunteers came out to ensure the event lived up to its motto, "A big ribfest with a small-town feel." On hand to cover the crowds at the event's main stage was a sizable Yorkville Sound Synergy Array Series active point source system.

Ground-stacked in a four-over-four configuration, the Synergy Array Series covered an estimated 4,000 people at any given time dur-



A Yorkville Synergy Array Series system covered the crowd at this year's Oh Canada Ribfest.

ing evening performances, which ranged from country to blues to classic rock. The Synergy Array Series consists of the SA153 full-range

powered cabinet and SA315S powered subwoofer; the point source speaker system is built to scale to suit club gigs of all sizes, outdoor festivals, inclined seating venues and arenas.

A slew of Yorkville Sound PS12p Parasource Series stage monitors graced the stage, and a number of Yorkville's Legacy Series LP-LED4 LED Stage Lighting units hung above it.

In the wake of the long weekend, sound engineer Norm Thornton, who mixed the classic rock-style band at the event, enthused about the Synergy Array Series on social media, noting, "I love working with this rig." He added, "I got rave reviews [despite being] under some volume restraints from neighbors."

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www.yorkville.com



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Henszey Sound Gets Immersed in Immersive

BY STEVE HARVEY

LOS ANGELES, CA—Dave Henszey has done a lot during his 40-plus years in the pro audio industry, from running his own music studio to mixing for nearly every application from live sound to broadcast. Now, as momentum builds behind immersive music releases, he's opened Henszey Sound, a recording and mixing facility overlooking Universal City in Los Angeles that is fully outfitted for Dolby Atmos as well as stereo work.

Earlier this year, in a major boost for immersive music, Universal Music Group announced that it would be releasing “thousands of songs” in Dolby Atmos that had been remixed at Capitol Records and Abbey Road Studios. The general catalog of Dolby Atmos music is growing steadily, with releases, principally on Blu-ray, from artists including Kraftwerk, R.E.M. and Mumford & Sons.

While a hit album can now be fully produced in a bedroom, it's trickier to work at home in Dolby Atmos. Happily, says Henszey, who had been working out of a private studio, Dolby has made it possible for engineers to set up an affordable Atmos room in a commercial building and still turn a profit. “It's really hard to set



Henszey Sound was the first small room certified under Dolby's Atmos for Home program.

this up in your living room and make it work. You could use small speakers, but it's not a laptop kind of thing.”

Henszey found a move-in-ready room with suitable dimensions for Atmos work in a building that has long housed production facilities. He had L.A. sales, design and integration company Westlake Pro put his new facility together, with support from Dolby. The space is roughly three-fifths control room and two-fifths live room, and is set up for vocal, guitar and keyboard tracking. “As a quality-of-life thing, I decided not to set this

up for doing drums,” he laughs.

Then there's the issue of certification. Dolby has been enthusiastic about certifying small rooms under its Atmos for Home program, but the spec wasn't quite nailed down when Westlake began his build-out. “We knew that certification was on its way, but it didn't come until more recently—and we got the first one,” reports Henszey. He also sought certification from the Trusted Partner Network, a joint venture of the MPAA and CDSA (Content Delivery & Security Association) that ensures content security.

Reb Bradford, pro audio sales manager at Westlake Pro, and Dolby recommended that Henszey consider larger-model ADAM Audio speakers for LCR to better match the surround and upper speakers, and he's glad he listened. “The EQ characteristics are more similar to the rest of the speakers,” says Henszey, who has A77Xs for LCR, four A7X surrounds and four A5X overheads, with twin Sub12s. Even though the project was already underway, Bradford also advised waiting for Dolby to release a Mac version of its Rendering and Mastering Unit (RMU).

Henszey pays attention to details: The front edge of the raised client seating area is drilled to act as a bass trap. There is a 7-inch block of foam beneath the couch. He had TubeTrap build custom bass trap monitor stands the exact width of the rear speakers. Even the Argosy LCR speaker stands have custom-cut bass-trapping foam inserts.

He opted for a Slate Raven MTI workstation running Avid Pro Tools Ultimate 18 loaded with plug-ins and supplemented by outboard gear from Universal Audio, Rupert Neve Designs and others, including the new SSL SiX. Focusrite RedNet boxes

(continued on page 22)

Preserving the Past in Philadelphia

BY STEVE HARVEY

PHILADELPHIA, PA—Recent revelations about the multitude of recordings lost in the 2008 Universal Music Group vault fire in Los Angeles highlighted issues related to the storing and protection of archival assets from a perspective greater than simply commerce, touching on complex issues such as cultural heritage. Meanwhile, another tape archive story played out on the other side of the county at Philadelphia's Drexel University; while this account raised similar issues regarding archiving,

preservation and prioritization of resources, the events resulted in a very different outcome.

Back in 2005, Drexel's Music Industry program received a donation of some 7,000 unclaimed tapes produced at Philly's famed but now defunct Sigma Sound Studios. The studio's founder, Joe Tarsia, had tried his best to reunite the tapes—which included many outtakes but also entire small-label catalogs—with their rights holders. Happily, the new property owners at Drexel understood that, while they had possession of the physical assets, they

had no claim to the underlying intellectual property rights.

“Long story short, what happened was the right thing. This material was placed in the hands of an institution,” says Toby Seay, professor of recording arts and music production at Drexel and a recording engineer who has worked with Dolly Parton, Randy Travis, Delbert McClinton, Kirk Whalum and others.

Seay, department head at the university's Westphal College of Media Arts & Design, comments, “It's a model that record companies should look at. Every university has an archive library system and an IT department, and a lot of them have music technology programs where all the expertise that would be needed for a tape archive exists.”

Drexel has a new storage facility for the tapes, but human resources are limited—Seay is overseeing



After Philadelphia's Sigma Sound Studios donated 7,000 vintage unclaimed tapes to Drexel University, the school's recording program discovered and preserved a lost album by Nat Turner Rebellion.

the project with student volunteers—and it took years just to catalog everything, even though the tapes are well documented. “I know what's there and can find stuff; now we're starting to enhance that metadata so we can dig a little deeper,” says Seay, who thus far has heard less than 10 percent of the archive.

Initially, the university didn't have the machines necessary to play back many of the tapes. Seay's first

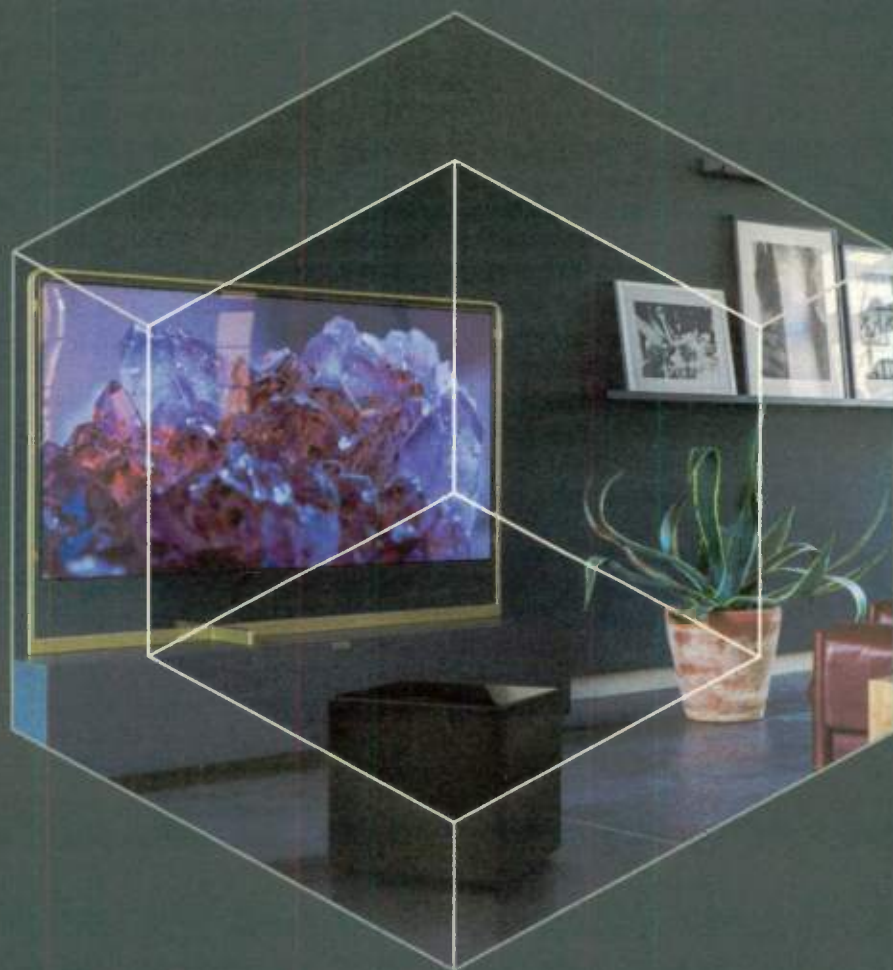
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“It's a model that record companies should look at. Every university has an archive library system and an IT department, and a lot of them have music technology programs where all the expertise that would be needed for a tape archive exists.”

Toby Seay

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Blackbird Takes Immersive to the Next Level



ERICK ANDERSON PHOTOGRAPHY

Nashville's Blackbird Studio has revamped its Studio C, famously outfitted with 138,646 individual pieces of wood for diffusion, into an ATC Loudspeakers-packed 9.1.6 Dolby Atmos mix space.

BY STEVE HARVEY

NASHVILLE, TN—"When you listen to immersive audio properly, it will change your life. You will never want to go back to stereo," says John McBride, founder—with his wife, country music artist Martina McBride—of Blackbird Studio in Nashville.

The Blackbird complex currently comprises three buildings housing nine studios, plus Blackbird Academy, a post-secondary audio engineering school. The mic locker is legendary. In fact, the entire facility is legendary, with equipment, both analog and digital, that's the best of the best.

When McBride talks about listening to immersive audio "properly," he's referring to Blackbird's Studio C, a room that has reset the bar for immersive music production facilities.

When McBride began putting together the first Blackbird building at the turn of the millennium, he had multiple Grammy- and TEC Award-winning, producer, engineer and inventor George Massenburg design a room unlike any other. Inspired by the work of German physicist Manfred Schroeder, Massenburg had long harbored a dream to design a fully diffuse production space; he had experimented in the late '70s with quadratic residue diffusers at The Complex, a studio he co-owned in West L.A. Massenburg sat down with Blackbird studio designer Mike Cronin to map out the dimensions of an open-plan room and, working with Peter D'Antonio, Ph.D., founder of RPG Diffusor Systems, developed a formula to create a primitive root sequence diffuser for Studio C.

There are 138,646 individual pieces of wood on the walls of Studio C, and no two pieces are the same length. "I had to come up with a program that would cut 1,732 sheets of 1-inch, 4- to 8-foot MDF

[medium-density fiberboard] and number each one—and invent a wall hanging system," says Massenburg, noting that the wood weighs over 40 tons.

Fast-forward to earlier this year, when Sony demonstrated its 13.2 immersive system at Blackbird. "It got me really excited about the whole immersive thing," says McBride. Then in June, he ran into Dolby Atmos Music specialist Ceri Thomas, who encouraged him to outfit a room at Blackbird for immersive audio work. "And we thought, how perfect would it be to debut it during Summer NAMM?" he says. "Which was in two and a half weeks!"

Almost every room at Blackbird is outfitted with monitors from UK manufacturer ATC. "In 2002, when we were in our first building, I called five or six studio engineers that I knew and respected. I chose ATC because no one complained about them. After buying my first pair of 300s, I fell in love with these speakers. I use them to track, to mix, for reference listening. I trust ATC. That's why I felt that was the speaker I had to go with" in Studio C, says McBride.

The room already housed a pair of ATC SCM300ASL Pro monitors, "so adding a matching center was a natural choice," says Ben Lilly, technical sales manager with ATC. As for the speaker models on the walls and the ceiling, Lilly adds, "Dolby's DART tool helped select suitable monitors based on the room and

acoustic data input into the tool."

The minimum speaker configuration for a Dolby Atmos music system is 7.1.4. Because of the cubic volume of Studio C, Dolby recommended increasing the number of surround and height speakers to create a 9.1.6 setup: three ATC SCM300ASL Pro monitors across the front, six stand-mounted ATC SCM100ASL Pro monitors on the sides, six flyable ATC SCM100ASL Pro monitors on the ceiling, and six ATC SCM0.1/15ASL Pro subwoofers positioned four across the front and two at the rear. That's a lot of loudspeakers, but ATC and its U.S. distributor, TransAudio Group, were able to deliver in time. "These guys really stepped up," says McBride.

Not surprisingly, it took a team effort to install and commission the new system in time for its July 17 debut, with representatives from ATC, TransAudio Group and Dolby Labs all pitching in. McBride additionally called on Sound Construction owner and structural engineer Dave Mattingly, studio designer Mike Cronin's former crew chief, to fly the ceiling speakers.

While Studio C was once dominated by an 80-channel SSL 9000K console, it now boasts a minimal setup reflecting modern workflows. The system comprises an Avid Pro Tools rig with a pair of MTRX audio interfaces, four HDX cards, an S3 surface and a Pro Tools Dock, all clocked by an Antelope Audio 10MX. Outboard gear includes,

appropriately, Massenburg's GML 8200 stereo parametric EQ and GML 8900 dynamics processor.

"Listening to the room before the NAMM event was life-changing—I don't know how else to describe it," says McBride. "It must be one of the finest environments in which to experience this anywhere. And we're in a room designed by Massenburg that has this incredible diffusion. It's like listening in a room without walls."

The room is already busy. "We were booked five days last week. We're booked four days this week, four days next week," McBride reports. Massenburg is included on that schedule, mixing an immersive project for a major artist.

The potential audience for immersive music is growing. Millions—soon to be billions—of consumers can listen to Dolby Atmos on their phones. Sound bars are getting cheaper and better. Universal Music Group is putting its weight behind Dolby Atmos Music, leading the way with remixes of milestone Beatles releases. But as Massenburg observes, what else can be remixed into Dolby Atmos will depend on what assets remain in the archives. "We don't know how many multitracks Universal lost in the 2008 fire that they're not admitting to," he says.

"It's exciting because it's experimental, and it's not about hit radio or loudness. It's a new palette for mixers to work with," says Massenburg. He plans to remix an album by Dawn Langstroth, Anne Murray's daughter, that he produced in 2007 with one eye on the future: "When I recorded that at Blackbird, I had four microphones in the air."

McBride is bullish about the future of immersive music—obviously, having just committed a significant amount of money to Studio C's upgrades. "We're developing a curriculum to teach Atmos to our Blackbird Academy students. The fact that we're going to start teaching this is going to be another great reason to come here."

He's especially excited about the logical next step in the march toward immersive music. "I can't wait for artists to discover this. They're going to be writing and having songs mixed with definite ideas about what's in the front, what's behind you, what's above you. That's going to open up a whole new world."

Blackbird Studio
www.blackbirdstudio.com

TransAudio Group
www.transaudiogroup.com

The Services Industry?



BY CRAIG
ANDERTON

Is the market for music software saturated? Although these tools are always attracting new users, the adoption numbers just aren't growing like they used to. And many who have the software already don't use it to its fullest potential. It's becoming common for users to wait to install software updates until several have accumulated, partly to avoid disruption to an existing workflow and partly because of a sense that it's worth waiting until there are a significant number of changes to explore.

I don't believe this shift means music software publishers are doomed. We already have a model of where the industry may be going. Consider Apple, which revolutionized the smartphone market with the iPhone in 2007; iPhone sales peaked around 2015 and unit sales have decreased in the years since. Once everyone has an iPhone, you're not going to sell as many iPhones. Or look at Microsoft: Its operating system is installed on over 87 percent of the world's desktop computers, according to www.net-marketshare.com, so doubling sales is impossible—unless we discover life on other planets who need operating systems.

We can see that both companies added services offerings to mitigate sluggish sales in their core product lines. For Apple, that's Apple Music, Apple Pay, iCloud, Apple Care and, coming soon, Apple TV+, Apple Arcade and an Apple-branded credit card. For Microsoft, it's services like Azure (which now offers individual servers to users), OneDrive, Microsoft Teams, Surface Hub 2S (an interactive whiteboard for business) and the like. Even Amazon, which started out as an online bookseller, has diversified into Amazon Prime movie and television streaming, web hosting, and independent ebook publishing services.

What would a services component look like for pro audio software? There are already some examples, like Avid's Media Composer, AvidPlay (a service by which users distribute their music to common streaming platforms), product training from Avid Link and the like. Native Instruments created Sounds.com, a service that provides content for software beyond what NI makes.

Another good example is Obedia, which did the reverse, extending its core service business (support that's not tied to a particular manufacturer) by adding a hardware component with the PC Audio Labs computer line.

The following list suggests other

directions pro audio software companies could take.

AUTOMATED, INCREMENTAL CLOUD BACKUP

I'd pay for a service that would automatically—and, most important, incrementally—back up selected projects-in-progress to the cloud. This process would protect against hardware failures, provide easy collabora-

tion and offer a way to work on projects remotely. Although you can always back up using Google Drive or the like, that save isn't incremental—if you have a 4 GB project, you have to deal with a 4 GB chunk of data. The way Microsoft has configured OneDrive and Office, you can load documents directly from OneDrive, and changes occur while you

(continued on page 47)



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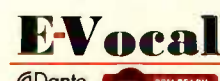
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PERSONNEL:
Produced by: Ra Ra Riot, Milo Bonacci, Alex Goose, Kieron Menzies, Dean Reid
Engineered by: Milo Bonacci, Keith Armstrong, Alex Goose, Kieron Menzies, Dean Reid
Mix Engineers: Dave Emery, Mark "Spike" Stent
Studios: Carriage House Studio (Frenchtown, NJ), Diamond Studio (Brooklyn, NY), Alex's private studio (Los Angeles, CA), Pietown Sound (Los Angeles), Sound City Studios (Los Angeles), Hen House Studios (Venice Beach, CA), EastWest Studios (Los Angeles)
Mastered by: Emily Lazar at The Lodge (New York, NY), assisted by Chris Allgood
EQUIPMENT NOTES: Neve 8078, Sound Workshop 1280B, API 3124, KRK VXT8, Yamaha NS-10M, ATC SCM25A and SCM45A, Apple Logic Pro, Avid Pro Tools



ARTIST: HOT CLUB OF COWTOWN
ALBUM: WILD KINGDOM
LABEL: GOLD STRIKE RECORDS
PERSONNEL:
Produced by: Lloyd Maines, Hot Club of Cowtown
Engineered by: Chris Bell, Steve Mazur
Mix Engineers: Chris Bell, Mark Hallman, Steve Mazur
Studios: Firestation Studios (San Marcos, TX), Bismieux Studio (Austin, TX)
Mastered by: Gavin Lurssen at Lurssen Mastering (Burbank, CA)
EQUIPMENT NOTES: SSL Duality, Rupert Neve Designs Sheldford pre's, ADAM S3-A, Augspurger Treo, Avid Pro Tools



ARTIST: BAD BLOOD
ALBUM: BAD BLOOD
LABEL: INDEPENDENT
PERSONNEL:
Produced by: Will Kennedy
Engineered by: Will Kennedy
Studios: Dave's Room (North Hollywood, CA), Studio Delux (Van Nuys, CA), Studio P (Pacoima, CA)
Mastered by: Will Kennedy at Studio P
EQUIPMENT NOTES: Avid C24, Tannoy SRM 10B and Super Gold, Yamaha NS-10, ProAc Studio 100, custom Vincent Van Haaff mains, Avid Pro Tools HD/Ultimate



ARTIST: TIM MAHONEY
ALBUM: TRUCKY RIDE
LABEL: MEENIE MUSIC
PERSONNEL:
Produced by: John Herchert, Ian Combs, Eric Blomquist, Tim Mahoney
Engineered by: Eric Blomquist
Studio: RiverRock Studios (Minneapolis, MN)
Mastered by: Eric Blomquist at RiverRock Studios
EQUIPMENT NOTES: SSL 4000 E/G console, Yamaha NS-10M monitors, Avid Pro Tools HD



ARTIST: ERIK KOSKINEN
ALBUM: BURNING THE DEAL
LABEL: REAL PHONIC RECORDS/TONE TREE MUSIC
PERSONNEL:
Produced by: Erik Koskinen, Bernie Larsen
Engineered by: Jason Mariani
Mix Engineer: Erik Koskinen
Studios: Brotheryn Studios (Ojai, CA), Real Phonic

Studios (Cleveland, MN)
Mastered by: Tom Garneau at AudioActive (Minneapolis, MN)
EQUIPMENT NOTES: SSL AWS 900+SE, Soundcraft 6000 console; Barefoot MiniMain12 monitors, Dynaudio Acoustics M1.5 monitors, Avid Pro Tools



ARTIST: RAMBO THE BAND
ALBUM: RAMBO THE BAND
LABEL: GDOI
PERSONNEL:
Produced by: Bill Chrysler
Engineered by: Larry McKay
Mix Engineer: Lawrence Rambo
Studio: Third Coast Recording Company (Grand Haven, MI)
Mastered by: Ian Sefchick at Capitol Records (Hollywood, CA)
EQUIPMENT NOTES: SSL 4000G, Urie 813, JBL 4311, Yamaha NS-10, Genelec monitors, Avid Pro Tools



ARTIST: ABBY K
ALBUM: IT SHOULD HAVE BEEN ME
LABEL: PLAYROOM RECORDS
PERSONNEL:
Produced by: Eddie Z
Engineered by: Eddie Z, Mark Williams, Logan Foland (assistant)
Mix Engineer: Drew Cyphers
Studio: The Vault at The Playroom (Charlotte, NC)
Mastered by: Greg Calbi at Sterling Sound (Edgewater, NJ)
EQUIPMENT NOTES: Neotek Elite 2, Clarity Crazy 8, AudioKinesis monitors, Steinberg Nuendo 5.5, MCI JH110b tape machine



ARTIST: AMOS TORRES
ALBUM: AMOS TORRES
LABEL: SELF-RELEASED
PERSONNEL:
Produced by: Grey Revel
Engineered by: Rob Tavaglione
Mix Engineer:
Studio: Catalyst Recording (Charlotte, NC)
EQUIPMENT NOTES: Roswell Colares, Apogee Symphony Thunderbolt, Daking FET3, Maag EQ4, SPL, Millennia-Media STT-1, Waves, Universal Audio, Soundtoys, MOTU DP9



ARTIST: SOUTHERN SATELLITE FEATURING TJ BROSCOFF
ALBUM: CROOKED ROAD, CROOKED RAIN
LABEL: SELF-RELEASED
PERSONNEL:
Produced by: TJ Broscoff
Engineered by: Chris Bell
Studios: Firestation Studios (San Marcos, TX), The Cabin (Wimberley, TX)
Mastered by: Brent Lambert at The Kitchen Mastering (Carrboro, NC)
EQUIPMENT NOTES: SSL Duality, Rupert Neve Designs Sheldford pre's, Adam S3-A, Augspurger Treo, Avid Pro Tools



ARTIST: STELLA WHITTLE
ALBUM: HE'S MY HERO
LABEL: SELF-RELEASED
PERSONNEL:
Produced by: Eddie Z
Mix Engineer: Eddie Z, Mark Williams
Studio: The Vault at The Playroom (Charlotte, NC)
Mastered by: Dave Harris at Studio B (Charlotte, NC)
EQUIPMENT NOTES: Neotek Elite 2, Clarity Crazy 8, AudioKinesis monitors, Steinberg Nuendo 5.5, MCI JH110b tape machine

notes

Zylia Adds Services

POZNAN, POLAND—Zylia (www.zylia.co) has launched a mixing and mastering service for users of its Zylia Music system, which includes the ZM-1 360° mic. Users may upload up to four songs for Zylia's in-house 3D audio engineers to master for free. Users can alternately mix manually using Zylia Studio software, which includes one-click automating.

Bisson Finds Heart at United

HOLLYWOOD, CA—Canadian jazz vocalist, pianist and former television personality Anne Bisson recently completed an album, *Keys to My Heart*, in Studio B at United Recording (www.unitedrecordingstudios.com). In collaboration with recording engineer Michael C. Ross, assistant engineer Wesley M. Seidman, and mastering and lacquer cutting professional Bernie Grundman.

Zardonic Installs PMCs

BIGGLESWADE, UK—Audio engineer Federico Agüeda Álvarez, better known as masked Drum & Bass producer Zardonic—whose latest album, *Become*, has topped charts worldwide—recently installed a pair of PMC (www.pmc-speakers.com) result5 nearfield monitors in his studio in Germany, where, he reports, they have already helped improve his mixes and masters.

Upgrading for *Catch-22*

SARDONIA, ITALY—An early beta version of Metric Halo's (www.mhlab.com) 3D card upgrade enabled veteran sound designer Maurizio Argenterio to expand the capabilities of his JLN-8 and a 2882 interfaces in time to record all the production sound in Italy for Hulu's miniseries adaptation of the Joseph Heller novel *Catch-22*, directed, produced by and starring George Clooney.

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Drexel

(continued from page 16)

purchase was a Studer A827 with 2-inch 16- and 24-track, and 1-inch 8-track headstacks and guides. "Mike Spitz at ATR Services procured that for me and put together an ATR-102 with 1/2- and 1/4-inch headstacks. Those gave us five formats." Drexel also has DAT machines, a Mitsubishi 32-track digital unit and a Sony 3348 16-bit digital 48-track unit that Seay found locally for \$500. "That covers almost everything in the collection," he says.

Tarsia and the Sigma staff favored Scotch 250 tape stock, but some recordings were made to Ampex 456 and, in the digital era, 467, and some of it has mold, says Seay. "It's all on a spectrum moving towards bad. Even the good quality Scotch tape generally has to spend some time in the oven for thermal treatment."

As luck would have it, when Faith Newman, senior vice president of A&R and catalog development at Reservoir Media Management, called Seay looking for tapes by artists on the Philly Groove Records label, which her company had acquired, he had already discovered a gem. "I had truly stumbled on it, because in the early days I did not have the capability of playing but a couple of formats."

Sigma, which opened in 1968, became a Dolby A house early on, so Seay initially sought out 1/4-inch non-Dolby masters from the studio's earliest days to test his playback system. "There, in November 1969, was



The lost Nat Turner Rebellion album was released this past spring as a collaboration among Drexel, Philly Groove Records, Reservoir Media Management and Vinyl Me Please.

this tape by Nat Turner Rebellion," Seay recalls. "A band named after a famous slave revolt and a song called 'Tribute to a Slave.' How could I not play it?"

The band, named for a slave uprising in Virginia in 1831, played exactly the type of Philadelphia R&B you might imagine emerging from the studio that recorded the likes of The Trammps, The O'Jays and the Three Degrees, and the label that launched The Delfonics. "Tribute to a Slave" was only the tip of the iceberg, though—Seay had found an entire album of unreleased material by the band, who were signed to Philly Groove.

The discovery started a conversation, says Seay, and an ongoing relationship with Reservoir. As Drexel began to restore and digitize the Philly Groove catalog, which was recorded at Sigma between 1968 and 1972, the partnership developed. Beginning in 2013, Reservoir released a series of compilations by The Del-

fonics, First Choice and other Philly Groove artists. In 2015, Reservoir allowed select students in Drexel's music industry technology program to mix and master various original 16-track recordings and present them at a special listening event, "Uncovering the Philly Groove," attended by Newman, Tarsia and other Philly music luminaries.

Then there was a lightbulb moment. Why not combine rights-holder Reservoir's publishing expertise with Drexel's independent, student-run MAD Dragon Records label and finally release Nat Turner Rebellion's debut album, 50 years after it was recorded? "We teamed up with Vinyl Me, Please, a vinyl-only record club. They did the physical pressing," says Seay of *Laugh to Keep from Crying*, which was released at the end of March. "Our label did all the PR and marketing and the digital releases, so it's now on all the streaming services. We took advantage of everyone's strengths instead of any one of us

trying to do all of it, and it's a much better product because of that."

A record label may not even consider preserving and digitizing a tape unless it sees some commercial advantage, thus exposing the asset to the potential of a catastrophic loss. The solution, then, may be for labels to partner with an institution that can find some research or educational value in the assets. As Seay reports, iconic New Zealand label Flying Nun Records has donated its archive to the Turnbull Library, a division of the country's National Library. The library has pledged to digitize the entire collection over the next three years and make it available for research. Seay was recently at the University of Calgary, he adds, researching the EMI Canada collection that is archived there, with some preservation funding attached.

"We're under a ticking clock to get stuff done," Seay says, noting that he is facing tape degradation and machine obsolescence, and tough choices regarding which assets take priority. "What resources are available when you deal with cultural heritage materials? In some cases, if it's in a vault with a company like UMG, it's a monetary asset to them, but to the world, it's cultural heritage material. In either case, there are different priorities for what gets preserved because we can't preserve it all. We don't have the time and we certainly don't have the resources."

Drexel University
www.drexel.edu

MAD Dragon Music Group
www.maddragonmusic.com

Henszey

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support Dante-networked audio distribution.

A BSS box manages monitor switching and reconfiguration, allowing Henszey to work in Dolby Atmos or 2.0. Whether with an original production or a catalog remix, "I get it working in stereo, then I break it out," he says. That way the hard work gets done first. "By the time you kick it into an Atmos mix, the client's not spending the money—because it's more than four times the rate. It makes Atmos approachable for people who otherwise wouldn't be able to afford it."

Henszey started out working on big band and classical projects in his native Wisconsin, then opened his own studio in 1988, AD Productions, the first Midwest facility to install a Neve V series desk. The studio attracted cli-

ents such as Jerry Harrison, Cheap Trick and Violent Femmes. After moving to Los Angeles in the '90s, he worked extensively at Cherokee Studios with producer Andy Johns and with artists including George Clinton. He has also mixed front-of-house on arena tours by the likes of Destiny's Child, Brandy and Jamie Foxx, plus numerous acts for late-night television.

For all his experience, Henszey is

will likely be played back in a much larger room. That said, he bleeds a little kick drum into the side channel: "If it's a nice sounding kick, it goes around you a little bit, but it also gives you a lot of energy without the speakers crapping out."

Pointing to the project on which he is working, Henszey says, "On this track I have a vocal stem with some doubling, but I grabbed a copy of the

version to YouTube, he reports, "so the first thing I've got to do is check the binaural render." Henszey favors the Near setting in binaural rendering mode: "Near is maximum imaging for headphones, but if you're playing it on speakers and you use Near, it sounds good enough and tight enough without having to listen on headphones."

Dolby and Westlake collaborated on a piece of software that enables him to manage the speakers and switch sources on a tablet—checking the mix in 7.1 or 5.1, for instance. One button routes the stereo mix through processing to emulate a premium car system, complete with boosted treble and bass. "You'd better hear it that way because that's how people are going to listen," he says.

You might call immersive music the Engineer Employment Act of 2019. "The one place where clients really need you is when you're doing something like this," says Henszey.

Henszey Sound
www.henszeysoundllc.com

"It's really hard to set this up in your living room and make it work. You could use small speakers, but it's not a laptop kind of thing."

Dave Henszey

still learning new things as he works in Dolby Atmos. "As soon as I think I know everything, I'm screwed," he says.

For instance, he's learned that with EDM, any rhythmic elements that need to be in sync should not be panned far apart because the track

raw vocal, nice and warm, with sizzle. I can push a little bit into just the center speaker, so no matter what ends up happening around the room, the vocal is still there—and anything with bass on it doesn't get that center speaker."

As soon as an Atmos mix is done, the client will often post a binaural

briefs

Digital Arts NY Grows

NEW YORK, NY—Manhattan-based post-production house Digital Arts (www.digitalartsny.com) has added a handful of former Nutmeg Creative staff members, including sound designer/mixers Brian Beatrice and Frank Verderosa, to its roster. The expanding facility is also constructing an ADR stage/mix room and recently added production services to its list of offerings.

Network All In for Brio

PAKISTAN—AAP Media Network in Pakistan has purchased a half-dozen Calrec (www.calrec.com) Brio36 consoles—four for its main studio in Lahore, the fifth for its Karachi studio and the sixth for its Islamabad facility—for live, on-air mixing for two of its Urdu- and English-language news and entertainment channels. AAP Media Network will also use the consoles for a planned future channel.

Spiritland Bows SSL OB Music Truck

LONDON, UK—Spiritland Productions in the UK, operated by ex-BBC sound supervisors Gareth Iles and Antony Shaw, has launched a purpose-built audio OB truck aimed primarily at the live music broadcast market. The truck is based on SSL's (www.solidstatellogic.com) System T S500 audio console in a 3.5-bay, 64-fader configuration with a redundant pair of T80 Tempest Engines.

Sim New York Expands

NEW YORK, NY—North American production and post-production company Sim (www.siminternational.com) has expanded its New York facility, adding two broadcast color-correcting bays and an online editorial finishing bay, plus three broadcast audio mix suites—one with Dolby Atmos capability and all equipped with Avid ICON consoles—and an ADR/VO recording studio.

Human Expands in Chicago

BY STEVE HARVEY

CHICAGO, IL—Commercial music company Human has expanded its global footprint with a new office in Chicago headed up by veteran composer and producer Justin Hori. The company, founded in 2001 by composers Morgan Visconti, Andrew Bloch, Gareth Williams and managing partner Marc Altshuler, maintains facilities in New York, Los Angeles and Paris, and focuses on original music and sound design for commercials, movies, television and recording artists.

"We want to straddle the line between serving the music needs of the ad community here and the mixing needs of post," says Hori. Chicago, the third-largest city in the United States and long a hub for major marketing firms, is also home to corporate giants such as Boeing, McDonald's, MillerCoors and United Airlines.

Human lowered its initial start-up costs by moving into an existing production facility on West Madison

Street in Chicago's West Loop district. "We have an amazing couple of rooms that we've inherited from a big session guitar guy, Sandy Torano, who is retiring. He built the studio in 2004," Hori reports.



Commercial music company Human is redeveloping its new Chicago home; its main studio, seen here, will soon become a smaller live room, writing space and a 5.1 mix suite.

"It's as big a studio as I've ever been in," he says of the 2,500-square-foot facility, noting that there are plans to subdivide it into smaller work spaces. "The studio has a huge live room, more than we need these days. It was set up to track large en-

sembles. You could probably get 30 strings in there. The plan is to chop that up and create more of a writing suite for the music and a pared down live room. The main control room is going to be turned into a 5.1

mix suite for post mixing, ADR and voiceover. It'll be set up for Source-Connect," Source Elements' ISDN replacement.

"It's kind of sad we're going to take [the studio] away from its original intentions, but we're maximizing the use of the space. I think a lot of the acoustic treatments will be left intact," he adds.

Human has been going through something of a growth spurt, having previously announced that it added a second 5.1 mix suite at Post Human,

the audio post sister company run by sound designer and engineer Sloan Alexander at the company's facility in Manhattan's Flatiron District. There are plans to add 5.1 mixing capabilities at the Santa Monica location in

(continued on page 27)



TNDV Captures Concerts for VR

BY ALVIN FERNALD

NEW ORLEANS, LA—The annual New Orleans Jazz & Heritage Festival, affectionally called Jazz Fest by fans, lures thousands of music lovers to the city each year. Being New Orleans, the music scene is alive with shows both part of and separate from the

jam-packed official eight-day schedule.

Among the festival-adjacent events was the Audiophile Series, a set of shows that took place during the second weekend of Jazz Fest (May 2-4). The three-show series was conceived and produced by Supersphere, an entertainment production company that specializes in immersive and in-

teractive live broadcast events. Supersphere has taken part in nearly 80 events in the past two years, including live streamed concerts featuring Vince Staples, Lupe Fiasco and Thievery Corporation, among others.

"We focus on virtual reality, augmented reality and mixed reality, but over the past two years we have focused almost exclusively on immersive live broadcast work," said Lucas Wilson, founder and executive producer at Supersphere. "We deal with 180° and 360° interactive and non-interactive streaming with the philosophy that fans want to be closer to the events they care about. We offer the next best thing to being there at the venue."

The seeds of the Audiophile Series were planted three years ago when the Supersphere team worked with the late, legendary producer Geoff Emerick on an ambisonic audio mix of seven short Paul McCartney pieces.

"Working with Geoff was a very special experience, and it made us realize that audio has been somewhat overlooked in VR," said Wilson. "This generated an idea to create a real-

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TNDV dispatched its Vibration truck to New Orleans to tackle audio for the immersive VR Audiophile Series.



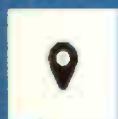
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8:00 AM **Registration & Breakfast**

9:30 AM **Keynote Session**

10:30 AM **Panels & Sessions featuring:**

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CAS Parade of Carts 

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6:00 PM **Cocktail Reception**

7:00 PM **Sound Reel Showcase**

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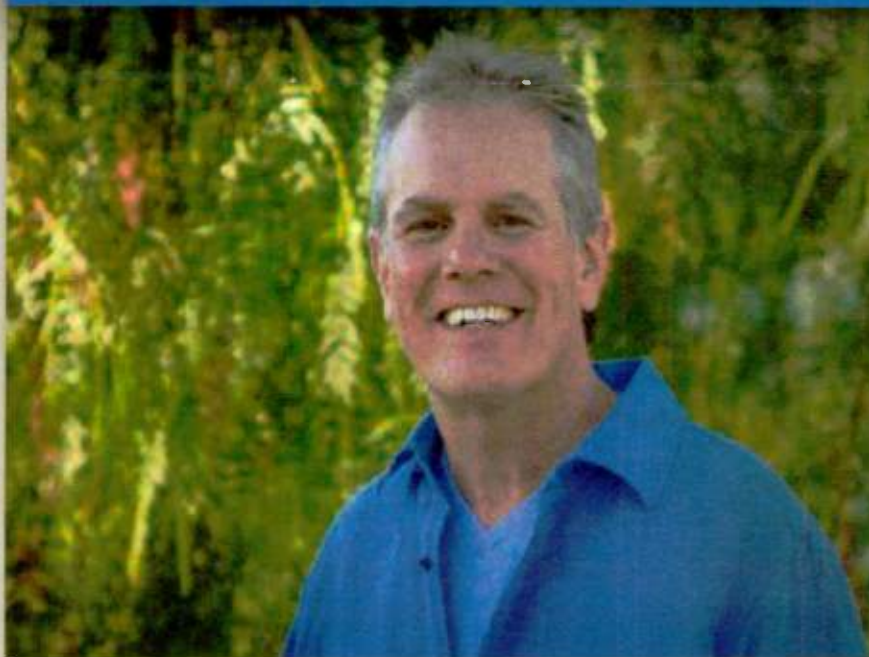
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11:00 AM - 12:00 PM

PANEL 1: Immersive Audio Workflow: Concept, Editorial, Design and Mix Presented by MPSE



Our panel of experts will discuss a how-to plan for creating and delivering audio through the post-production process for the best use of immersive sound technology.

MODERATED BY: Carolyn Giardina - The Hollywood Reporter

PANELISTS:

Steve Ticknor - Sony

Benjamin Cook - 424 Post

Tony Lamberti - Sony

Keith Rogers - Universal

Caleb Hollenback - Formosa

Cheryl Ottenritter - Ott House Audio

Scott Kramer - Netflix

2:00 PM - 3:00 PM

PANEL 2: Follow the Tracks Presented by: Cinema Audio Society



A panel of experts discusses where our dialog tracks come from, where they go, and what happens to them along the way, from set to screen.

MODERATED BY: Bob Bronow - CAS

PANELISTS:

Gary Bourgeois - Re-recording Mixer Adam Carl - Recordist

Smokey Cloud - Assistant Editor Chris Jacobsen - Re-recording Mixer

Anna Mackenzie - Dialog Editor Ben Patrick - Production Mixer

4:00 PM - 5:00 PM

PANEL 3: The Networked Studio: Building a Near-Field Immersive Room With Audio-Over-IP

Chief engineers, designers and integrators discuss the ins and outs of building a near-field immersive audio studio using advanced Audio-Over-IP networking technologies and tools.

MODERATED BY: Phil Wagner

PANELISTS:

Brian Armstrong - Streamline System Design

Lane Burch - Sony

Bill Johnston - Formosa Group

Ron Romano - Belmont University Ted White - Focusrite



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Immersive

(continued from page 23)

time, ambisonic audio mix that would serve as the primary delivery, versus trying to convert a stereo or 5.1 mix. The idea became reality once Oculus Go came to market and made consumer VR practical.”

Fast-forward to May 2 of this year, the official launch of the Audiophile Series. Concert audio from the three shows—The Revivalists at The Fillmore (May 2), Preservation Hall’s 14th Annual Midnight Preserves show (May 3), and Galactic at Tipitina’s (May 4)—was streamed to the Oculus Venues platform. While the Supersphere team focused on the overall event production and the video elements, it brought on mobile production specialist TNDV and Grammy Award-winning audio engineer Mills Logan to handle the audio requirements.

“A real ambisonic mix captures the room and space, but it also brings out what is truly special about music,” said Wilson. “Doing ambisonics as a primary delivery with an experienced audio engineer and such a technically and creatively fluent audio production team was pretty much a dream come true.”

For Wilson, a well-done native ambisonic mix makes stereo sound “flat and narrow” by comparison. A stereo audio mix is traditionally a left-to-right experience—reverb and other effects create an adequate approximation of a space—while ambisonic audio evolves this capability by creating a true 360° model of the environment. Mixing natively in ambisonic means mixing in 360°, with the ability to specifically place elements in coordinated positions.

“You can place instruments anywhere in that space, which means the engineer really creates the environment around the listener,” said Wilson. “Then there is the ability to add ‘head tracking’ in VR headsets. This means that if a guitar player is in front, the listener can turn his or her head and the guitar player remains in the correct space. It’s almost as if there are loudspeakers encircling the audience. The TNDV team was ultimately responsible for bringing that to life for the Audiophile Series.”

The first step in making that happen was recording the audio; the TNDV audio team placed ambisonic microphones around the room to record the channels that would comprise the ambisonic sound field. TNDV deployed Sennheiser AMBEO, SoundField SF200 and HEAR360 8ball microphones, as well as a collection of traditional mi-

crophones from Neumann, Audio-Technica, AKG and Royer to capture the room exactly as Supersphere intended.

“We started by using all three ambisonic mics in an array at front of house, and then made decisions in each venue about how many of each microphone to use,” said Adam Ellis, audio engineer, TNDV. “In each venue, we ultimately had 16 channels of individual elements coming off the ambisonic array, combined with up to 12 point sources or spot mics.”

Ellis said that the SoundField SF200 produced the most consistent, high-quality sound from venue to venue, while the HEAR360 microphone provided more unique value.



Among the three concerts captured for the immersive VR Audiophile Series was Preservation Hall’s 14th Annual Midnight Preserves show on May 3.

“The HEAR360 mic has eight individual elements arranged in four pairs around a sphere, which makes it incredibly flexible,” he said. “We chose to use it as a binaural mic because ultimately the ambisonics are rendered binaural when you listen back over the headset. That mic was important because we could produce a true binaural element within our mix.”

The audio setup was more straightforward on the front end: the TNDV team received splits from the band, taking in every input off the stage. “We mix the music very traditionally using our Studer Vista 9 console,” said Ellis, “but then we take in two layers from the ‘A/R’ microphones—the ambience layer and the response layer. We try to capture that audience response separately using very tight techniques, including shotguns and small condenser mics.”

For the ambience layer, Ellis and his team go high and wide in an attempt to communicate the unique character of the room. “In each venue, we try to capture two or three

unique elements and get them into the spheres,” said Ellis. “It’s not so much about communicating the experience 100 percent accurately; it’s about identifying the cues that are unique to the space and using them effectively.”

Stationed on TNDV’s Vibration audio truck, Logan and Ellis managed the live audio production for all three events. “Mills has been making records in Nashville for around 30 years,” said Ellis. “We brought Mills in specifically to make the music sound amazing within each space, so Mills was very focused on the band, how they sounded and making sure that their message was properly communicated.”

Ellis felt the job would take three people to do properly: Logan was responsible for creating the live multichannel mix; Rob Horne, Ellis’ colleague at TNDV, set up the microphone arrays, with a special focus on the ambience layer; and Ben Adams was in charge of monitoring and delivery of the ambisonics.

The audio monitoring workflow leveraged Waves NX Virtual Mix Room and NX Head Trackers using Sennheiser HD650 and Ultrasone Pro550 headphones, allowing Adams to simulate the experience that audiences would hear at home. This was especially important because the ambisonic mix was created natively with no conversion.

“We mixed and monitored in that format, instead of creating a 5.1 mix and then translating it to an immersive format,” he said. “We wanted this to be as completely linear as possible. When you add conversion, the audio becomes nonlinear and is subject to distortion. We eliminate the conversion stage by keeping it native, adding to the overall precision. Ultimately

our goal is for the workflow to have as few steps as possible.”

One of the last steps in that workflow was embedding the audio with the video content in the final stages prior to delivery. “We’re sending up a 4K stereoscopic video image with four channels of embedded audio, which is the key to first-order ambisonic sound,” said Ellis. “It’s four channels, but a phased matrix, similar to Pro Logic II audio. The first channel holds all of the amplitude information, and then you have a height channel, a side-to-side channel, and a front-to-back channel. The headset then uses its tracking data to create a binaural render based on the position of an audience member’s head.”

The Supersphere video workflow includes an array of strategically positioned VR cameras in the venue—this generally includes a mix of Insta360, ZCam and custom models—and a mobile rack of gear that includes encoding systems and software-based production tools. Keycode Media is the systems integration company responsible for building out the racks, which vary in size based on the scale of the gig. For the Audiophile Series, two 400-pound racks of gear were forklifted onto the Vibration truck, according to Ellis.

While VR may still be an emerging technological format, the Audiophile Series’ delivery point proved to be surprisingly traditional. “We take TNDV’s audio feed over fiber and integrate it into our video stream, and deliver H.264 and H.265 video with embedded AAC audio to our satellite truck,” said Wilson. “From there, it goes to a network operations center that encodes and distributes the stream to our endpoints. For the Audiophile Series, we broadcast into an app called Oculus Venues, and the Oculus team manages delivery to headsets.”

Wilson describes the delivered product as sitting in a giant IMAX theater. “When you put on the headset and look around, the seats are filled with digital avatars,” said Wilson. “These are people you can actually interact with. There’s a microphone and speakers in the headset, and a giant screen in front that wraps around what we are broadcasting. There’s a geometry to sitting in a theater, and we make sure the cameras match that geometry so that there is a natural look and feel. But for the Audiophile Series, we needed that real-time, ambisonic sound to make this a truly immersive audio event. We trusted TNDV implicitly based on their audio experience. All we really needed to say was, ‘Make it sound pretty.’”

TNDV
www.tndv.com

Human

(continued from page 23)

California. Also in New York, senior producer Craig Caniglia has added “head of sonic branding” to his title. Caniglia’s clients include National Geographic, Ikea, Visa, GE Appliances and Brighthouse Financial.

Hori grew up in Chicago, learning to DJ at age 13 and working at Gramophone Records, the city’s venerable DJ-centric vinyl store. After studying music theory and composition at Columbia College, he held positions at com/track and Comma Music before relocating to Comma’s Los Angeles office. He subsequently worked as creative director for five years at music house Squeak E. Clean in Los Angeles before returning to Chicago in 2016.

One of Hori’s most notable creations while in California was “Da Diddy Da” featuring Gigarok for Apple’s four-part summer 2018 iPad campaign. His work has been recognized with numerous industry honors (including D&AD, One Show, Clio and AICP awards), and a 2016 Cannes Gold Lion for Best Use of Original Music for Adidas’ “Your Future Is Not Mine.”

Hori works primarily in Apple Logic Pro and Ableton Live, he says. “I’m a big Universal Audio devotee, so I have the Apollo. I also have a UA 4-710D, four preamps in a rack. I’m a big fan of their stuff.” Those are not his only mic preamps, however. “I have a variety of mic pre’s—a couple of the Brent Averill 1073s, a couple of SSL SuperAnalogue pre’s and an Avalon V5,” he says.

On the processing side, “I have some Warm Audio Pultecs,” the EQP-WA tube equalizer. “They sound amazing. I’m a big fan, especially for the price. It’s a fraction of the price [of a Pultec EQP-1A] and I don’t know if you can tell the difference when you hear it,” says Hori.

“I learned very early on that a good front end is really important. I try to get a very good signal path when I’m recording anything. I have a lot of outboard synthesizers, and I find that even running those through nice preamps can really bring them to life.”

Hori not only has a lot of synths but also various other keyboards and rhythm machines. “I have a Dave Smith Prophet 12, a Moog Sub 37 and an Elektron Analog Rytm MkII, my newest toy. On the vintage end I have a Wurlitzer electric piano, the 240. I also just got a Fender Rhodes Mark II Suitcase. And I’ve been bitten by the modular synth bug. I’m trying not to go too far down that

rabbit hole, but it’s fun. They open up a whole world of creative potential,” he enthuses.

In the world of commercial music, it’s not unusual for projects to be kept under wraps until the last moment, so Hori is tight-lipped about his recent work. “I’m working on a bunch of stuff right now that’s really cool, but we’ve signed NDAs.” There is one project he can mention, however: “I’m scoring a feature that is

just wrapping its shoot. It’s called *Big Gold Brick*, a dark comedy that stars Andy Garcia, Oscar Isaac and Megan Fox.”

Human’s musical roots run deep, as evidenced by the Visconti name among the list of co-founders; Morgan is the UK-born son of famed producer and musician Tony Visconti and Welsh folk singer Mary Hopkin. In 2014, Morgan Visconti released his debut album, *Ride*, on the Hu-

man Label. The list of Human Label artists also includes Penny Engine, 19th Moon, The Ancients, and Jaust. Visconti occasionally tours with his sister, Jessica Lee Morgan, and Holy Holy, the band put together by his father and drummer Woody Woodmansey, formerly of the Spiders from Mars, to re-create the music of David Bowie.

Human

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innovations: the manufacturer's view

Hardware Processing in the Age of Plug-Ins

EVENTIDE H9000 NETWORK EFFECTS PLATFORM

BY TONY AGNELLO

The Eventide H9000 Network Effects Platform is our new flagship multi-effects processor—our fifth flagship processor in 50 years. The H9000 project has been, and continues to be, by far the longest and most costly in Eventide history, but it's time and effort well spent.

In 1982, we introduced the SP2016. There was nothing like it at the time. There were dedicated delays, pitch changers and reverbs on the market, but the SP2016 could be programmed to be anything—it was the world's first general purpose digital audio box. It was a reverb, a multitap delay, a vocoder, it “did” granular, it was a looper, and anyone could write effects by using Eventide's primitive “development system” called SPUD (Signal Processing User Development). It accepted hardware “plug-ins” (ROMs) from Eventide and others.

The SP2016 was designed before DSP chips existed. In 1980, CPUs were way too slow for real-time audio processing. In order to



Eventide H9000 Network Effects Platform

modules and our proprietary VSig application to build algorithms/effects by interconnecting the building blocks. The downside of using DSP chips is that the development tools are less advanced/feature-rich than are the tools for general purpose CPUs like ARM and Intel processors. It's a rather big downside and we longed for the day when general purpose CPUs would be fast enough to do the job.

By the late aughts, it became clear that ARM chips had become powerful enough to do the job; finally, DSP chips and their tools were no longer necessary. Nearly 10 years after we made the decision to migrate to floating point ARM processors, we shipped our first ARM-based flag-

ship. We have also rewritten VSig for the H9000, now ARM-based, so developing new algorithms should be less painful.

Each generation of our rackmount flagships has enjoyed a long life; we expect the H9000 to be the platform for new algorithm development for at least the next decade. New, faster ARM processors are introduced at a much quicker pace than dedicated DSP chips—a key advantage. For “future proofing” and expandability, we decided to mount the ARM DSP engines on four plug-in modules, each holding a quad-core ARM processor. Each core serves as a DSP engine, giving the H9000 16 DSP engines. Owners of the H9000 will be able to update to faster processors over time.

Another challenge was designing a UI and remote application. With 16 DSP engines, 96 channels of audio, and a host of formats, sample rates and whatnot, we struggled with devising an interface that would be flexible, expandable and intuitive. The original UI spec was discarded after a round of user trials and we were driven back to the drawing board. The new UI introduced the concept of FX Chains to assist users in creating processing blocks that combine algorithms, handle multiple audio channels and support various control and automation capabilities.

Our new flagship leapfrogs its predecessors. Its eight channels of analog I/O have better specs than any of our previous products. With its 16 DSP engines, the H9000 can do more stuff, handle more channels of audio and, unlike the H8000, it is network-aware. It can support 96 channels of audio I/O over USB, ADAT, Dante, MADI and so on. It can be controlled from its front panel or by our remote app/plug-in, Emote, by connecting over LAN or Wi-Fi. While its *raison d'être* is running ef-

fects, the H9000 can be used as a world-class audio I/O box—and digitally stream eight channels of pristine analog audio.

The H9000 has three expansion slots designed to accommodate customer-specific I/O requirements. Today we're offering Dante and MADI expansion cards, but the slots are designed to accept additional audio channels, mic/instrument pre's, other audio formats and more, which we can develop based on customer demand and market opportunity.

For the foreseeable future, the H9000 will remain a work in progress, with priorities influenced by ongoing input from leading audio pros from all sectors of pro audio, and now our growing H9000 customer base as well. Completing the platform's feature set is our highest priority. It is not currently possible to route between FX Chains, and that's an important feature. Also we can't easily distribute processing across modules—we have some applications in mind that would require all 16 cores running in concert processing a single algorithm (a “proof of concept” algorithm that we created for one customer runs a 22.2 limiter!). We have also started working on surround sound Dolby Atmos applications. We continue to work on improving Emote with the goal of tailoring it for various use cases. Okay, now that I'm tossing around marketing jargon, I'm going to wrap up.

The H9000 project is at the heart of everything we do. It's the platform that will spawn our future hardware and software projects. Getting off DSP chips and on to ARM was a huge step for us; now the road ahead is wide open and we're eager to take the next steps forward.

Tony Agnello is managing director and co-owner of Eventide.

Eventide
www.eventideaudio.com

We expect the H9000 to be the platform for new algorithm development for at least the next decade.

do anything even vaguely useful digitally, you had to roll your own custom DSP-style computing system in a modular way—by designing and connecting primitive add/subtract chips, multiply chips and a few memory banks. This type of distributed processing system was called an “array processor.”

By the late 1980s, TI's 16-bit TMS320 became available, paving the way for our first DSP chip-based flagship, the landmark H3000. Our third-generation flagship, the H4000, was more powerful than the H3000. The fourth-generation H8000, now about 20 years old, was more powerful still and also used dedicated DSP chips.

All of our effects are built using modules—building blocks that we research and develop and optimize for the particular architecture of processing in use. We use our library of

ship, the H9000, in 2018. Why did it take so long?

One of the main challenges was migrating all of our fixed point modules to floating point. This was a nontrivial task because the arithmetic matters—it can change the sound. The migration took several years and involved developing an automated “listener” application, which we presented at the International Conference on Digital Audio Effects a few years ago (homebrewed AI!). It would be nearly impossible for a human (or even a big bunch of humans) to listen to each of our 1,600+ algorithms, changing every combination of parameter values while comparing the sound with every turn of every knob. We are confident that the algorithms in the H9000, running on ARM, sound the same as they do on our older integer arithmetic, DSP-based

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THE METALLIANCE REPORT: Making the Most of Your Room

BY FRANK FILIPETTI

In my METAlliance Report column a few months back, I suggested “walking the room” when going into a new recording studio—but what if you’re not in a recording studio? What if the room you’re walking is an up-and-coming facility also known as the Guest Bedroom? What can you do to bring the best out of the space you’re working in?

To begin with, we are always hearing that “there are no rules,” right? Wrong! Of course there are rules—a veritable surfeit of rules—but once you know the rules, you can figure out how and when to break them. The first one that comes to mind is #33.

RULE #33. No parallel walls!

More than likely your home or apartment contractor didn’t get the memo, so the room you’re in has parallel walls to the left of you, parallel walls to the right of you, and you’re confronted with flutter echo or low-frequency standing waves, or both. If you have a choice, pick the best room you can, but occasionally, through a rare and happy accident, your room actually sounds pretty good. Maybe it’s the shelf holding all of your audio awards, or maybe it’s that big old sofa along the back wall, but whatever it is, if the room sounds good, follow Rule #14.

RULE #14: If it ain’t broke, don’t fix it. The point being, listen before you begin your modifications. Try to sort out the problem areas and deal with them in a targeted way without massive, wholesale changes—and more importantly, decide what your goal is. Do you prefer a dead room with a capital D, or is a live room more your style? Originally, recording rooms were built with nary a thought about isolation. (Then again, if you’re using one mic to pick up



Frank Filipetti’s mix room sports lots of uneven surfaces, shelves, a high ceiling and architectural features that provide diffusion.

the band, isolation isn’t really an issue.) Once multitrack recording came along, suddenly the idea was total isolation. In the 1960s and ’70s, while The Beatles were getting stunning sounds in a very large Studio 2 at Abbey Road, U.S. studios were like recording inside a pillow; isolation and separation were the buzzwords of the day.

Today, thankfully, we’ve returned to sanity, and due to pioneers like George Massenburg, we now look for proper diffusion. George’s design for Blackbird Studio C in Nashville [see page 18] may be a bit impractical for your studio, but it’s still one of the finest sounding rooms I’ve ever heard—except for my rooms at Right Track, of course! The overall concept—the idea of diffusion instead of live or dead—is a more realistic and opportune goal for a record or mix room. So what can you do to achieve it?

To start with, let’s talk shelves. Bookshelves filled with books not only look great, but they are an ideal diffuser because they create an “uneven” surface. You can see I’ve used

that concept in my room. Tape boxes (remember those?) or albums (and those?) make ideal diffusers. Even CDs irregularly lined up on shelves can be a great help.

Next, take advantage of architectural features like stone or brick fireplaces, windows and exposed beam ceilings. Hardwood floors aren’t great diffusers, especially those that have been treated with polyurethane or varnish. While wall-to-wall carpeted floors can deaden a room too much, carpeting can help tame reverberations from reflective ceilings.

OK, those are things you can do to your room, but what about when you walk into a studio where you don’t have the luxury of changing the walls and decor? Say you need to do a vocal overdub in a small, untreated vocal booth with low ceilings. Audio reflections in a small room are usually detrimental to the sound. While many of us like recording vocals or instruments in omni or figure eight, the extremely short delays of a tiny room with low ceilings not only add an unwelcome nasality to the sound, but can create a very unpleasant comb filter effect as well. When you’re working in that kind of space and the singer or sax get louder, the unpleasantness only increases, so do what you can to minimize potential issues.

The easiest thing you can do is avoid the middle of the room; stand asymmetrically from all the walls. The closer you get to the center of the room, the more deleterious are the effects.

Low, untreated ceilings with varnished hardwood floors are a major problem. You can’t place your singer further away from the ceiling ... or can you? One way is to put your singer in a chair. You can also put foam above your artist’s head and, if available, use

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

one of the premade devices that surround the mic with foam. Another technique (which has worked for me, by the way) is to take a pillow or mattress and place it on the floor, with the singer lying down. It looks strange, but you won’t see that on the final mix.

What if you need to record drums in a small space? As I discussed in my “walk the room” column, start by finding the room nodes that work best for you; after that, your creativity needs to take over. Build a tunnel for the bass drum mic, which keeps the bass drum big and present while preventing it from overwhelming the room. Other techniques include taping up the brass and/or miking the overheads from underneath. This keeps the ceiling reflections from combing the audio.

If you know you will have access to a large room before or while mixing, the old standby of sending a very well-damped kit into a large room and re-miking still can work wonders.

In the end, use your ears in the room and through the mic. Move things, add things, subtract things, rearrange positions. Start with the physics of the room and don’t depend on that \$99 plug-in to solve the problem. Nothing works quite like the three-pound mass of tissue between your ears.

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

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Portable vocal mic isolation shields can make a difference when recording in less-than-ideal surroundings.

UNIVERSAL AUDIO UAD 175B & 176 TUBE COMPRESSOR
PLUG-IN COLLECTION ■ EVENTIDE ULTRATAP DELAY PLUG-
IN ■ SOUNDTOYS LITTLE ALTERBOY PLUG-IN ■ ZOOM GCE-3
GUITAR LAB CIRCUIT EMULATOR

UNIVERSAL AUDIO UAD 175B & 176 TUBE COMPRESSOR PLUG-IN COLLECTION

With all the great hardware and software we have at our fingertips these days, it's hard to imagine a time when gear was available only to a select few in the studio business. Such was the case when the 175B and 176 compressors from Universal Audio came on the market in 1960. Designed by Bill Putnam, they were the first audio compressor/limiters built solely for studio recording and music mixing. It's notable that they were installed initially at Sunset Sound and United/Western, where a rack of the 176s still lives.

The plug-in versions of these compressor/limiters for UAD hardware and UA audio interfaces deliver the classic sonic character of tubes and transformers. Based on a study of several of Bill Putnam Sr.'s own "golden" hardware units, the software models the full control set and circuit path of its namesake tube compressors.

These versions can be used for both tracking and mixing. The 176 features 2:1, 4:1, 8:1 and 12:1 ratio



Universal Audio UAD 175B (top) & 176 Tube Compressor Plug-In Collection

controls, while the 175B features a fixed 12:1 ratio. They feature a Side-chain Link, Dry/Wet Mix for parallel processing, and a good number of presets from the likes of Joe Chiccarelli, Jacquire King and others.

Input sets the compression threshold and Output sets the final level. You've got Attack and Release, and

the VU meter shows gain reduction or I/O levels. Each emulator has unique sonic characteristics; to hear what works best, you just have to try them. On bass, I applied both, using the "older" 175B for Input drive and the 176 for some limiting. I don't often compress guitars much, but driving the Input while pulling down



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*. www.richtozzoli.com

the Output delivered some thick and nasty sounds. I especially like the 176 on drum loops, cranking up virtually all of the knobs and adding tone and attitude without the crispy crunch that 1176s sometimes deliver.

If you want to add some serious character and 'tude to your tracks, it's worth checking out the UA 175B and 176 software plug-ins. Like the virtual tubes inside these units, your tracks will glow.

Universal Audio
www.uaudio.com

EVENTIDE ULTRATAP DELAY PLUG-IN

Eventide's UltraTap is a multitap effect delay plug-in ported directly from the H9 Harmonizer. All of the H9 presets have been converted to work with the plug-in and have been included; newly created factory and artist presets are also available. UltraTap has a wide sonic palette under the hood and can do delays, reverbs, modulations, stutters, swells and more.

The unique Ribbon control allows you to load two distinct settings and smoothly transition between them, and the programmable Hot Switch lets you jump to another setting at the push of a button. It can be used as mono in/mono out, mono in/stereo out, or stereo in/stereo out.

While there are a good number of knobs, meters and buttons on the GUI, the plug-in is actually quite easy to use. I have found that the trick is to not get caught up in all the options and instead focus on Input, Output and the Wet/Dry mix knob. The presets will dictate what sound I'm going for, and then I will tweak the associated knobs accordingly. As often happens with plug-ins, my na-

iveté leads to turning knobs where I don't know what will happen, sometimes leading to great sonic results.

It does help to know the basics, though. The Length knob can space taps up to 10 seconds apart, and the Taps knob controls the number of delay taps, from 1 to 64. Spread controls the rhythmic spacing of the taps, Taper is the fade of the taps, and Width (stereo only) sets the stereo image. The quirky Slurm control adds a smearing/modulation that combines random multi-voice detuning modulation via a small amount of diffusion.

The best way to check out this plug-in is to use the drop-down Preset Bar and load some sounds. The organized tree structure of Delays, Modulation, Reverb, Tremolo, Pads and Ambient, Glitch and Stutter, H9 Factory, and Artists will get you started, but you can also use the left and right arrows next to the preset dropdown to quickly scroll through them. I found it best to use the Mix Lock button located next to the preset Save/Load button, which, when

enabled, will save a global mix value that will be the same on every preset loaded. When used on an effect return track, it makes it easy to keep everything at 100 percent wet.

Aside from sounding great on the guitar parts, I use the delays a lot on sound design-type effects such as cymbal swells, impacts and other hits. For example, putting Tremolo Chorus or Volume Swell Rhythm on a simple cymbal hit creates an uncomfortable pulsing sound that, when synced to a cue's tempo, is haunting. By simply pushing the Tone knob up, the high end is increased and can even make the effect a bit more crunchy. The Mix control, when turned down a bit, lets me keep the impact of the cymbal, and I've often automated it to increase just after the initial hit and then shut the effect off



Eventide UltraTap Delay Plug-In

completely at the end hit.

Simply put, UltraTap is a creative delay and modulation tool. There's a lot of power in the presets folder, but some original ideas can come from just putting it on a piano, drum loop, guitar or synth pad and then turning a few knobs. Without question, you'll have something brand new within minutes.

Eventide
www.eventideaudio.com

SOUNDTOYS LITTLE ALTERBOY PLUG-IN



Soundtoys Little AlterBoy Plug-In

We often hear the phrase “simpler is better” bandied about. In the case of SoundToys’ Little AlterBoy, it is undeniably true. While this product has been around for some time, I wanted to briefly discuss what it does and how it finds its way into many of my tracks.

Distilled from the back history of PurePitch TDM, PitchDoctor and SoundBlender, Little AlterBoy is described as a monophonic voice manipulator. That’s not how I use it, though; it can do so much more than the description indicates.

I layer a lot of samples and per-

cussion into my TV compositions, and Little AlterBoy helps make it happen.

There are only a few knobs and buttons on this plug-in, so it’s quite easy to use. Pitch lets you alter the pitch in semitones up or down an octave; Formant is a form of an EQ

curve for a touch of warping; Drive adds analog-modeled tube saturation; and Mix is the Wet/Dry control. Pitch and Formant can be linked by selecting the link button between them. In the Mode section, the Transpose button lets you shift the pitch without automatic correction, Quantize tunes to the nearest semitone, and Robot locks to a single note. That’s it.

I use a combination of presets and simple tweaks to get some cool results. To drop a percussive drum loop down and make it a bit nastier, the Octave Down Classic DJ preset works great, and throwing in a little Drive can add some grit. I use Pitch and a touch of Formant to tune snare drums in percussion tracks, and sometimes I will automate the Pitch knob to do creative effects with percussion. It can also be used to slightly pitch up shakers in a mix and fit them in better when needed, but overall, LittleAlter boy—for my needs—is a useful plug-in for far more than just vocal production.

Soundtoys
www.soundtoys.com

ZOOM GCE-3 GUITAR LAB CIRCUIT EMULATOR

The Zoom GCE-3 is an ultra-compact USB-powered audio interface and digital multi-effects processor. Able to fit in the palm of your hand or in a pocket, the device works in conjunction with Zoom’s Guitar Lab Software.

The onboard DSP lets you dial in sounds with near-zero latency, and it records to a computer via a single USB-C cable. It features a 1/4-inch input for your instrument, an aux-in jack for external connectivity, 1/8-inch mini headphone and volume out, USB connection, power indicator and an external 5V DC connection. The Zoom Guitar Lab for Mac/Windows is a free download, and it includes a free Cubase LE download.

Note that this is not a standalone unit; it must always be connected to a computer. As an audio interface, I was able to select it in Pro Tools and record directly through the Guitar Lab Software. However, my HD I/O is no longer in the picture at that point, which means I have to use the GCE-3 as the physical output, running either to speakers or via headphones. For my use, I connected it via stereo 1/8-inch mini to a pair of good pre-amp channels and dialed it up “analog.” This gave me the most flexibility and allowed me to use my rig in the way I was used to—and since this is a 44.1/24-bit kHz box, I was able to record at higher frequencies.

The Guitar Lab software, which works with a number of compatible Zoom effects products, is quite easy to use. The built-in DSP handles the processing for circuit emulation of the Zoom G5nn, G3n, B3n, G1 FOUR, G1X FOUR, B1 FOUR and B1X Four, each available via drop-down menu at the top of the GUI. The Effects, Patch and Editor tabs let you navigate around to find the sounds you need and tweak accordingly. You are able to see the amount of memory used, and you can swap out, drop in or save/reload effects and patches. There’s a tuner available as well as a tempo button.

Simply put, there are some great sounds in here. Zoom GCE-3 offers a huge selection of presets, as well as many options for amps, cabinets, stomp pedals, delays and verbs. Right out the gate, I plugged in a D’Angelico guitar and jumped into a funky patch that featured AutoWah, some Boost, a Phaser and some Reverb. Taking just a minute to turn down the gain on the Boost while turning up the Volume, and switching the reverb to Room and turning that up to 82 percent in the mix, I had a sound cool enough to save as a preset. Pushing through many of the other presets, this thing can get me through quite a lot of TV cues, from ambient Edge-like delay patches to pitch-shifted hard and heavy sounds.



When writing music, I will use anything that gets me from A to B and works for the track. While this little box may not have “pro features” externally, it serves a powerful purpose to let guitar and bass players interact with their computer and dial up some really good sounds. A mobile composer myself, I will

absolutely use this not only when space is at a premium, but anytime I want some cool guitar sounds on the go. Combined with the Guitar Lab Software, this little guy—which you can pick up for under \$100—packs a big punch.

Zoom
www.zoom-na.com

Listen Up!

BY STEVE HARVEY

"I can't have a conversation about my occupation or my latest projects without it sounding like I'm name-dropping," writes Grammy-winning producer, engineer and mixer Mark Howard in the introduction to his book, *Listen Up!* Indeed, the book, written with his brother, Chris Howard, lists just a few of those names in its subtitle: *Recording Music with Bob Dylan, Neil Young, U2, R.E.M., The Tragically Hip, Red Hot Chili Peppers, Tom Waits...*

Born in Manchester, England, and moving with his family to Canada at a very young age, Howard dropped out of school at 16 and fell into music, mixing bands in local clubs and learning to play the drums. After injuring his back in a serious motorbike accident, he found work at Grant Avenue Studio in his hometown of Hamilton, Ontario. It was there that he met musician and producer Daniel Lanois, working on his *Acadie* solo album. The pair would collaborate for nearly a quarter century.

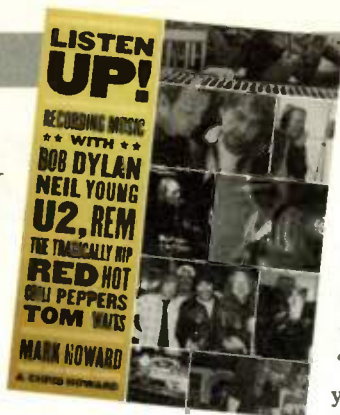
Chapter 1 drops the reader into New Orleans in 1988, during production of the Neville Brothers' *Yellow Moon* album, produced by Lanois and engineered by Howard. At that time, artists were still largely booking extended periods of time at commercial studios to record their albums. Lanois and Howard favored a different approach, temporarily setting up a studio for months or even years at a location that could also house everyone involved. "Something about everyone being in close proximity for a period of time encourages the creative flow," Howard writes.

At each successive location, Howard would rent or buy a large, typically multistory building, set up accommodations for everyone, furnish the rooms to create the right vibe, and move in the recording gear. At times, *Listen Up!* reads like *Lifestyles of the Rich and Famous*, as he casually mentions some of the purchases: a car here, a mixing console there, a string of vintage motorbikes (he and Lanois owned a dozen between them at one point).

There is a ton of information for equipment aficionados—not just what gear was installed at which studio but also specifics from each session. Once the pair moved on from Kingsway Studio and New Orleans, they began to favor a single-room layout. "I've spent my life recording in almost every imaginable space and I always get the best results when I put the recording equipment in the studio," Howard states. "Any time I

do a record in a traditional studio, I end up with the band in the control room, even the drums."

Bob Dylan features prominently and is notable for acknowledging Howard's role in the making of his records. Picking up one of three Grammys for *Time Out of Mind*,



largely produced at Teatro, the studio Howard built in a former movie house in Oxnard, CA, Dylan thanked him and said, "It's not every day that you get a sound like this."

Howard either has exceptional recall or kept a detailed diary because the book is chock full

of anecdotes from the sessions, offering fascinating insight into the creative process of each artist. "Each artistic endeavor had its own drama," he writes, noting the turbulent relationships, fights and self-doubt. "To work successfully in the music business, you need to be willing to ride those waves of turmoil to get to the masterpiece waiting on the beach."

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Rode Microphones Lavalier Go

Lavalier Go is lavalier microphone designed for use with Rode's Wireless Go system and other recording devices with a 3.5mm TRS microphone input. Rode's Wireless Go mic system consists of a transmitter and receiver pair that weigh 1.1 ounces each; the transmitter unit includes an omnidirectional microphone, which means the system may be operated without a separate mic. If the situation requires a lapel mic, Lavalier Go plugs into the Wireless Go transmitter, which can be kept in a nearby pocket or clipped to a belt. Lavalier Go sports a 4.5mm omnidirectional condenser capsule, foam pop shield to minimize wind noise and vocal plosives, a durable mounting clip, and a Kevlar reinforced cable.



Avid S1 and S4 Control Surfaces

Avid's recently launched S4 and S1 audio control surfaces are intended for use in smaller facilities and project studios. The S4 draws from Avid's Pro Tools S6 control surface for a more compact package, while the S1 reworks the speed and software integration of Avid's high-end consoles into a portable, slimline surface. Avid S4 is intended to provide an integrated experience with any EUCON-enabled DAW. The configurable, semi-modular surface allows users to create a system from 8 to 24 faders, with the ability to add displays, joystick, pot and knob modules. Avid S1 is intended to provide enough control and visual feedback to speed up music workflow. Audio professionals can connect up to four units together—and even add Pro Tools Dock—to create a single extended and integrated surface. Other features include motorized faders and knobs, touchscreens and Soft Keys for completing complex tasks with a single touch.



AMS Neve GenesysControl Plug-In

The Neve GenesysControl plug-in provides integration between the Neve Genesys/Genesys Black and modern DAW workflows, as well as extending the feature set of the Genesys/Genesys Black. The plug-in can be applied in the DAW to a mono, stereo or master track and can be assigned to control selected channels on the console, allowing automation without sacrificing the instant recall of in-the-box workflows. This enables the user to mix traditionally using the console, to work in-the-box, or use a combination of approaches as needed. Supported DAWs are Avid Pro Tools (AAX) and Cubase/Nuendo (VST), with Apple Logic support to follow later in 2019. (Some automation features are restricted within Logic.)



KRK Systems KRK Audio Tools App

This free suite of professional studio tools for iOS and Android includes five analysis-based components designed to work with any monitor setup, and a tool specifically designed to incorporate KRK ROKIT G4 monitors into an acoustic environment. Among the general monitor tuning tools, the Level Meter assists with monitor level calibration to ensure all monitors are at the same decibel level; the Delay Analyzer helps calculate the time from each monitor to the user's ears; and the Polarity function is used to verify the correct wiring of monitors, minimizing bass loss and incorrect stereo imaging reproduction, the results of monitors being out of phase. The Spectrum Real-Time Analyzer tool measures and displays the frequency spectrum of the input audio signal; and the Monitor Alignment feature determines placement of multiple monitors within proximity.



Eventide Audio Blackhole Reverb Plug-In

Blackhole Reverb, an iOS music creation and live performance effects app from Eventide Audio, is a reverberation effect for sound design and creating ambiance on instruments and vocals. Derived from the original hardware

firstlook

CEntrance MicPort Pro 2 Interface

Intended for podcasting, voiceover and similar applications, MicPort Pro 2 is a portable professional recording interface that connects mics to portable electronic devices such as laptops, tablets and smartphones. Building on the capabilities of MicPort Pro, the new model includes CEntrance's Jasmine Mic Preamp, which reportedly features lower noise and higher gain. Other features include a switchable highpass filter, 48V phantom power, and an internal rechargeable battery that lasts more than six hours with a typical condenser mic. The product mounts to a mic stand or a small tripod and offers tactile controls. MicPort Pro 2 comes in two models: a basic model and a model with a soft-knee analog limiter.



versions of Eventide's flagship studio processors and "Space" pedal, the original Blackhole Reverb was created as an abnormally large reverb. Blackhole Reverb for iOS offers more than 50 presets; musical effects for highlighting key instruments, settings for abstract spatial effects, drones and ambient washes; and a "Gravity" control that inverts the reverb's decay. The Blackhole plug-in available now the Apple App Store as standalone app and as an AUv3 plug-in for use in iOS DAWs.



Focusrite Brainworx bx_console Plug-In

Designed and coded by software house Brainworx, Focusrite's bx_console plug-in aims to re-create the sound, feel and style of the original Focusrite Studio Console—specifically its ISA 110 Equalizer and ISA 130 Dynamics Modules. The VST/AU/AAX plug-in for Mac and PC is included for free with every Clarett and Red audio interface. Modeling the full signal paths of the ISA 110 and ISA 130, bx_console provides four bands of parametric and shelving EQ, high- and lowpass filters, compression/limiting, gating/expansion and de-essing. While emulating the original, it includes modifications such as continuously variable THD and Gain controls. Brainworx's Tolerance Modeling Technology provides 72 selectable modeled circuits, allowing users to re-create the subtle timbral variations between channels as on the original console.



Celestion BN10-200X Bass Impulse Response

Celestion has added the BN10-200X bass speaker to its growing line of Bass Impulse Responses. The BN10-200X bass speaker is characterized by extended low-end tone and extreme amounts of linear excursion. Using the same recording techniques used for Celestion's range of guitar speaker impulse responses, the company's engineers have made the Celestion BN10-200X bass impulse response available in a 2x10 (closed) and 4x10 (closed) cabinet configurations, or as a BN10-200X Bass Bundle.



There's more information on all the products featured at prosoundnetwork.com/sep2019.

Audio-Technica ATUC-IR

The ATUC-IR Hybrid Infrared Discussion System allows hundreds of infrared and wired discussion units to be combined into one system. A single system may be scaled to support a total of 200 ATUC-IRDU infrared discussion units together with 100 ATUC-50 wired discussion/integration/interpretation (DU/IU/INT) units from a single ATUC-IRCU control unit. Further, up to two existing ATUC-50CU wired control units may be linked to the new ATUC-IR hybrid infrared system to integrate an additional 100 DU/IU/INT units each, for a grand total of 500 DU/IU/INT units. The ATUC-IR system provides 24-bit/48 kHz uncompressed digital audio, along with a 12-band feedback suppressor. IR transmission requires no frequency coordination and keeps signals safe and secure. The 19-inch rack-mountable ATUC-IRCU control unit can be operated locally, through Web Remote interface, or third-party IP control systems. It offers three selectable conference modes (free talk, request-to-talk, and full remote) with various override settings.



Shure VPH Mic Handle

VPH is a long microphone handle for on-camera interviews and reporting that features the flexible Shure RPW interchangeable cartridge interface at the top and XLR connectivity on the other end, which aids connection to broadcast mixers and recorders. The VPH accepts a variety of Shure wireless interchangeable capsules that offer different polar patterns and sonic characteristics to match situational needs. Polar patterns include cardioid, supercardioid, hypercardioid, and omnidirectional by way of PG58, SM58, SM86, SM87A, Beta58A, Beta 87C, VP68, KSM8 and KSM9 cartridge options. The VPH requires external phantom power.



Sonifex AVN-DIO Dante Audio Interfaces

The Sonifex range of AVN-DIO Audiophile Dante Audio Interfaces provides a convenient way of connecting legacy analog and digital audio equipment to a Dante AoIP audio network. Sonifex's A/D and D/A circuitry used in the range reportedly offers >120 dB of dynamic range. Using Dante Controller for configuration and powered by PoE, the aluminum boxes have side slots for screw mounting. They use Neutrik EtherCon connectors and Neutrik-lockable audio connectors for connectivity.



The AVN-DIO line includes: Dante to Analog XLR Stereo Output (AVN-DIO01), Analog XLR Stereo Input to Dante (AVN-DIO02), Dante to Head-

phone Outputs (1/4-inch and 3.5mm jacks) with Volume Control (AVN-DIO03), Dante to Analog Phono Stereo Input & Output (AVN-DIO04), Dante to Analog Terminal Block Stereo Input & Output (AVN-DIO05), Dante to AES3 XLR Stereo Input & Output (AVN-DIO06), Dante to AES-3id BNC Stereo Input & Output (AVN-DIO07), Dante to AES3 Terminal Block Stereo Input & Output (AVN-DIO08), and Microphone Input to Dante (AVN-DIO09).

Audinate Dante Controller Update

It's possibly the most "meta" update ever—an update to aid updating—as Audinate has updated its Dante Controller software with a new feature: Dante Updater. Available as part of Dante Controller 4.2.3, Dante Updater is intended to simplify updating the firmware for Dante devices on a network, automatically discovering and associating new firmware files directly from Audinate, which will host the files for its member manufacturers. New available updates are noted in the updater interface, allowing users to deploy them without hunting for product-specific installers, and to deploy updates across an entire system at one time. Dante Controller with Dante Updater is free for all users.



Primacoustic Broadband 48-Inch Acoustic Panel

Primacoustic has added a 48-inch Broadband absorptive wall panel to its Paintables line. This extra-large sound-absorbing wall panel is appropriate for installation in larger rooms and commercial facilities such as gymnasiums, houses of worship, theaters, and auditoriums. Primacoustic Paintables is an acoustic panel range that begins with the same high-density glass wool core as in Primacoustic's Broadway series acoustic panels; rather than being wrapped in fabric like the Broadway panels, however, the face and edges of the Paintables are coated in a breathable latex finish that allows them to be spray-painted or printed on without affecting acoustic performance. Any standard latex paint can be used, though a sheen no glossier than eggshell is recommended to help maintain the panel's natural absorption qualities.



Radial Engineering SW8-USB

The SW8-USB is an eight-channel switching device designed primarily for live concerts where backing tracks are used to reinforce the performance. If a primary playback source suffers a failure or dropout, the SW8-USB can switch to a backup source mid-performance. The switching can be done automatically by the SW8-USB, manually via a switch on the front panel, or by remote control. The SW8-USB is equipped with two USB connectors and 24-bit/192 kHz digital audio converters that provide eight channels of audio playback over balanced XLR outputs. Designed to feed the P.A. system, the mic-level outputs are transformer-isolated to eliminate noise from ground loops, and can also be set to line-level operation. Additional line-level outputs are provided for local monitoring of playback signals. The SW8-USB is also able to function as a MIDI interface, allowing use with show control systems to trigger lighting or video cues, or to control and synchronize audio playback on primary and backup computers.



Keatona Custom KXA

Boutique pro audio manufacturer Keatona Custom has unveiled the KXA Pro Audio Transformer x4. The KXA is an analog audio interface with galvanic isolation, sporting combo 1/4-inch and XLR3F connectors to provide interface isolation between balanced and unbalanced audio lines. According to Keatona, the use of 1/4-inch or XLR "Y" adapters allows users to create a passive audio distribution system that requires no external power.



firstlook

Bose Pro ControlSpace Processors

Bose Professional is now shipping the CSP-1248 and CSP-428 ControlSpace Commercial Sound Processors, which are designed to serve as standalone DSPs in applications such as retail stores, restaurants and public spaces where modest processing and high-quality sound are desired. The CSP-1248 and CSP-428 work with an onboard CSP configuration utility and browser-based UI that provide a quick-setup workflow.

Bose CSPs offer balanced analog I/O and mono-summed RCA inputs, as well as control inputs, control outputs, and a mute contact. A Bose Amplink output allows for a digital audio connection to compatible power amplifiers, reducing terminations and related points of failure. Opti-source level management monitors the input level of up to four sources, maintaining a consistent volume level between them, and Opti-voice paging provides a transition between music and page signals.



Shinedown Steps Up on Tour

BY STEVE HARVEY

NEW YORK, NY—Since the release of their fifth album, *Attention Attention*, in May 2018, Florida hard rock act Shinedown has been on a roll. The album debuted atop multiple *Billboard* charts, and the single “Get Up” pushed Foo Fighters into second place in the record books when it became Shinedown’s 11th Top 10 single on *Billboard*’s Rock Airplay chart. Meanwhile, the band hit the road in support of the album, sharing the bill with Five Finger Death Punch, then Godsmack, before heading out on its own tour, which is scheduled to end December 21.

Shortly before a block of about two dozen U.S. shed dates in June and July, the band called on Andy Meyer to take over the front-of-house spot. During his most recent stint with Justin Timberlake, with whom he has worked since 2005, Meyer had fine-tuned his hybrid FOH setup, integrating multiple racks of analog Rupert Neve Designs (RND) and Thermionic Culture equipment with a DiGiCo SD7 console. With only a few days’ notice before the Shinedown dates, he elected to take the



FOH engineer Andy Meyer has been mixing Shinedown’s headline tour with the aid of a DiGiCo SD7 console, a well-appointed 500 Series rack and other outboard gear.

same rig out again.

“I went to prep the gear and, instead of trying to break it down and rebuild it around Shinedown, I just took what I had from the Timberlake run,” says Meyer, whose résumé also includes Madonna, Guns N’ Roses, Janet Jackson and Rage Against the Machine. “These racks work—they just came off the road, they’re going back out. I’m using every bit of it and in a much different way, which has

been fun.”

Meyer started using analog outboard with Mötley Crüe, he says, around 2007, and when he rejoined Timberlake in 2012, things snowballed. The RND gear he used with Timberlake’s 16-piece band grew to include a 500 Series rack with multiple 542 Tape Emulators and 535 Diode Bridge Compressors, a Sheldford channel, a 5059 Satellite Sum-

(continued on page 42)



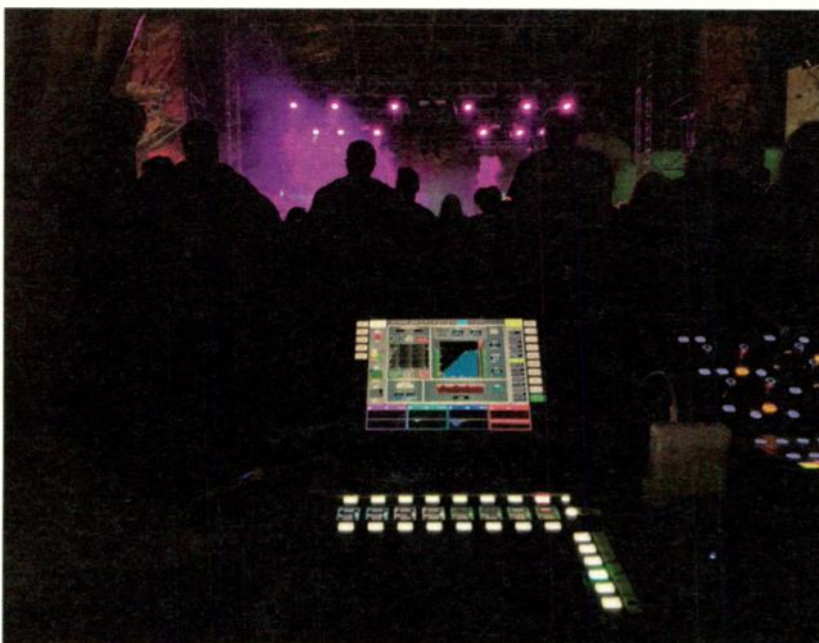
Twelve Foot Ninja Attacks Europe

EUROPE—Australian heavy metal act Twelve Foot Ninja spent the summer tearing through Europe with festival slots at Download, Rock the Coast and Nummirock, as well as various headline shows—all of which were mixed on an Allen & Heath dLive Wings digital mixing system.

While the group carried a dLive C1500 surface for the journey, performances occasionally had to be mixed with just a CDM32 MixRack, an IP8 remote controller and a laptop running dLive Director software. The latter configuration is what Dylan Mitrovich, sound engineer for TFN, deployed for a number of the band’s festival slots.

“Most of the input channels on the CDM32 are double-patched to separate channel strips, providing us with the ability to split the console up effectively into two consoles that look after FOH and monitors,” he said. “It is only because of the trust I have for the Allen & Heath dLive product that I fly across the world to operate a complex show on an 8-channel controller!”

Complex? Well, yes: “I use snapshots to broadly control the dy-



Australian act Twelve Foot Ninja carried an Allen & Heath dLive C1500 surface on its recent European festival tour.

namic range in certain sections of tracks, which allows me to implement sweeping changes to the mix throughout each song to complement the drastic stylistic changes. For example, I can pull genuine tones from their funk/Latin/reggae styles while also maximizing the dynamic impact

of their heavy sections. I use a lot of the 16 FX units creatively to help define the styles used in each section of their songs. I also use some FX purely for the band’s IEM mixes, just for vibe.”

Allen & Heath
www.allen-heath.com

briefs

Masque Sound Expands

EAST RUTHERFORD, NJ—Broadway audio mainstay Masque Sound (www.masquesound.com) has launched a production services division to provide equipment rentals and production services for concerts, TV shows, corporate presentations, galas and special events. Masque’s production services division offers system design, show prep, show labor services, audio system maintenance and custom electronics work.

MBC Hits the Road

MISSOURI—The Missouri Baptist Convention, a group of 1,900 churches, recently purchased a Martin Audio (www.martin-audio.com) WPC system with SXH218 subwoofers to use for live events that the organization produces. The traveling system consists of 12 WPC boxes, six per side, with four SXH218 subs ground-stacked in front of the stage to cover rooms that range from 550-seat to 1,300-seat theaters, and hotel ballrooms that hold from 1,400 to 2,000.

Stefani Struts with DPA

LAS VEGAS, NV—Gwen Stefani’s “Just a Girl” residency at Planet Hollywood’s Zappos Theater in Las Vegas serves up all the pop star’s hits; the one spot with no hits has been the wireless signal between Stefani’s DPA Microphones (www.dpamicrophones.com) d:facto 4018V vocal microphone and engineer Eddie “El Brujo” Caipo’s monitorworld at stageside. Based on DPA’s solid performance, Caipo plans to add the d:vote CORE 4099 instrument microphone and d:dicate 2011 twin diaphragm cardioid microphone to the residency.

SAG Brings Sound to MTA Festival

CHINA—Stage Arts Groups used its new Meyer Sound (www.meyer-sound.com) Leo Family systems to provide audio for a number of events this summer, including the MTA Festival, where 50,000 revelers heard acts like New Pants through main hangs of Leo-M and Lyon-W loudspeakers, while Leopard loudspeakers supplied front fill and 1100-LFC brought the bass.

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Barbra Streisand Returns to Her NYC Roots

BY LINDA ROMANELLO

NEW YORK, NY—One of the bestselling recording artists of all time, Barbra Streisand has earned 52 Gold, 31 Platinum and 13 Multi-Platinum albums over the years, but her prowess extends far beyond the recording studio. While never one to tour heavily, the artist is still known to hit the road on occasion, and when she does come to town, fans jump at the chance to see her live. That was the case this summer when Streisand played one-off shows in London's Hyde Park, Chicago's United Center, and in between them, a stop in her hometown to play New York City's Madison Square Garden.

Joining the native New Yorker for the shows was a 15-piece orchestra (reduced from the 54-piece ensemble she had toured with previously) and a pro audio team from Clair Global, KM Productions and Carlton Audio Services, led by FOH engineer and sound designer Christopher Carlton. Having worked with Streisand since 1999, Carlton once again took the helm at FOH as he has since 2011, after the death of his predecessor, legendary live engineer Bruce Jackson.

While there are many goals that the house mix on a Streisand show has to achieve, Carlton noted that the primary one is to produce a natural sound that eschews heavy effects. "She's very involved with her recordings," he said, "so if we can get close to what she's done with the studio mix, and the balance between monitors and what she hears coming back off of the house is right, she's happy and sings effortlessly."

With that in mind, a considerable challenge came with the downsizing of the orchestra in 2016 to "a rhythm section, three keyboards, a reed, a violin and three background vocalists," he said. "We wanted to keep the beautiful arrangements, mostly by William Ross and Marvin Hamlisch, but make the feast more mobile. For



Sound designer Christopher Carlton has mixed FOH for Barbra Streisand since 2011.



A d&b audiotechnik P.A. based on the flagship GSL System (right) and both J and V Series boxes for side hangs.

this mini tour, we have added a small string section to layer in an organic sound and make the dynamics more natural. There's no song that's a particular challenge because the musicians are such pros and follow her lead very well. There are some ballads that are just her with a piano and the string section, and it sounds as intimate as your living room. She keeps the audience listening—we just did Hyde Park in London with 65,000 people, and in between songs, you could hear a pin drop when she was talking."

At the heart of Carlton's system design were DiGiCo SD10 consoles, used in both FOH and monitorworld. The brand of console was a holdover from previous Streisand tours, said Carlton: "We used to carry a 54-piece orchestra and DiGiCo was able to have four different consoles on the same fiber optic loop, which meant no copper splitters. It totally cleaned up our patch world and the sound became a lot better. When we scaled the orchestra down, we likewise scaled down from two SD7s and two SD10s to just the two SD10s, which are wonderful

consoles. And again, both are on a fiber optic loop with the 32-bit SD Racks."

Over in monitorworld, the mix for Streisand and her backing musicians was handled by monitor engineer Robert "Void" Caprio, who helmed the DiGiCo SD10 desk while using "very minimal effects"—mainly a little bit of a TC Electronic M6000 reverb coming from FOH.

"Most artists are on in-ears these days, but she doesn't care for them," noted Carlton. "We have very Hi-Fi, proprietary Clair monitors on stage that were designed for her 20 years ago by Bruce Jackson and the Clair team, and they are a quite a bit different from what you would see on anybody else's stage. TAD 1601a woofers coupled with ATC soft dome midrange devices and Morrell tweeters are a super smooth combination."

According to Caprio, his mix was straightforward, focusing on "clarity, distinction and musicality. It's not a loud stage, so there's not a lot of volume. I'm going more for fullness of her vocal and the orchestra behind her—a good, full mix. The side fills are mainly the orchestra, and her wedges mostly have her vocals."

Those vocals were captured using Audio-Technica AE5400 cardioid condenser handheld microphones, several of which were in custom colors. Meanwhile, onstage instruments that weren't DI'd were captured via an array of DPA, Audio-Technica

(continued on page 40)

ALL PHOTOS: PAIGE MICHAELS

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Streisand

(continued from page 38)

and Sennheiser mics.

Hanging above the stage was a considerable audio assembly based on a d&b audiotechnik GSL System provided by New York-based KM Productions. The system comprised two main hangs, with 14 GSL8 and two GSL12 per side, supported by eight SL-G subs across the front of the stage. Carlton noted, "We wanted to use GSL with Array Processing on this run because it gives us a very full-range sound from front to back without flying subwoofers or delay loudspeakers. The system's pattern control helped immensely with the stage monitoring as well."

Carlton Audio provided additional d&b J and V Systems, also utilizing Array Processing, for side hangs, center fill and side fill monitors, fielding 10 J8s and four J12s per side, along with a half-dozen V8s and four V12s



Robert "Void" Caprio provided mixes for the 15 performers on stage via a DiGiCo SD10 console.

per side; meanwhile, the front fills comprised V10p and Y10p cabinets. Powering it all were 45 d&b audiotechnik D80 amplifiers, according to KM Productions president Kevin Mignone.

Mignone explained, "We are using the Array Processing with the sys-

tem, something that's fairly unique in its science with the way d&b handles it. Allowing one set of amplifier channels per speaker cabinet gives you far more control in the steering and mapping of your sound coverage from the stage to the back of the room. Chris is able, while this

room is empty and [Streisand is] in rehearsal, to steer the P.A. down and away from any hard, reflective surfaces that become absorption surfaces once the room is filled with people—so it gives us that ability to almost create angles with the P.A. without physically moving it."

Their hard work paid off as fans thrilled to Streisand's performances, and the audio team received kudos from the singer herself. Carlton shared Streisand's feedback following the New York and Chicago shows, where she summed up the sound with, "I'm so appreciative of the new sound system [Chris] has that allowed me to have an easier time singing and hearing myself and being in tune."

Clair Global
www.clairglobal.com

Carlton Audio Services
www.carltonaudio.com

d&b audiotechnik
www.dbaudio.com

Queen Latifah Pops into Boston



Rob Treloar mixed Queen Latifah's two shows with the Boston Pops in July on a Yamaha CL5

BOSTON, MA—The musical pairing of Queen Latifah and a symphony may sound unusual at first, but based on fan response to her recent orchestral concert dates, it's becoming business as usual for the multifaceted artist and her longtime front-of-house engineer, Rob Treloar.

The Emmy and Grammy Award-winning rapper, singer, songwriter, actress and producer recently wrapped a mini summer tour playing with symphonies in major markets, including a two-day stop at the annual Boston Pops Fireworks Spectacular on July 3 and 4. Treloar used a Yamaha CL5 digital mixing console on the trip.

"When you think of a symphony gig, you probably think of a hoity-

toity crowd," Treloar said, "but that's definitely changing, especially when you add in someone like Queen Latifah, who has a larger-than-life personality and such a fun style. She'll do a beautiful song that slows the audience, then turn it up and make everyone feel like they're at home with their best friend. The crowds love it."

Queen Latifah has played dates with the Boston Symphony Orchestra for the past two years; the response from those shows led to an invitation for her to join the 2019 Independence Day extravaganza, as well as requests for tour dates from other major symphonies.

"We've done some wonderful jazz and R&B numbers and even her '90s hits with these different symphonies,"

Treloar said. "Dontae Winslow [the tour's musical director] surprised her last year with a beautiful, almost cinematic ending to the arrangement of her song 'U.N.I.T.Y.,' and she turned and looked at the symphony with an expression of 'wow, this is incredible.' It was a fun night and it's opened up a new niche for her."

Treloar's audio engineering experience covers more than two decades working for production companies and live venues, and he's mixed Queen Latifah since the tour supporting her 2007 *Trav'lin' Light* album.

Treloar and the Yamaha CL5 have been with Latifah ever since. "I've used the CL5 since it came out, live with her band and also in between her tour dates for corporate gigs," he said.

"With many consoles, you have to reach deep into menus, and that takes up time and distracts you," he said. "On the CL5, I can make a change fast and then get back to where I need to be. The way the faders are laid out, you can have three banks of VCA faders controlling groups of drums, guitars or background vocals. I could have those all in front of me on one layer and then switch between working on each group really fast."

While many engineers prefer working with the latest tech, Treloar felt that anything more here would be overkill: "I'm only mixing two speaker arrays, left/right sub and front fill. I don't need 10,000 outputs. The other big thing for me is reliability—I haven't had any problems since I started using this console. Every concert I've done with Queen Latifah has been successful."

That run of success includes the recent symphonic tour dates, including Boston on July 3 and 4. "Everything was super smooth and just a joy," he said, also crediting the combined audio engineering and broadcast teams from the Boston Symphony Orchestra and their production companies Scorpio Sound and Capron Sound and Lighting: Kevin Delaney, Steve Colby, Clayton Young and Andy Vickery.

"They integrated the CL5 into their entire design, at our request, flawlessly. It was amazing considering the size and complexity of this event and the fact that it was broadcast live."

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WRH

Shinedown

(continued from page 36)

ming Mixer, a couple of RNDI boxes and Portico pieces, including a 5043 Compressor-Limiter Duo, 5014 Stereo Field Editor, 5045 Primary Source Enhancer, Portico II channel and a pair of Portico II Master Buss Processors.

"It's good gear and it's solid, and I found a simple way to integrate it," he says. Cabling the rig was going to cost \$26,000, Meyer reports, so he put together a system of Optocore interfaces and Apogee Symphony converters to connect the analog gear with the SD7—which has DiGiCo's new Quantum engine and thus 32-bit preamps—using just two pieces of fiber.

"The analog gear is all on inserts. The summing is out of the console subgroups into summing mixers. That goes into the mastering rack and back into the console and is fed to the P.A.," he says.

Production provider Clair Global supplied a Cohesion series speaker system. "It's a CO-12 P.A. with their CP-218 subs. The CO-12 has been great on this tour. The subs are my favorite in the world, bar none." On the next leg, he says, which switches to arenas, "We'll be using CO-12s on the main hang and CO-10s on the

side hangs, CP-218 subs and CO-6s for front fill. It's an excellent front fill."

The band threw something of a curveball at Meyer for the summer shed leg, launching a new show during which the four band members leave the stage halfway through the set and reappear on individual satellite stages toward the rear of each venue. The configuration is being retained but modified for the coming arena leg.

"It's difficult to get the cabling out there and get everything together every day, but you know what? It's awesome for the crowd," says Meyer. "You're bringing the show to them. It's fun to watch people's faces."

Nearly the first thing Meyer did to prepare, he says, was change out the vocal microphones to sE Electronics V7s. "I'm happy that they were able to deal with the change because I can open these mics up and they can talk with each other right in front of the P.A. and it's fine. It was a little more difficult with the older microphones they were using."

Barry Kerch's second drum kit was set up immediately behind the FOH position, with guitarist Zach Myers and bassist Eric Bass (who co-wrote, produced and mixed the new album at his South Carolina studio) on risers to stage left and right, respectively, while vocalist Brent Smith was on a riser by the lawn. "There's a

mult that comes to front-of-house for the drum kit, so it's old school, with mic lines and multi-cable going back to the deck. The rest of it—Brent and the guitars—is wireless. Keyboard and vocal positions for Zach and Eric are wired, but that breaks out from front-of-house, so we just have 50- or 100-footers going in either direction. No big deal," says Meyer.

Chris Lightcap, Shinedown's monitor engineer for the last 12 years, carries duplicate sets of Shure PSM 1000 IEM transmitters and Shure Axient Digital receivers for the vocal mics. "We put those at front-of-house; that way, when the guys are out there, we're 150 or even 200 feet closer to the performance area. That's all networked and controlled through Shure's Wireless Workbench. On my walk out there, I could mute the transmitters on stage and unmute the transmitters in the house," he says.

Lightcap mixes on a DiGiCo SD5, driving band and tech in-ears plus stereo side fills, which comprise one Clair R4 and one CP-218 per side. The SD5 is linked to two Waves servers. "A lot of it is bus compression on the outputs for everybody's mix," he

says. Other than that, he says, he uses the typical plug-ins: "C6 multiband compressor, SSL Channel Strip, H-Verbs for vocals and drums."

As the band and crew were trying out the satellite stage setup ahead of the first show in Texas, Kerch thought he might adopt a hybrid acoustic-electric kit to keep the level at FOH under control, but he ultimately used acoustic drums. "We put Plexiglas on three sides so the audience members don't get bashed in the face by the snare drum," says Meyer. "I put on headphones and time them up with the P.A. every day. When we line check during the day, I walk down to where I can hear the P.A., listen and give my system guy the thumbs-up."

Meyer worried that the delay between the satellite drum kit and the sound from the P.A. would be distracting for the crowd. "You can't really fix the delay, but people don't care. There isn't one confused look. They sing their hearts out and smile."

Clair Global
www.clairglobal.com

Shinedown
www.shinedown.com

Medimex Festival Brings In Bose

TARANTO, ITALY—A key event for the Italian music industry, the annual Medimex International Festival & Music Conference took place this summer in Taranto. Helping provide audio for the numerous live acts that performed there, International Sound of Bari, Italy, handled live sound for the Giardini

Peripato stage, which hosted the likes of Clock DVA, the folk-jazz-rock band Napoli Centrale, Italian pop band La Municipale, and Asian Dub Foundation with special guest Adrian Sherwood.

International Sound installed a Bose Professional DeltaQ ShowMatch compact line array system. Optimized by system technician Luigi Vargiolu, the left/right main system configuration consisted of 24 ShowMatch modules supported by two dozen ShowMatch SMS118 subwoofers.

Sherwood remarked, "The P.A. was very accurate. I had a very short soundcheck, and I immediately liked the response of the system. It was my first time using this P.A., but I enjoyed it. I think it had a very good tonality to it. It wasn't harsh. It was high fidelity, very nice."

Bose Professional
www.pro.bose.com

International Sound provided a Bose Professional DeltaQ ShowMatch system for the Giardini Peripato stage at the recent Medimex Festival.



The Desert Valley Stage at Parookaville sported a Coda Audio AiRay line array system.

Entec Visits Parookaville

WEEZE, GERMANY—EDM fans make the trek to Parookaville every year as the annual festival attracts no fewer than 200,000 visitors over three days. Held at Weeze Airport, a former military base in the Lower Rhine region of Germany, this year's edition saw audio production company Entec team with audio specialists Teqas to cover the crowd at the Desert Valley Stage with a Coda Audio system.

Encompassing an area of more than 5,000 square meters, the Desert Valley Stage is one of the largest at the festival. A Coda Audio AiRay served as the main P.A. and supported DJ monitoring, with two hangs of 10 AiRay on each side, complemented by two dozen Coda Audio SCP sensor-controlled subs in an end-fired cluster. Front fill

was taken care of by Coda Audio APS.

Teqas application engineer Michael Linden commented, "The system delivered a uniform sound distribution across the frequency spectrum up to the required depth of 80 meters. Even in the sub area, the SCP subwoofers have been able to match this standard with the end-fired arrangement. The consistently positive response of visitors to this new sound experience was pleasing and was achieved thanks to Coda's ring-diaphragm driver technology and the unique sensor technology in the sub-bass. The system produced great power with negligible distortion and we deemed it to be a complete success."

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centerSTAGE TOP 10 TOURS OF THE MONTH

ACT / STATISTICS	CREW	EQUIPMENT
1 THE ROLLING STONES CLAIR GLOBAL	Dave Natale (be); Steve Carter (me); Taylor Holden (mse); Tyson Clark (cc); Jo Ravitch, Jim Ragus (se); Thomas Huntington (rec tech); Matt Woolley, Brent Edgerton, Dave Enderle, Falko Knueppel, Jon Brook, Trystan Forbes (tech)	HC: Yamaha PM4000; Avid Venue Profile; MC: Midas XL-4000; Avid Venue Profile; HS: Clair i-5, i-5b, P-2; MS: Clair 12AM, R-4, i-5b; IEM: Shure PSM 1000; HA: Crown Macro-Tech; MA: Lab.gruppen; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Aphex 612, dbx 903, AlignArray software, iO loudspeaker processors; MONITOR EQUIPMENT: TC Electronic 1128; dbx 160A; SPL Transient Designer 4
2 PAUL MCCARTNEY CLAIR GLOBAL	Paul "Pab" Boothroyd (be); John "Grubby" Callis (me); Randy Weinholz (se); Paul "Swanny" Swan (mse); Justin Robinson (RF tech); Sean Baca, Michael Conner, Andrew Kastrinelis, Chris Fulton, James Higgins, Tom Ford (techs)	HC: (2) Avid Venue S6L 32D; MC: (2) Midas Heritage 3000; Avid Venue S6L 24D; HS: Clair Cohesion CO-12, CP-218, P-2; MS: Clair SRM, ML-18, R-4 III; IEM: Shure PSM 600; HA: Lab.gruppen; MA: Crown; MICS: Shure Axient series with Beta 58A capsule, SM91, Beta 98, KSM32, Beta 58A; Radial J48, PZDI; Audix D6, IS, D4; Telefunken M80; Rode NT3; DPA; Avalon U5; FOH EQUIPMENT: dbx 160SL; TC Electronic 6000; PLUG-INS: Sonnox Oxford EQ, Avid Pro compressor, Smack!, ReVibe II, ReVibe I, Mod Delay III; MONITOR EQUIPMENT: XTA GQ600b; Drawmer DS201; Yamaha SPX990
3 JENNIFER LOPEZ EIGHTH DAY SOUND	Stephen Curtin (be); Chris Lee (me); Arno Voortman (se); Dustyn Lewis (ae); Andy Dudash, Howard Chan (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b audiotechnik J Series; MS: d&b audiotechnik M2, J8, B22; IEM: Shure PSM 1000; HA: d&b audiotechnik; MA: d&b audiotechnik; HARDWIRED MICS: Shure; Heil; AKG; WIRELESS MICS: Shure Axient Digital; FOH EQUIPMENT: Universal Audio Live; Sonic Lab Creamliner
4 ARIANA GRANDE CLAIR GLOBAL	Toby Francis (be); Erik Rodstol (me); Dean Mizzi (cc/se); Cory Harris (ae); James Ellison, Katy Hughes, Benjamin Scanlon, Andrew Black (tech); Jason Zito (pm)	HC: Yamaha Rivage PM7; RND Neve 5060 buss mixer; MC: DiGiCo SD7; HS: Clair CO-12, CO-10, CP-218 Subs; MS: Clair CM14; IEM: Sennheiser EM 2050; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure; Sennheiser; Radial JDI, SW8; WIRELESS MICS: Sennheiser 5000/5235 series; Shure Axient Digital, UTX-D; FOH EQUIPMENT: Tube Tech SMB 2B; Crane Song STC8; Smart Research C-2; RND Sheldford Channel; API 2500; RND Portico II MBC
5 DEAD & COMPANY ULTRASOUND	Derek Featherstone (be); Lonnie Quinn, Ian Dubois (me); Ethan Chase (mse); Michal Kacnel (cc/foh se); Ross Harris (rec e); Conner Riley, Sam Brodsky (techs)	HC: Gamble EX56; Avid S6L (96 Ch. drums) with Pro Tools Ultimate; MC: Avid Venue D-Show (96 Ch.), Venue Profile (96 Ch.); HS: (36) Meyer Sound Leo, (22) 1100-LFC, (16) 700-HP, (36) Lyon, (8) Mica; MS: Meyer Sound MJF-212, MJF-210, 1100-LFC, JM1-P; IEM: Sensaphonics; JH Audio; Future Sonics; HARDWIRED MICS: Sennheiser 935, 421, 409, 904, 945; Shure KSM144, Beta91, SM57; Neumann KMS104; AKG 460; Telefunken M-80; Radial JD7, SGI, DM1; FOH EQUIPMENT: Analog: Summit DCL-200, TLA-100; Empirical Labs Distressor; TC Electronic M5000, D-Two; Aphex 622 gates; UltraSound DRSE Quad Panners; MOTU 838 mk3; TubeTech LCA 2B; UA 1176 LN; PLUG-INS: McDSP 6050 ultimate comp, AE600 EQ; MONITOR EQUIPMENT: Sennheiser EW300G3; Eventide Octovox plug-in
6 THE DAVE MATTHEWS BAND ULTRASOUND	Tom Lyon (be); Ian Kuhn (me); Joe Lawlor (re); Jeremy Miller (se); Greg Botimer (m tech); Ryan Lewis (tech)	HC: Avid Venue S6L-32D; MC: Avid Venue S6L-32D; HS: Meyer Sound Leo, Lyon, LFC-1100, HP-700, CQ-2, Leopard; MS: Meyer Sound MJF-212A, LFC900; MA: Lab.gruppen fp-2400 for Clark TST; IEM: Sensaphonics 3D, 2X; Shure PSM 1000; MICS: Neumann; Sennheiser; AKG; Shure; B&K; DPA; Crown; Electro-Voice; Audio-Technica; Earthworks; Radial JDI, JD7, Duplex; FOH EQUIPMENT: Meyer Sound Galileo, Calisto; Metric Halo Mobile i/o 2832; Avid Pro Tools 12.6, Apple Mac Pro; Rational Acoustics Smaart 8; Lectrosonics TM4000; MONITOR EQUIPMENT: Apple Mac Pro; Avid Pro Tools 12.6; PWS GX-8
7 PHISH CLAIR GLOBAL	Garry Brown (be); Mark "Bruno" Bradley (me); Simon Bauer (se); Chris Holland (m tech); Frank Principato, Tim Banas, Zoe Johnson, Amy Bammarito (techs)	HC: Yamaha Rivage PM10; MC: Yamaha PM5D, DSP5D; HS: Clair Cohesion CO-12, CP-218, CO-10; MS: Clair 12am, MD-18; HA: Clair StakRak with Lab.gruppen PLM 20000Q; MA: Clair Lab.gruppen 8-mix monitor racks; OTHER: Radial J48, JDI
8 JOHN MAYER CLAIR GLOBAL	Chad Franscoviak (he); Monty Carlo (me—Mayer); Rob Smuder (me—band); Jeff Hargrove (se); Jamle Nelson (mse); James Higgins, Jesse Cole, Gracie Fischely (techs)	HC: Avid S6L 32D; MC: DiGiCo SD5; Avid S6L 32D; HS: Clair Cohesion CO-12, CP-218; MS: Clair CM-22, Cohesion CP-118; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; WIRELESS MICS: Shure UR Series; OTHER: Radial JD7, SGI, J48, JDI, SW8, Hotshot DM1, Hotshot ABo
9 HUGH JACKMAN SOLOTECH/SSE HIRE	Simon Sayer (he); Seamus Fenton (me); Alexandre Bibeau (cc/se); Ike Zimbel (rf); David Courtney (ae); Mark Cleator, Chris Courtney (techs); Phil Hornung (ats)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: L-Acoustics K2, Kara, X8, 5XT, KS28; IEM: Shure PSM 1000, Sennheiser EM6000; HA: L-Acoustics LA12X
10 SHAWN MENDES CLAIR GLOBAL	Tom Wood (he); Michael Flaherty (me); Jeff Wuerth (cc/se); Adam Field (m/rf tech); Sarah Blakey, Edward Peers (PA techs)	HC: Avid Venue S6L; MC: Solid State Logic L500; HS: Clair Cohesion CO-12, CO-10; IEM: JH Audio Roxanne; Shure PSM 1000; HA: Lab.gruppen PLM 20000Q; HARDWIRED MICS: Shure Beta91A, Beta52, KSM32; Beyerdynamic M 201 TG; Neumann KM 184; Sennheiser e945; AKG C414; WIRELESS MICS: Sennheiser Digital 6000 with MMD 945; FOH EQUIPMENT: SSL Fusion; Waves SoundGrid; Waves Plug-Ins; Sonnox Plug-Ins; Avalon VT-73SP; Bricasti M7; Neumann KH 310 Monitors

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.

A Passion for Pro Audio

ANDY MUNITZ, PRO AUDIO PRODUCT MANAGER, SONY NORTH AMERICA

BY CLIVE YOUNG

With 115,000 employees worldwide, Sony is a massive company—one that started in the early 1950s as a simple pro audio manufacturer with a name derived from *sonus*, the Latin word for sound. Early successes in the audio field paved the way for greater corporate ambitions, so today, Sony's pro audio division is still around, but it is part of a far larger machine.

As Andy Munitz, pro audio product manager for Sony North America, points out, "Our pro audio team is part of our professional business segment, which also includes our broadcast video and digital cinema equipment division. We also have Sony Consumer Electronics, Sony Pictures Entertainment, and even an insurance company. And don't forget PlayStation!"

While Sony's first attempt at a product was a failed prototype electric rice cooker, the company soon found success with its first delivered product: a reel-to-reel tape recorder designed for schools. Coincidentally, years later, Munitz's own first experience with a Sony product was also a reel-to-reel recorder. "We used to play string quartets in my family, and today I play electric violin. Back then, I took on the role as the family archivist—I wanted to record everything, and got my first Sony reel-to-reel tape recorder when I was 13," Munitz says. "I'm doing an extension today of what I did back then! I loved to learn about new gear and explain it to others. As product manager, I get to do that quite a bit as technology improves so quickly these days."

That fledgling interest in audio technology flourished as Munitz grew, taking on a 1977 stint mixing monitors on tour for John McLaughlin and Shakti for his first real job. From there, he helped build a 16-track studio, moved to Los Angeles to work in pro audio retail and then BGW Amplifiers, and helped form a small chart-topping disco record label. In 1984, Munitz returned to the East Coast, landing a position as one of Sony's pro audio sales managers for the region. Thirty-five years later, his career has grown with the company; today he's the professional audio product manager for Sony North America.

Of course, Sony's pro audio offerings have expanded far beyond reel-to-reels. The company has manufactured microphones since the early 1950s and wireless mics since the early 1960s. (Of note, Frank Sinatra's

early favorite mic was the Sony C37A at Capitol Records.) In the 1990s, Sony made the most of digital technology, introducing DASH multitrack recorders like the PCM-3348, a CD mastering system in the PCM-1630, digital reverbs and the legendary Oxford digital consoles.

As recording technologies and studio budgets changed with the times, so did Sony. "To be honest, the advent of the computer pretty much changed that large technology landscape, and today we focus primarily on much smaller gear such as wireless mics, studio and production mics, portable recorders, and headphones," says Munitz.

Regardless of the market, Munitz sees a common thread running through all the company's pro audio products over the years. "One of the things I've enjoyed most in my Sony career is seeing the unique approaches that our engineers come up with to solve common problems associated with any particular product category," he says. "They don't seem happy to just make another version of the same thing that's already on the market. They strive to think differently about a common product 'challenge.'"

"A perfect example is our popular C800G tube mic," Munitz continues. "When we designed it in 1991, we tested other tube mics on the market and found that their specs seemed to change on a daily basis. Our engineers, in realizing that the temperature of the tube had a big effect on this, wanted to create the most stable tube mic design, and they came up with a Peltier 'thermo-electrically liquid-cooled' design that would keep the mic operating at its optimum spec each time you used it. An 'outside of the box' approach, to be sure." Characteristics of the C800G can be found in Sony's more recent C100 high-resolution studio microphone series, "but at a more affordable price," says Munitz, adding that the new series provides "some of the most natural sound capture of any mic we've ever developed."

Sony develops pro audio products like the C100 series in Atsugi, Inezawa, at the company's Taiyo factory, and in Tokyo, Japan. In the U.S. market, Sony's pro audio business has its own direct salesforce—focused primarily on the broadcast business—as well as distributors and a dealer network. The main sales and marketing offices are based in Paramus, NJ, and San Diego, CA, and Sony Professional Service is located both in Paramus, NJ, and Los Angeles, CA.

Munitz finds that in his product manager role, he not only promotes the benefits of Sony's new technologies to the market, but also acts as something of a conduit back to the company's pro audio design teams, relating customer feature requests, market opportunities and competitive analysis.

"Our largest pro audio market now is in wireless microphones," he reports. "Since we have such a strong lineup of broadcast, cinema, pro video and DSLR cameras, and we are both a camera and pro audio company, we are in a unique position to be able to do special things that tie the camera and audio together in unique ways. For instance, there's our MI or 'multi-interface shoe' design, which allows for direct attachment of our small UWP-D true diversity wireless receivers to many of our cameras without the need for cables. The power for the receiver can even come from the camera's battery instead of using onboard AA batteries. As well, our brand new UWP-D models incorporate simple NFC pairing of receivers and transmitters without needing to go into any menus."

While proprietary features help products stand out in a crowded marketplace, Munitz is all too aware that a comprehensive feature list alone won't do the heavy lifting when it comes to selling gear. "Customers today are so bombarded by features



Andy Munitz, pro audio product manager for Sony North America

and specs that many become numb to a particular product's enhancements and new benefits, and simply go with online posts or friends' recommendations—that also may not be fully informed," he says. "In the end, I just try to teach customers why our offerings are often better than the competition's."

He has plenty of opportunity to do that, particularly in the wireless mic arena, as he notes, "The FCC Spectrum Auction has prompted many customers to investigate all current wireless mic offerings on the market, and many appreciate our feature set, as well as build quality. In terms of growth markets for our wireless, I would say that location and theater sound are areas of renewed interest for us, and some of our recent product developments are targeted specifically at these applications, including a new Uni-slot size, two-channel, true double tuner diversity digital receiver. We've also recently introduced a tiny lavalier mic, the ECM-90LM, that almost completely gets rid of cable rubbing noise—again, a common problem that our engineers sought a clever solution for."

Those engineers don't rest on their laurels. "There's always new products in the pipeline," says Munitz, and while he enjoys discovering what's next, he also relishes the opportunity to share those insights and ultimately help Sony customers achieve their goals. "Being part of our great pro audio industry during my career has been fascinating and a privilege, and the opportunity to keep learning and creating is what I feel helps fuel our collective passion."

Sony Professional Audio
https://pro.sony/ue_US/pro-audio-explained



Martin E. Fishman

Arista Corp. has named **Martin E. Fishman** vice president. Working at the company headquarters in Fremont, CA, he will be responsible for Arista's global sales and marketing, with a focus on the industrial PC and professional AV markets. This includes oversight of the company's global OEM business, its ODM (original design manufacturing) operations, distribution, and management of the company's value-added resellers and system integrators. Fishman previously spent 19 years as co-CEO and global vice president of sales and marketing at Portrait Displays.



Tom Ryan

THAT Corp. has promoted **Tom Ryan** to IC sales manager. In the role, he will lead THAT's global IC sales organization and will manage all international IC distributors and representatives. Ryan has been with THAT for 14 years, most recently as an inside sales rep and customer support supervisor. Prior to joining THAT, Ryan worked in live sound for music venues and television networks, including ESPN. His previous experience also includes customer support at audio console manufacturer Euphonix (now Avid) in California.



Amy Moscardini

Neutrik USA has promoted **Amy Moscardini** to the position of distribution manager, where she will manage Neutrik USA's distribution channel and determine the company's distribution mix. She will also assist in developing and implementing Neutrik USA's distribution strategies in coordination with the company's sales director while continuing to develop strong working relationships with all of the company's distributors. Additionally, she will plan, assist with and/or manage distribution shows each year, attending as needed, while also facilitating distributor training throughout the United States.

iZotope has brought on **Tony Callini** as chief financial officer. He is



Tony Callini

charged with advancing and evolving the company's strategic and operational business plans, with a focus on financial performance, revenue growth and scalable operations. His professional audio industry experience includes serving as senior vice president of finance at Avid, where he helped shepherd the organization through a strategic, financial and operational evolution. In 2017, he became chief financial officer and executive vice president at Monotype as the organization pursued new market opportunities, ultimately leading to its sale to a private equity firm.



Ken Kimura

Genelec has appointed **Ken Kimura** to the newly created role of business development director for the Asia Pacific region. With over 20 years of experience, Kimura will aid the company's international business strategy and work closely with distribution partners in the APAC region, including Genelec's own subsidiaries in China and Japan. Kimura spent over 15 years with DPA, where he held senior management roles and developed an extensive network of business relationships across the APAC zone.



Brian Hillenbrand

Countryman Associates has announced the recent appointments of **Brian Hillenbrand** and **Benjamin Lacasse** as design engineers. Both Hillenbrand and Lacasse are stationed at company headquarters in Menlo Park, CA; key responsibilities include mechanical and acoustic design, customer research and support, and production support.

Hillenbrand graduated from California Polytechnic State University, San Luis Obispo, CA, with a degree in manufacturing engineering. While there, his involvement with the stu-

60SECONDS

JOHN FIORITO
DAS Audio

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

A: My new position is national sales manager, Installation & Nightclubs. The job entails product development, with the engineering of a state-of-the-art dance club and lounge loudspeaker, amplifier and signal processing that will position DAS Audio as a premier club sound provider. The position focuses on helping installation dealers progress with club sound system design and integration, and also allows DAS to design, commission and provide support for on-site project management.

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

A: I have been involved in nightclubs since 1992. I have worked in the largest Manhattan nightclubs, and I have handled technical matters for eight nightclubs located on Pleasure Island for Walt Disney World in Orlando, FL. I have an extensive installation background encompassing some of the premier nightclubs in the United States. Previously with Ohm Productions of Washington, D.C., I was involved in Echo Stage, the number-one club according to *DJ Magazine*. I have worked with every major headlining DJ and have worked with every product available for dance clubs.

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

A: A new web site will be launched specifically for E11EVEN Sound by DAS in addition to the recently launched new DAS Audio website. We hope to improve brand recognition by focusing our message on who we are as a company, not just on our products, as well as through associations with premier entertainment groups that are considered leaders in their respective market segments.

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

A: Initially, to continue to develop a strategic plan to increase sales and increase brand recognition. Moving into the future, we intend on setting the precedent for what a great club sound system should be. We intend on doing this by constantly staying ahead of technology with continuous research on how to make things better so as to not become complacent.

Q: What is the greatest challenge you face?

A: Getting others to move as quickly as I do and create a sense of urgency while still embracing the culture of my company.

dent chapter of the AES included an acoustic and loudspeaker project advisory role and club leadership. He was also a key initiator and core manager of AudioCon 2018, and in 2019 he served as a student lab technician.

Lacasse is a graduate of California Polytechnic State University, San Luis Obispo, CA, where he earned his B.S. in mechanical engineering. During his time there, he studied machine system design, thermal system design, Solidworks, thermodynamics, and fluid dynamics. For his senior project, he designed a UAV launcher for Cal Poly's Aero Department. Lacasse also attended KTH Royal Institute of Technology in Stockholm, Sweden, as an exchange student.



Ineke Priepot

Belgian pro audio manufacturer Apex Audio has added to its U.S. operations with the appointment of **Ineke Priepot**. Based in Nashville, TN,

Priepot's role is sales and business development, with the aim of setting up and running a dealer/rep network in the United States. Priepot will be handling the full range of Apex DSP audio products. An experienced sales professional, she is also a sound engineer with a strong technical background.



Chris Waters

Pro Media Audio & Video has hired AV industry veteran **Chris Waters** as senior sales director to help drive new business in the sports, live entertainment, performing arts, corporate AV and transportation markets. A 30-year veteran of the business, he previously served as senior vice president of special projects at AVI-SPL, leading a department focused exclusively on large venues. Prior to that, he owned an AV integration firm catering to commercial facilities and ultra-high end residences.

You Are Either Growing or You Are Dying

The other day, a former business associate contacted me about selling his company. Back in the early 1990s, his brand was somewhat of a star in that his studio processing products were used by top artists around the globe to produce their magic hits. In the later part of the decade, we took on his line in Canada but found that sales were few and far between. The challenges were many: Digital recording and software-based processing were gaining so much ground that demand for expensive analog gear slowed to a trickle.

Now 20 years later, this fellow seems to believe his company and brand name have value. The truth is, unless he can show a tremendously profitable bottom line and an exciting growth curve, the value will be minimal at best.

So how do you increase the value of a company?

In just about every case, I begin by looking at sales and sales growth potential. Some will argue that operations such as first-class manufacturing, a well-oiled administration or excellent customer service are important—and they are—but without sales, none of that stuff matters. Sales and cash flow are the lifeblood of any organization. Sales generate profits, and investors need to see profits, unless you have some very intriguing technology that has a good chance of becoming profitable over time.

To grow sales, you must first decide on the size of your market and identify your potential client base. Are you getting your fair share? If you are a service business such as a sound company, your sales accounts may be regional or national. If you are a retailer, you may have an education component, along with a storefront and online retail sales. It's critical that you use social media to bring traffic to your website, and use your website as a marketing tool to share stories about happy customers and explain what makes you different and better than your competition.

For a distributor importing products, you have to look at what market opportunities are at hand and where

the lowest-hanging fruit may be. For instance, another client I have imports wall-mounted TV stands. His primary client base is home AV and he is looking to expand his business for eventual sale. While having lunch at a local restaurant, we counted 15 TVs mounted on the walls, yet he has never gone after the contracting market. So where would he start? The first thing you do is look at your competitors and see if you can find a list of their clients. If a contractor is selling a particular brand of TV wall mounts and you have solutions that the competitor is lacking, you are potentially in the game. If you can make your product just a little easier to manage by adding value or lowering the installation cost while delivering it for the same price, you may win again.

None of this is rocket science, but it does take commitment in terms of time to think through your best options (low-hanging fruit) and a financial dedication to a sales team to do the hard work. The easiest way to get into the game is to hire independent rep firms. Reps bring with them all-important relationships that can, at the very least, get your product into a purchaser's office. To find reps, look at competitors' websites to see what product lines are represented. You can approach the rep firms that represent similar or symbiotic products and have them join your team. For instance, a rep firm that sells equipment racks could be a good first line of attack for someone selling TV mounts.

Once your sales team is in place, you will want to create an old-school

pin-board map that shows your market penetration. Making your product available in large metropolitan areas (metroplexes) can play a significant role in your success. Think of it this way: If you are an electrician and need wire, you want to be able to buy it locally so you can get back to the job site as soon as possible. People like easy; they will avoid difficult.

If you are a manufacturer and want to expand globally, the approach is similar in that you will want to find a distributor that sells to your target market niche. Distributors, like retailers, need to make a profit. Make sure your pricing policies work. Selling a product to a distributor at U.S. dealer price or selling through Amazon will likely compromise their interest in representing your brand. Distributors and dealers do not want to compete with you.

It is also important to note that people are busy; a good distributor or sales rep will prioritize their daily activities on products that generate dollars. These folks will invest in a new brand if they see potential, but they will also quickly lose interest if they do not see success. It is up to you as a manufacturer to have all of the tools in place to make their job as easy as possible. This could include, for example, endorsements by influential artists, features and benefits sales sheets, comparative studies, and proper safety checks such as UL, CSA, CE and other electrical requirements. External power supplies, although painful, can shortcut your costs because they can be purchased



BY PETER JANIS

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

with approvals already in place.

Once sales are on the upswing, you will want to ensure all of your administrative duties are in place. This includes well-drafted and regular sales reports, complete BOMs (bills of materials) and monthly financial statements that show the company's true profitability. One more point: The value of a company is directly tied to the opportunity that presents itself in the form of future growth. New product development that can stir excitement is important. This means that you need a well-managed R&D department with a team that is bringing new ideas to life. And as I said in the title, you are either growing or dying ... so signs of life are critical!

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

Anderton

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write. Similarly, once something like a drum track is finalized, you don't need to keep backing it up.

PUBLISHING AND TRAINING

A company's tech support crew often receives requests that go beyond support's traditional purview, with questions like, "How do I get a good reverb sound on piano?" Although there are online resources for this kind of education, they often relate to a specific piece

of software—and if you don't use that software, it won't help much. PreSonus experimented with a new approach to training by releasing two ebooks I wrote about how to record vocals in Studio One, and how to use Studio One's dynamics processors. The books have done well enough to convince me that there's a market for "localized" books keyed to specific programs that are more about how to apply a program than how to use a program (the traditional manual). Perhaps it's just a matter of time before manufacturers create publishing divisions to do everything from applications-oriented ebooks to teacher's guides for schools.

COMPUTER SUPPORT

I'd pay \$9.99 a month to schedule a monthly session with an IT pro to check and maintain my computer's health. Although a company like Obedia already offers this service, some aspects of computer health are unique to specific software programs. For example, outdated drivers can cause conflicts with some audio programs but not others. A company that has identified these potential problems could update the driver or ask if you want it removed. It could also initiate disk scans, run SMART tests to check hard drive reliability, remove leftover Windows registry entries

from previous versions, ask if you want to disable performance-robbing features or unneeded background programs, make sure you haven't missed program updates and the like.

These are a few examples of how music software companies could explore additional revenue streams, while providing real-world benefits. With some companies already taking this path, it will likely become more widespread.

Just as companies have diversified, so has Craig Anderton—you can find him on the web at www.craiganderton.com (commercial), www.craiganderton.org (educational) and www.youtube.com/thecraiganderton.

AES Convention

(continued from page 1)

A simple list of the titles of the tracks provides a high-level view of the diversity of the topics being presented at this year's convention: acoustics and psychoacoustics, archiving and restoration, audio builders workshop, audio for cinema, broadcast and online delivery, education, electronic dance music, game audio/AVAR/spatial audio, hip-hop/R&B, historical, networked audio, product development, recording and production, sound reinforcement, and student and career development. But dig deeper and you'll find a slew of subjects being presented for the first time at an AES Convention.

Chaired by AES Governor-at-Large Leslie Gaston-Bird, the first African American to sit on the AES Board of Governors, "African Americans in Audio" turns a spotlight on a segment of the music production community that has been under-represented at past AES events. The panel of award-winning engineers, producers and academics includes Paul "Willie Green" Womack, chair of the hip-hop and R&B track of the AES Convention committee, and recording and mixing engineer Prince Charles Alexander, whose clients include Mary J. Blige, Destiny's Child, Faith Evans, P. Diddy, the Notorious B.I.G., and numerous others.

Womack's track will take a deep dive into hip-hop and R&B production, another first. While the two styles are often linked, "The Soul of an R&B Mix" will demonstrate the unique skills and techniques specific to that musical genre. "Studio Design for Hip-Hop and R&B" takes a step back and details the different toolsets needed to outfit studios of all sizes and budgets for those producing in those genres.

A Tribe Called Quest had an outsized impact on hip-hop. Co-founder Q-Tip's go-to engineer, Gloria Kaba, will detail the making of 2016's *We Got It from Here...*, the innovative collective's final album. "Chopped and Looped—Inside the Art of Sampling for Hip-Hop" will celebrate the art of the audio collage with a panel including legendary Public Enemy producer Hank Shocklee of the Bomb Squad team.

Hip-hop's beginnings almost 45 years ago occurred during the era of the tape cassette. Academics and advocates will ponder the issues associated with the preservation and restoration of the genre's recording assets during "Preserving Hip-Hop," on the archiving track.

A workshop presented by Electronic Music Collective instructors bridges



The AES Convention returns to the Jacob Javits Center in New York City October 16–19.

the gap between hip-hop and EDM. "The Art & Origins of Sampling: From Vinyl to DAW; From Hip-Hop to Dance Music" will demonstrate various sampling techniques, from vinyl records to DAW wavetable synthesis. Bridging numerous music genres, "Remixing—Breaking the Illusion" looks at the reality of remixing, from what elements to retain and how to develop the original idea to stamping a remix with your personal identity.

Grammy-winning mix engineer Ariel Borujow, who serves on the New York committee for the Producers & Engineers Wing of the Recording Academy, will lead a master class called "Mixing EDM." Borujow will break down a full mix in a 45-minute presentation, followed by a 15-minute Q&A.

The line between traditional radio and television broadcast and podcasting is blurring as retailers, institutions and other entities increasingly build out small facilities and stream or upload programming, some with video, to a variety of platforms. This year the AES Convention program offers presentations about two high-end New York podcast production facilities: Gimlet Media and Stitcher. Chief engineers from both facilities will join WSDG Walters-Storyk Design Group principal John Storyk and partner/project manager Romina Larregina, who oversaw the construction of both facilities, in a discussion about the similarities and differences between podcasting and other types of production studios.

Stitcher's 2,000-square-foot studio complex, comprising three studios, two edit rooms and two additional iso booths, is the destination for one of this year's AES technical tours. Chief engineer John DeLore will guide attendees around the facilities, which occupy a section of the firm's Midtown Manhattan office building overlooking Bryant Park.

As the inexorable march toward

an all-IP transport future continues, AES and AIMS (Alliance for IP Media Solutions) are teaming up to present a professional media networking pavilion. At the center of the pavilion will be the AV-over-IP Technology Pavilion Theater, which will feature a continuous program of 30-minute presentations covering a wide range of topics relating to the transmission of audio and video over IP. The program, which is still to be announced, will be centered on the alphabet soup of technologies related to the Joint Task Force on Networked Media (JT-NM) Roadmap: AES67, SMPTE ST 2110, AMWA NMOS IS-04, IS-05, IS-07 and IS-08, SMPTE ST 2059-1/2 and JT-NM TR-1001-1.

Not new, but newly in focus at this year's convention, is the subject of automotive audio, which is part of the product development track. According to Scott Leslie, product development track chair, "This year, we have more sessions on automotive audio than we've ever done before, including workshops such as 'Correcting Vehicle Audio' and 'Automotive Audio: A Systems Approach.' Many of the other sessions also address the needs of the automotive audio product developer."

A new initiative this year that is expected to attract more product developers to the AES Convention will follow up select product development track workshops with complementary exhibitor-led sessions in a demo room or at a show floor booth. To date, manufacturers Analog Devices, Audio Precision and Menlo Scientific have signed up to participate.

Friday will be Virtual Development Day, which begins with the session "Product Management Modeling," examining what product managers can do to pre-engineer products to speed time to market, increase market success and lower development risk. Other virtual development practices and technologies

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Metadata

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As the demand for metadata grows, engineers and musicians have a growing palette of tools at their disposal to help them efficiently and unobtrusively capture credit information while a track is being written or recorded.

"Proper crediting, attribution and payment are, of course, critical to our members," said Maureen Droney, managing director, Producers & Engineers Wing at the Recording Acad-

emy. "On a fundamental level, credits are still, in large part, key for musicians, producers and engineers when it comes to getting work. If people don't know what you've done, why would they want to hire you? You also need sufficient credits to become a voting member of the Recording Academy and vote in the Grammy Awards, and you need to be correctly credited to be eligible to win a Grammy Award."

Even if you're not likely to win a Grammy anytime soon, creating metadata should still be an essential part of your recording routine, as Droney explained: "In the digital world, where getting paid often means receiving micropayments from a vast number of outlets that distribute music all over the world, if credits and other recording metadata are not documented correctly at the beginning of the supply chain, it is almost impossible to collect all of the money you may be owed."

Marcus Cobb, co-founder and CEO of Jammber, a metadata collection software provider, concurred, noting, "With the explosion of streaming, more music is being created and consumed than ever before. Creators are realizing that if they want to make a living, they have to track their credits and metadata. In a digital world, data equals money. No metadata means no royalties."

While documenting metadata may be a relatively new problem, industry stakeholders have been developing the solution—a metadata standard for digital delivery of session data—for years. In 2006, BMS/Chace (today known as VeVa Sound) was awarded grant money from the Library of Congress to help create an XML format for collecting metadata for recordings. In 2010, the re-

sult was donated to DDEX (Digital Data Exchange), an international standards organization formed in the mid-2000s to standardize the digital supply chain. Over the years, DDEX has published several music industry-related standards, including ERN (Electronic Release Notification), which provides commercial information for releases, and DSR (Digital Sales Report), which gives digital service providers a standardized way to report sales figures to labels and audio pros.

In October 2016, DDEX released the donated standard as RIN (Recording Industry Notification), which standardizes recording metadata and contains fields for such information as where the song was recorded; who the musicians, producers and engineers were; and what their ISNI (International Standard Name Identifier) numbers are.

With the groundwork finally laid for the standardized collection and use of recording metadata, the onus then shifted to the music industry itself to start using RIN. "Thanks to the work the P&E Wing and others have done, much of the industry now recognizes the importance of collecting recording metadata from the inception of a recording—in the 'studio,' which today means anywhere music is being made," said Droney.

With that in mind, a variety of companies now offer tools that can be used to create metadata on the fly. Some take a plug-in approach, like VeVa Sound's SCP and Sound Credit's Tracker, which can be used by engineers to collect information while working in a DAW, among other features.

Elsewhere, Session has garnered a fair amount of attention, in part due to the names behind it: Björn

Ulvaeus of ABBA and producer Max Martin. The company offers a smartphone app for collecting metadata, allowing users to collaborate in virtual "song rooms," where they can store and share files, track song info, handle splits and more.

Meanwhile, Jammber offers an ecosystem of mobile device and desktop applications. "We recognized that there wasn't an efficient way for creators to capture metadata throughout the creative process, so we made a decision to make sure every tool we build is 'MetaData Smart.' If you use our Splits app, it makes sure your identifiers, legal name, publishing information [and so on are] attached to every collaboration. Our nStudio app does the same at the studio level for tracking credits," said Cobb. "We use Bluetooth, Wi-Fi and other tech to allow people to 'check in' to a session the moment they walk into the studio. There's no paperwork—the producer just reviews it and sends it off to get paid. It makes a huge difference."

Regardless of how one chooses to capture metadata, the time to start gathering it—and benefiting from it both financially and career-wise—is now. "Our industry now has tools to collect and distribute credits electronically from the studio through to the end users," said Droney. "Those tools just need to be adopted and implemented."

Jammber
www.jammber.com

Session
www.auddly.com

Sound Credit
www.soundcredit.com

VeVa Sound
www.vevasound.com

AES Convention

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to be discussed that day include "Simulation Drives a New Era" and the "HW Development in Sprints" workshop.

Finally, and far from new, if you've never seen the documentary film *Tom Dowd and the Language of Music*, set a calendar reminder for Thursday and do whatever you can to squeeze into the limited engagement screening at the Dolby Theater later that afternoon. The 2003 film on the life and work of the late legendary music producer and recording engineer Tom Dowd, who worked with John Coltrane, Ornette Coleman, Otis Redding, Eric Clapton, the Allman Brothers and so many others, is essential viewing.

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Respecting His Roots

BY JACQUES SONYIEUX

Memphis-born and bred Marcus Scott was indoctrinated three years ago as the new frontman and lead singer of the legendary R&B band Tower of Power, which is still making records and performing to sold-out crowds around the world after 50 years.

In the midst of his vocal duties with the band, Scott has found time to complete a solo project, the album *Back 2 Da Soul*, which is set for release in September. The 11-track album was produced by Mark Hornsby, Phil Naish and Chuck Surack at Sweetwater Studios' facilities in Fort Wayne, IN, where it was cut live with a 10-piece string ensemble over the course of three days. *Pro Sound News* recently spoke to Scott about the soul of Memphis and the importance of live presence in recording studios.

ON AUDITIONING FOR TOWER OF POWER

It all happened in 2016—I heard from B.B. King's drummer at the time that Tower of Power was having an audition. He told me, "This is an opportunity of a lifetime; you should go for it." Little did I know that he had already called Emilio Castillo, the leader of the band, and told him, "Hey man, stop all these auditions. I've got the perfect guy for you." Emilio called and asked me to audition in Vegas. I was super excited and said, "I'm on my way now." I wore my double-breasted grey suit

and polka dot socks, and auditioned with four songs; I already knew all the lyrics. Immediately after the audition, the band was excited and the leader started discussing tour dates and salaries. He said he'd call me back in five days, but he called me two days later and offered me the gig. Needless to say, it's been incredible ever since.

ON SUMMONING THE SPIRIT OF MEMPHIS

Even before I started touring with Tower, I had my own little studio set-up and have always been writing and compiling songs. I was already working on this project, but I had to put it on hold because once I got into Tower of Power, I immediately started touring and then recording the latest Tower album, *The Soul Side of Town*. Once the Tower record was finished, it was just a matter of me finding the right people. The songs are different because Tower's songs are not really influenced by Memphis music. I am more influenced by Aretha Franklin, Otis Redding, Johnnie Taylor, Sam Cooke, Al Green and Marvin Gaye. My roots are really gritty, dirty, soulful-driven Southern music.



ERICK ANDERSON

Tower of Power frontman Marcus Scott's latest solo album is *Back 2 Da Soul*.

ON CREATING A SONIC PALETTE

When I talked with Mark Hornsby, I said I wanted the musicians to play while I sing. I didn't want a separate track of me recording to music being played back—I wanted all of us to be in the room at the same time, where the drummer counts it off. I wanted it to be in the presence of all the musicians, where we are all sitting down, jamming on a record like they would back in the day. I am singing live in the studio with them on some occasions, but more often I was in the control room with Mark, singing through my Shure SM7B microphone—which is my favorite microphone and which I used on the entire album. The band counted off, and they listened to me through in-ear monitors. If I had to make any cues or changes, I could do that on the fly.

ON BACK 2 DA SOUL

My album is called *Back 2 Da Soul* because we just wanted to get back to soul music. Production-wise, you can't really arrive at that sound if everybody is cutting demos out of their own homes and sending each other files—but if you are in the room with the other people, you can capture the spirit of it. In fact, this is the only way you can capture the essence of soul music. Mark and I were on the same page from the very beginning, and when we talked about doing the album together, I told him I'd need a rhythm section, live horns, and that everything was to be done authentically and organically. He totally agreed and told me that he wanted my voice to be the focal point. This was music to my ears because I knew we both wanted to get back to the soul.

ON A FAMILY OF MUSICIANS

Mark played a huge role in choosing the musicians. He called a bunch of people who were great session players, but he also put me in a room with people who didn't get in my way. All the musicians on the project were extremely happy—whenever they came back into the control room, they would be singing the songs and humming the melodies. This is the ultimate compliment because you want the musicians to be happy. It felt like family. Everybody just enjoyed what they were hearing and what they were playing.

ON RISING ABOVE EXPECTATIONS

There is a track called "Just Fine" and I always describe the song as if I were a preacher trying to convince his fiancée or future wife that she will be just fine. I was singing that song almost in the form of a sermon. What blew my mind was how it sounded once we added a choir to that song. I remember being on the airplane and listening to the mix for the first time. I couldn't hold back my tears because it was such an emotional experience. Mark had told me there was going to be a choir on it—I knew it was a great idea, but once I actually heard it on the final mix, that's what blew me away. It was one of my favorite songs because when I close my eyes and listen to the song, it just captures every emotion and sends chills down my spine.

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 jacquesso-nyieux@gmail.com

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The Chapel, Greyslake, Illinois



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ALLEN & HEATH 