

prosound

METAlliance ON
Critical Listening
& Evaluation
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Volume 41 No. 2

www.prosoundnetwork.com

February 2019



ROCKING BAREFOOT—Everyone from Jimi Hendrix to Barbra Streisand to Jane's Addiction recorded at earlier incarnations of Los Angeles' Barefoot Recording, until producer Eric Valentine took the facility private in 2000. Now it's been reopened to the industry at large, including Studio A, centered around a custom 60-channel UnderToneAudio console. Take a peek inside the facility in Studio Showcase on page 20.

Parasher Aims to Reinvent Harman Pro

BY CLIVE YOUNG

LOS ANGELES, CA—"We went through a massive change last year," said Mohit Parasher, president of Harman Professional Solutions and executive vice president of Harman, speaking in early January inside the company's new Experience Center in Los Angeles. The understatement kicked off his

first major sit-down with the press since Harman Pro began a radical corporate transformation in September 2017. During the months that followed, the company was largely mum as the process played out, but with changes now in place and the first results starting to come in, Parasher was ready to provide some insight into events of

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AES Names New Exec Director

The Audio Engineering Society has appointed Colleen Harper to be its new executive director as the organization steps into what it already expects to be "a banner year," according to president Nadja Wallaszkovits.



NAMM Refines Its Pro Audio Experience

BY STEVE HARVEY

ANAHEIM, CA—The Anaheim Convention Center (ACC) opened its ACC North Hall

just a few months ahead of last year's NAMM Show, enabling the convention to group most pro audio equipment brands together, away

from the noisy all-star jams and packed aisles of the halls dedicated to musical instruments. The move was not without its growing pains, however, not least the long security lines at the entrance to the new hall.

However, the NAMM Show is ever-evolving, as any longtime exhibitor or attendee can attest. When this writer first visited, in 1989, large areas of the show floor were covered in grandfather clocks and grand pianos, and pro audio booths were few and

far between. And as NAMM president and CEO Joe Lamond recently told Daniel Gumble, editor of *PSNEurope*, "If we were to rewind to 1960, you would find two-thirds of the show floor featuring console television sets and radios. How crazy is that to imagine?"

Happily, NAMM has always been quick to evolve in step with the industry it represents, and to respond promptly to issues such as those patience-testing securi-

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Eat to the Beat

KJZZ's Soundbite in Phoenix, AZ, is the only known mobile radio broadcast studio in the U.S. that's also a combination food truck and performance stage, able to serve up audio, video, artists and hot dogs with ease.



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AES Names Colleen Harper Executive Director

NEW YORK, NY—The Audio Engineering Society has appointed Colleen Harper as its new executive director, effective Jan. 21.

Working most recently as the chief operating officer and interim chief executive officer for the American Society for Parenteral and Enteral Nutrition (ASPEN), Harper led the

implementation of strategic goals to drive both short- and long-term growth and sustainability for the \$6 million organization, led organizational budgeting, managed ASPEN's annual conference, and led the expansion and enhancement of membership service and growth. Harper will report to the Executive Committee of the AES Board of Governors.

David Scheirman, AES president for the 2017-18 term, noted, "Our Executive Committee's challenge has been to find an individual with deep and broad organizational management skills, direct prior experience within professional membership organizations, and a unique skill set that combines operational expertise, marketing skills and team leadership capabilities." He added that Harper was chosen from a field of "exceptionally well-qualified candidates. Our entire AES Board of Governors looks forward to working closely with Colleen from day one in her new position at the society's world headquarters office in New York City."

The change comes at a busy time for AES. On Jan. 1, Scheirman handed over the role of AES president to Nadja Wallaszkovits, chief audio engineer for the Austrian Academy of Science's Phonogrammarchiv in Vienna. "With the addition of Colleen's proven record of leadership, we expect 2019 to be a banner year for the society," president Wallaszkovits stated.

"I am thrilled to join the AES



AES executive director Colleen Harper

team," said Harper, "and look forward to leading the organization as we continue our work of uniting and educating audio engineers, creative artists, scientists and students from all over the world. AES has an incredibly rich history. With the support of dedicated members and staff, I'm excited to further its strong commitment to the mission of promoting advances in audio and disseminating new knowledge and research."

Harper's background also includes serving the National Investor Relations Institute as director, professional development; the global meeting and association management firm Meeting Expectations as association manager; the American Society of Heating, Re-

frigerating and Air-Conditioning Engineers as assistant manager of membership; and the Geoprofessional Business Association as director of membership and organizational relations.

Harper has a B.A. from the College of William & Mary and a master's degree in public administration, nonprofit management, from Georgia State University's Andrew Young School of Policy Studies, where she was a member of the Golden Key International Honour Society. She has been a certified association executive (CAE) since 2012 and was an Association Forum of Chicagoland's Forty Under 40 Award recipient in 2014.

Audio Engineering Society
www.aes.org

briefs

Bose Pro Acquires ZiipRoom

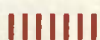
FRAMINGHAM, MA—Bose Professional (www.pro.bose.com) has acquired ZiipRoom, a developer of cloud-based productivity and connectivity software for meeting rooms, conference rooms and devices. ZiipRoom will integrate into Bose Professional, the company's division that focuses on products for professional audio designers, consultants and system integrators. ZiipRoom CEO and co-founder Martin Bodley, former CEO of Revolabs, will be leading the enterprise conferencing category for Bose Professional at its headquarters in Framingham, MA.

GC Acquires TVTI

WESTLAKE VILLAGE, CA—Guitar Center (www.guitarcenter.com) has acquired Chicago and Bannockburn, IL-based audio and video integration firm Tunnel Vision Technology Inc. TVTI will become part of Guitar Center's Business Solutions Group, providing systems design and integration services to commercial and residential customers in the Midwest. Founded in 1999, TVTI is a custom audio and video system integration firm serving the residential and commercial market sectors. With more than 35 employees, TVTI offers in-house project management, audio/video design, installation, programming, IT and related services.

Argosy Acquires SCS

ELDON, MO—Argosy (www.argosy-console.com) has acquired Sound Construction and Supply, a Nashville-based manufacturer of furniture for recording studios. Founded by Todd Beeten in 1994 to create desk and rack designs, SCS has a strong presence in its hometown and will continue its manufacturing operations in the Nashville area, with its leadership reporting directly to Argosy.



Symetrix Gets New Ownership

SEATTLE, WA—Audio DSP hardware and software company Symetrix has been sold by current owner Julia Ogden to Mark and Rachelle Graham.

Most recently CEO of Loud Technologies, Mark Graham is a 30-year veteran of the audio industry who was previously president of Harman's Crown Audio. Rachelle Graham has been a marketing manager for organizations including Agilent Technologies, the University of Kansas and BioServe Space Technologies, one of NASA's Commercial Space Centers.

"This is an exciting opportunity for us," said Graham. "We have admired Symetrix, both the company and the people, for a long time. I'm really looking forward to building on the successful foundation established over the past four decades and maintaining the rock-solid reputation of the company."



Symetrix's new owners, Mark Graham and Rachelle Graham

Symetrix will remain at the same location, and all employees will be retained. Ogden will continue to work for the company throughout a transi-

tion period and will serve on the company's board of directors going forward.

Ogden noted, "I knew I could never sell this business unless it was to the right people. It had to be someone who cared about the business and all the exceptional people who work here, and our business partners around the globe. I was looking for continuity and an alliance with the same high standards and core values that sets Symetrix apart from the crowd. I believe the Grahams are the perfect fit."

Symetrix is slated to launch several new products in the coming months. "The launch of our new products will move ahead seamlessly. We've put a lot of thought into how to make the transition as smooth as possible so that none of our deadlines slip," Ogden added.

Symetrix
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SPECIAL REPORT

Reinvention for 2019 . 1, 5, 8, 16, 20, 21, 36,

Reinvention is the name of the game in 2019; whether you want to call it "thinking outside the box," "reframing the parameters" or just "trying something new," fresh approaches are springing up in all corners of the audio industry this year, from the evolving Grammys to new acquisitions to updated venerable venues.

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Consumed with Music Consumption

After taking place last year in New York City for the first time since 2003 (the exact weekend that NYC-based *Pro Sound News*' staff was in Anaheim, CA, for the 2018 NAMM Show), the annual Grammy Awards ceremony will return to the Staples Center in Los Angeles this month, and as always, it should make for a fascinating evening.

For the first time, the four General Field categories—Record of the Year, Album of the Year, Song of the Year and Best New Artist—will each sport eight nominees, up from the traditional five. Officially, the Recording Academy instituted the broader categories last June to “better reflect the large number of entries in these categories and allow voters greater flexibility when selecting this year’s best recordings,” according to a mis-sive sent to members.

The move, however, was widely interpreted as an effort to present more opportunities for women to be nominated in the top categories after the Recording Academy came under fire in the wake of the 2018 awards ceremony, where the only woman nominated for Best Album, Lorde, didn’t get a solo performance slot, and only one woman won a solo award out of all the televised categories, when Alessia Cara took Best New Artist. If the aim was to ensure the presence of women in those categories, then it certainly worked—this

year, 19 out of 32 possible nomination slots for the four General Field categories are either solo women or collaborations that include women among their nominees.

There may be other results from the change, though not necessarily visible ones. For instance, the vote tabulations are never released, so we’ll never know if the newly broader fields of nominees will result in votes being more evenly dispersed among the contenders, or if the addition of three more options in each of those categories will even make a difference. Of course, you have to admire the Recording Academy’s ability to determine who’s getting nominated at all, because the process must be agonizing—across the 84 different categories, this year’s nominees were selected from more than 21,000 submissions.

While public accolades recognizing talent and hard work are fulfilling, for many creatives in the industry, whether they’re artists, producers, engineers or something else, their greatest, most gratifying award is something that the rest of the world will never see: their bank accounts. Money talks, and with the music industry becoming only more and more data-driven, that money is based on hard numbers.

Industry sales analyst BuzzAngle Music unleashed a massive year-end, 84-page document in early January, *2018 Year-End Report: U.S. Music In-*

dustry Consumption, and the news is relatively positive. Overall music intake continues to skyrocket, with total album consumption up 16.2 percent in 2018 to 701 million, total song consumption up 27.4 percent to 5.8 billion, and total on-demand streams up 35.4 percent to an eye-watering 809.5 billion.

However, almost all of that is built on the back of streaming (audio streams up 41.8 percent to 534.6 billion; video streams up 24.3 percent to \$274.9 billion), as actual sales continue to plummet. Song sales dropped over 162 million, down 28.8 percent to 401.1 million, while album sales fell 18.2 percent to 121.2 million. In the physical media world, vinyl sales had another strong year, jumping up 11.9 percent to 9.7 million copies sold, which is impressive but ultimately still less than one-sixth of CD sales, which weighed in at 60.7 million (down 18.5 percent).

Streaming per-stream royalty rates are still woefully low (for example, YouTube pays a whopping \$0.00074 per stream, according to *Digital Music News*), but for the pro audio industry, rising music consumption will continue to ensure demand for our services and stakeholders, like behind-the-glass musical creatives, studios and related facilities, pro audio manufacturers and distributors, and, further down the line, the live sound industry.

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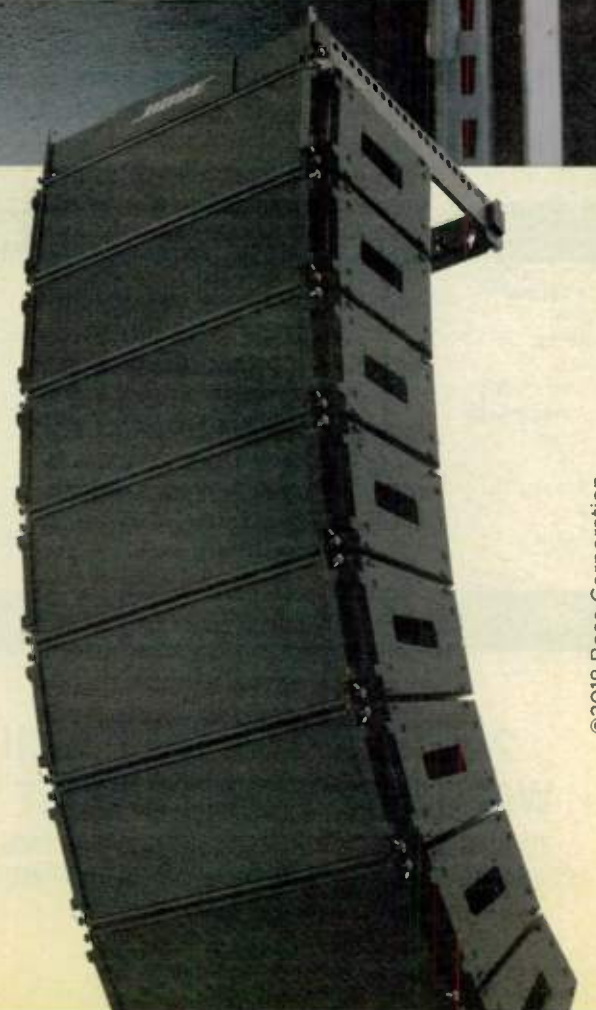
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United Sound Systems Saved—with a Twist

BY CLIVE YOUNG

DETROIT, MI—United Sound Systems Recording Studio recorded legendary artists for decades, but in recent times it looked like the historic facility had reached the end of the road. In 2013, the Michigan Department of Transportation announced it would likely have to demolish the studio in order to expand nearby Interstate 94. Then in 2016, federal prosecutors seized United as part of a major drug trafficking case. The studio was ultimately put on the market last summer with a price tag of \$1.5 million but little hope for the future. Now United has been sold—and saved—by an unlikely new owner: the Michigan Department of Transportation.

Calling the sale “a sound decision,” MDOT has purchased the facility, its contents and adjacent parking lot for \$1.7 million, and plans to move the studio from its current location at 5840 Second Avenue. United won’t travel far, however; it will be painstakingly transferred next door to its current parking lot, allowing it to remain within its historical district as designated by the Detroit City Council in 2015.

MDOT funded the purchase with money from the I-94 modernization project’s dedicated right-of-way funds. Moving the structure to the parking lot will increase the distance



United Sound Systems Recording Studios as it looks today.

between the facility and proposed retaining walls that will be built as part of the I-94 project. The aim, according to MDOT, is to “protect the structure from future construction impacts,” though it may also help lessen the impact of the roadway’s vibrations and noise on the studio.

Built in 1917 and converted into a studio in 1939, the edifice is considered to be Detroit’s first major independent recording facility and was a key part of the region’s music scene for decades. Not only did it host the first session for Berry Gordy’s Tamla label in 1959, paving the way for Motown Records, but Charlie Parker, Max Roach, Jackie Wilson, Bob Seger, the MC5, the Doobie Brothers, Miles Davis, George Clinton,

John Lee Hooker, Dizzy Gillespie, Death, Luther Vandross, Anita Baker, John Coltrane, Kenny Burrell and hundreds of others have recorded there over the years.

Classic sides recorded there include Marvin Gaye’s “What’s Going On” and Isaac Hayes’ “Shaft.” Aretha Franklin recorded two mid-1980s hits there as well: a remake of the Rolling Stones’ “Jumpin’ Jack Flash” with Keith Richards and a duet with Eurythmics’ Annie Lennox for “Sisters Are Doing It for Themselves.”

Shuttered for years, the facility fell into disrepair and financial troubles. In 2009, the site was purchased by Danielle Scott in foreclosure for \$20,000 and underwent restoration for the next five years, eventually

opening for tourism and the occasional session in 2014.

However, United was seized by federal prosecutors in 2016 when it came to light that Scott had purchased the studio with capital from her cousin, drug trafficker Dwayne Richards, who funded the purchase to launder money. Using the facility and Scott as a front, Richards conducted deals at the site and was eventually convicted of distributing more than five kilograms of cocaine.

Concurrently, faced with public outcry against the proposed demolition of an integral part of Detroit’s musical heritage, MDOT explored options to move the I-94 construction

away from the studio, but found that none allowed the project or the studio to continue without major impact. Consulting with the State Historic Preservation Office, MDOT eventually decided that purchasing and moving the building within its existing property would be the most viable option to preserve its history.

The overall I-94 modernization project, a massive undertaking expected to be completed in 2036, aims to rebuild the freeway to current design standards and add two new lanes for 7 miles in the heart of Detroit. It will also replace 67 bridges, including the one next to United—the Second Avenue bridge, which passes over I-94.

Jeff Alexander, Former Sennheiser Executive, Dead at 56

BY CLIVE YOUNG

NEW YORK, NY—Former Sennheiser sales executive Jeff Alexander died on Dec. 17, 2018. An engaging friend to many in the pro audio industry, Alexander brought an engineer’s deep understanding of technology and the artistic insight of a musician to his role. He was 56.

Originally from Bellaire, TX, Alexander attended Texas A&M, where he received a bachelor’s degree in petroleum engineering, paving the way for a job in the late 1990s at General Dynamics in Groton, CT, where he was the lead engineer for three engine

room fluid systems in the Seawolf-class fast attack submarine.

It was during this time that he answered a “musicians wanted” flyer that had been posted at Caruso Music in New London, CT, and became friends and bandmates with Joe Ciadelli, then-director of marketing at Sennheiser. That friendship led to Alexander being hired as the product manager for Neumann USA. Succeeding in the position, he moved up to a national sales manager role and eventually into a directorship position in charge of sales and marketing for third-party, non-Sennheiser brands such as Turbo-

sound, InnovaSon, HHB, DAS, True Systems, K-array, Chevin Research and Australian Monitor. From there, he became vice president of sales and marketing for Sennheiser’s Professional Products Division.

Alexander’s life changed drastically on Aug. 25, 2012, when he was in an accident while riding his motor scooter on Route 1 in Westbrook, CT. Colliding with a vehicle that had unexpectedly pulled out into traffic, Alexander was thrown 75 feet, wrecking his left leg and right hand. Wearing a helmet, he avoided brain injuries, but nonetheless sustained severe hearing loss in his



Jeff Alexander

right ear. The accident resulted in a nine-month hospitalization; Alexander underwent 27 surgeries over the next three years and eventually had his left leg amputated in 2015.

A pillar of the industry during his time at Sennheiser, he will be missed.



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Recorded Music Growth Is Strong, but Slower

BY STEVE HARVEY

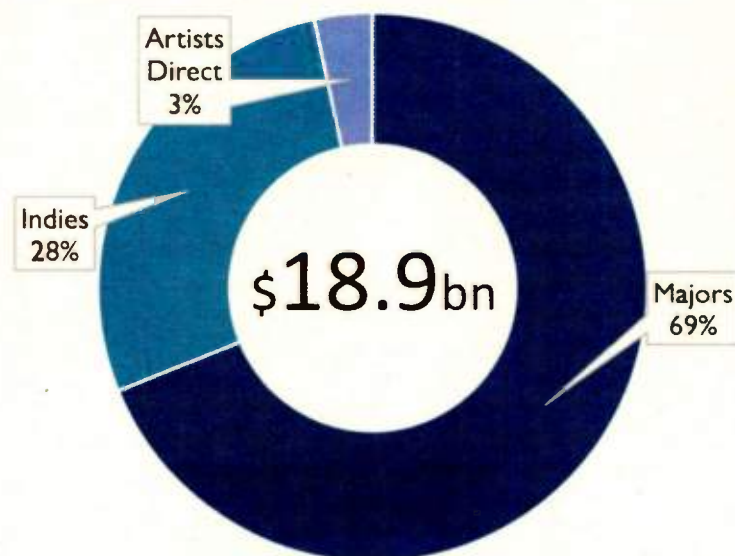
LONDON, UK—An end-of-year forecast from UK-based media and technology analysis company MIDiA Research predicts that recorded music revenue will hit \$18.9 billion this year, an increase of 8.2 percent over 2017.

According to the forecast, that is a slightly lower growth rate than the previous year, which was up 9 percent. However, net new revenue—\$1.4 billion—is almost the same amount as was added the previous year.

“The recorded music market appears to be settled into a steady, strong growth pattern,” writes MIDiA Research managing director Mark Mulligan. By year’s end, streaming revenue is predicted to have grown 29 percent to \$9.6 billion. But again, he notes, “The absolute amount of new revenue generated was, as with the recorded music total, the same as 2017”—in this case, \$2.2 billion.

He adds, “Though the fact that total revenues grew by \$0.8 billion less than streaming revenue indicates the pace at which legacy formats continue to decline.” The growth of streaming in mature markets such as the U.S. and the UK will slow, Mulligan also predicts, but any impact will likely be offset by growth in Japan, Germany, Brazil and Mexico. “Overall market growth, though still strong, will be

Global Recorded Music Market FY 2018



SOURCE: MIDIA RESEARCH MUSIC MODEL

slower,” he forecasts.

Mulligan notes that the forecast is an estimate, as other industry numbers, from Warner Music Group (WGM) and global body IFPI, for instance, have not yet been published. “To create our end-of-year revenue estimate, we collected data from record labels, national trade associations, and also confidential data from the leading Artist Direct/DIY platforms. We plugged this data into MIDiA’s Music Market Share model and benchmarked against quarterly and full-year 2017 growth,” he writes in a blog post.

Shortly after Mulligan posted his

forecast, WGM published its fiscal fourth quarter and year-end revenue figures, reporting that it had exceeded \$4 billion for the first time in 15 years. Top sellers included Ed Sheeran, Cardi B, *The Greatest Showman* soundtrack, Bruno Mars, Dua Lipa, Bebe Rexha and Lil Pump. Although WGM’s physical sales declined—reflecting trends in the industry as a whole—the company saw growth in music publishing, digital, performance, synchronization and mechanical revenues. Digital revenue was up 24.1 percent and accounted for 57.3 percent of total revenue, compared to 53.5 per-

cent in the same quarter last year.

In its report last year, MIDiA was the first to quantify the global revenue contribution of Artists Direct—independents, DIYers and so on. This year, those revenues grew 3 percent—in other words, three times faster than the overall market—over the 2017 figure, to \$643 million. “Artists Direct revenue growth is accelerating in both percentage and absolute terms, with market share up from 2.7 percent in 2017 to 3.4 percent in 2018,” Mulligan writes.

The Artists Direct market and other alternative models will come of age in 2019, Mulligan believes. “It’s never been a better time to be an artist, as long as you and/or your management are clued up enough to know what to ask for,” he states.

Mulligan predicts that global recorded revenues will continue to rebound. But those revenues are a far cry from the glory days. “Even if label revenues hit \$25 billion (where the market was in 2000, before the decline) in real terms (i.e., factoring in inflation, etc.), that would actually be around half the actual value,” he observes. “While it is not realistic to expect a \$50 billion market, getting towards the inflation-reduced \$25 billion is certainly a realistic target.”

MIDiA Research
www.midiaresearch.com

Miking Up Mars: NASA Ready to Record Red Planet

BY CLIVE YOUNG

PASADENA, CA—NASA has been sending space exploration landers to Mars since the mid-1970s, but surprisingly has never properly recorded sound from the Red Planet. That will change when the space agency launches its latest Mars rover, scheduled to land in February 2021.

That’s not to say that NASA hasn’t tried to capture the sounds

of Mars before. The original Viking landers recorded some wind noise via seismometers, but the results weren’t within audible frequencies and were additionally hampered by the low sampling rates of the era’s technology.

Microphones were on board when NASA sent the Mars Polar Lander in 1999 and the Phoenix Mars lander in 2008, but the former crash-landed on the surface, and the latter’s mic was never turned on because of concerns

it would cause problems during the landing process.

Earlier this month, the InSight lander finally recorded wind on Mars, but the spacecraft was not equipped with a microphone. Rather, onboard seismometers captured vibrations caused by 15 mph winds shaking the lander; this data was approximated into audio.

When the Mars rover heads to the Red Planet, it will be ready to not only record sound on the surface of Mars, but also audio of the spacecraft’s descent through the Martian atmosphere.

The Mars spacecraft is currently being assembled at NASA’s Jet Propulsion Laboratory in Pasadena, CA. It will soon sport a pair of DPA Microphones’ d:dicat 4006 omnidirectional mics, to be used in tandem with a MMA-A digital audio interface to record sound. Both mics will include MMP-G Modular Active Cables, acting as preamplifiers.

Key considerations for NASA in terms of choosing microphones for the

project included sound quality; footprint, due to the craft’s limited space and mass restrictions; the ability to connect to an onboard computer via USB; and the anticipated ability to survive the journey. During the seven-month trip to Mars, the spacecraft will get as cold as -148°F and face pressure both in and outside of the atmosphere.

To protect the audio equipment, NASA designers have created a custom enclosure to mount the interface inside the rover, and in turn, DPA worked with the design team to build an MMP-G amplifier housing for the rover’s exterior—which will in turn allow scientists to record sounds as the rover descends to the surface of Mars.

René Mørch, product manager at DPA Microphones, noted in a statement, “We are honored to be a part of this mission.”

Mars 2020 Rover
<https://mars.nasa.gov/mars2020>

DPA Microphones
www.dpamicrophones.com



Artist’s rendering of the Mars rover, which is scheduled for launch in 2020.

Sweetwater Continues Sales Streak

FT. WAYNE, IN—The 2010s have been good for online MI/pro audio retailer Sweetwater, as evidenced by the physical growth of its campus and expanding employee roster. The company's annual total sales increases have ranged from 17 to 28 percent every year since 2010, and Sweetwater reports that last year's results continued that trend.

Sweetwater's total sales in 2018 were \$725 million, up 17 percent from \$619 million in 2017, which was also a record-breaking year. While the company sold more than 128,000 guitars in 2018 (up from 107,000 in 2017), it reports that the biggest areas of sales growth were pro audio, synthesizers, drums, guitars and microphones.

Pro audio has been a key component of Sweetwater's annual GearFest, which it now touts as the industry's largest free trade show open to the general public. Held last June, the 2018 edition saw 15,000 attendees interact with 430 vendors and take in more than 90 seminars and breakout sessions.

In October, a major expansion began at the company's 163-acre campus located on U.S. Highway 30 in Fort Wayne. The \$76.4 million project includes the addition of a 350,000



This year, Sweetwater will complete construction of a new warehouse in addition to the one pictured here.

sq. ft. warehouse and a 30,000 sq. ft. event center, along with the anticipated addition of more than 1,000 jobs over five years. Construction is already underway on the warehouse, and both buildings are expected to be operational in 2020.

Those coming 1,000 jobs will be in addition to the nearly 400 employees Sweetwater added last year, going from 1,132 at the end of 2017 to a roster of 1,531 at the end of 2018. Reportedly as many as 40 percent of

those employees are being hired from outside the company's home base of Fort Wayne. "We are proud to bring so many talented workers to Sweetwater and for them to make Fort Wayne their home," said senior vice president of human resources Jeff McDonald. "It's clear that Sweetwater has become an employer of choice, allowing us to attract the best and brightest to our outstanding campus."

Hand in hand with bringing new people to the area, Sweetwater

has continued to make its presence known in Fort Wayne's music community. Sweetwater's partnership with Purdue University became official last summer, when the school's Music Technology Program opened on the Sweetwater campus. On Aug. 20, 45 students began taking classes in the 8,000 sq. ft. facility that is home to a recording studio, editing suites, equipment library and more.

Sweetwater
www.sweetwater.com

Cinema Audio Society Announces Nominees

BY STEVE HARVEY

LOS ANGELES, CA—The Cinema Audio Society has announced the nominees for the 55th Annual CAS Awards, which recognize outstanding achievement in sound mixing in seven categories; the organization also announced its outstanding product nominations.

With this latest announcement, the Warner Bros. film *A Star Is Born* has now been nominated by every guild and industry group, including the Producers Guild, Screen Actors Guild, Writers Guild, Art Directors Guild, American Society of Cinematographers, American Cinema Editors, Casting Society of America and Cinema Audio Society. Although it was passed over for an award by the Hollywood Foreign Press Association in its recent Golden Globes Awards, the awards season attention bodes well for *A Star Is Born* to receive an Academy Award nomination; four of the five CAS Awards nominees last year were also



nominated for sound mixing Oscars.

Final balloting for outstanding sound mixing and outstanding products takes place online on Jan. 24 to

Feb. 6, closing at 5 p.m. PT on the final day. The awards will be presented at a dinner on Feb. 16 at the Wilshire Grand Ballroom of the InterContinental Los Angeles Downtown.

During the event, the CAS Career Achievement Award, considered the CAS' highest honor, will be presented to production sound mixer Lee Orloff, CAS, and the CAS Filmmaker Award will be presented to Steven Spielberg. The Student Recognition Award winner will also be named.

Cinema Audio Society
www.cinemaudiosociety.org

THERE'S MORE ▶ This year's nominees can be found on the organization's website and on www.prosoundnetwork.com.

Audio Engineer and Inventor Robert Schulein, Dead at 76

SCHAUMBURG, IL—Audio engineer Robert Schulein, a prolific inventor, AES Fellow, and past-president of the International Audio Engineering Society (AES), died peacefully in his home on Jan. 1 after a years-long battle with cancer.

Schulein, raised in Rockford, IL, began working at Shure Brothers in 1966, where he rose to become staff vice president and director of business communications and industrial products. Schulein's early work at Shure was in the area of condenser microphone research, development and design, leading the group effort to introduce Shure's first professional condenser microphone, the SM-81. While at the company, his responsibilities included R&D of microphones for automotive cellular telephone systems; land, mobile and related communication systems; and mi-

crophone systems for speech recognition applications.

After Shure, Schulein held positions at Etymotic Research (now Lucid Audio), and later was owner

of RBS Consultants. Schulein was elected to fellowship in the AES in 1977 and won the AES Publications Award that same year. He received the Board of Governors Award in 1990 and the Bronze Medal in 2013. At the time of his death, he was serving as a vice-chair of the AES Tech-

nical Council, and as chair of the AES Technical Committee on Hearing and Hearing Loss Prevention.

Schulein's inventions included miniature directional microphones for hearing aids, an acoustically transparent non-porous wax barrier for the hearing aid industry, and an advanced professional in-ear monitoring system used by a list of top performers.



Robert Schulein

Acquisitions Bolster RCF Group

BY DANIEL GUMBLE

LONDON, UK—When Italy's RCF Group announced in December that it had acquired Danish microphone manufacturer DPA Microphones, the news set tongues wagging. Between that purchase and the recent acquisition of EAW in the United States, the Italian organization increasingly appears to be reframing itself as an all-around audio solutions provider.

"We were looking for another company to add to our roster in order to become one of the biggest audio groups, and we were looking for an excellence that could complete the audio chain," said RCF Group CEO Arturo Vicari. "Yes, [the microphone market] is indeed new territory for us, but we have been in the audio industry since 1949 and have 70 years of experience and intuition. We knew that we wanted to add a strong, well-known company and that a microphone brand would complete the audio chain. Hence, when we realized that DPA was up for sale, we couldn't miss out on that opportunity. DPA will fit very well into the RCF Group, and when the two amalgamate, the results will be incredible."

"For sure, this is a big change for the group, and we are now able to be more competitive and offer complete audio solutions," Vicari added. "The RCF Group has several excellent products to cover all the needs that

end users have, from large to small concerts, fixed installations, stadia, churches, et cetera."

Previously owned by private equity firm The Riverside Company, DPA is likely to benefit from the collective experience and pro audio wisdom offered by the RCF Group, which, according to DPA CEO Kalle Hvidt Nielsen, will be an ideal home for the Danish brand: "RCF Group actually focused on advanced ribbon microphone designs back when it was established, so the company does have some background in microphones. They [RCF] have extensive experience in wireless systems, and since microphones for use in these systems as a major part of what DPA does, it seems like a good match. Having in-house knowledge of these systems will enable us to design even better mics for wireless solutions. We believe that we are on the right path with a new and ambitious strategy. RCF Group has the same opinion and plans to support us in developing further in this direction."

According to both Vicari and Nielsen, the mutual benefits are myriad, while the day-to-day running of DPA will very much be business as usual. "RCF Group's unique expertise in loudspeaker systems and mixing desks is very complementary to DPA's world-leading position in high-end microphone systems. Being under the same ownership opens new

opportunities for all of us," said Vicari.

"There are many synergies between the two companies regarding technologies, market segments and geographical coverage," Nielsen adds. "Together we can offer our customers solutions that cover their needs across the entire audio chain, which is a win-win situation. In addition, having an owner familiar with the pro audio industry makes it easier to discuss the business—its trends, opportunities and challenges—with a long-term goal in mind."

Nielsen believes that his brand will also be able to make a significant contribution to its new owner's heft in the marketplace. "We can bring a lot to the RCF group: a Scandinavian mindset, engineering expertise in high-precision microphone capsules, and a worldwide leading position in high-end microphones systems, to name a few," he states. "We add professional solutions in the first (and most important, we believe) step of the audio chain to RCF Group's repertoire of solutions."

Nielsen noted, "The fact that we

can continue our ambitious plan with a professional partner from the pro audio business is a huge advantage. I believe that it will benefit the DPA brand as well as the RCF Group. The only challenge may be that I will have to learn Italian."

As for Vicari, the new acquisitions of last fall are steps on a longer journey. "RCF Group is constantly looking to grow to become one of the most important [audio companies] in the world," Vicari concludes. "A new era has started."

RCF Group
www.thercfgroup.com



CEO Arturo Vicari led RCF Group through the acquisitions of EAW and DPA this past fall.

Phoenix Goes West with FOH Engineer Matt West

NEW YORK, NY—French synthpop act Phoenix has spent the last year touring the world behind 2017's *Ti Amo* album, and that journey has no end in sight, with dates in Japan and Mexico lined up for this spring. All along the way, FOH engineer Matt West has been bringing the band's retro synth grooves to life, mixing on a Solid State Logic L500 live digital console.

While West has extensive experience on digital consoles, he says he has used them mostly for ergonomic reasons rather than sound: "I'm an analog engineer and I come out of that world."

He continues, "On previous tours I had an outboard rack that I'd carry everywhere with me, with some nice compressors like dbx 160s, Distressors, 901s—all that lovely sort of stuff. During rehearsals, I thought I'd try out the [SSL's] onboard dynamics. ... The console



FOH engineer Matt West with SSL L500 console

sounded great, so I don't use that rack any more, and I haven't missed it."

West uses his mix to manipulate

the performance, throwing in filter sweeps, muting parts of the P.A. and so on. "We have a great relationship, and the desk is all-important

in that because it is my tool, my instrument," he said. "If I'm not able to do things on a console that we're trying to reproduce, then I find limitations. To date, we've been able to do everything the band or I have thought of, and that says it all."

One aspect of the console that West turns to during performances is the adjustable All-Pass Filter on all processed paths—inputs and outputs. "There are always issues with phase," he noted, "and you only ever have the basic 180-degree invert button, so you can easily lose your bottom end or part of the mid-range, [but] not with the All-Pass Filter. The ability to adjust the frequency and EQ of what you reverse has opened my eyes, or ears, to what is possible with phase, both on single inputs and grouped. You can check this at every stage."

Solid State Logic
www.solidstatellogic.com

Tackling Monitors for Gary Numan's Orchestral Tour

LONDON, UK—Gary Numan has been many things: a pioneer of electronica and goth music, a pilot and, here in the U.S., a one-hit wonder for the new wave smash, "Cars." Overseas, however, Numan has amassed a long string of hits and an ever-fervid following—enough so that he recently went on an orchestral tour in the UK. The jaunt had six stops, including one at the Royal Albert Hall; along for the ride was the 16-piece Skaparis Orchestra. Monitors for the run were tackled by engineer Mike Glines and monitor system tech AJ Sutherland.

Glines mixed monitors at stage-side using an Allen & Heath dLive S7000. "We chose the Allen & Heath dLive S7000 as our monitor console because it's great at allowing multiple operators," said Glines. "It's not just the core of the monitor system—it's the core of the show. It handles the communications for everyone."



Monitor system tech AJ Sutherland pauses at the dLive desk at stageside on the Gary Numan orchestral tour.

Sutherland added, "We had one MixRack, which Mike controlled from the S7000 surface, as well as dLive's Director software running on a Mac so I could make edits without having to interrupt him on the surface. I also had my own cue mix, so I could line check the orchestra at the same time the band was checked by Mike."

Supplied by Adlib, the monitor setup comprised the dLive S7000 surface, DM64 MixRack and a DX32 Expander. Sutherland explained, "Using an iPad along with an Audio-Technica headset for my talkback meant I could stand with the conductor and work with the orchestra on their IEM mixes, which was a much better way to interact with them, rather than being a disembodied voice in their ears, hidden away in monitorworld."

Additionally, an IP-8 Remote Controller was added to the mix, allowing further control over mixes. "I used the IP-8 controller to PFL channels and mixes, route my talkback, investigate any faulty in-

puts and mute them while I did so," said Sutherland. "With so many inputs and outputs for Mike to deal with, I ended up being more hands-on than a system tech usually would be, but the dLive system really made my life as a sys-

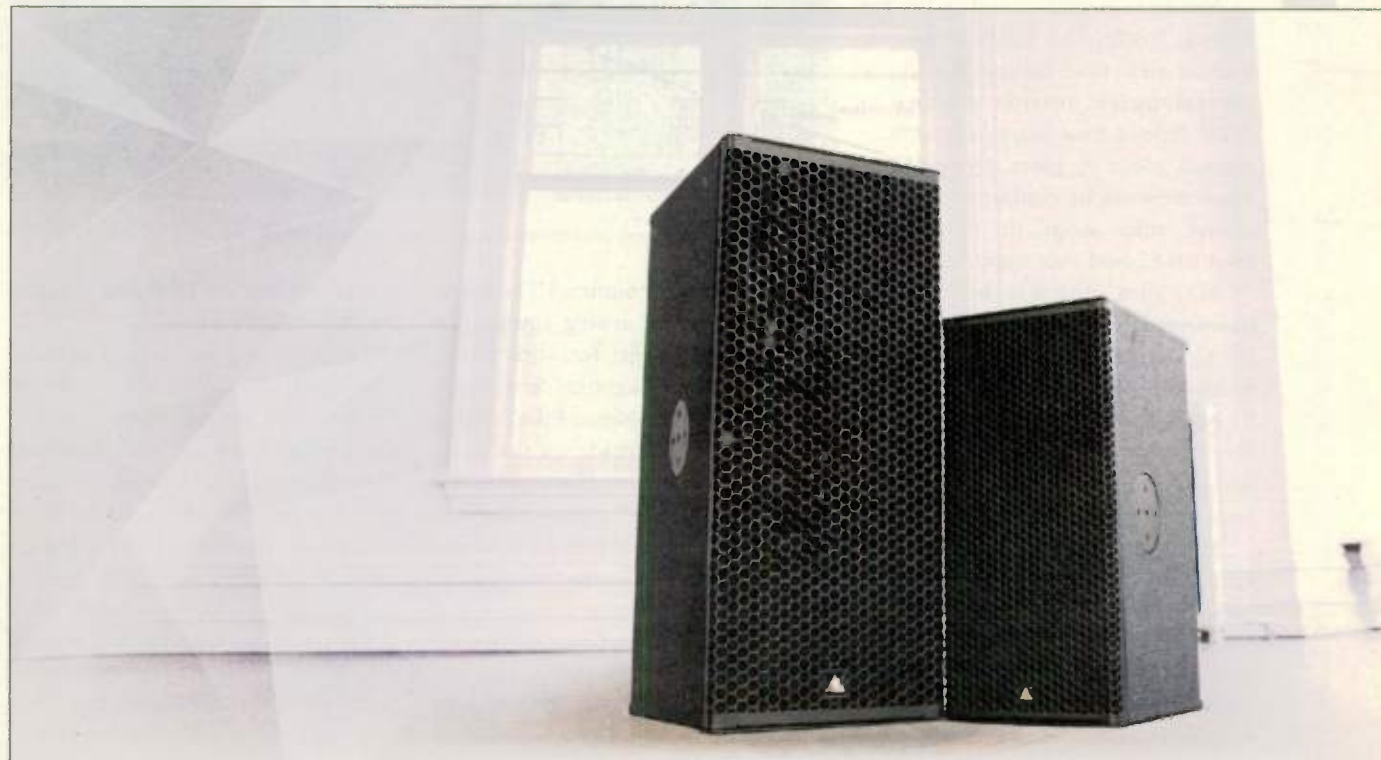


Hello, Numan: Gary Numan did his thing inside London's Royal Albert Hall on his recent tour.

tem tech so much easier and allowed the two of us to work together so efficiently."

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Jesse Magnum Shoots from the Hip

BY STEVE HARVEY

ATHENS, GA—"I don't like big, slick, shiny, processed, grid-locked, auto-tuned trash," says Jesse Mangum in *Athens Rising*, a 2018 documentary about the Georgia college town's cultural landscape. "I want to put at least a little bit of the opposite in the world."

Mangum began building his recording studio, The Glow, in a steel-framed structure behind his house several miles outside Athens in 2008. It took four years to complete, funded, piece by piece, by tips from whatever work he could find. "It was always coffee shops, the only entry-level job I could ever stand," he says.

Mangum did his homework, building out the 30-by-40-foot facility to the ideal ratios using room-within-a-room construction methods. "I built out the control room first. Drywall wasn't my favorite hobby and I wanted to get back to it and at least do some mixing."

Mangum originally established The Glow in Jacksonville, FL, where he grew up, and where his musician father, Larry, had a recording studio until the early '90s. His father frequently visited to help with The Glow's construction, Mangum reports.



The Glow's control room is centered around a Crest Century VX console.

Today, he has outfitted The Glow with nothing but analog equipment. Well, almost. Apart from his DAW, he says, "I just bought my first digital reverb, the Make Noise Erbe-Verb, a Eurorack module made for the synth market. It's the most like a room reverb of anything I've encountered. I feel like the Eurorack thing is something you'll see more and more of in studio environments."

Mangum says he found early digital processors to be noisy, and not in a good way. Although he came up working in the box, he says, he quickly

realized that the GUI was replicating physical objects.

"It confounds me to have so many plug-ins; I like having fewer options. For a while I was militant about it—I was just going to use this mixer and the hardware that I have, no plug-ins." He has since relaxed the rules, he says, for the sake of marketing his services to a larger audience.

His analog workflow lends itself to the sound he appreciates. "A lot of the records I love are from the earlier years, when they used a lot less. They had more tubes and transformers in

the path. That's what I'm working toward, hitting as many of those as I can on the way in."

Mangum's console is a 1997 large-format Crest Century VX more typically found at FOH. "I was looking for a desk that was balanced and had a certain feature set. It's a split console, which is how I like to track," he says.

"It had everything I wanted, and I liked the way it looked—as close to an SSL as I was going to get. And you can get them for \$2,000."

The Crest desk is fitted with Jensen transformers and has been upgraded with Jim Williams' mic preamps. "I use external preamps now, but if I needed to, I would be perfectly happy tracking with those."

Mangum's favorite outboard mic preamp is the Classic Audio Products Inc. VP28, a two-stage 500 Series module. "On overheads, you can crank the input all the way, turn the output all the way down, and the waveform looks like a square wave—clipped, but you won't hear that. You hear the sound, but in a very beefy way. That's a sound I was unable to get with the APIs. The VP28 is really special. If I had a whole rack of those and nothing else to track with, I would be happy," he says. "Everything CAPI does is great; I have one of their equalizers."

(continued on page 24)

In Search of the Perfect Signal Chain

BY STEVE HARVEY

LOS ANGELES, CA—Equipping a studio can be a lifelong quest for that ideal palette of colors, reflected in an ever-evolving suite of options as a facility's gear is swapped out to make way for something newer, better or just different. Mastering engineer Maor Appelbaum's search has included standard and modified units, customized and fully custom devices, and now, the design and manufacture of his own processing hardware brand.

"It's good to stay the same in order to keep consistency, but at the same time, I do want to improve what I have," says Appelbaum. "Just because I'm happy with the results in terms of the records sounding good doesn't mean it can't be better."

Having a mastering console outfitted with the tools that meet his needs, and with which he is familiar, enables him to achieve the sound he's seeking faster, Appelbaum explains, "because I can just move one



Maor Appelbaum's mastering desk is an ever-changing patchwork of old and new gear.

knob that I know does the job that I like."

But at the same time, trying something new, or bringing out an older, forgotten piece, can bring a

new perspective. "Just bringing it in opens something new that you didn't have before. Maybe you almost got to that sound with something else, but now you have this

new thing to get to that sound exactly."

A mastering engineer's sound is basically a combination of his or

(continued on page 24)



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Barefoot Recording Opens Up to the World

BY STEVE HARVEY

HOLLYWOOD, CA—Housed in a former post office that has operated as one music production facility or another since 1967, Eric Valentine's Barefoot Recording—also the headquarters of his UnderTone Audio equipment manufacturing operation—is now available to outside clients. The facility has served as Valentine's private studio since 2000, during which time he has produced albums for the likes of Good Charlotte, Taking Back Sunday, Queens of the Stone Age, Slash, Smash Mouth and numerous others.

"I've worked in that room for almost 18 years now," says Valentine. "That's a long time to be in one creative space."

Valentine and his wife, recording artist Grace Potter, now have a 1-year-old child, which spurred him to move out of Barefoot and into Topangadise Studio, a facility he built at their Topanga Canyon home. "It's very streamlined to be just the essential elements that I've come to really rely on: a collection of maybe eight or 10 microphones, a few favorite compressors, a couple of outboard preamps and EQs, and a computer," he says.

"I still incorporate a tape machine, a Studer J37 1-inch 4-track. As I'm recording, a lot of it runs through that machine on the way into the computer."

A musician, engineer and producer, Valentine built and operated a succession of studios in the Bay Area for years before heading to Los Angeles, where he acquired the historic building in the heart of Hollywood. And boy, does the building have a history. As Crystal Sound, built by Andrew Berliner beginning in the late '60s, a who's who of artists passed through: Jimi Hendrix, The Doors, Supertramp, Eric Clapton,



Barefoot Recording has a storied history that goes back decades, as evidenced by the 9-foot Yamaha grand piano Stevie Wonder played when recording there in the 1970s, when the location was known as Crystal Sound.

James Taylor and Jackson Browne, to name just a few. Producer Matt Hyde subsequently leased the facility for projects with Jane's Addiction, Porno for Pyros and Monster Magnet during the 1980s and '90s.

Most famously, perhaps, Stevie Wonder recorded *Songs in the Key of Life* at Crystal Sound in 1976. His original Yamaha 9-foot grand piano remains in the live room. "The piano tuner has worked on it since it was new in this building," says studio manager and engineer Tim O'Sullivan, who also works out of Studio B with his engineering partners, Joe Napolitano and Nick Zinner of the Yeah Yeah Yeahs. Over the years, Studio B has also hosted producers including Jon Brion, Jacquire King, Matt Rad and Cian Riordan.

There is a third room, Studio C, that originally housed Crystal's cutting lathe and more recently served as Barefoot's edit suite. Producer Mike Pepe has recently taken up residence in the space, reports O'Sullivan.

During his first five years at Barefoot, Valentine found it a con-

stant challenge to keep his equipment working and eventually decided enough was enough: "The vintage Neve console I had was at the end of its life. No amount of contact cleaner was going to make me trust that thing again."

He had built a rapport with technician Larry Jasper, formerly of Quad Eight and GML, who had been maintaining Barefoot's gear and implementing various modifications. "Ultimately, because of my relationship with and confidence in him, I got excited about making a custom console," says Valentine, who initially planned to base it on his favorite Neve 1084 modules.

The project quickly expanded into a totally custom desk design. "I've been very fortunate and had the resources to go down this road of taking the most brilliant audio circuit designer on the planet and offering him the task of building the ultimate no-compromise analog console of all time," he says.

"We started working in 2007 and built two—one for each of Barefoot's studios. We installed the first console in 2009. I did all the mechanical design work and Larry did the electronic and PCB design work."

The EQ section alone was a revelation, according to Valentine. "I wanted vintage musicality with modern flexibility. We realized that we had built an equalizer like nothing else. Nothing has that vintage Class A musicality that is as surgical and powerful. Other people got very interested in it, so we built 100 of them—and sold all of them in about two months." UnderTone Audio, housed in a former apartment on the second floor, has since grown to offer a variety of rackmount products, including the UnFairchild

compressor.

"Back in the Crystal days, they were making their own consoles and mic pres, so we're trying to connect that legacy to what we're doing now," says O'Sullivan, who initially came on board to work on the custom consoles and UTA gear and previously worked at Capitol Studios. "The stuff we wanted didn't exist, so we made it."

Studio A's tracking room is an inspirational space thanks to its funky vibe and a cornucopia of equipment. "With the instruments and gear that we have, it really is a space that rewards staying here, being in this one creative space," says O'Sullivan.

"It's fun and inspiring when people walk in there for the first time," says Valentine. "You have access to anything you've ever wanted to use—and a bunch of stuff you never knew you wanted to try."

But after years in the room, it was time to move on, says Valentine. "I've pulled every imaginable sound out of those rooms. There was a certain point where I felt more inspired being in a different space."

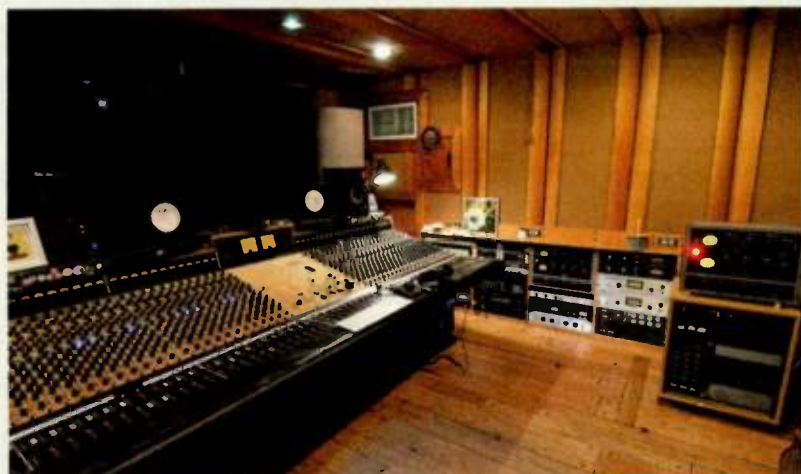
"It's been this private, comfortable, lived-in space for so long," says O'Sullivan, noting some of the modifications implemented by Valentine in Studio A's tracking space as the need arose. "This was one big room, but in the middle of one session, Eric said, 'I wish this side of the room was a little deader.' So we took a day off and built a wall, a semi-permanent baffle." Another time, when Slash worked at Barefoot, the guitarist wanted to use floor monitors, so they built an iso booth.

In the past, projects might stay for six months, even a year, says O'Sullivan. "We want people to feel that vibe and comfort, but with a level of service of the traditional Hollywood commercial studio. You pour the last cup of coffee and someone's making another pot already. Little things like that help free people up to concentrate on the music."

In the meantime, Valentine is certainly going to be concentrating on music for the next couple of months at Topangadise Studio. "We need to deliver a finished record for Grace by the end of February, and we've got a lot to do," he reports. "I'm really excited by it. It's going to be an amazing record."

Barefoot Recording
www.barefoot-recording.com

UnderToneAudio
www.undertoneaudio.com



Barefoot's Studio B is centered around a 48-channel custom UnderToneAudio LC48 console.

How the Cloud Changed Music Software



BY CRAIG ANDERTON

Music software has evolved quite a bit in its roughly 35-year history, but nothing has influenced the business of music software as much as cloud computing, starting with software transitioning from a physical product to a virtual one. The tipping point was Apple pulling its Logic software from stores and selling direct via download at the unprecedented price of \$199. Although a punch in the gut to Mac-only DAWs like MOTU Digital Performer, paradoxically, it helped increase industry acceptance of the Windows platform.

Digital downloads turned the software sales model completely on its head. Once Apple started the trend, momentum increased for companies selling direct to users. Gone were the fancy boxes, CD-ROM/DVD-ROM duplication, shipping costs, thousand-page printed manuals—and retail shelf space. All any company needed to be in the software business was a virtual storefront, the ability to process payments, and some marketing chops (the hardest part).

It looked like retailers might lose the software market, but then the Xchange market platform and other advances made it practical for deal-

ers to sell software virtually. Benefits included the fact that software would never be out of stock, dealers didn't have to ship any physical media, and nobody had to restock the shelves when new software versions were released. However, concurrently, more manufacturers started selling direct as well, and the question became why anyone would buy downloadable software from a retailer when they could buy downloadable software from the manufacturer.

Nothing has influenced the business of music software as much as the cloud.

As it turned out, manufacturers aren't necessarily great retailers. When someone buys software from a retailer, they get local support and answers to questions they might have. A retailer can also leverage multiple brands, like selling a DAW, a controller for that DAW and maybe even a computer that's been tested to work with that DAW—and then bundle the package with an audio interface. There's still a place for manufacturers to sell software direct, but that doesn't mean retailers can't.

What's more, software companies often manufacture hardware (a good thing, because you can't steal hardware from a torrent). For example, MOTU has a respected line

of pro-level interfaces, but it needs retailers to sell physical products. It can make more sense to buy the software and interface from a dealer than buy software online, then find a dealer from whom you can later buy the interface. Furthermore, although it would seem that manufacturers could market to a wide universe of people via the internet, they can sell only to people who know about them. A retailer can make people aware of products potential buyers might not have even thought about.

But the cloud isn't only about sales and distribution. Today's copy protection tends to be cloud-based. You establish your ownership of the software, register in the manufacturer's cloud, and from there on, you can download updates, re-download the software if your hard drive fails, and get updates instantly. iLok dongles are still a factor, but there are also protection systems that can key software to a hard drive. If the hard drive dies, you de-register it online, then register a different drive. All the big software companies, and most of the small ones, have dedicated online sites and applications that give you control over your account—Waves Central, Native Access, iZotope

Product Portal and the like have made life much easier for users. You no longer need to keep printouts of serial numbers and CD-ROM backups of software you downloaded; it's all in the cloud.

Cloud distribution has also made the subscription model viable. Can you imagine what it would have taken to send out new physical media periodically to all your users? Just as Netflix re-invented itself as a streaming service instead of a DVD-by-mail outlet, streaming is the way to get new software and new features to customers efficiently.

Looking to the future, piracy will remain, to some degree; anything can be hacked. (Just ask the Pentagon.) However, piracy may not be as relevant because eliminating physical media has been a factor in bringing down software prices. A lot of pro software that used to cost between \$500 and \$1,000 is now in the \$400 range, or available via a nominal monthly subscription fee.

So we're settling into the new paradigm. What's next is fine-tuning the machine. I suspect that the golden age of music software is yet to come, as long as we can convince computer manufacturers to keep providing the tools to run it.

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

Producer/Musician Steve Ripley Dead at 69

PAWNEE, OK—Producer, engineer, studio owner and inventor Steve Ripley, best known as the guitarist and bandleader of the Grammy-nominated country-rock band The Tractors, died at his home in Pawnee on Jan. 4 at the age of 69 following a battle with cancer.

Ripley reportedly discovered his love of recording in the 1960s, working in Gene Sullivan's Hi Fi Studio in Oklahoma City. He opened his first studio, Stillwater Sound, in Oklahoma in the early 1970s, a period during which he produced artists such as Roy Clark, Clarence "Gatemouth" Brown and Johnnie Lee Wills for the Jim Halsey Company.

Ripley had a long association with fellow Oklahoman Leon Russell, working as his live sound engineer before working on staff at Russell's

Paradise studios and record label in Burbank, CA, in the 1970s. (The facility is now known as Bang Zoom! Entertainment.) At Paradise Studios, Ripley engineered projects by the likes of New Grass Revival and JJ Cale, another Oklahoma native, also playing on two of his records.

While in California, Ripley collaborated with Eddie Van Halen on a stereo guitar design—used to great effect on the track "Top Jimmy" on Van Halen's 1984 album—and started the Ripley Guitars company. During the same period, Ripley's friend, drummer Jim Keltner, a Tulsa native, introduced him to The Beatles and to Bob Dylan. Ripley played guitar on the Dylan album *Shot of Love* and toured in his 1981 gospel band.

In 1987 Ripley acquired Russell's former production facility, The

Church Studio in Tulsa, OK, where he produced seven albums for The Tractors and a solo album, *Ripley*. During 19 years of operation at The Church, he also worked with Red Dirt Rangers, Hanson, Chainsaw Kittens, Admiral Twin, Carlton Pearson and others. The building was added to the National Register of Historic Places in 2017 in recognition of its role in the development of what has come to be known as the Tulsa Sound.

Ripley sold both the studio and his Tulsa home in 2005 so he and his wife, Charlene, who he met when she recorded at Stillwater Studios in 1976, could move back to the Pawnee County farm where he was raised. They subsequently expanded the small farmhouse to include a guitar shop and a recording studio, dubbed The Farm, from

which he hosted his *Oklahoma Rock & Roll* radio show for the Oklahoma Historical Society. His recording projects included a Red Dirt Rangers full-length as well as a collaboration, *Ripley and The Rangers*.

In 2013 Ripley was hired as an audio archivist, and worked with OKPOP executive director Jeff Moore to engineer a collection of unreleased Bob Wills recordings. In 2016 OKPOP acquired the Leon Russell archive and Ripley became the official curator of the Russell collection, which is destined for a planned museum in Tulsa. His final recording was "Mickey and Grandpa (A Day in the Life)," a song written for his grandson that references Ripley's earliest musical influence, The Beatles.

Steve Ripley
www.thetractors.com



ARTIST: GUIDED BY VOICES
ALBUM: ZEPPELIN OVER CHINA

LABEL: GBV INC.

PERSONNEL:

Produced by: Travis Harrison

Engineered by: Travis Harrison, Ray Ketchum

Mix Engineer: Travis Harrison

Studios: Serious Business (Brooklyn, NY), Magic Door (Montclair, NJ)

Mastered by: Travis Harrison at Serious Business

EQUIPMENT NOTES: Soundcraft Ghost console, Dynaudio BM15a studio monitors, Avid Pro Tools



ARTIST: SHOCK RADAR
ALBUM: TRITONE METAPHORS IN MENTAL HEALTH

LABEL: TARANTULA RECORDS

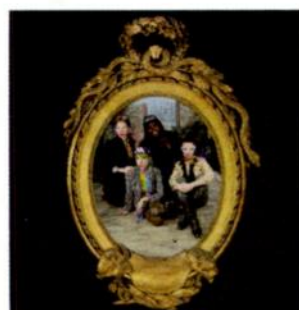
PERSONNEL:

Produced by: Ryan Howe, Lee Diamond

Engineered by: Ryan Howe
Studio: Mozart Street Studio (Brooklyn, NY)

Mastered by: Steve Fallon at Sterling Sound (Edgewater, NJ)

EQUIPMENT NOTES: SSL 48-input analog console, Yamaha NS 10M studio monitors, Avid Pro Tools



ARTIST: T-REXTASY
ALBUM: PREHYSTERIA
LABEL: BOOGIE AGENCY RECORDS

PERSONNEL:

Produced by: T-Rextasy

Engineered by: Christopher Daly, Matt Noble

Studios: Salvation Recording Co. (New Paltz, NY), The Loft Recording Studios (Bronxville, NY)

Mastered by: Jamal Ruhe at West Side Music (Cornwall on Hudson, NY)

EQUIPMENT NOTES:

Neve Prism Series mic pre, Genelec 1031A and Yamaha NS-10 studio monitors, Avid Pro Tools



ARTIST: MSB (AKA MICHAEL SACKLER-BERNER)

ALBUM: SHORT STORIES

LABEL: CEN/THE ORCHARD

PERSONNEL:

Produced by: Joel Hamilton
Engineered by: Joel Hamilton

Studio: Studio G (Brooklyn, NY)

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

EQUIPMENT NOTES: Neve 8048 console, ATC SCM25 studio monitors, Studer A827 recorder, Avid Pro Tools



ARTIST: MURRAY A. LIGHTBURN

ALBUM: HEAR ME OUT

LABEL: DANGERBIRD RECORDS

PERSONNEL:

Produced by: Murray A. Lightburn, Howard Bilerman

Engineered by: Howard Bilerman, Shae Brossard (assistant)

Mix Engineer: Howard Bilerman

Studio: Hotel2Tango (Montreal, QC)

Mastered by: João

Carvalho at João Carvalho Mastering

EQUIPMENT NOTES:

Neotek Elite 34-channel console, Neotek Series II 32-channel console, ATC SCM25A studio monitors, Studer A820 2-inch 24-track recorder



ARTIST: MINKA

ALBUM: END OF THE AFFAIR

LABEL: SELF-RELEASED

PERSONNEL:

Produced by: Brian McTear
Engineered by: Matt Poirier

Studio: Miner Street Recordings (Philadelphia, PA)

Mastered by: Ryan

Schwabe

EQUIPMENT NOTES: MCI JH-44 console, Quested VS2108 studio monitors, Avid Pro Tools



ARTIST: DAVID HUCKFELT
ALBUM: STRANGER ANGELS

LABEL: INDEPENDENT

PERSONNEL:

Produced by: David

Huckfelt, J.T. Bates

Engineered by: Adam Krinsky

Studios: Drum Farm Studios (Menomonie, WI), Bellows (St. Paul, MN)

Mastered by: Huntley Miller at HM Mastering

EQUIPMENT NOTES: Yamaha NS-10M studio monitors, Avid Pro Tools



ARTISTS: LIZANNE KNOTT, MICHAEL LOGEN, JESSE TERRY

ALBUM: SUNSET AVENUE SESSIONS

LABEL: TRANSOCEANIC RECORDS

PERSONNEL:

Produced by: Glenn Barratt
Engineered by: Glenn

Barratt

Studio: MorningStar Studios (East Norriton, PA)

Mastered by: Glenn Barratt at MorningStar Studios

EQUIPMENT NOTES: Neve Genesis Black and Euphonix CS3000 consoles, Trident Audio monitors, Avid Pro Tools 12



ARTIST: D.J. SPARR

ALBUM: ELECTRIC BANDS

LABEL: INNOVA

PERSONNEL:

Produced by: D.J. Sparr

Engineered by: Brian

Coombes, Joshua Kimball, Victor LeJeune, Peter Karl, Jason Richmond, Scott Faris
Mix Engineer: David v.R. Bowles

Studios: Rocking Horse Studios (Pittsfield, NH), PianoForte Studios (Chicago, IL), Peter Karl Studios (Brooklyn, NY), Bunker Sound Productions (Chapel Hill, NC), Amusement Park Recording Studio (Lubbock, TX)

Mastered by: David v.R. Bowles at Swineshead Productions

EQUIPMENT NOTES: Trident Series 80B console, ADAM Audio S3A and Yamaha NS-10M studio monitors, Avid Pro Tools



ARTIST: MINERAL

ALBUM: ONE DAY WHEN WE ARE YOUNG

LABEL: HOUSE ARREST

PERSONNEL:

Produced by: Dave Trumfio
Engineered by: Brad Bell

Mix Engineer: Dave Trumfio
Studio: Public HiFi (Austin, TX)

Mastered by: Howie

Weinberg at Howie

Weinberg Mastering

EQUIPMENT NOTES: Neve 8016 console; Auratone, Quested and Urei 813 monitors; Avid Pro Tools

notes

RCA Studio B Adds RND Console

NASHVILLE, TN—Historic RCA Studio B on Nashville's Music Row, opened in 1957 and now operated by the Country Music Hall of Fame and Museum in partnership with the Mike Curb Family Foundation, is home to a new 24-input Rupert Neve Designs (www.rupertneve.com) 5088 console loaded with Sheldford 5052 mic preamp and inductor EQ modules, provided by Vintage King.

API Becomes Studio Lynchpin

JESSUP, MD—Better late than never comes the news that in late 2017, Boston-based AVN Systems completed the commissioning of a 32-channel API (www.apiaudio.com) Legacy AXS console, the second AXS to be sold, which was purchased by a private client shortly after the desk's debut and has reportedly since become the lynchpin of the studio.

Focusrite Feels the Love

LOS ANGELES, CA—Veteran engineer Joe Wohlmuth had to add a second Focusrite (www.pro.focusrite.com) RedNet HD32R to his recording rig at the One Love Malibu fundraising concert, benefitting victims of the November Woolsey Fire, after the list of performers ballooned to include Katy Perry, Alanis Morissette, Robin Thicke, Macy Gray, Natasha Bedingfield and Gwen Stefani.

UMG Acquires House of Blues Studios Nashville

BY STEVE HARVEY

NASHVILLE, TN—Universal Music Group (UMG) purchased the House of Blues recording complex in Nashville's Berry Hill neighborhood in November for approximately \$4.3 million, according to the records of the Metro Nashville and Davidson County property assessor.

According to a UMG spokesperson quoted in a report on USA Today Network's *Tennessean* news site on Jan. 4, "UMG has acquired the House of Blues Studios in Berry Hill with the intention to modernize the space, while remaining respectful of its legendary and iconic status in Nashville's music scene. We will have more details to share about our exciting plans for the studio in the near future."

UMG Nashville chairman and CEO Mike Dungan reportedly confirmed the transaction but declined to comment further. UMG also owns Abbey Road Studios in London and Capitol Studios—part of the Capitol Music Group—in Hollywood.

According to the House of Blues Studios website, the Nashville campus comprises eight buildings housing five commercially bookable studios and several producer cottages. The property assessor's records indicate that UMG has acquired buildings at 514, 516-518 and 520 E. Iris Drive in Berry Hill. The purchase was completed on Nov. 16, 2018, according to the records.

Online publication *MusicRow*



Exterior of Studios A and B at House of Blues Studios Nashville

lowing it to continue its contribution to music," according to the facility's website. The room features a custom API console originally commissioned in 1978 for New York's Record Plant.

The room called The Cave includes a 1979 vintage API split 32-input/32-monitor console, modified by Brent Averill in 1990 with a 5.1 section, together with a 16-channel Neve Melbourne sidecar. The room can work in tandem with a tracking space known as the Sun Room, modeled after Sun Studio in Memphis.

The colorful Nashville campus was previously named East Iris Studios and was owned by Gary Belz, one of the founders of the House of Blues Studios group, who purchased it in 1998. The Berry Hill studio was brought under the House of Blues umbrella in 2009, joining facilities in Los Angeles and Memphis. In 1994, Belz and partner Allen Sides established Ocean Way Nashville in a Music Row church, later selling it to Belmont University.

House of Blues Nashville has hosted numerous projects over the years,

including Kacey Musgraves' *Golden Hour*, Kesha's *Rainbow*, Robert Plant's *Band of Joy*, Emmylou Harris and Rodney Crowell's *The Traveling Kind*, and artists ranging from Miley Cyrus to Yusuf Islam (Cat Stevens). The final post on the facility's Facebook page is a photo of Steve Earle recording vocals on Sept. 10, 2018.

Universal Music Group
www.universalmusic.com

House of Blues Studios
www.houseofbluesstudios.com

The corporate owner of Abbey Road and Capitol Studios has snapped up Nashville's House of Blues complex.

notes that the 1,146 sq. ft. building at 517 E. Iris Drive and the 1,130 sq. ft. building at 520 E. Iris Drive were constructed in 1945. The 6,476 sq. ft. building at 518 E. Iris Drive was constructed in 1964.

At the time of UMG's purchase, Studio A housed an 80-channel SSL 9000J and Studio B a 40-channel SSL 4000E with G+ VCA automation plus a 16-channel API 1604.

Studio D was previously Studio D at House of Blues Memphis. "In 2009, we literally moved the entire building to our Nashville campus, al-



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The Glow

(continued from page 18)

Another discovery is the RSP Technologies Saturator, an inexpensive device promising “tube warmth for digital recording.” Straight out of the box, it’s “the worst, worst sound in the world,” laughs Mangum. “It’s an indescribable, awful, useless sound. It was a rack-filler until one of the tubes died.” But when he changed out the tubes with alternate models, he says, “It did something magical. It’s such an amazing little box. I have two now. I keep one on my master bus for pretty much everything. There’s nothing, to me, that sounds as close to overdriven tape as that does.”

Mangum once owned two Neumann U 87s, “but one of my biggest life lessons was to acknowledge that I didn’t like how they sounded. That’s blasphemy, I know. I guess I don’t like sparkly high end. When I sold the U 87s, I bought the Lauten Atlantis, which is not overly bright and has a

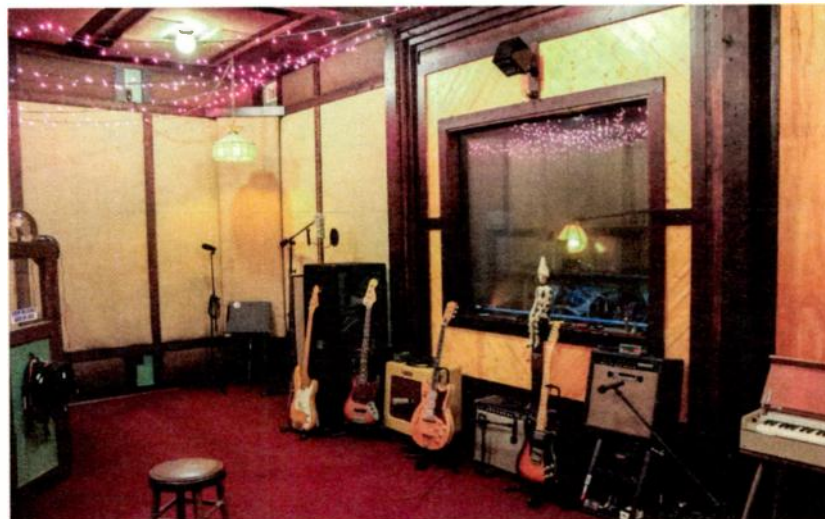
color switch that allows you to make it even darker.”

After reading former Motown engineer Bob Ohlson’s endorsement of beyerdynamic’s MC740 condenser as a U 67 alternative, Mangum sought one out and is looking for a second. “I need a pair. They’re \$1,200 on average in really good condition. I’m a big beyerdynamic fanboy,” says Mangum, whose mic locker is well stocked with the brand.

It’s hard to compare the MC740 to the Neumann since he doesn’t own a U 67, he says, “but recording things that are typically done with a U 67, like a guitar cabinet, it’s in the ballpark of what my dreams tell me a U 67 sounds like.

“It’s very bright on the top end but subdued in the upper mids, that area I don’t like. It’s going to be harder for me to make low-fidelity recordings just because it sounds so nice.”

Lo-fi is definitely a key part of his career, too. His previous studio was rudimentary, offering little more than a PreSonus FirePod interface and some SM57s, he reports—but the first



The live room inside The Glow is as analog-minded as the control room.

project through the door, 2007’s *Wizard of Ahhs* EP by Jacksonville band Black Kids, blew up and instantly became Mangum’s calling card. “I had never recorded a band before; it gave me this career,” he says.

The gritty, saturated, reverb-soaked sound also offered a signpost to Mangum’s Goldilocks sonic aesthetic: not too low-fidelity, not too high-fidelity. “I’m just on the upper

end of mid-fidelity,” he says in *Athens Rising*. “Any higher than that is just too slick for me.”

The Glow Recording Studio
www.theglowrecordingstudio.com

Classic Audio Products Inc.
www.capi-gear.com

Make Noise
www.makenoisemusic.com

Appelbaum

(continued from page 18)

her decisions and the signal chain, he says. “If you want to get from point A to point B, or point Z, there are a lot of ways to get there. And by experimenting with different types of gear, you can find better routes.”

You might work with an equalizer for hours, carving frequencies, when simply running the signal through a different box will produce the desired result, he says. A good number of the devices in Appelbaum’s console do exactly that, acting as tone shapers, and often in subtle ways.

Take his Hendyamps Michelangelo equalizer, for example. For Appelbaum, “It’s a one-trick pony. It has a unique tone just by itself. Even flat, there’s a hi-fi feel, there’s a shaping to it. And when it fits, nothing else does it.”

Appelbaum is always amenable to trying new pieces and often tests new gear for manufacturers. Sometimes the attraction of a piece for him is only a small part of its feature set. The Bettermaker Mastering Equalizer is such a device, offering comprehensive functionality as well as recall abilities when tied to a DAW.

The must-have feature for Appelbaum is the unit’s Pultec-like passive EQ, combined with the box’s digital control, which allows him to adjust by just fractions of a decibel, unlike the classic analog device. “The deci-

mal increments help me a lot. Less than a decibel is enough—immediately you can hear there’s some weight to it. I used it on Eric Gales’ new record, *The Bookends*. I did a record for Today Is the Day and it was a huge part of the sound.”

His Thermionic Culture Phoenix compressor serves a similar purpose. “I use it less for compression and more as a tone box. On certain things, it gives you this feeling of ‘glue’ in the low end.”

Even his converter and clock options are there to provide appropriate coloration. “If something is edgy, or I

Appelbaum has a combination of clocking options, including an Antelope Audio 10MX and a Mutec with a REF 10 signal generator. “Again, it’s a tone shaper. I hook up the clock and I don’t need to cut the low end.”

For some, accepting that a clock can change the tone is a controversial issue, he says. “People don’t believe this, but forget about the specs and the null test. Just listen to it. You’ll see there is a difference.”

Not every off-the-shelf unit sounds the way he wants it to out of the box. “I modded my API 2500 compressor to sound better for my

is mum on the details.

“I can’t say it’s on every project, but every project this was part of, it was the main shaper. It helped the tone, but not too much; it’s not aggressive. The gain is very clean, but you feel that there’s something there, like a halo or a peach fuzz.”

A recent addition to his setup is The Workshop LTD MA, a custom transformer and solid-state saturator/clipper built by Foote Control Systems with Appelbaum’s considerable design input. It was intended as the first product under the Maor Appelbaum Mastering brand name, but the cost and limited supply of some of the components used in the design mean that it will be a one-off box, he says.

So now he’s working with Roger Foote on The Bench, a similar but stripped-down design using less expensive parts that are easier to obtain. “It’s a work in progress and will be available in a few months,” predicts Appelbaum, who plans to also develop a plug-in version.

There is also a third custom unit coming—details are under wraps. Meanwhile, Appelbaum has recently provided some presets to Waves for its Abbey Road TG Mastering Chain plug-in. “I wrote seven,” he says. “And people are telling me they’re digging them.”

Maor Appelbaum Mastering
www.maorappelbaum.com

Foote Control Systems
www.footecontrolsystems.com

“Just because I’m happy with the results in terms of the records sounding good doesn’t mean it can’t be better.”

Maor Appelbaum

want a vintage sound, the JCF Latte [D-to-A] works really well. It’s very smooth and has depth, like a tape sound,” he reports.

“I did a record for Adam Ben Ezra, an upright bass player who uses loops. This converter was one of the most important parts of the mastering. I didn’t do much processing—the converter was the tone shaper.”

He also bought his Burl Audio A-to-D converter for its specific sound: “I didn’t buy it to do conversion—I bought it to have another tone, instead of going to an equalizer.”

needs,” he says. His Overstayer M-A-S 1801 harmonic processor bears a suffix—MA—that indicates that it has been modified by the manufacturer for his needs.

Sometimes only a fully custom unit can do the job. “The Magic Death Eye is hands-down the best tube compressor I’ve heard—and I’ve heard a few,” says Appelbaum.

Each box, made by Ian Sefchick, a mastering engineer who cuts vinyl at Capitol Studios, is built to order. “He did a special custom mod only he and I have,” says Appelbaum, who

briefs

Stage Tec Mixes Congress Chaos

BERLIN, GERMANY—Stage Tec (www.stagetec.com) sponsored a fully IP-based production at the 35th Congress of the Chaos Computer Club in Germany at the end of 2018, where live streams from five halls at the Leipzig Exhibition Centre were fed from Nexus Base Devices via Dante in AES67 mode to five On Air flex consoles in a control room.

UK Uni Adds Calrec

HEBDEN BRIDGE, UK—As a key part of its TV studio refurbishment, the University of Surrey upgraded to a Calrec (www.calrec.com) Brio audio console with a MADI card, connecting the desk to the facility's main audio studio, and a Dante card to teach students audio over IP. The school also integrated RTS talkback via the Brio's Hydra 2 connectivity.

Sony Dives into Spider-Verse

CULVER CITY, CA—A team headed by supervising sound editors Geoffrey G. Rubay and Curt Schulkey recently completed *Spider-Man: Into the Spider-Verse* on the Sony Pictures (www.sonypictures.com) studio lot in Culver City, where Michael Semanick mixed dialogue and music on a Harrison MPC4D X-Range digital console and Tony Lamberti mixed sound effects on an Avid S6 console.

Nugen Keeps Srinivas Balanced

HOLLYWOOD, CA—On "D scharge," a short film about PTSD, sound designer and music producer Shreyas Srinivas used Nugen Audio (www.nugenaudio.com) SEQ-S and Stereoizer plug-ins to help strike a balance between the score and the emotional dialogue. "I had to be able to carve out just enough room to not bury any words of significance and importance to the story, and SEQ-S was the best tool I could use for that," says Srinivas.



KJZZ's Soundbite is the only known radio broadcast studio/food truck/performance stage in the United States.

Listeners Eat to the Beat with KJZZ's Soundbite

BY STEVE HARVEY

PHOENIX, AZ—Part radio studio, part kitchen, NPR member station KJZZ FM's Soundbite truck may well be unique in the United States. The 40-foot custom vehicle, based in Phoe-

nix, combines a radio broadcast studio and control room, an industrial-grade kitchen and—oh, by the way—also features a drop-down performance stage.

"The idea for the truck came from a desire for the station to have

a larger presence in the community," explains Scott Morrow, production coordinator for KJZZ 91.5 FM, K-BACH (KBAQ) 89.5 FM, Sun Sounds 89.5.3 FM HD, KJZZ's youth media center Spot 127, and Soundbite. "The metro area is a big place with a diverse community. One of the folks at the station said, 'The best bridge between people and cultures is food and music.' That was the genesis."

(continued on page 26)



Gregg Rudloff, Oscar-Winning Film Mixer, Dead at 63

BY CLIVE YOUNG

LOS ANGELES, CA—Oscar-winning cinema sound mixer Gregg Rudloff died on Jan. 6 in Los Angeles at the age of 63. A second-generation film sound engineer, he had seven Academy Awards nominations to his credit, winning three for sound mixing on *The Matrix* in 1999, *Glory* in 1989 and *Mad Max: Fury Road* in 2015, a year in which he was also nominated for *American Sniper*.

Found at his home in Sherman Oaks, his body was brought to Ronald Reagan UCLA Medical Center, where he was declared dead. Investigators are treating the death as a suicide, pending autopsy results.

Rudloff's passing closed a remarkable career. With more than 200 credits to his name, Rudloff's resume included a Golden Reel Award from the Motion Picture Sound Editors for *The Matrix*, five BAFTA nominations and one win, five Cinema Audio Society nominations and one win, an Emmy Award for the 1985 minise-



Gregg Rudloff

ries *An Early Frost*, and an AACTA Award.

Born in Los Angeles on Nov. 2, 1955, he followed his father, Tex Rudloff, into the industry. The el-

der Rudloff worked on such notable films as *Taxi Driver*, *The Outlaw Josey Wales* and *History of the World: Part I*—and was himself nominated for an Academy Award for sound mixing work on *The Buddy Holly Story*.

The younger Rudloff kicked off his career working on Clint Eastwood's *Honkytonk Man* in 1982, and shortly thereafter worked on a string of hits including *Risky Business*, *Footloose*, *This Is Spinal Tap*, *Stand by Me* and *The Princess Bride*.

His other Academy Award-nominated efforts included *Argo*, *Flags of Our Fathers* and *The Perfect Storm*. He additionally worked on films including *The Girl on the Train*, *The Lego Movie*, *Spectre*, *Jersey Boys*, *Fences*, the *Matrix* trilogy, *Scooby-Doo*, *Lethal Weapon 4*, *Space Jam*, *Tin Cup*, *The Mighty Ducks*, *Fried Green Tomatoes*, *The Little Mermaid* and dozens of others. His most recent credit was the recently completed Orson Wells film *The Other Side of the Wind*.

TECHNICOLOR



Soundbite

(continued from page 25)

The custom vehicle, built by Apex Specialty Vehicles, a food truck fabricator, provides KJZZ—news by day, jazz and blues at night—and sister station K-BACH—a 24-hour classical music station—with a way to physically engage with the community. “We can go to art festivals or music festivals, put music on the stage and do interviews,” says Morrow.

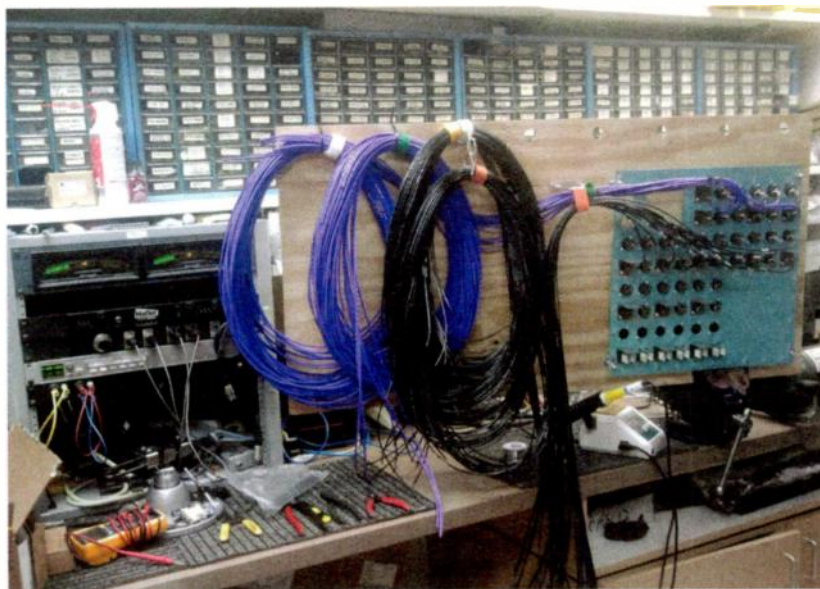
The kitchen, which occupies the rear third of the truck, is operated by Short Leash, a local restaurateur offering signature hot dogs and doughnuts. The rest of the truck houses a radio studio, with a large picture window that looks out onto the stage, and a control room.

The studio seats three and is equipped with Shure SM7B microphones, Morrow reports. The control room, acoustically isolated from the studio, is outfitted with a Wheatstone digital radio console and seats either a board operator or a host/operator.

“The best part is that we have an internal Ethernet network with a switch and a router,” says Morrow. “We have internet access for reporting, and it also provides a connection for our rackmounted Comrex unit linking back to the station.”

Interviews are typically recorded to a laptop running Adobe Premiere Pro, says Morrow. “It’s very basic; we’re just using it as a bit bucket. We handle editing afterward.”

For live streaming or broadcast, “We can send the audio back over a machine-to-machine 4G wireless connection that operates with multiple SIM cards,” Morrow continues. “On the station side, they can handle the audio however they like—record it, put it on air or put it to a live stream. We do have the ability to livestream directly from the truck, but



Key to the Soundbite truck is its main I/O panel, seen here as it was being wired.

“One of the folks at the station said, ‘The best bridge between people and cultures is food and music.’ That was the genesis.”

Scott Morrow

we haven’t done that yet.”

Soundbite’s live broadcast debut was technically challenging, Morrow reports. “We really bit off a lot,” he laughs. “It was a performance with an 80-piece orchestra. On the day of the event, we had 11 people working: our engineering department, IT department, on-air staff and some technicians at the station.”

Partner live production specialist Central Sound at EIGHT, a group associated with PBS broadcaster Channel 8, based at Arizona State University’s Walter Cronkite School of Journalism and Mass Communication in downtown Phoenix, supported Soundbite. “They put up a Decca tree and were doing multichannel recording and gave us a live stereo mix. The host in the truck had a video feed from the stage and did a live announce for the radio audience.”

The external drop-down stage can

accommodate a handful of performers. “We carry a small P.A. of QSC K Series mains and monitors, and we use a rackmount Midas mixer with 32 channels in, 16 out. We also have a complement of Shure SM57 and 58 microphones and Radial DI boxes, plus an assortment of snakes from Whirlwind.”

The bulk of the truck’s gear was purchased from local supplier EAR, he reports. “They’ve been very helpful and are a longtime Phoenix outfit.”

Morrow, who was hired to run the truck, oversaw equipment installation after the vehicle arrived from Apex. “I had a lot of help,” he says. “Our engineering department is small but mighty; they’re very knowledgeable.”

He is especially proud of an I/O panel that he implemented between the inside and exterior of the truck, he says. “I can take audio inside the

truck, like an interview, and put it outside on the P.A. Or if there’s music on the stage running through the Midas mixer, we could also make a broadcast or recording mix in the truck and send it to a recorder or back to the station.”

The cable trough between the on-board console and the studio rack is about 15 feet, Morrow notes. “I’ve been keeping track of every piece of wire in that trough. We have 2,680 feet.”

External displays are positioned to either side of the stage area. “They’re fed by HDMI. Sometimes what we do with the truck is internal, representing the station, and sometimes it goes to events supported by an underwriter, so we can put our own material on the screens or sometimes it’s an underwriter’s material. The audio can also be split off the HDMI signal and put into the truck’s audio system, into the Wheatstone board inside or the Midas outside.”

An event in January that Morrow was prepping for offered an opportunity to drive the screens from a laptop in real time and showcase the truck’s abilities: “It’s a mountain bike relay race, Six Hours in the Papago. We’re going to be displaying live race results on the screens, announcing the race from the stage and serving food from the truck, all at the same time.”

Food and music really are a bridge, says Morrow, who hopes that the Soundbite truck will spark the imagination of other broadcasters. “We’re waiting for someone to do something similar, but as far as we know, there isn’t one yet.”

The truck is also available to rent for private events. “It has attended a couple of corporate events and has been to a couple of weddings, but no one has yet been married on the stage,” he reports. “I’m hoping that’s going to happen someday.”

Soundbite

www.soundbiteaz.com

Inside Podcast Engineering School

LOS ANGELES, CA—Formerly a recording engineer in New York City, Chris Curran discovered a passion for podcasting several years ago. He has adopted Focusrite’s Scarlett interfaces to support his podcasting efforts.

A producer/engineer working in both staff and freelance capacities at New York City studios including The Hit Factory and Quad Recording in the 1990s, Curran accrued credits on recordings for artists including Foreigner, Ice Cube, Jeff Buckley, Philip Bailey and many others. More recently, as a podcaster and educator,

he has brought his deep knowledge and technical understanding to the podcasting world.

After relocating to Colorado Springs, CO, in 2015, he decided to exchange ideas with the proliferating base of podcasters through his Podcast Engineering School, disseminating practical audio understanding through live interactive online training and mentoring from his studio, Fractal Recording.

When Curran started podcasting, he says, “I’d see other podcasters sticking a microphone on a table

between four people and just going for it, so I knew there was a need for education around how to get the best sound for podcasting. With the Scarlett 2i2, they can spend more time on the podcast itself, knowing that Focusrite is helping them get good sound quality.”

Curran has used several of the Scarlett models, including the first-gen 8i6, and second-gen 18i20 and 2i2 (of which he has four) units he currently works with, along with a Focusrite Red 3 dual compressor/limiter. But he says that the Scarlett 2i2

is the unit best suited to the broadest range of podcasters.

“It’s small, it’s affordable, and it has two microphone inputs, which is exactly what the vast majority of podcasters needs,” he explains. “And you know you’ll have great sound right from the start because of the audio quality that Focusrite brings to it.”

Focusrite

www.focusrite.com

Podcast Engineering School

www.podcastengineeringschool.com

innovations: the manufacturer's view

Going Compact to Get Immersive:

GENELEC S360 SAM STUDIO MONITOR

BY WILL EGGLESTON

In its 40-year history, Genelec has taken many electroacoustic challenges and solved them by developing impressive monitoring innovations. The first such solutions would include the room response controls found on the very first product offering, the S30, in 1978. These controls allowed the audio engineer to best match the loudspeakers' performance to different placements in different sized rooms. A few years later, in 1983, the 1022A incorporated the first released iteration of the Genelec Directivity Control Waveguide. The DCW, as we call it, improves the directivity of frequencies through the crossover regions and provides controlled dispersion, minimizing early reflections for neutral on- and off-axis frequency response (a result that has come to be known as a "wide sweet spot"). Other more recent key innovations include the 7000 Series Laminar Spiral subwoofer designs, 8000 Series Minimum Diffraction Enclosures, "The Ones" coaxial products with Acoustically Concealed Woofers (ACW), and our line of Smart Active Monitors with Genelec Loudspeaker Management (GLM) technology.

Genelec is constantly reviewing its portfolio and comparing it to market trends and needs, resulting in market-driven products such as the new S360A. In creating this model, we looked at music and performance trends—as well as immersive audio for post-production, fixed installations and home theater—and could see a real need to add a product that could address all those applications and yet be as small as possible. R&D's focus was on three major design considerations: optimizing SPL with a compact size, delivering great overall performance and maximizing installation options.

Although the S360A is a unique product in our portfolio, truth be told, we had a general idea to start with: a sort of high-SPL version of our ever-popular 1032 (10-inch woofer/two-way). We knew we wanted this new product to be much more than that, but size-wise, it was a good starting point.

The result is a 10-inch two-way, but beyond that broad stroke, the S360 is a much different sort of two-

way monitor: one designed for a wide variety of demanding, high-SPL audio playback requirements.

ENCLOSURE

The enclosure of the S360 is made of heavily braced MDF painted in a durable black finish. The S360 is also available in satin white. The edges of the enclosure are noticeably rounded



Genelec S360 SAM Studio Monitor

to help eliminate edge diffraction. The compact size of the S360—its external dimensions are 21 inches high, 14 inches wide and 14 inches deep—falls somewhere between the Genelec 1032 and 1237. The complete monitor weighs 66 pounds. There are sets of 10 mm threaded insets on the sides, top and bottom to facilitate numerous mounting options for ceiling, wall, truss installations and floor stands.

At the bottom of the enclosure is a clever Iso-Plate that decouples the enclosure from any surface it may be resting on. The Iso-Plate works on the same principle as the 8000 Series Iso-Pod.

One can note the absence of vis-

ible ports on the front baffle. In order to gain as much real estate as possible for the waveguide and improve the efficiency of the low-frequency response, Genelec's Laminar Integrated Ports (LIP) are designed downward, firing along the sides of the enclosure. This design decision gives the S360 the best of both of these acoustic attributes, while providing turbulence-

free installation behind a perforated picture screen.

DRIVERS/ACOUSTICS

In order to meet the needs of SPL (128 dB peak per pair), low distortion and Genelec's proven performance reliability, the thinking evolved to the S360 incorporating a 1.7-inch high-compression tweeter married to a newly designed extended directivity waveguide. This extended waveguide gives us a clear advantage in projecting short or long distances with neutral on- and off-axis frequency response. The woofer is a custom-designed 10-inch minimal distortion unit based on our Master Series offerings, with the enclosure tuned to 39 Hz.

ELECTRONICS

The S360A incorporates numerous electronic innovations. Amplification is provided via Genelec-designed Class-D modules supplying 250W for the woofer and 100W for the high-compression tweeter, with the appropriate protection circuitry to protect both the amps and drivers. The S360A is also part of our range of active monitors employing the Smart Active Monitoring and GLM technologies, alongside 20 other models of subwoofers, two-ways and three-ways. The integration of GLM means total system control, automated room calibration, time-of-flight, level matching, SPL calibration, adjustable bass management filtering and much more. Another impressive innovation incorporated into the S360 is linear phase response filtering and constant Group delay from 20 kHz down to 100 Hz. Both analog and AES digital inputs are supported, as well as a full complement of stand-alone dip switches if GLM cannot be used. The rear-mounted amp module is removable and can be installed into electronics racks with our optional remote amp kit.

FINAL RESULT

The S360 is a member of our Master Series of active main monitors. It is the first two-way in our range that incorporates a high-compression tweeter. It's designed for anyone who requires a traditional-looking two-way monitor capable of high SPL but doesn't have the space or the budget for the Genelec 1237. The S360's fusion of high SPL, long throw dispersion and clarity, and compact size makes it perfect for demanding film, post- and music production, including live-play monitoring and music club installations. In combination with a subwoofer like the Genelec 7380 or 7382, the S360 satisfies the demands of immersive cinema mixing, EDM playback and mixing, and premium home theaters. When I received the first prototypes, I was told to take them for a brutal test run and drive them into the red for as long as I wanted. I can conclude that the S360 is seemingly indestructible, while at the same time providing uncompromised studio-quality sound. The S360 decibel-to-dollars intersection is indeed an innovative sweet spot when configuring high-SPL, high-quality monitor systems.

Will Eggleston is technical marketing director for Genelec USA.

Genelec

www.genelec.com

THE METALLIANCE REPORT:
Critical Listening and Critical Evaluation

BY GEORGE MASSENBURG

Hearing vs. Listening

There are differences between hearing and listening worth touching on: one “hears” with one’s brains, not only with one’s ears. Hearing is the act of perceiving sound by the ear. Listening is a conscious mental process, as much about the brain as the ear, and it starts with establishing attention to a sound. (See table.)

There are different kinds of listening—for instance, **Appreciative Listening**, which is exactly what the name implies: listening to good music, poetry or information. Then there’s **Comprehension Listening**. There’s **Content or Informative** listening. One often uses **Discriminative Listening** to identify differences between sounds. And there’s **Relationship Listening** as when, for example, your significant other asks something important like, “What time are you going to be home from the session?” There’s also **Empathetic Listening**, employed to better understand feelings and emotions. And then there’s **Critical Listening** and **Evaluative Listening**.

On the other hand, there’re also listening modes to avoid, such as **Biased Listening**.

We can think of the process of listening as follows: The brain receives surprisingly small packets of data from the ear via the auditory vestibular nerve, and that signal is processed and evaluated. Not only are pitch and loudness features extracted, but also other critical attributes, such as temporal features (timing) and differential timing cues from each ear. We compare this experience with memories of prior experiences, sounds and feelings that resulted—and then we do something with that impression, even if only just associating a description in words with the experience and remembering it.

Critical Listening is work—it may be the hardest job you’ll do, challenging the quality of paying “attention” and the ability for us to concentrate. (We’re living at a point in time where concentration itself is a test.)

Let’s start by restating how impor-

	Hearing	Listening
What is it?	An ability	A skill
Nature	Primary and continuous	Secondary and temporary
Act	Physiological	Psychological
Involves	Receipt of something by ear.	Interpretation of something received by ears.
Process	Passive bodily process	Active mental process
Occurs at	Subconscious level	Conscious level
Use of senses	Only one	More than one
Reason	We are neither aware nor we have any control over the sounds we hear.	We listen to acquire knowledge and receive information.
Attention and Concentration	Not required	Required

tant listening skills and tools are to our work in professional audio. Without them, we’re just guessing. To start with, what are you “hearing”? Start by identifying—and naming—what you’re listening for. Real truths lurk everywhere, waiting to be uncovered.

For the moment, let’s narrow it down to *evaluating music* and *evaluating technology*, although there are aspects shared between them. For either, you’ll need to have a well-understood, neutral listening environment; minimize the signal chain, evaluate and optimize each component in the chain; have the ability to measure and calibrate loudness (as measured in LUFS); be prepared to reduce distractions, interruptions and talking; and identify and eliminate prejudices and expectations (ignore costs).

For evaluating music, there are at least two basic ways to listen when working on music productions professionally. To achieve useable results, you’ll need to listen both as an engineer and as a producer. Both aspects of recorded music play big roles in how music is perceived and eventually accepted downstream. Deconstructing and evaluating recorded music can take several different tracks. You might listen from musical perspectives (performance, composition, histori-

cal features), or you might listen to better understand technical issues, features and problems. Most importantly, you’ll want to discriminate judgements between different areas.

Some examples: An otherwise virtuoso performance might be perceived to be “out of tune” or include suspect intonation. A singer might technically have suspect pitch (as observed on AutoTune, Melodyne or other pitch-correction processes), but that’s not the whole picture. Music has historically been performed in other “temperaments.” Temperament is a lot more fluid in an orchestra playing without a piano; generally, the whole orchestra will play with a modern pitch reference (e.g., A 440). World-class musicians will often have a good enough pitch sense that they will play notes very close to equal temperament, if not right on. But they don’t have to. And you’d want to be sensitive to this, listening to the performance and isolating your response to music technology. Also, sometimes in pop music, a singer is more telling a story, and that story might be best told while taking liberties with pitch.

So, I’d suggest that we’re going to “listen” to music with at least two ears if not three: We’ll listen “technically,” we’ll listen with a “musical

METAlliance®
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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.

ear” (maybe listening for “groove”) and sometimes we’ll listen from our guts (think listening for “punch,” as in dance music). One is well-advised to be able to differentiate between one’s responses, and choose a course of action very carefully.

Comparative testing between technologies is also tricky. First, one should always “blindfold” the tests, becoming familiar with the various methodologies to do so—for instance, A-B, A-B-C-HR (or hidden reference) or A-B-X. The latter two are used to detect audible differences blindly, thereby removing personal bias or the placebo effect and, over multiple trials, estimating the probability that the tester was guessing. For more on various blind tests for audio, go to <https://bit.ly/2RMiEP1>.

I typically use three flavors of testing. A-B tests only go so far, but are useful for a quick “ear reset.” For instance, when mixing, I’ll EQ *something*, say a vocal or snare drum. I’ll save that setting, but often come back and make changes to it, saving the new setting. Then, blinding the test (not looking at the EQ after setting the trackball to the A/B button on the EQ), I’ll randomize the A/B and listen to whether I really have a preference for one or the other.

Also, using straight-ahead A-B’ing (as we practice in McGill’s Sound Recording Master’s Advanced Technical Ear Training class), we’ll give students a track or a mix (compared to a reference mix) and ask them to, by ear, duplicate the EQ, or the dynamics, or the reverb or the whole mix!

For audio technology development—for instance, a comparison between two Equalizers (boxes or plugins)—I’ll turn to more sophisticated, sometimes multiple methods. I’ll start with A-B-X, giving two known samples (Sample A, the first reference, and Sample B, the second reference) followed by one unknown Sample X that is randomly selected from either A

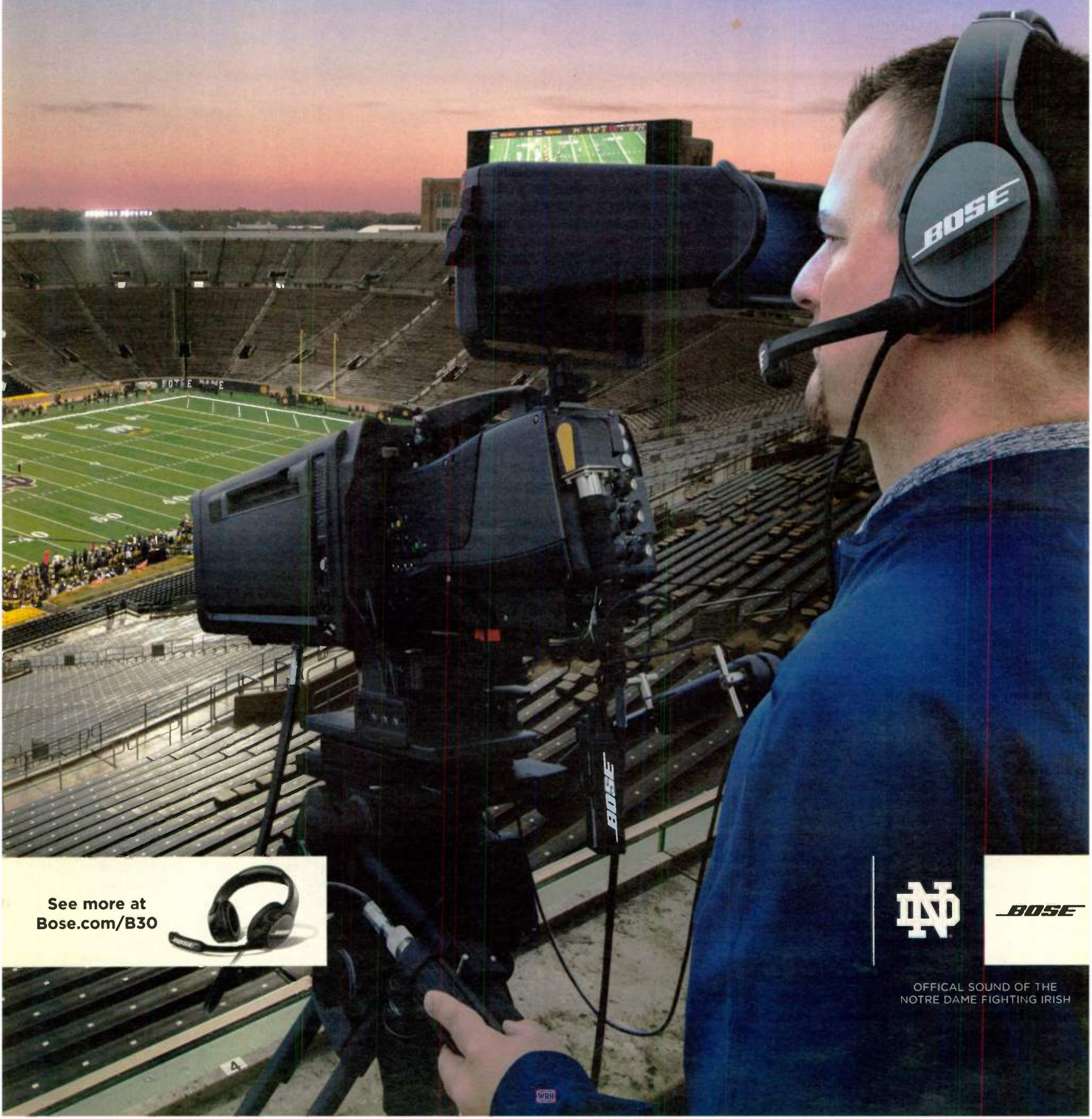
(continued on page 46)



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

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OFFICIAL SOUND OF THE
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ROSWELL PRO AUDIO COLARES CONDENSER MIC ■
 UK SOUND 1173 MIC PRE COMPRESSOR ■
 AUDIOSOURCE DEMIX PRO

ROSWELL PRO AUDIO COLARES CONDENSER MICROPHONE

In recording, you could say that the prevailing tendency is to “capture it clean and color it with plug-ins later,” or even the post-modern “capture it clean and then emulate the behaviors of the whole signal chain.” I still cherish the opportunities to capture signals with risky, stylized and colorful tones that don’t need much help from additional processors and box me right in to creatively artistic mix corners. The new Colares large-diaphragm condenser (LDC) mic from Roswell Audio appears to be aimed at engineers like me who want to capture personality right at the front of the recording process—or not, as the case may be; the difference amounts to just a flick of a switch.

Roswell’s Matt McGlynn found inspiration for the Colares from Telefunken’s ELA M 251 and hoped to capture such detail and crisp smoothness without the drawbacks of tube-based designs. He has come up with an FET-based pressure gradient condenser with an edge-terminated 34 mm, gold-plated Mylar capsule. There’s also a NOS—new old-stock—JFET amp (“individually ‘biased’ using a custom test fixture”), top-grade resistors and capacitors, premium switches and a custom-wound Cinemag transformer at the crucial output stage to complete the path. The design is meant to increase 2nd order harmonic content, with a slightly saturated sound full of warmth and detail. Colares ships with a small flight case and a Rycote shockmount that is very nice. It holds the mic firmly without sag and is a universal design that would fit most large-body LDCs. How I wish other LDCs had as effective a shockmount.

The Colares employs a unique pad switch that not only attenuates the level -10 dB, but also mitigates that harmonic color, reducing it by about -12 dB. The mic also has a three-position bass control switch highpass filter (HPF) that allows full deep bass extension, or two rolled-off positions. And you are likely to need such filtering from time to time, as a Colares frequency response graph



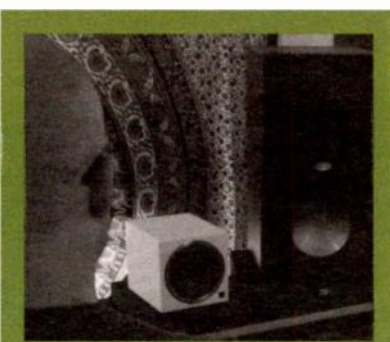
Roswell Pro Audio's Colares is a large-body condenser microphone with a larger-than-life sound.

shows a long, gentle bass increase starting around 125 Hz, as well as a “presence bump” at 3 or 4 kHz and a little boost centered at 10 kHz—well-chosen positions for a little emphasis, I would soon find out.

Despite ultimately a lot of versatility, Colares is marketed as a special vocal mic, so I threw it up for some male lead vocals without any hesitation. Sure enough, within seconds it was clear that this was a “vibe” mic, a “color” mic or even an “attitude” mic. Not that it is distorted, or fuzzy or murky at all; rather, it is saturated,

more so with a little grit than growl, with a lot more detail and finesse than you’d expect from these inadequate descriptions. It’s like a tube mic with abundant high end that’s crisp but silky, not unlike a C12. There’s this big bottom end, too, and ample proximity effect, so there’s top and bottom on this voluptuous figure.

I found this little bit of hype and color to benefit primarily lead vocals, as I could use a mic with less personality on my backing vocals and get nice contrast. A click of the HPF switch was helpful when I needed



BY ROB TAVAGLIONE

Rob Tavaglione owns and operates Charlotte’s Catalyst Recording and has been a longtime studio contributor. www.twitter.com/robtavaglione

to mic very close for intimacy but without proximity effect. I found that the pad was indeed helpful to quickly eliminate saturation tendencies and clean things up without having to switch mics—not a problem as long as you’ve got another 10 dB of clean gain available at your mic pre.

The pad became the big artistic decision to make with the Colares when tracking instruments. Take drums, for example: I got good results with the Colares as a third overhead without any filtering, with the pad either in or out. (It provided slightly edgy and lively tones with the pad out, and normal, quick, clean FET response with it in.) With acoustic guitars, I found myself tracking with the pad out and a touch of color, as it wasn’t so over-the-top as to ruin a nice, natural guitar tone. Acoustic bass worked pretty well (paired up with a passive ribbon, too) with no filter and no pad. Guitar amps required the pad, as you might guess, so the resultant sound was crisp, clean, usual solid-state LDC stuff.

During months of testing, I tried the Colares on a wide range of sources and found its versatility outdone only by its ability to specialize. I know that sounds a bit inarticulate, so allow me to explain. Yes, the Colares can be exceptionally colorful and “character driven,” and that’s what makes it special—but with its unique pad, it can be an entirely different, neutral and “invisible” mic, which makes it really valuable. Its ability to express both personalities well makes the Colares a secret weapon mic, one worthy of being toted around in that travel case, able to handle just about anything that is thrown at it. It’s \$1,259 direct from Roswell and worth every penny.

Roswell Audio
www.roswellproaudio.com

The Colares is a secret weapon mic, one worthy of being toted around in a travel case, able to handle just about anything that is thrown at it.



The UK Sound 1173 brings the best of both worlds into a single unit, offering a Neve-style 1073 preamp and Universal Audio 1176 FET compressor.

UK SOUND 1173 MIC PRE COMPRESSOR

At the risk of stating the obvious, 1073 mic preamps and 1176 compressors are very desirable audio devices; they're classics capable of ideal tones across a broad spectrum of input sources, styles and textures. Neve first marketed the 1073 mic amps—known for their fullness, warmth and euphonic detail—and the units went on to become standards, so much so that they've been cloned, copied and replicated by many modern manufacturers (including AMS Neve, still carrying the torch). Elsewhere, Urei first marketed the 1176 compressor, a FET-based design known for its quickness, clean sound and potential aggressiveness—especially when in the over-the-top all-four-ratios-in mode—and that tech, too, is now widely re-created by numerous parties.

With that in mind, it stands to reason that a combination of the two devices in a single piece of hardware could be quite convenient and popular. Producer/engineer/educator Warren Huart recognized that opportunity and paired up with UK Sound, a new division of BAE Audio, to give us the 1173, a unit that is priced much lower than actual vintage units or even some of their modern clones.

Hand-built in California, like all BAE products, the 1173 features a transformer-coupled, fully featured 1073-type mic preamp with up to 70 dB of gain (in 5 dB steps, like the original), 48V phantom power, polarity reversal, a highpass filter (corner frequency unknown) and switchable impedance (150 or 300 ohm—both rather low values, oddly enough). A front-panel instrument DI is offered, as well as a rear-panel line input. The preamp out allows the artistic and oft-employed practice of hitting the preamp hard for some harmonic richness (or even distortion) and then attenuating the level for output—or, more specifically, adjusting level to the compressor's input.

The compressor features all the familiar 1176 controls; ratios of 4/8/12/20 to 1, with the "1" setting equating the "all four in" hyper-aggressive setting that is so popular. The compressor is bypass-able for easy comparisons and also features an HPF in the sidechain, preventing bass-heavy signals from pumping the dynamics. Attack and release controls are offered, even if there is no legend to determine the time values, but the

controls are backward, with slow to the left, fast to the right, just like on 1176s. I was delighted to see this attention to detail, as I'm sure most of you likewise detail-oriented engineers are! A master output level control and a VU meter complete the signal path.

Unpacking the 1173, I was pleased to see an all-metal construction, solid build and the appropriate knobs to remind me of its classic inspiration. One rack space isn't much for all the needed controls, but they all manage to fit comfortably—more comfortably than lots of 500-series gear, to be sure.

Traditionally, 1073s work well with both dynamic and condenser mics, but the DIs sound great, too, and the 1173 is no exception. My passive bass was nicely punchy and warm, and an active bass was a little crisper and hi-fi, just like it ought to be. My Telecaster sounded ok, too; nothing special, but quite useful as a warm front end to an amp sim.

I like to mic acoustic guitars in stereo, so I used the 1173 for half my signal on a number of occasions, paired up with a number of large-diaphragm condenser mics (LDCs). Here, the 1173's flexibility allowed a variety of tones, as I used the impedance selector to dial in the desired high-end texture (you can bring the crispness/detail forward or back a bit), using the HPF to allow overall chestiness or lean-ness, dialing in subtle or grabby compression by balancing preamp out and compression ratios, allowing the low end to stay controlled or bloom with the side chain filter, and finally tweaking that capably fast attack—and the release—for just the right envelope. There's a lot of combinations here—you can get a usable sound within seconds or tweak for days if you'd rather get your hands dirty. This was all good with fairly loud strumming performances, but lightly finger-picked ones revealed

too much noise floor.

A 1073 feeding an 1176 would probably historically be known as a rock vocal sound, but the 1173 can do more than just that "taming of the beast" kind of tone. Using only LDCs, I found a nice forward-ness and "cut through the mix" ability that wasn't quite as chesty and low-mid chunky as some 1073s I've used. At higher gain levels (+40 dB and up), a noise floor was revealed that wasn't so much high-frequency hissy as low-mid in nature, so I had to be careful with gain structure. Depending on the nature of the vocal, I could adjust impedance (offering slight tonal balance difference, if not the wide color swings available on some variable impedance mic pres), drive the compressor and filter out proximity effect for some nice flexibility. These variations allowed me to do leads and backups on the same mic by dialing in notable tonal variation instead of switching mics. I had good success with the Roswell Colares and 1173 on rap and pop vocals, for a nice presence and just a touch of grit that wasn't today's super-clean rap vocal "sound du jour," but something a little more colorful and interesting.

I tried the 1173 on a number of drums applications, too—kick, snare, room and hand percussion. Kick was punchy and familiar, if not quite as round and pillowy as some 1073s. Snare was excellent, with that classic 1176 compression doing its thing. Room was my favorite, though, as I could take my AEA ribbon (or sometimes an LDC or the Colares), dial in impedance and either "1" it or play around with excessive compression until something with extreme character was achieved. Hand percussion was captured well, too, with slightly tamed transients and nice, quick FET compression (or sometimes slowed for the converse kind of thing).

Overall, the controls and switches were smooth and firm, especially the input gain selector, with its

classic styling. I did find myself wishing for some input or output metering, as the small VU shows compression attenuation only. I noticed that the noise floor changed in both volume and frequency when the preamp out and main output are adjusted, with sudden changes at certain points in the pot's travel. Both controls are in a "good-sounding zone" right around unity gain, which was close to where I used them in typical operation, but if you need to crank them for some creative gain staging, you may encounter noise problems.

SUMMARY

When I think of the spectrum of 1073s and 1176s I've heard in numerous form factors and at various price points, the 1173 comes across as a 1073 with a slightly sweeter/brighter top end, a slightly leaner/tighter low end and a little less low-mid plumpness, even at higher overdriven gain settings. The 1173's compressor comes across as your typical wildly versatile 1176, with all the right quirks and maybe a little more airiness and less saturation. It's hard to find exact details on the 1173's components, so I'm going to venture to say the tonal difference and distinctiveness of the 1173's tone is mostly due to the input and output transformers (a detail that 1073 lovers debate endlessly). The transformers found here are from UK manufacturer OEP, a division of Carnhill, the maker of the original 1073's transfos. These OEPs sound good, if not quite as chunky (or expensive) as Carnhills or even the Vigortronix found in AMS Neve's modern designs.

For that truly authentic 1073 tone, perhaps a BAE Audio clone or comparable top-shelf unit could provide that vintage sound. However, for a more modern variation, the 1173 will do just fine, as would a number of other 1073 and 1176 re-creations on the market for about \$600 each. At \$1,200, the 1173 offers a comparable price and functionality, but all in only one rack space—not the three rack spaces required for two separate units. Time will tell if these 1073s hold up in durability and competitiveness, but for now, they should definitely be considered as a way to get both 1073 and 1176 hardware tone without breaking the bank.

UK Sound
www.uksound.com



AUDIOSOURCERE DEMIX PRO

Take your mind off of driverless cars and home automation for a minute and you might notice that digital audio, too, has yielded some revolutionary new functions (beyond classic emulations and traditional re-creations) of late. Post-modern plug-ins enable EQing and mastering aided by artificial intelligence; a signal's ADSR is now separable and infinitely manipulate-able; one signal can be forced to follow the envelope of another carrier signal ... it's an exciting time to be involved in sound design and creative mixing. And now we have the antithesis to our work, too: un-mixing, de-mixing, audio separation.

New player AudioSourceRE offers DeMIX Pro as the flagship tool in a three-product line of software processors. They're designed to reverse-engineer recordings, allowing the separation of stems and thus further enabling a range of applications like vocal, instrument or drum isolation for remixers, multitrack separation for rebalancing or remastering a mix without stems, vocal removal for karaoke, or wildly artistic uses in music and/or sound design fueled by the unusual sounds the process can create.

FEATURES

Within a single resizable window, the DeMIX Pro GUI neatly provides all the controls necessary to make a complicated task easy on the eyes. The software is both Windows- and macOS-compatible, with 24-bit audio up to sample rates of 192 kHz. The software uses cloud-based processing, so once a file has been dragged into the timeline, you select a separation function (Drum, Pan or Vocals) and the audio is loaded onto AudioSourceRE's servers, processed to your specs and returned to your session, where the new stems appear as audio sources and corresponding mixer channels, lined up and ready to go.

Now each stereo stem can be muted, soloed, volume-adjusted and panned with separate left and right pan controls. These stems can also be exported individually or made into a new mix within DeMIX Pro and bounced down. If after all the separations, each stem is panned center at unity gain, the re-summed audio is lossless—that is, all the data is still there, just redistributed across the stems so it sounds exactly the same as the source audio. Pardon my uncharacteristic enthusiasm, but that's pretty cool!

DeMIX Pro is \$749 direct and requires an iLok account, though iLok dongles are no longer required

in general.

IN USE

Upon opening the software, you'll see "Device Activation," which allows the use of one of your two licenses (for multiple computers) at any given time. Once the application is open, drag your mix into the edit window. It is often recommended to do a vocal separation first, where you can choose Automatic or Guided (using the melody editor). I first chose Au-

on position (for that matter, you could do this to a whole mix or any previously separated tracks). Here you can select Number of Sources, which allows selecting anywhere from three to seven separate sources. Equal Spacing divides your number of pan sources into equally spaced divisions, or if the positioning isn't quite so uniform, it can be turned off, which makes DeMIX Pro look harder for exact positions (and which takes a lot more process-

lection by clicking the Pitch Preview button. (It's a very low-quality preview but it still helps a lot.) Maybe you'd rather hit Command as you click on a point in the melody and hear what pitch is located there—a really helpful feature if you sing and have good pitch. But if you don't, instead use the Pitch Tracker Tool (waveform in a box), where you click/drag points to quickly form a rectangular box around the melody. (This is likely the most accurate method. It was for me, anyway.) Zoom and Eraser tools further help



DeMIX Pro main window

tomatic, which offers many variables: Source Position (L, C or R), Width (narrow or wide), Reverb Extraction (with the vocal or separated), Vocal Detection Sensitivity (instructs the separation that there is always a lead vocal/instrument, with sensitivity of H/M/L or off), Snare Reduction (on or off), and Advanced Filtering (helps reduce instrumental artifacts with separations, except for quite wide ones, on or off).

Once you commence your vocal separation, the data is uploaded to AudioSourceRE, taking less than 30 seconds for a three-minute song (with my 200 Mb/s web speeds). Once data is uploaded, a status bar appears in the mixer showing analysis progress (my three-minute song took about two and a half minutes to process). When analysis is complete, a stereo vocal track and instrument track populate the mixer and are ready to mix or edit. I did the same for a drum separation, choosing Stereo Smoothing (on or off). Repeat the process with upload and the return of two files: drums and instruments.

Next you can choose a pan separation to separate elements based

ing time). Smear is an intriguing parameter—off assumes positions achieved by panpots, but doesn't expect timing differences. Smear turned on looks for short delays and multi-mic timing differences and blends them for a potentially clearer separation.

I tried all these parameters on various mixes I had on my desktop: some rap mixes with wide pans, stereo-ized leads, doubles, verbed-out ad libs and the whole shebang; some standard pop and rock mixes; and some remixes I made with no vocal verb or fancy processing. After a few tries, I found I could get some good separations, especially with the simpler remixes, but that I still had too many phasey/swooshy artifacts and too much vocal leakage. It was time to try a Guided Vocal Separation using the melody editor.

Melody Editor is a piano roll-style thing, with piano keys on the left to help guide you. Vocal parts and their harmonics show up as often squiggly lines on the display and can be selected with various tools. The Free Draw Pitch Tool (pencil) allows you to draw where you think the melody is and preview that se-

you hone in and sometimes deselect portions of your melody selections where artifacts occur.

If after all this you still have artifacts and unwanted bleed, you're not done yet; it's just time for Spectral View. Here, a spectrogram helps you find unwanted sounds and remove them with the Rectangle Select Tool and its variables (allowing vertical shapes to highlight percussion events, often seen as broadband vertical spikes, and allowing horizontal shapes to capture instruments and their often multiple horizontal lines showing harmonic richness). The Wand tool allows you to move over a region and hear the loudest elements there. The Wand can be made more sensitive with Threshold and Position Help controls. Sometimes the Harmonic Wand Tool does a better job grabbing the entirety of complex sounds, with choices of Threshold, Position Help and Select Harmonic, which helps ferret out 1st harmonics. A Transient Tool (with Sensitivity and Low-Cut), Threshold Select (with time or frequency snaps) and an eraser Brush Tool (with Size and Min Mask for

(continued on page 33)

GOODHERTZ MEGAVERB PLUG-IN ■ GOODHERTZ VULF COMPRESSOR PLUG-IN

GOODHERTZ MEGAVERB PLUG-IN

Any product that touts itself as “incredibly good bad reverb” is okay in my book. I am basically a reverb lover and believe that the more sonic options you have, the more creative you can be with your work. Megaverb fits that bill perfectly, offering a quirky-cool 1980s reverb emulation with a few twists.

It's easy to use, with minimal controls, but it lets you get some truly special results. You can set reverb decay times up to 25 seconds, pre-delays up to 500 ms, musical note-synced delays and pre-delays, and four Modes describing the basic reverb character—A: Quick, Resonant B: Weird, Nonlinear C: Smooth, Big D: Even Bigger. The Filter section lets you shape the reverb effect, and the Lo-Fi section brings in the “lack of digital resolution and Lo-Fi digital converters.”

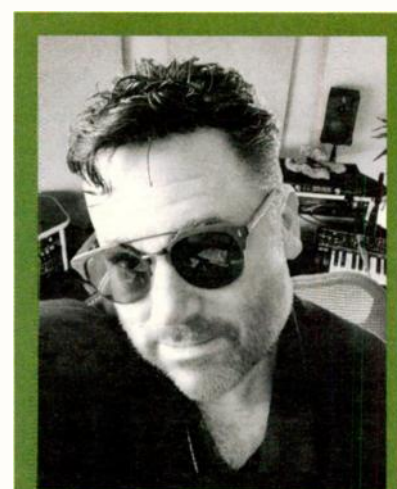
Megaverb uses these modeled characteristics and splits them into



Goodhertz Megaverb plug-in

digital and analog controls that can be dialed in separately. Analog controls the amount of analog clipping applied to the reverb, and Digital introduces the amount of digital degradation. There's also a Gate available

with syncable times and access to Gating and Ducking controls, where you can tweak the Gate Time, Gate Attack Time and Gate Release Time using the Gate Mode. There are other functions available in Megaverb as well. Overall I



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

have found it to be an incredibly useful tool to achieve unique reverb effects. It's cool on snares, guitars, synths, pads and even entire drum loops.

Goodhertz
www.goodhertz.co

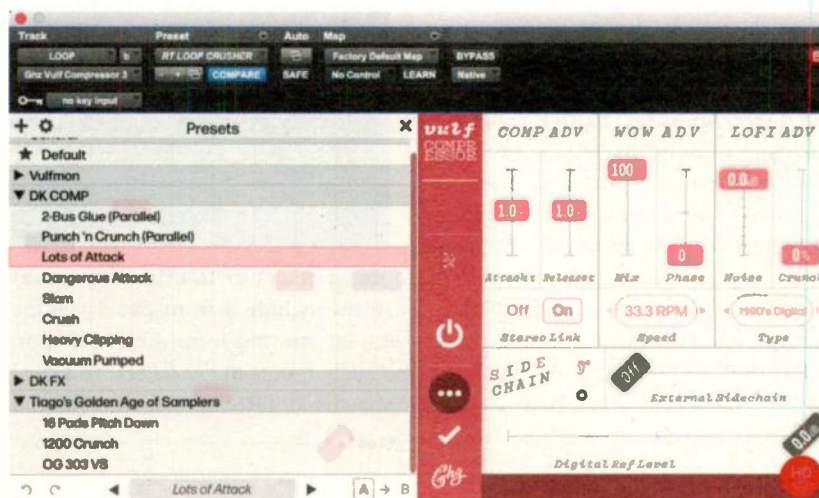
GOODHERTZ VULF COMPRESSOR PLUG-IN

Vulf Compressor is another release from Goodhertz that quickly found its way into my productions. I refer to this thing as The Beast because that's what it is: a dynamic compression monster. The story goes that it's based on the DSP of the classic Boss SP-303 Dr. Sample. Taking into consideration the sonic signature of that unit, the Goodhertz team created the Vulf compressor.

With a few quirks—including Lo-Fi, which adds harmonic distortion; Wow/Flutter, where you can control the Mix/Flutter Speed and Flutter Phase; Sidechain Listen, where you can hear the detector signal instead of the output; and an optional HQ mode, where high-quality audio is given priority over CPU usage—Vulf

has its “own thing.” And that's exactly why I like it.

I use a lot of drum and percussion loops in my TV work, and Vulf takes them to a new level of attitude. My most used control is the dry/Vulf slider (wet/dry) and the Comp slider (compression amount). Between those two, I can apply the plug-in directly to the audio track and dial in just the right amount. Note that full-on compression adds a lot of gain to the signal, so the Out slider comes in handy to tuck that level back down. Recommended starting places are the Lots of Attack and Slam presets, as well as OG 303 VS and 1200 Crunch. Aside from loops and percussion, I've also used it to add a touch of analog edge and brightness to my bass parts,



Goodhertz Vulf Compressor plug-in

helping them cut through the mix just that extra bit. It's a beast!

Goodhertz
www.goodhertz.co

DeMIX Pro

(continued from page 32)

partial erasures) round out the high-powered options here and allow getting much more than your hands dirty. This is deep control.

In my time with DeMIX Pro, I never had a failed upload for processing, nor did the program crash. It did semi-freeze up and not accept commands a couple of times, neces-

sitating saving and re-opening. That said, this is v1.0, so stability is pretty good for an early version, especially considering the complexity of the functions.

SUMMARY

Okay, so does it work? Is it easy? Is it worth the effort? Short answers: yes, no and yes. Yes, DeMIX Pro works, but it's not some “a couple of clicks, decent results but no options” kind of program. If you expect great results, you'll have to go beyond au-

tomatic separations and enter into guiding the melody, scrubbing out bleed and doing multiple separations to individualize instruments.

And that may be the point here: There are similar programs with many fewer variables and complications, but they don't allow as many separations or nearly as much control as DeMIX Pro. If you have the time to try numerous separation options (until you develop an instinct for appropriate workflows for each project) and you have the musical

skills in melody and pitch ... and you understand enough about harmony, spectrographs and such ... and you develop the skills to execute the manual controls with expertise, then and only then will you get professional results.

AudioSourceRE is up to some seriously revolutionary stuff, especially considering that this is nascent technology and things can only get better from here.

AudioSourceRE
www.audiosourcere.com/products



ZAOR Maestro Series

ZAOR Studio Furniture has shipped a new line aimed at audio mastering pros. Designed in collaboration with studio engineers and equipment manufacturers, the Maestro line is led by the flagship Maestro 36, which sports an extra low profile to prevent the desk from getting in the way of sound reproduction. The desk includes VMT absorption panels by Vicoustic to minimize reflections and resonances. The work surface itself is made from AER-stop, an acoustic material that reduces reflections and doubles as a mousepad. A dual (audio/power) cable path separates signals from power leads in an effort to minimize hum and other inductive noise.



Shure MV88+ Mic/Video Kit

Intended as an all-in-one solution for content creators to make recordings on the run, the MV88+ Video Kit is based around the MV88+ condenser microphone, which plugs directly into a mobile device using a Lightning or USB-C connector. Two microphone capsules in a mid-side configuration provide an adjustable stereo image suitable for capturing a variety of sources, including music and speech. Using the Shure MOTIV app, the mic's sound can be customized with DSP, preset mode selection, gain adjustment, compression and stereo width control. The kit includes a Manfrotto PIXI mini tripod, phone clamp and mount, as well as iOS and USB-C cables for connectivity.



JBL Professional One Series 104 Monitors

Created to meet the needs of on-the-move content creators, One Series 104 compact powered reference monitors sport newly engineered JBL 4.5" coaxial drivers reportedly contoured using the same research that led to the waveguide found in M2, 7-Series and 3-Series monitors, providing users with a sizable sweet spot. JBL 104 Reference monitors include integrated 60-watt Class D amplification that can drive the speakers to 104 dB SPL (peak) without distortion, according to JBL. Features include a front-panel volume control, which allows level adjustments without straying from the sweet spot, front-panel headphone jack, which automatically mutes the speakers, and dual 1/4-inch balanced and single 1/8-inch unbalanced TRS inputs. An optional protective carrying case will be available.



RØDE PodMic

RØDE Microphones has launched a second product this month intended for podcasting use: the PodMic dynamic microphone. PodMic is an XLR-connected, end-address dynamic microphone. It sports a RØDE dynamic capsule, internal pop shield and double-mesh housing for plosive and sibilance control, and a matte black-finished brass construction. PodMic can be used with any XLR interface but is optimized for use with the RØDECaster Pro podcast production studio. The PodMic announcement comes just after launch news of RØDECaster Pro and PSA1 studio boom arm.



Warm Audio WA-251

Warm Audio's new tube condenser mic, the WA-251, pays homage to the sound and design of the early 1960s Telefunken 251. The Slovak Republic JJ 12AY7 vacuum tube used in the WA-251 was chosen based on its frequency response. The WA-251 sports an all-brass WA-12-B-60V edge-terminated capsule using a variant CEK-12 back plate as a basis. The capsule's o-ring



firstlook

Zylia Studio PRO, Ambisonics Plug-Ins

At the NAMM Show, Zylia unveiled its Studio PRO and Ambisonics Converter plug-ins for Avid Pro Tools. The plug-ins enable Pro Tools to handle recordings from Zylia's ZM-1 spatial sound microphone, which consists of 19 omnidirectional microphone capsules distributed around a sphere measuring 4 inches in circumference. Because Pro Tools supports a maximum of 16 channels per track instead of the 19 provided by the ZM-1 microphone, Zylia's plug-ins process the first 16 channels from Zylia recordings and omit the three bottom microphones.

The Zylia Studio PRO plug-in enables spatial filtering and signal separation directly within a DAW, and also gives users access to various surround presets (up to 10.2/5.1.4). Meanwhile, the AAX version of the Zylia Ambisonics Converter supports conversion to 1st- and 2nd-order Ambisonics, enabling users to prepare 3D audio recordings.

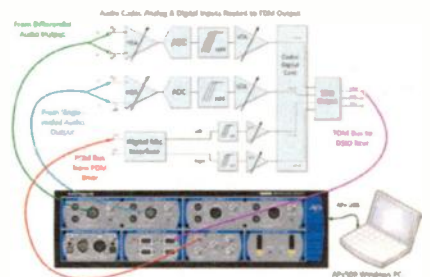


and housing are made from brass, and the diaphragm is 24K gold-sputtered 6 micron, NOS PET film. The WA-251 uses a CineMag USA transformer and a Gotham Audio 7-pin GAC-7 cable to connect the microphone to its power supply.



Audio Precision APx555 B Series Analyzer

The APx555 B Series modular two-channel audio analyzer offers improved sine generator frequency stability, lower system residual distortion, single-ended, balanced analog output and an optional ADC test mode that provides VBias, a common mode DC Bias. Intended for developers of high-performance audio devices such as compressors, limiters, amplifiers, codecs and digital signal processors, the APx555 B Series includes an enhanced analog generator (EAG) providing improvements in its low-distortion sine generator and high-precision sine analyzer, including reported sine generator frequency stability with an accuracy of <30 ppm.



PreSonus Atom

Designed for use in both performance and production environments, the Atom pad controller helps users produce beats, play virtual instruments, and trigger sound effects and loops in real time. Both a compact, dynamic performance controller and an integrated production environment, PreSonus' Atom pad controller and included Studio One Artist production software let you create and perform with ease. Connecting to a computer via USB cable, Atom comprises 16 velocity- and pressure-sensitive RGB pads and eight assignable pad banks. The unit also offers four programmable rotary encoders and 20 assignable buttons.



There's more information on all the products featured at prosoundnetwork.com/feb2019.

firstlook

RAT Tail Distortion Cable

Now shipping from RHC, the new RAT Tail Distortion cable offers guitarists and bassists an alternative solution for achieving audio effects. It is built using the same clipping diodes that drive Vintage RAT pedals' distortion tones. Musicians can shift between settings with the connector's accessible dial and built-in, directly selectable distortion circuitry. The RAT Tail Distortion cable has three settings: true bypass, distortion overdrive with unity gain, and distortion overdrive (+3 dB gain). The cable is available in lengths of 10, 18 and 25 feet.



IsoAcoustics Stage 1 Isolators

Stage 1 Isolators are designed to eliminate the effects of vibrations on everything from guitar amps to stage monitors and subwoofers. The isolation feet come as a set of four that can be screwed directly to the bottom of the item or attached to a board to create an isolation platform for supporting the equipment. The aluminum housing features a low-profile design, with a height of 1.5 inches. The Stage 1 Isolators can support a maximum weight of 200 lb. per set of four and are designed for equipment ranging from small bass combo amps to stacked 4-12 cabinets.



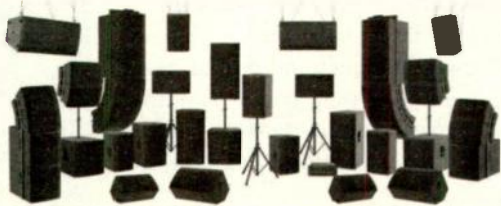
AKG DMS Wireless Systems

AKG's DMS100 and DMS300 professional digital wireless systems are designed for use in presentations and houses of worship, as well as by performing musicians. The eight-channel DMS300 and four-channel DMS100 offer 2.4GHz operation. Each model is available as a handheld microphone or instrument- or headset-ready body pack. All four versions include 24-bit/48 kHz uncompressed audio coding, a linear frequency response and signal security provided by AES 256-bit encryption. The DMS systems offer push-button channel-pairing and color-coding, and provide adaptive channel selection for locating available wireless channels. The eight-channel DMS300 features a high-resolution front-panel LCD screen to aid setup, monitoring and control.



Mackie DRM Loudspeaker Series

Mackie new flagship line of pro powered loudspeakers, the DRM Series, takes aim at everything from mobile DJs to installations and houses of worship. Models include the 1,600W 12" DRM212, 1,600W 15" DRM215, 2,300W 15" Three-Way DRM315, 2,000W 12" DRM12A Array, and 2,000W 18" DRM18S Subwoofer. All models are additionally available as passive boxes. All loudspeakers in the line are powered by Class-D amplifiers and include Mackie's Advanced Impulse DSP module, which comprises precision crossovers, transducer time-alignment and FIR filters. The default screen offers important settings, levels and meters and can be controlled by an adjacent knob. Full-range models offer 3-band parametric EQ, venue-specific voicing modes, alignment delay, user presets and system



lock. The subwoofer features a variable crossover, cardioid mode and more. The DRM212 and DRM215 feature angled cabinet designs to allow for use as floor monitors.

Aviom Boom Line

Aviom introduced this line of tactile transducer products at the NAMM Show in January. According to the company, the Boom-1 Tactile Transducer Processor provides optimized DSP and amplification to tactile transducers, dramatically enhancing a performer's personal mixing experience by adding low-frequency tactile information to an in-ear or headphone monitor mix. The BOOM System products are compatible with all Aviom personal mixing systems. The system's tactile-enhanced products include the CTT-1 Clamp-On Transducer and PLF-1 Platform (both powered by ButtKicker), the KBS-1 Keyboard Seat, and the PFS-1 Performance Stool.



Electro-Voice EVID Loudspeakers

Electro-Voice has added three products to its EVID family of commercial loudspeakers: two ceiling models and a pendant model. The C4.2LP (4" low-profile ceiling), C6.2 (6.5" ceiling) and P6.2 (6.5" pendant) join the EVID product lineup.

The C4.2LP is a 2-way full-range ceiling speaker with a 4" woofer and 0.75" HF driver. Its low-profile design offers a mounting depth of 3.75" and its wiring runs from the side of the unit. The C6.2 is a two-way full-range ceiling speaker with a 6.5" woofer and 1" HF driver. Sold in pairs and available in white, both include a 30W transformer with an 8 ohm bypass option, and are certified for indoor use. The P6.2 is a two-way full-range pendant speaker with 6.5" woofer and 1" HF driver. Sold per piece and available in black and white, the P6.2 includes a 30W transformer with an 8 ohm bypass option, and is certified for indoor and outdoor use.



Meyer Sound Software Updates

Meyer Sound has upgraded its MAPP XT system design tool and Compass control software; updates include greater integration between the two platforms, along with streamlined workflows and inclusion of data sets for new products.

The new release of MAPP XT (v1.2.2) offers users the ability to perform copy and paste operations within the sound field, a feature expected to speed up the design process. Other important additions include design data sets for the USW-210P subwoofer and Acheron loudspeakers with woven screens. In the Compass control software release (v4.3.4), users are now able to open a MAPP XT project in Compass and have it automatically populate settings for output processing, delay integration, array correction and labeling of channels.



Yorkville Sound Elite Subwoofer

Joining the Elite family of powered speakers, the ES21P is a 21", 2,400W active subwoofer intended for use in club and concert settings. This rear horn loaded subwoofer can be integrated into a medium to large-scale P.A. needing additional bottom end support. Max SPL is 132 dB peak, 126 dB continuous. Yorkville Sound's Elite line also includes 12", 15" and 18" subwoofers.



Future-Proofing New York City's Central Park Summerstage

BY CLIVE YOUNG

NEW YORK, NY—When you think of iconic venues in New York City, Madison Square Garden or perhaps the Apollo Theater might come to mind, but one of the most popular performance spaces in Manhattan is actually free to all: the Central Park Summerstage. The flagship of the city's Summerstage program, the 5,500-capacity outdoor venue has resided at Rumsey Playfield at 72nd Street since 1990, and this spring will see it undergo a massive \$5 million across-the-board refurbishment—an effort that will include its audio system.

The CityParks Summerstage program serves all five boroughs, presenting more than 100 performances during the summer months (May through October) in 15 to 18 neighborhood parks. Annually, 85 or more of those shows are free and are seen by more than 250,000 people. The goal of the outdoor festival is to present iconic and emerging artists from widely diverse genres, reflecting the diverse population of New York City.



An artist's rendering of the renovated Central Park Summerstage venue.

The Central Park Summerstage venue tackles the largest share of those shows, hosting 190,000 people every summer at 50-plus productions. More than 30 of those concerts are free, but helping fund the Summerstage program, the venue also hosts 22 ticketed shows booked by The Bowery Presents, and additionally rents the space out to corporate cli-

ents like ABC's *Good Morning America*, which broadcasts its summer concert series from the site.

As the venue acts as a calling card for the Summerstage program and the Big Apple itself via the GMA series, this spring's refurbishment couldn't come at a better time. The stage is 18 years old and can no longer

(continued on page 42)



Drake and Migos Roll in the Round

NEW YORK, NY—It's only fitting that a high-profile hip-hop tour with two of the biggest acts in the game, Drake and Migos, would center around a boxing ring-style stage, bringing a literal meaning to a tour presented "in the round."

Providing audio for an in-the-round show is never an easy gig, but audio provider Eighth Day Sound (Highland Heights, OH) rose to the challenge, fielding a 360-degree audio system for the co-headlined

North American fall tour. Hung over the stage, which was covered entirely in LED video panels that displayed endless custom content, were more than 250 cabinets from Adamson Systems Engineering's flagship E-Series and S-Series.

Drake's FOH engineer, Demetrius Moore, ably guided the system: "The high end is very natural, crisp and clean, and you really can't ask for a better low end. It sounds big, it sounds powerful, but it doesn't hurt,

and that's always the goal—a big, clean sound that's not just there to blow people away with everything in the red."

The final configuration featured four main hangs of 18 E15 three-way, true line source enclosures firing behind the goal ends of the arena floor; four side hangs of 12 S10 two-way, full range cabinets below four S10ns; and four 270-degree hangs featuring 15 E15s atop four S10s. Only 10 Adamson IS7p point-source front fills were required for any given date.

Unusually, all the E119 subs were flown in eight hangs of nine cabinets. "We're on a tour—a hip-hop tour—with no subs on the ground. That's pretty much unheard of," said Moore. "Whether you're standing front-row or up at the back, you're getting nice, clean, but still high-impact bass."

"The crowd is really into it every night, and they're getting loud," he added. "We know who and what they're there to see, and we're just making sure that the show sounds as good as it possibly can to deliver that experience."

Adamson Systems Engineering
www.adamsonsystems.com



More than 250 Adamson cabinets were deployed for Drake and Migos' Aubrey & The Three Migos co-headlining tour.

briefs

Fulcrum Acoustic Nets Patent

ROCHESTER, NY—Fulcrum Acoustic (www.fulcrum-acoustic.com) has been awarded a U.S. patent for a proprietary technology intended to overcome excessive rear low-frequency radiation in loudspeakers. The patent, formally titled "Passive Cardioid Speaker, No. 10,123,111 B2," was granted to inventor David W. Gunness, Fulcrum Acoustic co-founder and vice president of R&D. The award document outlines how the patented loudspeaker's sub-cardioid behavior is produced by an acoustical circuit that balances the position of the low-frequency driver, the enclosure depth and volume, and an arrangement of acoustical elements, including rear-mounted ports and calibrated resistive elements.

Fishing for Analog Sound

SOUTH ORANGE, NJ—Brandon Blackwell of Blackwell Productions works in a variety of situations, from serving as FOH and monitor engineer for acts including pop star Camila Cabello to providing support services for a wide range of applications, including TV specials, theatrical events, seminars and conferences. He has recently been using a Ferrofisch (www.ferrofisch.com) A32 AD/DA MADI and ADAT converter to convert his arsenal of analog outboard gear into MADI for control at a DiGiCo console while mixing FOH or monitors.

Rational Acoustics Expands

WOODSTOCK, CT—Smaart test/measurement software developer Rational Acoustics (www.rationalacoustics.com) has moved its U.S. headquarters to a new, larger location to accommodate growth in personnel, sales and training. The new facility, located at 32 Crabtree Lane in Woodstock, CT, houses administration, sales, product development and warehouse operations, as well as a new Smaart training center. At 5,700 square feet, the new building is nearly three times larger than Rational's previous offices.

Sound Image Bolsters Revolution 3 Tour

ESCONDIDO, CA—Escondido-based national audio provider Sound Image provided sound for Revolution 3, a summertime shed/arena tour with alternative rockers Stone Temple Pilots, Bush and The Cult.

During the six-week, 20-date journey, Sound Image fielded a full L-Acoustics K1/K2 loudspeaker package. The tour's typical daily P.A. deployment comprised left and right main arrays of 10 K1 enclosures over four K2, plus out-fill arrays of six K1 over four K2.

Low-frequency reinforcement was supplied by left and right hangs of eight K1-SB, and anchored by four SB28 subwoofers per side, end-stacked below in cardioid mode. Front-fill was delivered by two pair of Kara stacked atop the ground subs, while a dozen LA8-equipped LA-RAK units provided all of the power and loudspeaker processing, managed via LA Network Manager software.

"All three of the band's house mix engineers—James 'Hootsie' Huth (Stone Temple Pilots), Steve McGuire (The Cult) and Jon Sword (Bush)—got together prior to the tour and decided that an L-Acoustics system would be the perfect rig for Rev 3, and they were right," says Sound Image's Chris Demonbreun, who served as the primary systems engineer on the tour.

"Not only did it deliver pristine vocals that the crowd could easily sing along with, it also preserved the defined and driven punch of the guitars, which is so important to each of these bands' sound. Everything sits just right in the mix with these boxes. Of course, huge credit should also be given to Hootsie, Steve and Jon, who are all amazing mixers."

Demonbreun, who recently wrapped up a tour with country artist Chris Young using an L-Acoustics K2 system, noted, "K2 is the perfect P.A. for shed tours, especially when combined with KS28 subs. It has a nice size, it's super easy to fly and take down, and it's really light, so you can hang a good amount of them without the need for a two-ton motor."

Sound Image
www.sound-image.com

L-Acoustics
www.l-acoustics.com



For the Revolution 3 tour, Sound Image's crew typically flew 10 K1 over four K2 per side for mains, six K1 over four K2 for out-fills, and eight K1-SB for LF extension.

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NEUTRIK

Ghost's Tour of Death

BY STROTHER BULLINS

Ghost's blatantly—though arguably tongue-in-cheek—occult image and lyrical content is crafted to shock and titillate in a cerebral way, while its earwormy, doomy discography sounds both familiar and fresh at the same time, making it AOR radio-tested, Satan approved. Confirming that broad appeal, the Swedish band is up for Grammy Awards for Best Rock Song and Best Rock Album this month, but for a real revelation, all one has to do is look at who attended the recently completed North American leg of the band's *A Pale Tour Named Death*. The audiences were a true amalgamation of music fans young and old, of tastes ranging from black metal to ABBA, with appearances ranging from dedicated goth to common soccer mom.

"There are kids, people bringing their kids, and there's people in their late 60s and early 70s wearing golf shirts," says the band's FOH engineer, Dave Nutbrown. "They know the songs. A good song is a good song. People will always love a good song—and that's what Ghost has: lots of good songs. Instead of one or two songs people really want to hear, there's 15 out of 20 songs that people really want to hear. With Ghost, the show runs two hours and 15 minutes and people are really entertained until the last song. That's why Tobias [Forge, band mastermind and vocalist behind Ghost's ever-evolving "Papa" characters] is up for two Grammys—because there are so many good songs."

From large theaters to major city



STEVEN J. MESSINA

Leaning in to its occult image, Ghost conjures hellfire and brimstone on its ongoing *A Pale Tour Named Death*.

arenas, *A Pale Tour Named Death* hit a wide range of venues with a remarkably clean staging scheme for its as many as nine performers: Forge's "Cardinal Copia" character, seven "Nameless Ghoul" instrumentalists and, for a song, one very old-looking saxophonist ("Papa Nihil"). No amplifiers, no speaker cabs and no wedges were visible, allowing the predominately white cathedral-like staging to feature theatrical performances that owed more to Broadway than Ozzfest.

"We have no backline, really," Nutbrown notes of the tour's relative simplicity. "And in the individual domain, we have no wedges on stage, no sides, no drum fills. All

me clean, and it's a blank canvas straightaway.

"Drums are really the only instruments that are miked," explains Nutbrown. "It's organic, with no samples or triggers. We're using Shure 91A and 52A on kick drum, SM98 and SM57 on snare, Audio-Technicas on hi-hats and toms, and the Aston Origin [LDC cardioid condenser] as a pair overhead as well as on the side. The Origin came recommended and is really, really good—not expensive. The only thing we're using that really pushes the boundaries of technology is the KLANG:technologies 3D in-ear mixing system for main vocal monitoring. It's brilliant. Everything

"There are kids, people bringing their kids, and there's people in their late 60s, early 70s wearing golf shirts. They know the songs. A good song is a good song. People will always love a good song."

Dave Nutbrown

IEMs are Sennheiser ew300 transmitters and packs, and each musician has his own ear molds. For us, it's the choice of what to hang for the main racks and stacks; it's about being well-equipped for the building. That's our main criteria. The venue size isn't really an issue because I'm not fighting against anything. Everything comes to

else is rather standard, off-the-shelf audio gear."

Throughout the tour, the band picked up local P.A.s or used house systems as needed. "For P.A., in all fairness, a lot of the decisions are already made for us by the venue," Nutbrown continues. "In the bigger venues, people are getting choice of P.A.—I can discuss it with the ven-

dor, and whether we will fly or stack, but in a lot of the theaters we go into, unfortunately, we have to handle the hand we're dealt. We do tend to look for a bit more low end than you may normally find, especially in theaters that tend to have more of an emphasis on mid-high clarity. We're not a massive low-end band, but we do have some samples that rumble the foundations. When we find a d&b audiotechnik or Meyer Sound system, it's great; we just like to make it a nice, sonically-balanced evening."

Nutbrown's mixing approach with Ghost is best described as well balanced and full, aesthetically organic and classic, but, as he readily points out, he's "not mixing Marshall stacks at 10 and 11. Everything comes to me clean, and the groundwork for the sounds is all drawn: the guitar processors, the bass processors, the keyboard sounds. I don't use any plug-ins, no outboard. Everything I use is in the Soundcraft Vi3000 console that I've used for years. It's easy to put things into place; I can bring in my EQ and dip the frequencies. Monitors and I are sharing a common 64-channel Vi stagebox; I'm using 48 channels."

"I started using the Soundcraft Vi6 15 years ago," explains Nutbrown of his affinity for the British, Harman-owned brand. "For me, visually, everything is one press away. I can't really get my head around

(continued on page 40)



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Ghost

(continued from page 38)

the consoles where you have to press into two to three menus to get to something you really want to do. The Soundcraft Vi3000 lays out really easily, too; I can have everything on two and a half layers with a comfortable footprint. There are some great consoles out there, but I don't want to chase technical [issues] around. For me, it's familiarity."

While he began using Vi desks 15 years ago, Nutbrown's career goes further back. After formative years tackling local live sound in his native England, Nutbrown graduated to a front-of-house gig with Squeeze, followed by more than a decade of working primarily with metal bands including Mastodon and Bullet for My Valentine. His tenure with Ghost began two years ago, around the time that the act won the 2016 Grammy Award for Best Metal Performance ("Cirice" from *Meliora*).

The job keeps him busy, too. An evening with Ghost features nonstop audio, with pre-recorded intro, intermission and post-show aural atmospheres that are seamlessly stitched to live performances. "It's a Vatican-like choir singing first, then with the articulate live performances, then the intermission, back to the music, then out," says Nutbrown. "Basically, from the start to the end, there's no musical stop, with playback in between songs."

Transitioning between Ghost's distinct tonalities from album to album in a live setting is smooth largely thanks to pre-tour groundwork by the players behind the masks on stage, Nutbrown explains. "Because



FOH engineer Dave Nutbrown captures Ghost nightly on a Soundcraft Vi3000 console.

all the stems are available, they can get them from the album and pull them in, [allowing the individual musicians to] sound like the albums, especially the clean sounds. The guys [Nameless Ghouls] we have now are very, very hands-on, creating unique nuances around the original sounds, giving the performances a little embellishment—adding some reverb, chorus, making it a bit more swimmy or drier. It's about making it sound like the album, but different from the album.

"They are all great, hands-on players and understand their equipment,"

Nutbrown continues, adding that it's rare that the band changes anything sonically, except for the recent addition of a Tech 21 GED-2112 Geddy Lee Signature rackmount bass pre-amplifier/DI in order to "put a bit more attack into the bass guitar."

As Ghost continues touring largely 15,000- to 20,000-seat venues in 2019, with Europe and Australia looming on the schedule, the band will be carrying a Meyer Sound LYON self-powered linear line array system. The current busy pace is expected to continue, as Ghost's leader is said to always have a five-year plan

sketched out for the band.

"He [Forge] never stops writing," observes Nutbrown. "When we finished the last album cycle for *Meliora*, apparently this album, *Prequelle*, was already written. I'm not really sure where we will go after this; the album has been received so well. So many people have come out to hear the show and to see the full spectacle—it's not your everyday show."

Soundcraft
www.soundcraft.com

Ghost
www.ghost-official.com

ASG Adds Audio to Bay Area JCC

PALO ALTO, CA—The Oshman Family Jewish Community Center in Palo Alto, CA, opened in 2009 and has since played a key role in the region's growing Jewish community. To accommodate the needs of its growing membership, the JCC recently opened a new two-story learning center, providing classrooms, spaces for events and more. With the variety of spaces came the need for a variety of audio and visual equipment.

The building features a large area on each floor that can be divided in half by a moveable air wall, allowing the facility to host up to four events simultaneously, but each of the four interactive classrooms required its own projector and dedicated audio equipment. The new audio systems



Yamaha CIS systems were installed in every classroom of the Oshman Family Jewish Community Center in Palo Alto, CA.

were installed by Advanced Systems Group (Emeryville, CA). "Although it was a relatively easy AV install, the learning center has windows

and hard, glossy floors, so we had to take the reflective surfaces into account for the audio performance," explained Jodie Capriotti, sales account manager.

Advanced Systems Group ultimately centered the installation around a Yamaha Commercial Installation Solutions (CIS) system. A Yamaha MRX7-D DSP processor with an EXi8 analog input expansion unit and XMV4140-D Dante digital audio network amplifier are housed on the first floor of the center. Each of the four community center areas includes a Yamaha VXS10STW surface-mount speaker and six VXC8W ceiling speakers.

Advanced Systems Group LLC
www.asgllc.com

Yamaha Commercial Installation Solution Systems
www.yamahaproaudio.com

Installer Counsels Church on Sound

MOORESTOWN, NJ—"Churches of this type have both acoustic and aesthetic challenges that sound systems have to address," said Whitaker Brothers North founder and president Kevin Whitaker Sr., referring to the inside of Our Lady of Good Counsel Church in Moorestown, NJ.

Built in the 19th century, the church building is listed on the National Register of Historic Places and sports the soaring ceilings supported by tall pillars that were common in that era. As part of the modern world, however, the church has to accommodate modern needs, like ADA-compliant access ramps, which led recently to a major building renovation project that also called for the installation of a new sound system.

AV systems integrator Whitaker Brothers North was brought in to design and install the system. Discussing the acoustic solutions his company was tasked with providing, Whitaker Sr. said, "They need to address speech intelligibility, but they need to do so without impeding sightlines or taking away from the design of the church. There aren't many sound systems that can do all of that."



A Bose Professional Panaray MSA12X (on pillar), installed at Our Lady of Good Counsel Church in Moorestown, NJ, by AV systems integrator Whitaker Brothers North

Kevin Whitaker Jr., the founder's son and the company's operations manager, concurred, noting, "Speech intelligibility had been a problem for some time, as had achieving even coverage. The existing sound system is 12 years old, and there were substantial gaps in its coverage, front to back and left to right."

The company opted to replace the church's sound system with a Bose Professional Panaray MSA12X self-powered digital beam-steering loudspeaker, supported by Bose FreeSpace speakers and Control-

Space processors. Installation and on-site management were provided by Whitaker Brothers' long-term senior tech, Doug Taylor.

Seven of the MSA12X loudspeakers are mounted on the columns of the church: six facing the congregation and one on the reverse side of a front column that acts as

a regional monitor for everyone on the altar. They are managed by a ControlSpace ESP-1240 processor that is controlled through a ControlSpace CC-64 wall-mounted control center.

The choir loft in the rear of the church, too, now has its own sound system, with a pair of Panaray 402

Series IV full-range-driver arrays powered by a PowerShare PS602 amplifier installed as a separate choir P.A. A pair of Bose FreeSpace DS-16 loudspeakers serve as monitors for the choir.

"The placement of the 402 speakers really provided the kind of localization that the choir needed," says Kevin Sr.

Bose Professional
pro.bose.com

sl-series.com

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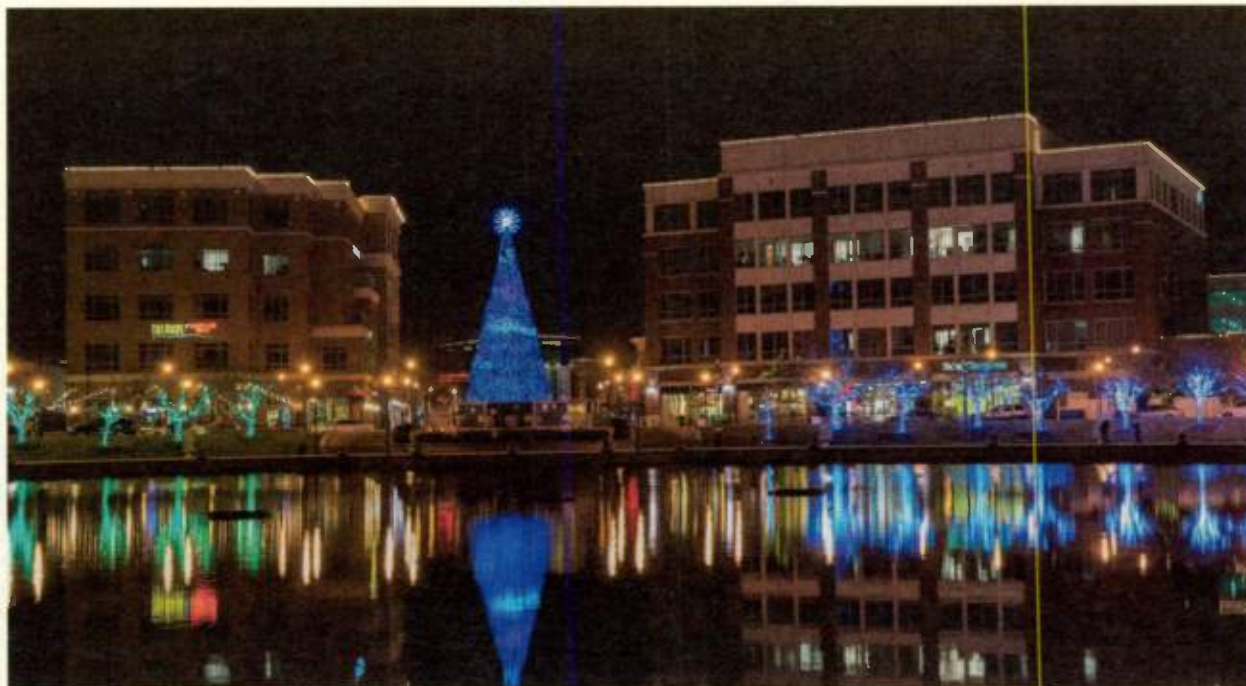
Professionals Team for 25 Nights Festival

NEWPORT NEWS, VA—Holiday lighting displays are always a treat, but, of course, there's more to them than merely lighting, as Austin Wydrzynski of Washington Professional can attest. Wydrzynski designed the temporarily installed outdoor sound system used for BayPort Credit Union's 25 Nights of Northern Lights, an annual holiday event held Dec. 1 to 25 at the City Center at Oyster Point in Newport News.

Situated by the lake with its 400-foot fountain, a 50-foot pixel-mapped Christmas tree formed the focal point of the festival, which included seasonal events, vendors and street performers, as well as a light show that is tied to the tree and included elements surrounding the fountain.

AV systems integration specialist Washington Professional supplied the 2018 festival's system, and installation was handled by RWS Entertainment. The audio system was hidden inside the tree to provide sound reinforcement for the synchronized light show.

The system designed by Wydrzynski employed Community's IV6 weather-resistant modular vertical arrays. The system had two arrays, each comprising four IV6-1122 wide-



Community Pro Loudspeakers were at the heart of a holiday festival in Newport News, VA.

dispersion 12-inch two-way array elements and two IV6-118S 18-inch subwoofers. QSC Core 110F DSP and CXD4.5 amplifiers powered the system, and source content was provided by the S4 Show HQ—the system that drove the pixel mapping for the tree itself.

The project marked Wydrzynski's

first experience with the IV6 arrays; he first heard of them at InfoComm last summer. "Their weather rating and price point were essential to this project," he noted. "Right out of the box, with the FIR filters for Q-Sys provided by Community's TAG Team [Technical Applications Group], these boxes sounded great. The client

was very satisfied. They were concerned at first, as they know the highly reflective area has been a challenge in the past. I worked with the city staff to ensure they were completely happy with the coverage and overall sonic quality of the system."

Community Professional Loudspeakers
www.communitypro.com

Summerstage

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ger bear the weight of many productions' lights and scenic elements. Similarly, the venue's audio system is pushing 10 years as well. As the technical specs for concert and TV production have changed, the venue's specs, too, will change to keep up with the times.

With future-proofing a primary goal, the refurbishment will take into account the needs of productions, artists and audiences. This spring the venue will get a new stage canopy 20 percent larger in diameter, with reinforced foundational support, allowing it to bear a greater weight load of production elements. Beneath that canopy will be a new stage with a front thrust, expanded wings and improved production access ramps, and hanging from the canopy will be new lighting designed by Al Crawford of Arc3Design, new LED screens on stage and to the left and right, and a new P.A. system.

The new audio system is the result of a collaboration between the venue's audio staff of the last eight years—John Hiltz and Jason Volkman—and consultant Roger Gans of

Acoustic Distinctions. Working together, their key goals for the project have been to anticipate what audio requirements the venue might have in the years to come, update the existing system with those requirements in mind and fine-tune it once the gear is installed.

"I've been working closely with Jason and John on this, and the way I'm looking at it is that I'm here to help them get the tools they need to go forward into the future," said Gans. Those tools are primarily the speaker system, house console and monitor console, though stage signal distribution and power distribution will be upgraded as well.

The new P.A. will be a d&b audiotechnik KSL system, chosen after a series of system demos last summer during the 2018 Summerstage season. Each tested system was loaded in on a Thursday, tested on Friday and then put through its paces over the weekend on actual shows, before being taken down on Monday.

In the d&b system's case, as the KSLs weren't available during testing, the company's new flagship GSL touring boxes were used. "The feeling was that they would be representative of d&b's new technology," said Gans. "At the end of the demos, the decision was made to go with this system.

There will be a seven-element-per-side KSL system for the audience, with d&b Yi10Ps for VIP sidefills and frontfills, and four J-Subs."

One of the biggest considerations while demoing systems was ensuring the P.A.s covered the audience but little else—and that had a lot to do with the neighbors. Central Park is surrounded on all sides by some of the most expensive real estate in the world, with high-powered homeowners who are more than capable of ensuring their voices are heard if they are displeased with the concert venue in their front yard.

"The goal here is not power," Gans confirmed. "There are sound limits in the neighborhood. There are—on rare occasion—complaints from over on Fifth Avenue that we're trying to deal with, so I'll continue with the new installation once it's in, using d&b Noise Calc software to help fine-tune it."

Other factors are in place to ensure visiting engineers use the P.A. with discretion. Prior to doors opening, there is a strict 85 dB limit as measured 110 feet from the stage—roughly where the FOH position is located—helping ensure that soundchecks don't go overboard with volume. During shows, that limit rises only to 95. Additionally, all tours have to use the

house P.A., and no supplementary sidefills or monitors are allowed.

Tours carrying audio systems can still use their own consoles, but there will be a fresh pair of house desks for engineers to use if needed. The house mix will be handled with an Avid Venue S6L-32D control surface and a pair of stageboxes, and a Yamaha RIVAGE PM7 96x32 digital console package will be used in monitorworld. Other new audio gear for the venue includes Lake processors for various jobs, a mic splitter system, custom loudspeaker cables, mic stands, work boxes and a Motion Labs power distribution system.

The system is expected to be installed this April, in time for the Central Park Summerstage season to kick off in May. Coinciding with that effort will be other changes to the venue that will make life better for visiting productions, including improved backstage accommodations with new green rooms, a private viewing area for artists and guests, upgraded dressing rooms with showers, and a backstage patio area.

d&b audiotechnik
www.dbaudio.com

Central Park Summerstage
<https://cityparksfoundation.org/summerstage/>

Mikers of the Ark of Salvation

INMAN, SC—Audio updates for houses of worship tend to focus on loudspeakers or consoles, but every link in the audio signal chain is crucial and none should be overlooked—including choir miking, for instance. And in fact, miking the choir was a priority for The Ark of Salvation, a Slavic Pentecostal church in South Carolina, when it recently overhauled its audio.

Paul Korchak of Digital Pro Sound (Portland, OR) was faced with miking a core group of 120 singers inside the 1,500-seat church. “The church records every service and makes them available on the internet, so audio quality is critical,” he explained. But there was a catch: church officials asked him to use as few microphones as possible.

He opted to hang a dozen Audix Micros Series M1280B cardioid mics overhead, configured in two rows of six. “I used the M1280s for their sound quality and their ability to capture just about every detail in the choir without picking up peripheral noise,” said Korchak. “They were very impressed with the M1280s, both the sound and the look: they thought they looked ‘cool.’”

As a result, other Audix mics now pepper the church. A Micro-Boom MB5050 choir miking system accommodates the occasional children’s choir, walkup acoustic instrument, small orchestra, drama performance and other special musical performances. Meanwhile, over at the podium, Korchak used two Audix Micropod 18HC gooseneck miniaturized condenser microphones with the hypercardioid pattern for tighter pickup. “When both mics are active, one mic can be flipped out of phase with the other,” he explained. “Together with the hypercardioid pattern and a Rupert Neve 5045 enhancer, which allows an increase in gain before feedback, feedback and other distortions are eliminated.”

Still more Audix mics were deployed in the overhaul. An Audix TM1 test and measurement microphone was used to measure the room; the resulting data led to the fabrication and installation of 180 custom acoustic panels. Next to the choir sits a baby grand piano that sports a SCX25APS piano miking kit, mounted with a Mirizio piano



REINFORCEMENT [43]

A dozen Audix Micros Series M1280B microphones capture the 120-member choir at The Ark of Salvation Church.

microphone mount. “Everyone loves the SCX25As,” said Korchak. “They capture the full tonal range of the piano with no dropouts. People from other churches have come to hear them.”

Audix
www.audixusa.com

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centerSTAGE TOP 10 TOURS OF 2018

ACT / STATISTICS	CREW	EQUIPMENT
1 TAYLOR SWIFT EIGHTH DAY SOUND	David Payne (be); Jordan Kolenc (Swift me/cc); Scott Wasilk (Band me); Dan Bluhm (se); Eoin Collins (mtech); Chase Usry (ae); Ike Zimbel (rf coordinator); Turner Pollari (rf tech); Andy Dudash (rf comms); Liam Von Elbe (lead pa tech); Sam Balk, Mike Vuitaggio, JP Kearney (pa tech)	HC: DiGiCo SD7; MC: (2) DiGiCo SD7; HS: d&b audiotechnik J Series Array Processed, J-Sub, B22, V8 front fills; IEM: Shure PSM 10i0; Wisycom MTK952; HA: d&b audiotechnik D80; HARDWIRED MICS: Telefunken; Shure; Sennheiser; WIRELESS MICS: Sennheiser Digital 9000, 6000; Shure Axient Digital; FOH EQUIPMENT: Neve Portico, Masterbuss; Lexicon PCM 92; Bricasti M7; Waves; Soundcraft Realtime Rack; MONITOR EQUIPMENT: Eventide Eclipse; TC Electronic System 6000; SPL TD4; Waves; Soundcraft Realtime Rack; OTHER: Radial SW8, JS2, JS3, J Rak 4, Tonebone Mix Blender
2 BEYONCE / JAY-Z EIGHTH DAY SOUND	Stephen Curtin (he); James Berry, James Corbin (me); Arno Vortman (se); Chris Bellamy (ae); Greg Horning, Clinton Reynolds, Emily Valentine, Peter Mesaros, Dan Buckley, Nills Knecht, Dom Thorne (techs)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b audiotechnik J Series; MS: d&b audiotechnik; IEM: Shure PSM 1000; HA: d&b audiotechnik D80; MA: d&b audiotechnik D80; HARDWIRED MICS: Sennheiser; Shure; DPA; WIRELESS MICS: Sennheiser 9000, 6000; FOH EQUIPMENT: Bricasti M7; Yamaha SPX2000; Neve Portico; Sonic Farm Creamliner; MONITOR EQUIPMENT: Wes Audio; Klang; OTHER: Radial SGI, Twin Iso, SW8
3 EAGLES CLAIR GLOBAL	Tom Evans (he); Ricky Leon, Charlie Hernandez, Jr. (me); Jared Lawrie (cc/se); Erick Ruiz (rf/stage e); Jen Smola, Matt Patterson, Dustin Andersen (techs)	HC: SSL Live L500; MC: DiGiCo SD5; Avid S6L; HS: Clair Cohesion CO-12, CO-8, CP-6, CP-218 subs; MS: Clair Cohesion CM-22; Clair 12am, ML-18; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure Beta 87, Beta 57a, Beta 91a, SM58, SM58s, SM81, Beta 56, Beta 58a, SM48; Audix D6, SCX25a; AKG 451; Audio-Technica AT4050; Telefunken M80, M80SH, M81, M81SH; Sennheiser e904, e906, MD409, MD421; DPA FA4018V, 2011C; Radial JDI, J48, SW8, DM1, JX44 switcher, Tonebone Headbone VT amp switcher, North Star overdrive, AC Driver acoustic preamp, Firefly DI; WIRELESS MICS: Shure Axient; FOH EQUIPMENT: Bricasti M7; Waves Live; MONITOR EQUIPMENT: Neve 5035
4 KENNY CHESNEY MORRIS	Chris Rabold (be); Bryan "Opie" Baxley (me); Phill "Sidephill" Robinson (me-Chesney); Chris "Sully" Sullivan (se); Rich Rossey (patch); Phil Spina (cc); Carl Schmidt, Tanner Freese, Ryan Lewis, Justin Curtiss (techs); Ed Wannebo (pm)	HC: SSL L500 Plus; MC: (2) Midas ProX; HS: d&b audiotechnik GSL; MS: d&b audiotechnik M4; IEM: Shure PSM1000; HARDWIRED MICS: Shure SM91, Beta 52, SM57; AKG C414; Telefunken M60, M80-SH; Sennheiser MD 421; Beyerdynamic M 88 TG; Royer R-122; Radial SW8, J48, SGI, DM1, Firefly DI; WIRELESS MICS: Shure AXT400 Axient, AXT200 JS Handheld, AXT610 Axient; sE Electronics V7 MC1 capsule; FOH EQUIPMENT: Empirical Labs EL8-X Distressor, EL7 Fatso Jr; Rupert Neve Designs 5045 Primary Source Enhancer; Sonic Farm Creamliner; Eventide H3000; API 2500 Bus Compressor; Tech 21 SansAmp PSA 1.1; Overstayer M-A-S, Stereo Field Effect, Stereo Voltage Control; Universal Audio UAD-2 Live Rack; Waves Extreme Server
5 JUSTIN TIMBERLAKE CLAIR GLOBAL	Andy Meyer (he); Paul Klimson (me); Phil Kriz, Justin Lenards, Josh Hughes (se); Hugo Gudino Jr., Elliott Wiley (mse); Paul Manuel (ae); Dustin Chrysler, Carlos Lopez-Olavarria, Rachel Rozzi, Nathan Sonnenberg (techs); Kevin Leas (RF tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Clair Cohesion CO-12, CO-10, CP-6, CP-118, CP-218; HA: Lab.gruppen PLM 20000Q; MA: Lab.gruppen PLM 20000Q; OTHER: Radial JX44, SGI44, SW8; FOH EQUIPMENT: Rupert Neve Designs Portico MBP, 5014, R10, 5421, 535, 5043, 5059, 5045, Shelford Channel, Portico II Channel; WesAudio Dione; Bettermaker 502V; Manley Vari MU; Elysia Xpressor; UA Apollo 16; Apogee Symphony; Thermionic Culture LRB, Swift, Phoenix; Antelope Audio Orion, 10M, Trinity; Optocore X6R, DD32R; Focusrite Scarlett 2i2, Scarlett 6i6; Maselec MLA-4; MONITOR EQUIPMENT: Rupert Neve Designs Shelford Channel, Portico II Channel; API 527; Bricasti M7; Smart Research C2; Eventide Eclipse
6 ED SHEERAN MAJOR TOM	Chris Marsh (he/me/pm); Charlie Albon (s tech); David White (ae); Brian Thorene, Parker Vandenberg, Dave Poynter, Adam Wells (pa techs)	HC/MC: DiGiCo SD7; HS: Meyer Sound Leo, Milo, Leopard, Lina, UPA-1P, 1100-LFC; MS: Meyer Sound MJF-212a, 900-LFC; IEM: Sennheiser 2000; WIRELESS MICS: Sennheiser 9000 Series Digital mics/instrument packs; EQUIPMENT: Avalon 737; Bricasti M7; Waves Max BCL; JoeCo BlackBox; Eventide Eclipse; API 2500; Meyer Sound Amie; Radial SW8
7 JOURNEY / DEF LEPPARD BRITANNIA ROW / SOUND IMAGE / VER TOUR SOUND	JOURNEY: Keith (Meaux) Windhorst (he); Maxie Williams (me); Jonathan Winkler (cc/se); Shannon Fitzpatrick (m tech); James Ellison, Mark Leeper (pa techs); DEF LEPPARD: Ronan McHugh (be); Ted Bible (me); Chris Houston (cc); Brooks Jackson (se)	HC: Avid S6L; DiGiCo SD5; MC: Avid S6L; DiGiCo SD5; HS: L-Acoustics K1, K2, Kara, K1-SB, KS-28, Arcs, Kara; MS: Sound Image MA 212, MA 112; Vue Audiotechnik h-15, s-25; Meyer Sound; IEM: Shure PSM 1000; JH Audio; HA: L-Acoustics LA12X; MA: Crown 3500HD; HARDWIRED MICS: AKG, Shure; Audio-Technica; Palmer; WIRELESS MICS: Shure AD4D, AD-2 with 58A capsules; FOH EQUIPMENT: Waves; Empirical Labs Distressors; MONITOR EQUIPMENT: Waves; OTHER: Radial SW8, JDX48, Hotshot DM1
8 PINK BRITANNIA ROW	Dave Bracey (he); Jon Lewis (me-Pink); Horst Hartmann (me-Band); Guillaume Burguez (cc); Johnny Keirle (se); Juan Beilin, Shaun Ayles (ae); Jack Murphy (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; Yamaha PM10; HS: L-Acoustics K1, K2, K1SB, KARA, KS28; MS: L-Acoustics X15, Clair CM-2; IEM: Sennheiser 2050; HA: L-Acoustics LA12X; MA: Lab.gruppen; WIRELESS MICS: Sennheiser 6000 series; OTHER: Radial SW8
9 DRAKE EIGHTH DAY SOUND	Chris Fisher (he); Demetrius Moore (be); Sean Sturge (me); Noah Gary (mtech); Joey Armada, Chan Howard, Charlie Southward, Nathiel Stutz, Sean Tingle (tech)	HC: DiGiCo SD7; MC: DiGiCo SD5; HS: Adamson E15; E12; S10 E119; MS: d&b audiotechnik J8, B22; IEM: Sennheiser; HA: Lab.gruppen; MA: d&b audiotechnik; HARDWIRED MICS: Sennheiser; Shure; Radial SW8; WIRELESS MICS: Sennheiser; FOH EQUIPMENT: Eventide H3000; TC Electronic 2290; MONITOR EQUIPMENT: Waves
10 LUKE BRYAN CLAIR	Frank Sgambellone (be); Seth Kendall (me); Jim "Fish" Miller (cc/se); James Anderson Hall, Dustin Ponczek, Rachel Hope Stuemke, John Weldon (crew)	HC: Yamaha RIVAGE PM10; MC: DiGiCo SD5; HS: Clair Cohesion CO12, CP218, CP6; MS: Clair CM-22, CP118; IEM: Shure PSM 1000; WIRELESS MICS: Shure Axient with SM58 capsules; FOH EQUIPMENT: TC Electronic 2290; Neve Portico, Neve 5045; API 2500; OTHER: Radial J48, SGI

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 highest-grossing U.S. tours of 2018, as ranked by *Pollstar*, adapted from its 1-11 entries. One, a theatrical production, was omitted as it did not, in fact, tour.



Bryan Bradley

Group One Ltd.

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

A: As of Jan. 14, I am now the president of Group One Ltd., the U.S. distributor for DiGi-Co, Calrec, KLANG:technologies, Avolites and several other pro audio and lighting brands. I have two main areas of responsibility. First and foremost is to work with Jack Kelly and

manage the day-to-day business of Group One. This business has been growing dramatically over the last few years, both organically and through acquisition. To continually be that successful requires a constant balance between a hard-charging entrepreneurial drive and a structured operational foundation focused on cost management and capital. Jack and I have very complementary skill sets that will allow us to optimize our strengths and continue the aggressive growth. The second area revolves around strategy. As any business grows, the importance of a well-defined strategy becomes critical. My role will focus not only on executing the current strategies, but developing new ones to expand the company's reach and impact.

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

A: When you join an elite management team like the one at Audiotonix, you need to be able to create and execute strategies that meet the short-term needs of the divisions while simultaneously supporting the long-term strategy of the larger company. In my most recent position at Harman, I did exactly that: managing Harman Professional's largest P&L while driving decisions that supported the entire company's global business objectives. As companies grow, it can be a challenge to maintain the unique culture that created the growth while implementing the structure needed to support it. Having worked for both Guitar Center and Harman during times of increased growth and heavy acquisition, my experience lends itself well to contributing to this team as we chart a course for the future.

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

A: While I'm still too new to the organization to comment on any specific tactics, from the outside, it appears that there are definitely opportunities that can be capitalized on. Particular areas of focus will be around retail positioning, as well as installation and touring market development. Fortunately, the team has been doing an amazing job, so there is no "major overhaul" or restructuring required. The intention is to leverage my experience to be able to tweak and improve the already existing strategies.

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

A: When you're joining a team that's already executing at this level, the number one short-term goal is always "Don't screw it up." And I intend to take that to heart. As for the long term, the goal is simply to leverage a strong operational foundation to grow all our partners' businesses. At the end of the day, it's all about them. My main goal is to do everything I can to leverage my relationships, knowledge and 20-plus years of experience in this great industry to accomplish that.

Q: What is the greatest challenge you face?

A: The biggest challenge is continually finding new ways to improve that don't disrupt the culture that got you to where you are. That goes for me individually as well as for the Audiotonix organization as a whole. We represent some of the best brands in the industry. Nurturing those brands while staying true to their identities can be a difficult task, but it's one that I'm extremely excited to jump into.



Marc Bertrand

Adamson Systems Engineering has appointed industry veteran **Marc Bertrand** as its new chief executive officer. Bertrand will lead Adamson's global operations from its headquarters in Port Perry, ON, as company founder Brock Adamson assumes the role of chairman. Bertrand spent a decade with Tannoy North America, eventually serving as managing director for five years. In 2009, he became the CEO of TC Group Americas, overseeing a catalog of brands including Tannoy, TC Elec-

tronic, Lab.gruppen, Lake and others, working there until 2016. Most recently Bertrand assumed an advisory role with Adamson before formally joining the company in November 2017 as managing director, Americas.



Case Kuehn

Kuehn, who was CFO of Loud, left to become a consultant. Now as the

Martin Audio North America has named **Case Kuehn** its new president. Martin Audio underwent a management buyout from LOUD Audio in June 2018; that same month,

president of Martin Audio North America, Kuehn will manage its day-to-day business strategy and core operational functions, drawing on his functional management experience from board of directors, general management, finance, accounting, human resources, information technology, purchasing and operations positions.

Allen & Heath has been adding to its team around the globe, most recently appointing **Markus Sinsel** its new sales director. Sinsel was previously at its Germany, Spain and Great Britain distributor Audio-Technica Europe, where he held the role of Allen & Heath brand manager. Allen & Heath managing director Rob Clark commented, "Markus has been part of the Allen & Heath family for the past 17 years and has a truly exceptional understanding of both our products and our customers. I cannot imagine a more qualified individual to drive our continued growth in cooperation with our distribution partners."



Markus Sinsel



Brian McGovern



Martijn Verkerk



Val Gilbert

Working out of Allen & Heath's U.S. headquarters, **Brian McGovern** has been appointed to a commercial audio business development role for North America. McGovern has an extensive install and commercial audio background, having held positions at Yamaha and Roland Professional, where he designed and implemented audio systems.

Based in Europe, **Martijn Verkerk** has been appointed installation product manager. He has worked with networked audio since 1999 and has extensive hands-on experience, having previously worked in technical sales for Crestron Benelux and for Allen & Heath's Netherlands distributor, Ampco Flashlight. The company has also appointed **Val Gilbert** technical marketing manager. Based near London, Gilbert will be supporting Allen & Heath's international distributor network. Gilbert spent the

last six years as the global engineering support manager at Nexco.



Mark Humrichouser

Shure has promoted **Mark Humrichouser** to vice president of global sales, a position where he will lead the company's global sales team, which oversees Shure's worldwide sales

operations for pro audio, retail, integrated systems and emerging markets. Humrichouser began his career at Shure in 2006 and has since risen through the ranks in sales, with positions including vice president of the Americas and Asia/Pacific sales organizations, general manager of the Americas business unit, general manager of the U.S. business unit and director of U.S. sales.

LOUD Audio has added **Mark Ureda** to its board of directors. Ureda retired from Harman Professional in 2018, where he was senior vice president, products and technology.



Mark Ureda

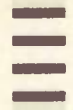
He joined Harman in 2010 as president of JBL Professional and also served Harman Pro as CTO and vice president, strategy. As senior vice president, Ureda was responsible for R&D, product development, software development, and product management of product lines such as AKG microphones and headphones, AMX video and control, BSS and dbx signal processing, Crown amplifiers, JBL Professional loudspeakers, Martin Professional lighting, and Soundcraft and Studer mixing consoles.

Pro AV technology distributor Allied ProTech has named **Jeff Miranda** sales manager. Miranda brings to the role nearly 15 years of experience in the professional audio industry,



Jeff Miranda

having previously run his own integration company and worked in positions at TOA Electronics, Adobe Systems, and most recently at Pacific AV as vice president of sales. Previous roles have included product management, applications engineering, system design and system sales. Miranda also has nearly 20 years of experience as a live sound engineer, mixing at worship and entertainment venues.



Finding Alternate Paths

We get up in the morning, make coffee, head to work, come home, eat dinner, watch TV and go to bed. Routine. It reminds me of folks who start up a business and believe they will see success simply because they have opened their doors.

You have to always ask yourself: What makes you and your business unique? What will attract someone to your world instead of your competition? After all, you're asking someone to break their own routine. To attract a customer, you have to offer either the same quality for less money or higher quality for the same price. Given today's competitive market, this is not easy, particularly if you want to stay in business.

The first training I had when I was hired at Lauzon Sound in Ottawa emphasized selling the sizzle, not the steak. Lauzon had two departments: pianos and high-tech. Although I was hired for the high-tech department, my training began with learning how to sell a Steinway grand piano. Then they took me through the process of creating a multipage presentation with letters, pricing and, of course, data sheets. Using this technique in the next months, I sold sound systems to churches, nightclubs and arenas. I was so successful that some years later I was offered half the store to come back. By then I was working for Fender Canada as product manager, however, and was on another career path.

At that time, Fender had decided that it wanted to be in the P.A. business, so it went to Matsushita in Ja-

pan to have a range of microphones, mixers and speaker cabinets produced. As Fender is Fender, I could see that selling P.A. systems would be a challenge no matter how good the product. Instead of merely trying to sell Fender against the established brands, I arranged demos in nightclubs in both Vancouver and Toronto, where I brought in the top band in town to perform in a club using a Fender P.A., and then invited dealers and sound engineers to listen.

In Vancouver, I hired a band called Science that did a better job at Toto than Toto. In Toronto, I hired The Lincolns, the top R&B band in the country. In both cases, the bands were so good that they could have played through a pair of 1970s Shure Vocalmasters and convinced the crowd of the quality. We then offered extended terms to the dealers to carry the product—and next thing you know, we were sold out. We were so successful that we ended up selling 50 percent of the product allocated to North America in Canada alone. The Aha Moment was clear: It is not just about the product; it's about the excitement you bring along with it.

Another story follows the same path. CBS, which owned Fender at the time, wanted to get out of the guitar business, so Fender's president, Bill Shultz, and a group of distributors arranged a leveraged buy-out to acquire the company in 1985. To accomplish this, they cut North American guitar production to almost zero and contracted a Japanese guitar manufacturer to build for them. Kramer was the top-selling brand at

the time due to Eddie Van Halen's meteoric ascent. One day I got a call from Lauzon's vice president of sales, asking me to see him in his office. He had just received three guitars from Fender: the first had a single humbucker, the second had two humbuckers and the third had two single coils and a humbucker. All of these had locking tremolo systems, were painted in pastel colors and had a flashy Strat logo emblazoned on the headstock. They were obviously made to chase Kramer's success. When my boss asked how many we should order, I told him: "None. Fender is not a heavy metal guitar company; we are Clapton, Hendrix, Jeff Beck ... not Van Halen." An hour later he called me back to his office and said we had to buy 600 units, so I told him, "OK, buy 150 of the first two and 300 of the third. I'll figure it out."

I conjured up a plan to offer an embroidered jean jacket with the guitars as a promotional stunt. I contacted Lee, Canadian denim clothing company GWG and Levi's and eventually was able to put a deal together to buy the jackets directly from Lee. I had the back embroidered with the Strat logo and the front with a small Fender logo. I then called our Canadian sales team members in for a meeting where I showed them the guitars and the jean jackets. To no surprise, the jackets got all the atten-



BY PETER JANIS

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

tion. I then told them to visit dealers wearing the jean jacket and say nothing about the guitars. Have a coffee and a chat. Watch what happens. Once the dealers saw the jacket, it was no longer a matter of what guitars they had to buy; they wanted the jackets for themselves and their staff. We sold out within a few weeks. Keep in mind that Canada has one-tenth the population of the United States, so this would be akin to selling 6,000 guitars in two weeks.

The Aha Moment: Sometimes it is not the product, but the sizzle that creates the sale.

METAlliance

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or B. I'll start with pure tech measurements to establish equivalent performance, ensuring an equal playing field (which is often made difficult because of different manufacturers' approaches to calibration) and set up exactly equivalent signal chains. So, with A-B-X listening, I'll randomize the trials, most often having an assistant carefully write down the random assignments. If need be, I'll change to an approach where I'll listen to a sequence such as A-A-B-A, where I'll try to pick out the "odd man out."

Most importantly, where features are subtle, I'll widen the listening window and take time to relax to prepare for critical listening. Mindfulness meditation is a technique to practice the act of being fully present in each

moment without judgment. Thus, often it's important to listen to larger sample sizes—minutes instead of seconds—and to repeat these tests until you've got a clear picture of what you're listening to.

Grammy and TEC Award-winner George Massenburg is a producer, recording engineer and designer of audio equipment who has participated in the creation of more than 400 albums. He has won Grammys as both a producer and as an engineer, and in 1998 was awarded a Grammy for Technical Achievement for a lifetime of contributions to the art and science of recording. Massenburg's discography includes seven Little Feat albums; seven Earth, Wind & Fire albums; 13 Linda Ronstadt albums; and albums with Journey, James Taylor, Jennifer Warnes, Herbie Hancock and Ricky Skaggs, among others. He also created that mainstay of the recording process, the parametric equalizer.

METAlliance
www.metalliance.com

Forsythe Returns to EAW

WHITINSVILLE, MA—Three years ago, EAW's vice president of strategic engineering Kenton Forsythe left the company he co-founded in the mid-1970s, but has now returned to the fold, contributing to new advanced product development.

His presence is on a part-time basis, he explained, collaborating with suppliers on component designs and new product development concepts, working with and under head of engineering Geoff McKinnon and director of product management Jeremy Forsythe. "I kind of reclaimed my role as the transducer guru," he said.

While Forsythe is a crucial part of the company's past, "We're not getting the team back together," he clarified. "We are assembling a



Kenton Forsythe

new group of much younger people who have the energy and the passion that we brought to it 30 or 40 years ago. We're trying to stretch the boundaries of what can be done with the technology, and we're working on new products that are going to knock your socks off."

So how was his intermission? "When I left three years ago, I took a year off, and my wife and I worked on our 'honey do' list," he said. "We're still working on that."

EAW
www.eaw.com

Harman

(continued from page 1)

the past two years—a whirlwind that began when consumer electronics giant Samsung acquired all of Harman for \$8 billion in November 2016.

“We are already seeing the positive impact from the restructuring we completed last year,” said Parasher. “In fact, 2018 was a record year for orders booked. This was driven by our highest-ever year of audio product sales, as well as record growth in sales outside of the U.S. In addition to this record-setting revenue, we also drove strong growth in profitability.” Put another way, he summarized, “We saw good growth despite all the disruption.”

And there was plenty of disruption. Harman Pro’s changes affected all its brands—AKG, AMX, BSS, Crown, dbx, DigiTech, JBL Professional, IDX, Lexicon, Martin, Soundcraft, Studer and SVSI—with layoffs in the hundreds as it closed numerous offices and facilities worldwide, consolidating into three “Centers of Competency,” with acoustics headquartered in Harman Pro’s existing facilities in Northridge, CA; electronics, DSP, and video and control tackled in AMX’s home town of Richardson, TX; and lighting centered in Martin Professional’s longtime base in Aarhus, Denmark.

While the effort may have appeared on the outside to be all about paring back, Parasher explained his thought process—and the considerable investment that followed, which ranged from IT outlay to reinventing facilities to hiring upwards of 350 new employees. “Many people were skeptical, and I understand that, but we were very clear from day one—Samsung was very clear, we were very clear—that this is a business that we are going to invest in and that we are going to grow,” he told *Pro Sound News*. “We continue to invest. We have a plan and we are executing against it.”

Bringing the various brands’ teams together in physical proximity with the Centers of Competency was key to that strategy. “The idea behind it was that we have a collection of many brands, but we never really got to leverage the power behind them the way we should because each brand operated in its own silo,” he said. “There was a huge potential to combine them all and put them in a platform [the Centers of Competency], where it is engineering—not only hardware but, more importantly, applications and software—sales and marketing, after-sales service, tech support, pre-sales. We did that in a very fast-paced way. People call it a



“We believe we have an opportunity as a team to transform the pro industry,” said Mohit Parasher, president of Harman Professional Solutions and executive vice president of Harman.

restructure; I call it reconstruction.”

The changes continue: New Experience Centers have been built around the globe to demonstrate the company’s solutions for different markets, from recording to live sound to immersive retail environments. Elsewhere in Harman, a new company-wide IT platform handles sales forecasting up to raw materials procurement and supply chain, but also aims to break down silos between engineering teams. “We created a big repository I’m proud of, with all [of our] engineering knowledge—terabytes and terabytes of knowledge—on one platform,” said Parasher. “Any engineer on any of our sites can access anything at any time and learn from each other.”

Parasher likewise sees placing engineering teams under one roof as a learning opportunity, aiding cross-pollination between brands’ technologies. Building on that, the various centers have standardized labs so that hardware and software engineering teams can collaborate with the same resources and equipment—a move he expects will provide fast ideation, with talent pools handing off work across time zones as the day progresses around the world.

Many of the company’s new hires, notably in engineering and software, are from outside the pro audio industry; Parasher himself came to Harman Pro two years ago after a successful run on Harman’s consumer electronics side. While consumer audio tech often adapts advancements from pro audio, Parasher wants to draw from the consumer world a bit—namely its design philosophies.

“There is a massive need out there for making things easy to use, easier to install,” he said. “Our industry is a little bit slower to adapt because the installs are bigger, [so] the decisions are larger; it’s not like buying a \$100 speaker or \$200 headphone.”

At the same time, he wants to rethink products’ industrial design—“Just because it’s behind a rack doesn’t mean it has to be ugly. You can make it good-looking at the same price”—and their ability to integrate with not only other Harman products, but the industry in general. “In the old AMX world, we had our own programming language, our own way of doing things, so we were closed off to the world,” he said. “Make it open, discoverable, connectable. It’s okay—customers will choose some competitors’ products to connect with yours? It’s fine. The customer should get the best product, the best choice, and that puts reverse pressure on us to be best-in-class in everything we do.”

It may be a tall order, but that’s nothing. “We believe we have an opportunity as a team to transform the pro industry,” said Parasher. “We have an opportunity—and a responsibility, in a sense—because we have this portfolio of products, this great team, this great business channel, fantastic brands and a great owner like Samsung that is willing to invest, so there’s no excuse.”

To that end, there’s both short- and long-term goals in play. This year, the company will be placing emphasis on specific segments, notably video and control, with a number of products hitting in mid-2019: “It is one of the places where we are very

confident that what we will bring to the market will be a disruption that will enable us to leapfrog—and it’s not about leapfrogging the competition, actually; it’s about offering customers what they deserve.”

For the long-term, widescreen view, Parasher plans to draw from R&D elsewhere in Harman and Samsung, and bring it to bear on Harman Pro’s world. “You’d be surprised at the amount of technology we can draw from the connected car business,” he shared. “Nobody in the pro industry can afford the thousands of engineers needed to develop products in secure Linux.... Almost 80 percent of the work on secure Linux that we would be required to do is already done, so we can bring it into the pro audio industry. It’s the same thing with industrial design, except that’s from the consumer side, the services side and the Samsung side, etc. Bringing all these things together is the opportunity for us to unlock the value from that.”

For now, however, buoyed by Harman Pro’s sales in 2018, Parasher is looking for the company to continue hitting milestones in the months and years ahead. “We are right on target to achieve what we committed to as a team,” he said. “It’s our responsibility to get in there and say, ‘Okay, what do you think the industry should look like?’ And we should drive toward that, make our steps one at a time, have our milestones laid out. We started that journey 20 months back, and I’m very pleased with where we are.”

Harman Professional
<https://pro.harman.com>

NAMM

(continued from page 1)

ty lines. The association's coalescence of music products, pro audio equipment and event technology at the NAMM Show—what Lamond has dubbed the “crossroads concept”—is an example of that evolution. Crossroads 2.0, as Lamond refers to it, began with the expansion into ACC North for the 2018 show.

“It was a long-sought expansion and could not have come at a better time,” he told Gumble. “We laid out the show floor having never seen the finished building, and we learned a lot about traffic flow and building logistics. This year, our guests will find more exhibits and improved convenience in locating and seeing all of the exhibits.”

“We started in the ACC North Hall last year,” said Ray van Straten, senior director of global marketing for QSC Live Sound. “It’s a great space and very modern. It’s great to have all the sound reinforcement manufacturers together in one place at the NAMM Show.” In addition to showing its range of loudspeaker, amplifier and digital mixing console products, van Straten said, “QSC will be launching a very special worldwide initiative at this year’s show”—QSC’s new global “Play It Loud” campaign.

Not every pro audio company jumped on the ACC North bandwagon in 2018, but this time around, several more got on board for the 2019 edition. Yamaha Commercial Audio, for example, brought its products in the ACC North Hall for the first time at NAMM 2019. The booth featured the company’s Rivage PM, CL and QL digital audio consoles, NEXO speaker systems and Commercial Installation Solutions (CIS) lines. In previous years, Yamaha’s pro audio products were showcased at the Marriott Hotel, where Yamaha continued to occupy a significant amount of space this year.

According to a statement from Yamaha Corporation of America, “With NAMM’s recent partnership with AES, the show has now become an even larger force in the commercial audio market.”

Yamaha Corp. of America general manager Alan Macpherson added, “The theme is ‘Creating Perfect Systems,’ and this will serve as an aspirational goal for the Yamaha team to exceed our customers’ pro audio system needs in terms of operability, network connectivity, system control and, of course, our legendary sound quality, reliability and support.”

Loudspeaker manufacturer Celestion staged two booths at this year’s convention, including one in the center of the ACC, where the company exhibited last year. “The NAMM Show has always been about meeting with and talking to our customers in the MI sector, and each year is a successful platform for us to launch our latest guitar or bass speaker products,” said John Paice, marketing/artist relations. New MI product launches included the Celestion Ruby alnico magnet guitar speaker, G10 Creamback and VT Junior guitar speakers, and new Bass Impulse Responses.

Paice continued, “Celestion is also a major player in the development and manufacture of professional audio transducers. Following the successful introduction of the pro audio hall to NAMM 2018, it was important for Celestion to be involved in this. It enables us to continue our conversation with customers and potential customers in the sound reinforcement marketplace. A secondary booth provides us with an exclusively pro audio platform to talk about our latest innovations in this sector, right



NAMM president and CEO Joe Lamond played a key role in creating the NAMM Show’s new pro audio wing at ACC North last year.

in the heart of the action.” Celestion’s pro audio product highlights included the Axi2050 axiperiodic wideband compression driver, CDX14-3040 neodymium magnet compression driver and the CDX14-2410 ferrite magnet compression driver.

Lectrosonics didn’t exhibit at NAMM 2018, but vice president of sales and service Karl Winkler visited ACC North, liked what he saw and arranged for the company to exhibit at NAMM 2019. “It’s fantastic that there is a new facility, because NAMM had certainly outgrown itself. It was always super hard to get into Hall A, and super competitive to get good positions,” he said. “Having a hall dedicated to pro audio helps to increase the quality of the traffic, if

not the traffic itself, so we’re looking forward to exhibiting this year.”

Lectrosonics used the show to debut its ALP690 UHF log periodic dipole array antenna and the latest firmware release for the Duet2 digital IEM system. Oh, and for those audio pros who pined for the rock star vibe of the main halls, Lectrosonics proffered a busy schedule of appearances by members of classic rock acts including Whitesnake, Great White and Stryper.

While he arranged for Lectrosonics to be part of this year’s convention, Winkler nonetheless had his eyes open when he checked out the new ACC in 2018. “The logistics were a little tough. If you had to go from, say, Hall A or the Hilton to the new hall, it took a while. They had metal detectors and lines of people.” With that in mind, he noted, “You have to plan for it—be ready for the reality of the logistics.”

But as Lamond divulged to Gumble, NAMM organizers learned from last year’s show. While attendees last year had to pass through security to enter the main halls and then pass security again to enter ACC North, NAMM became well aware of the bottlenecks and took steps to solve the issue. “The security perimeter has been widened ... so our guests will be able to move freely between the new ACC North and Halls A and B, which also include many exciting pro audio, lighting, video and event technology exhibits,” Lamond told *PSNEurope*. “This year’s improvements will really be felt by our guests, and I suspect they will have a really fun and productive time in Anaheim.”

Winkler, like many of his industry colleagues, participated in various AES@NAMM sessions this year, leading classes on entertainment wireless, offering an update on RF spectrum issues and taking users on a deep dive into Lectrosonics gear alongside Kelly Fair, the company’s western regional technical sales representative.

When the AES@NAMM program debuted in 2018 at the Hilton Hotel, Winkler said, attendance could have been better. “I think part of it was logistics and people not being able to find it. If the whole goal is to drive up exposure to AES, get people these resources and, ultimately, recruit people into the AES, then make it easy—and inexpensive.” Winkler reports that AES@NAMM organizers were responsive to his feedback about last year’s events: “I think they’ve made it easier to get in, and they said there would be more notice about the sessions.”

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Fireside Chat

BY JACQUES SONYIEUX

Kacey Chambers' latest album, *Campfire*, sees the ARIA Music Award-winning singer/songwriter quite literally going back to her roots where it all began: beside campfires in the barren deserts of Australia. Performed alongside longtime collaborators and "Fireside Disciples" Brandon Dodd, Alan Pigram and her father, Bill Chambers, the album is sparse, authentic and magical. Chambers insisted on a minimalist production approach with almost no overdubs or effects. *Pro Sound News* caught up with Chambers just prior to her U.S. tour.

ON SUMMONING THE PAST

I think this was probably an album I was always going to make. A lot of my childhood was spent living and sleeping around a campfire. When I was a kid, my dad was a professional fox hunter, which is a weird job to have. He still plays guitar in my band and has done forever, but he came from a long line of hunters—people who lived off the land. We lived in our car across the Nullarbor Plain, which is basically a big desert that runs across the middle of Australia. My dad hunted all of our food before we would eat it around the campfire. My brother and I were schooled and also learned to sing around a campfire. Often we would go for weeks without seeing another person. We would hunt through the night and then travel to a new place to set up camp. That was basically how we lived.

ON CHURNING OUT SONGS

It was the easiest record I've ever

written—I think because somewhere in my mind I've been writing this record since I was a kid. It has been there as a concept for such a long time; it has been brewing the whole time in my subconscious. I don't really know why I decided to do it now, but it just felt right. Once I started writing, all these songs started flowing out. I have a little home studio where we made the record and it was a very comfortable environment. The production itself was a no-brainer. I really wanted a minimal production and to keep it as raw as I possibly could. It needed to sound like I invited a bunch of people to come and play while we were literally sitting around a campfire.

ON NITPICKING VOCALS

I'm quite lucky that when I open my mouth, something comes out that sounds half decent because that's really about how far I think about it. I

ESSENCE MUSIC GROUP



Kacey Chambers and the Fireside Disciples

am not someone who wants to think about things too much, and to be honest, every so often I'll work with a producer who really likes to dissect things—"Let's change the way you sing the third line in the second verse"—and I'm just like, oh man, it's not going to work! I really just like to go and sing all my vocals all the way through with the band, and I never like overdubbing. I want to make my magic at the same time that everybody is making the magic. This approach does mean that sometimes you have to overlook certain things, like some off notes here or there, or

more weight behind it. My album before *Campfire*, *Dragonfly*, had a song on it called "Ain't No Little Girl," which is one of my favorite songs to sing. I wrote that before I had the nodules, but I never would have been able to sing it or record it in any way before the operation.

ON WORKING WITH DAD

My dad was always going to be involved on this record as much as on any other record I've ever made. He's on all my records and is a big part of my sound, particularly on my last two albums. On this latest tour and album,

"I would absolutely imagine that my voice is not an easy voice to record because it is so unique—which is a very nice way to say it. Most people just say it's high, whiny and freaky."

Kacey Chambers

even a wrong lyric. On my last record, I can pick out a couple of places where I've sung the wrong lyric. But overall it is really important for me to be making my magic at the same time as the rest of the band.

ON MICROPHONE CHOICES

I don't spend a whole lot of time thinking about microphones. Thankfully I have a whole lot of people working around me who know what is best for my voice. I would absolutely imagine that my voice is not an easy voice to record because it is so unique—which is a very nice way to say it. Most people just say it's high, whiny and freaky. In fact, my family members are all kind of sick of my voice by now! About three years ago, I actually had nodules on my vocal cords. I had them removed, so now my voice has a lot more power and volume, and I'm able to put a bit

he's an even bigger part of it because I tell lots of stories about our childhood, where songs came from and what it was like growing up around the campfire. We've sort of created a sound together over the years and we like working together when we go out on the road. I kind of feel lost when he's not there. A really good friend of mine, Alan Pigram, was also a big part of this record. We wrote some of the songs together and he also does the traditional Aboriginal spoken word in "The Campfire Song." He is from an Aboriginal tribe in Broome, in Western Australia, called the Yawuru tribe. He brought a special flavor to the record that is something I haven't had on my albums before.

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

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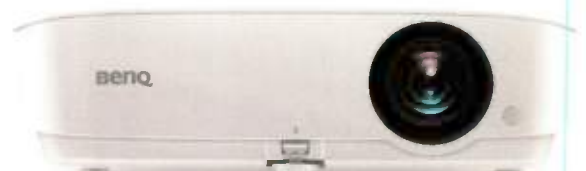
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