

# prosound

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ProAudio  
Review

Volume 40 No. 2

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February 2018



TPG TCB—Total Production Group took care of business when Top Dawg Entertainment held its annual TDE Concert Toy Drive and Giveaway in Watts, Los Angeles. TPG fielded a new Bose ShowMatch DeltaQ system for the show, which featured Kendrick Lamar and a host of others, including Rihanna who performed with the rapper on "Loyalty" from his DAMN album. For more, see page 38.

## Pro Audio Retail is Ready for 2018

BY STEVE HARVEY

According to the pro audio industry's major online retailers, the educational and house of worship markets are buoyant, purchasers are becoming savvier about technology and, while the major population centers on the east and west coasts represent a sig-

nificant percentage of sales, as might be expected, business is reportedly strong nationwide.

Drilling down into the product lists, digital mixers and speakers stand out as bestsellers, and there has been something of an uptick in wireless microphone sales, thanks to the imminent loss of access to the

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## SSL Acquired by Audiotonix

Audiotonix, which designs and manufactures mixing consoles and ancillary products under the DiGiCo, Calrec and Allen & Heath brands, acquired Solid State Logic in late December.



## 2018 Crucial for ATSC 3.0

The milestone release of the ATSC 3.0 standard marks the end of a five-year effort to set guidelines for a reimagined TV broadcast system that combines over-the-air and broadband services. What does this mean for audio and what's next?



## Winter Quiet No More for SR Providers

BY CLIVE YOUNG

It's the dead of winter; the summer months and all the work they provid-

ed for the national sound reinforcement companies—tours, festivals, destination events and the like—are but a distant memory. This time of

year used to mean that things slowed down in the SR sector—but the operative words there are "used to."

"There's no such thing as downtime these days," laughed Jack Boessneck, executive vice president of Eighth Day Sound (Highland Heights, OH). "It really has changed—20, 30 years ago, nobody did anything and we all suffered from the January doldrums. Now everybody's decided they want to eat 365 days a year."

Kelsey Brandon Gin-

grich, director of engineering, manufacturing & marketing at Clair Global (Lititz, PA) concurred, observing, "It's not an off season. We stay pretty busy these months from a gig perspective, which is great. A lot of it is one-offs like New Year's Eve events—for instance, Phish does a bunch of one-offs around then. There's also some awards shows. It's more events than long-term tours around this time, but we're supporting our clients

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|                   |                       |                      |                        |                     |                       |                     |
|-------------------|-----------------------|----------------------|------------------------|---------------------|-----------------------|---------------------|
| A Thousand Horses | CBS Television        | Eric Clapton         | Jimmy Eat World        | Marianas Trench     | Queensrÿche           | Steve Vai           |
| AC/DC             | CeCe Winans           | Eric Johnson         | Joe Bonamassa          | Marillion           | Radiohead             | Steve Winwood       |
| Adele             | Celine Dion           | Erykah Badu          | Joe Chiccarelli        | Mark Egan           | Randy Bachman         | Sting               |
| Aerosmith         | Cheap Trick           | Evanescence          | Joe Jackson            | Mark Knopfler       | Randy Brecker         | Styx                |
| Al Schmitt        | Chicago               | Eighth Day Sound     | Joe Satriani           | Mark Ronson         | Randy Travis          | System of a Down    |
| Alan Parsons      | Chick Corea           | Fall Out Boy         | Joe Walsh              | Mark Tremonti       | Rascal Flatts         | Taylor Swift        |
| Alice Cooper      | Chris Cornell         | FFDP                 | Joey DeFrancesco       | Maroon 5            | Ray LaMontagne        | The Band Perry      |
| Alicia Keys       | Chuck Rainey          | Fitz & The Tantrums  | John Hiatt             | Matt and Kim        | Red Hot Chili Peppers | The Beach Boys      |
| Alison Krauss     | Cirque du Soleil      | Fleetwood Mac        | John Jorgenson         | Marty Stuart        | Rhonda Smith          | The Black Crowes    |
| Alter Bridge      | City and Colour       | Florida Georgia Line | John Legend            | Matchbox 20         | Rival Sons            | The Black Eyed Peas |
| American Idol     | Clair Brothers        | Foo Fighters         | John Mayer             | Megadeth            | Rihanna               | The Black Keys      |
| Andy Grammer      | Coldplay              | Foreigner            | John Patitucci         | Meghan Trainor      | Ringo Starr           | The Corrs           |
| Annihilator       | Cold Creek County     | Frank Filippetti     | John Petrucci          | Melissa Etheridge   | Robert Plant          | The Decemberists    |
| Antoine Dufour    | Colin James           | Franz Ferdinand      | Jordan Honsinger       | MENEW               | Robert Randolph       | The Doobie Brothers |
| Arcade Fire       | Creed                 | Frightened Rabbit    | Jordan Rudess          | Metallica           | Rod Stewart           | The Eagles          |
| Averged Sevenfold | Crosby, Stills & Nash | G.E. Smith           | Justin Bieber          | Metric              | Roger Hodgson         | The Flecktones      |
| Babyface          | Crowded House         | Garbage              | Justin Mekkala-Johnsen | Michael Bublé       | Roger Waters          | The Killers         |
| Barbra Streisand  | Culture Club          | Genesis              | Josh Groban            | Miike Snow          | Royal Blood           | The Lumineers       |
| Barenaked Ladies  | Cyndi Lauper          | Godsmack             | Journey                | Miranda Lambert     | Rush                  | The National        |
| Blue Man Group    | Daniel Lanois         | Gomez                | Juanes                 | MO                  | Rusty Cooley          | The Rolling Stones  |
| Beck              | Dave Natale           | Goo Goo Dolls        | Justin Timberlake      | Monster Truck       | Sam Roberts           | The Tenors          |
| Beyoncé           | Dave Stewart          | Grand Ole Opry       | Kaiser Chiefs          | Mötley Crüe         | Santana               | The Tragically Hip  |
| Billy Idol        | Dave Matthews         | Green Day            | Kanye West             | Mumford & Sons      | Sarah McLachlan       | The Prodigy         |
| Billy Joel        | David Bottrill        | Guns N' Roses        | Katy Perry             | Muse                | Scissor Sisters       | The White Stripes   |
| Blue Rodeo        | David Gilmour         | Gregg Allman         | k d lang               | My Morning Jacket   | Seal                  | The Who             |
| Billy Sheehan     | Deadmau5              | Gwen Stefani         | Keb' Mo'               | Nathan East         | Selena Gomez          | Timbaland           |
| Biffy Clyro       | Death Cab for Cutie   | Hall & Oates         | Keith Urban            | NBC Television      | Sevendust             | Tom Waits           |
| Blake Shelton     | Def Leppard           | Herbie Hancock       | Kelly Clarkson         | NEEDTOBREATHE       | Shakira               | Tommy Emmanuel      |
| Bob Dylan         | Depeche Mode          | Hedley               | Kenny Chesney          | Neil Young          | Shania Twain          | Tony Bennett        |
| Bon Jovi          | Derek Trucks          | HAIM                 | Kenny Loggins          | Nelly Furtado       | Shawn Mendes          | Tony Levin          |
| Bonobo            | Devin Townsend        | Havok                | Kings of Leon          | Nickelback          | Sheryl Crow           | Toots & the Maytals |
| Bonnie Raitt      | Diana Krall           | Hinder               | Korn                   | Night Riots         | Shinedown             | U2                  |
| Bootsy Collins    | Dimmu Borgir          | Il Divo              | KISS                   | Nine Inch Nails     | Simple Plan           | Usher               |
| Brent Mason       | Disney                | Imagine Dragons      | KT Tunstall            | Of Montreal         | Slash                 | Van Halen           |
| Boston Pops       | Dixie Chicks          | Iron Maiden          | Lady Antebellum        | One Republic        | Slayer                | Victor Wooten       |
| Brad Paisley      | Dolly Parton          | James Taylor         | Lady Gaga              | Our Lady Peace      | Sleeping with Sirens  | Vince Gill          |
| Bruce Hornsby     | Don Ross              | Jamiroquai           | Lenny Kravitz          | Panic! at the Disco | Slipknot              | Vintage Trouble     |
| Bruce Springsteen | Dream Theater         | Janet Jackson        | Leland Sklar           | Pat Metheny         | Snow Patrol           | Volbeat             |
| Bruno Mars        | Duran Duran           | Jason Mraz           | Leo Kottke             | Paul Boothroyd      | Soundgarden           | Weezer              |
| Bryan Adams       | Dwight Yoakam         | Jeff Beck            | Linkin Park            | Paul McCartney      | Stanley Clarke        | Will.I.Am           |
| Buddy Guy         | Earth, Wind & Fire    | Jennifer Lopez       | Lionel Richie          | Paul Simon          | Steely Dan            | Whitesnake          |
| Butch Walker      | Ed Sheeran            | Jerry Douglas        | Little Big Town        | Paul Weller         | Steve Earle           | X Ambassadors       |
| Cannibal Corpse   | Elton John            | Jason Aldean         | Luther Dickinson       | P!nk                | Steve Lukather        | You Me At Six       |
| Carrie Underwood  | Eminem                | Jason Derulo         | Macy Gray              | Portugal. The Man   | Steve Miller          | Zac Brown Band      |
| Casting Crowns    | Emmylou Harris        | Jacquire King        | Marcus Miller          | Peter Dinklage      | Steve Morse           | Zakk Wylde          |
| CBC Television    | Enrique Iglesias      | Jimmy Buffett        | Mariah Carey           | Pink Floyd          | Steve Stevens         | Zella Day           |

\* The above is a partial list of artists and sound companies that currently use or have used Radial products. No endorsement is offered or implied by being listed here. Sorry if we've missed you - let us know and we'll include you next time!



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# GENELEC®



# SSL Acquired by Console Conglomerate Audiotonix

BY STEVE HARVEY

CHESSINGTON, UK—Audiotonix, which designs and manufactures mixing consoles and ancillary products under the DiGiCo, Calrec and Allen & Heath brands, acquired Solid State

Logic in late December, less than one year after French investor Astorg injected approximately \$254 million into the group.

“We are growing the Audiotonix Group with professional audio brands that have exceptional technology, committed people and a real passion for what they do,” comments James Gordon, CEO of Audiotonix. “With their incredible history and reputation, their enthusiasm and loyal customer base, SSL is ideally placed to be the next partner in the group. The whole group will benefit by having SSL as an integral part of the team going forward. Having their help to further expand our international reach, technology and custom-

er base will be a lot of fun.”

The late Colin Sanders founded SSL in 1969, initially to produce switching systems for pipe organs, before building a series of mixing consoles for his own Acorn Studios. It’s no exaggeration to say—as the company’s website states—that the SL 4000 E Series, released in 1979, transformed the music recording industry. In April 2013, at Prolight + Sound, SSL announced the Live console, its first-ever desk for the sound reinforcement industry.

SSL has undergone several changes of ownership over the decades. UEI plc, a technology group, acquired SSL in 1988, and was in turn acquired by Carlton Television a

## Solid State Logic Audiotonix

year later. SSL changed hands again in 1999 when it was sold to 3i in an institutional buyout. In June 2005, musician and technologist Peter Gabriel and broadcast industry entrepreneur David Engelke acquired the company’s assets in a joint venture.

“My relationship with SSL began as a user, a customer and then as part owner,” says Gabriel. “SSL has always made wonderful innovative equipment that encourages creativity and I got involved because I never wanted

(continued on page 16)

### briefs

#### Earthworks Named a WBE

MILFORD, NH—Earthworks (earthworksaudio.com) has been granted certification as a Women’s Business Enterprise (WBE) by the Women’s Business Enterprise National Council (WBENC). WBENC’s national standard of certification requires an in-depth review of the business and a site inspection, confirming the business is at least 51% owned, operated and controlled by women. By including women-owned businesses among their vendors, corporations and government agencies demonstrate their commitment to fostering diversity and the continued development of their supplier/vendor diversity programs.

#### Nortek, Core Brands Merge

CARLSBAD/PETALUMA, CA—Nortek Security & Control LLC and Core Brands LLC (corebrands.com) have entered a strategic merger that combines the companies’ solutions and business programs in an effort to create meaningful opportunities for dealers and distributors. Core owns a variety of pro audio-related brands, including SpeakerCraft, Furman and Xantech. Nortek is involved with smart connected devices and systems for residential, security, access control and digital health markets.

#### ISI / FBT USA Expand, Move

BEDFORD HILLS, NY—Italian Speaker Imports (italianspeakers.us), the U.S. distributor of FBT, JTS and Bespeco, has moved to a larger location in Bedford Hills, NY. Taking over the 3,000 sq. ft. facility will accommodate the business’ growth, according to president/owner John Krupa, while also bringing its offices and inventory together under one roof. The company will maintain a separate warehouse in New Jersey for some larger products. ISI was established in 2014 and is also a partner with APE Labs.



THE BALL DROPPED; THE SIGNAL DID NOT—New York City is hopelessly congested in the winter, regardless of whether you’re talking about traffic, the noses of millions of tourists or the RF spectrum that broadcasters, emergency services, Broadway and countless other stakeholders all have to share. All of that—plus a wind-chill temperature of -4° F—made December 31st in Times Square one of the most challenging nights of the year for Jetwave Wireless, which provided Wisycom RF equipment for ABC’s *Dick Clark’s New Year’s Rockin’ Eve* ’18 with Ryan Seacrest broadcast. The Jetwave Wireless team included (l-r) Ian McKelvy, TJ Miesen, Jim Dugan, Larry Connell, Ben McCall, Victor Lang and Marcos Nieves.

# T-Mobile’s 600 MHz Coverage Expands

BY STEVE HARVEY

BELLEVUE, WA—T-Mobile kicked off the New Year with an announcement that its new 600 MHz services are now live in 586 cities and towns across 28 states, and that it will be launching more than a dozen new 600 MHz capable smartphones in 2018. As a result, more audio pros operating wireless gear in the 600 MHz service band will be affected and face considerable fines if they continue to use that range of spectrum.

T-Mobile states that it has nearly tripled its LTE coverage since 2015 and surpassed its aggressive commitment to reach 321 million people with LTE in 2017. The carrier announced that it “has significantly expanded its LTE network to cover 322 million people, up from 315 last year, bringing coverage to entirely new places.”

T-Mobile acquired 31 MHz of the 600 MHz spectrum licenses made available by the FCC’s Incentive Auction, which ended in April 2017. The carrier sought the spectrum because it allows it to “cover every single

American with low-band spectrum, which travels twice as far and is four times better in buildings than mid-band spectrum.”

The downlink and uplink blocks of the new 600 MHz service band being built out by auction-winning licensees including T-Mobile extend across 617 to 652 MHz and 663 to 698 MHz, respectively, separated by the duplex gap, which offers only restricted access to RF audio gear. Any one operating wireless audio equipment in the 600 MHz service band must cease operation as soon as the new licensees begin their operations. Per 47 U.S. Code § 503, the FCC may impose a fine on anyone who continues to operate in the relevant spectrum of “\$10,000 per violation or per day of a continuing violation and \$75,000 per any single act or failure to act.”

Late last year, Dan Wilson, senior manager spectrum engineering, T-Mobile, reported that the carrier’s tests have demonstrated several scenarios in which its equipment and wireless mics can interfere with each other. A wireless mic will cause in-

terference to the T-Mobile base station in the uplink spectrum and, in a venue, a consumer wireless handset could cause interference to a wireless microphone receiver. T-Mobile is concerned about wireless mic interference directly into handsets in the downlink spectrum, and interference from the carrier’s downlink base station (which operates at 40W plus antenna gain) into wireless audio equipment receivers is also a concern.

Activity at any location will be dependent on the number of 600 MHz consumer handsets in use. While there are currently only two 600 MHz handsets on the market, T-Mobile’s latest announcement suggests that could significantly increase during the coming year.

According to Neville Ray, chief technology officer for T-Mobile, “We’re just getting started with the 600 MHz low-band spectrum we’re rolling out now, and it’s a wide-open highway for customers, increasing coverage, capacity and in-building reach.”

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Beach Boys genius Brian Wilson has been touring performing the classic *Pet Sounds* album in its entirety to commemorate its 50th anniversary. We caught up with his crew at Radio City Music Hall, and found out what it takes to bring the complex masterpiece to life in a live setting.

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# Recording Studios Are Not Dying

*USA Today* says recording studios are a dying industry. That's dead wrong—and here's why.

You may have heard about a recent article, "America's 25 Dying Industries," breathlessly reporting that businesses like video stores, tuxedo shops and "sound recording studios" all have one foot in the grave. Originally published by 24/7 Wall St., the story was syndicated and reprinted by a slew of outlets, most prominently *USA Today*. The story raced like wildfire through social media as audio pros anxiously shared the story with each other, worried that studios may be going the way of Blockbuster Video.

Let's be clear about this: Recording studios are not dying off.

In fact, there are more studios in the United States today than ever before, barring two years just before the Great Recession. Moreover, there are far more audio professionals making a living in them than the 24/7 Wall St. story suggests.

So how did this discrepancy happen? Having to write the obituaries for 25 industries meant 24/7 Wall St. didn't have much room for each profession. As a result, the topic of "sound recording studios" got a few statistics, followed by two paragraphs riddled with errors.

24/7 Wall St.'s statistics place studios' current total employment at 4,657 people nationwide, stating that

these employees make an average annual wage of \$52,679. After observing in the first paragraph that "musical production practices have evolved with technology since the invention of sound recording in the 19th century," the second paragraph states:

"Sound City Studios, a recording studio in Los Angeles notable for its history with major musical acts such as Tom Petty, Johnny Cash, and Nirvana, closed its commercial operations in 2011. In total, the number of recording studios in the United States fell from 1,700 establishments in 2007 to 1,438 in 2016—a 15.4% drop. Employment in the industry fell by 42.9% over the same period, one of the largest declines of any sector."

First off, 24/7 Wall St. is wrong about Sound City Studios. The facility went back to commercial operation almost a year ago, welcoming all comers with its mix of vintage and modern recording gear. In fact, we wrote an in-depth profile of Sound City in August 2017. It's a good story; you should read it on our website. So should 24/7 Wall St.

Next, let's look at those stats. 24/7 Wall St. says its data came from the Bureau of Labor Statistics (BLS). We're sure the article's authors didn't pull those numbers out of thin air, but at the same time, hours spent for-

aging through databases on the BLS website left us empty-handed when we tried to find any of those figures, be they wages or number of studios. Neither direct source links nor methodology as to how the statistics were generated are offered in the 24/7 Wall St. story, so we can't verify that they were reported accurately.

No doubt, the numbers are out there somewhere, but if we can't see them in context, we can't see what additional information was available. Examining additional data would allow us to get a more nuanced picture of studios' downfall—or conversely, it might reveal that certain numbers were selectively chosen to support a pre-existing narrative. There's no way to know.

Without the BLS statistics to pore through, we had to settle for the next best thing: digging through other, similar government statistics covering the same time period, because they'd generally line up with the BLS stats, right?

You may see where this is going....

If we turn to another respected source of government statistics, we discover a far rosier picture for recording studios (and feel free to follow the links so you can verify them yourself).

Looking at data released in April 2017, the U.S. Census Bureau reports there were 1,700 U.S. recording

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## B&C Speakers Acquires Eighteen Sound, Ciare



FLORENCE, ITALY—B&C Speakers SpA acquired transducer manufacturer Eighteen Sound and loudspeaker company Ciare in mid-December. The move comes just two years after Eighteen Sound itself acquired Ciare.

"We are proud to add Eighteen Sound and Ciare to our group, and we look forward to offering both brands access to more resources. We can now blend our knowledge in manufacturing and development, helping to offer an improved product range, build quality and overall customer experience," said B&C CEO Lorenzo Coppini.

Eighteen Sound's 2015 acquisition of Ciare, a loudspeaker and amplifier provider for the professional, home and car audio markets, came just months after the two companies initially

rebranded.

Ron Tizzard, director of sales for B&C, added "These are two great brands that each have a strong culture and legacy that we hope to build on. Both Eighteen Sound and Ciare already have many dedicated OEM customers, and a well developed distribution network that will require few changes."

The B&C, Eighteen Sound and Ciare brands will be presented together later this month at the NAMM Show, which takes place in Anaheim, CA, January 25-28, 2017.

Founded in 1946, transducer manufacturer B&C Speakers operates out of a nearly 14,000 square meter production and R&D facility in Florence, Italy.

B&C Speakers  
bcspeakers.com

entered into a strategic agreement where Eighteen assumed handling all of Ciare's worldwide sales. In the wake of the acquisition, Ciare

## Williams Sound Acquires Pointmaker



MINNEAPOLIS, MN—Wireless communications manufacturer Williams Sound has acquired Pointmaker, a provider of hardware and software for video annotation technology. The acquisition is said to be part of a new strategy to expand Williams Sound's footprint into the larger professional A/V market.

Pat Brey, CEO of Pointmaker, will remain with the company and join the board of directors of Williams AV. Wil-

liams AV has also added two industry veterans to its board: Rob Sheeley and Tom Mingo, the co-founders of Vad-dio, a Minnesota-based designer and manufacturer of video equipment used throughout the A/V marketplace.

Williams Sound  
williamsound.com

## Peavey Teams with Marani USA



MERIDIAN, MI—Peavey Commercial Audio has become the worldwide distributor for the digital audio processing and sound reinforcement products of Marani USA, a newly formed subsidiary of Italian loudspeaker management and audio processor manufacturer Marani Proaudio.

Marani Proaudio (formerly SEED Srl) is a longtime designer and producer of audio DSP products, with applications that have reached beyond traditional sound reinforcement to include noise suppression and enhancement process-

Peavey has become the worldwide distributor for Marani USA.

ing in the automotive, broadcast and appliance markets.

Peavey Electronics' partnership with Marani USA will provide an extended line of loudspeaker management solutions, including advanced high-performance FIR (Finite Impulse Response) filters.

Peavey Electronics Corporation  
peavey.com

## Berklee Online Bows Production Grad Degrees

BY CLIVE YOUNG

BOSTON, MA—Berklee Online, the online arm of Berklee College of Music, will kick off its first-ever graduate degree programs in 2018, including a new Master of Music in Music Production degree.

The application for the new Master of Music in Music Production degree program will open in early 2018, with the inaugural class beginning September 2018.

As Berklee Online envisions the upcoming degree program, it will focus around music production techniques using DAW-based music technology tools, aiming to provide training in advanced recording, mixing, and mastering, in addition to focused work on vocal production, audio for visual media and business sustainability for independent producers.

The program is designed to be completed in one year, with

students expected to complete 12 courses at a recommended pace of three courses per semester over four 12-week semesters. Through the online platform, students will participate in a community of peers and faculty as they learn concepts and vocabulary for analyzing production qualities in music and learn, gauging listener perceptions, and achieving production goals.

According to Berklee Online, by the end of the program, students will be able to:

- Plan and execute the design of a professional-level critical listening, recording, and music production environment
- Evaluate music production techniques in a variety of styles using a professional framework and vocabulary
- Plan, lead, and deliver high-quality, expressive music production projects that maximize the emotional impact of any re-

cording

- Make professional sounding recordings in any setting, from studio-grade recording environments to portable studios with minimal gear
- Develop and apply advanced skills necessary to produce commercially-viable vocal performances for a contemporary client base
- Exploit various income-generating opportunities for independent studio production, in addition to negotiating important contractual and financial documents required in professional production contexts to ensure the most favorable terms for business growth and sustainability
- Explain the relationship between sound and human perception in terms of the underlying mechanisms and limitations of the hearing system and apply this information to enhance en-

gineering and mixing projects

- Apply advanced mixing skills that involve deep understanding of balance, EQ, dynamics, spatial effects, automation, pitch/time correction, and mixing for digital streaming services
- Deliver high-quality, professional masters for various platforms, including vinyl, lossy codecs, and streaming platforms
- Apply the tools, techniques, workflows, and creative considerations necessary for producing professional audio for film, television, and related visual media
- Undertake independent research and propose, develop, and present a culminating experience that represents your unique contribution as a music producer and/or advances the field of music production

Berklee Online  
online.berklee.edu



# d&b audiotechnik Names Nilsson New CFO/MD

BACKNANG, GERMANY—Jens Nilsson, 46, has been appointed chief financial officer and managing director for d&b audiotechnik. Nilsson assumes the role from Kay Lange, CFO at the company for the last 31 years.

Lange announced last year that he wanted to leave d&b in 2017 to spend more time with family—but only after a successor was found.

“Kay Lange’s contribution to the growth, successes and spirit of d&b audiotechnik can’t be valued highly enough; we owe him a lot,” said CEO Amnon Harman. “We plan a secure handover for the next months.” Lange has committed to be fully available for d&b until the end of 2018.

Kay Lange, 58, joined d&b in 1986 as its 11th employee when the company was housed in a former furniture shop. Using his degree in business administration from the University of Stuttgart, he soon became the financial head of the start-up.

In 1989, when the number of employees had risen to more than 20, Lange had three months to find a new location. It was then that he discovered the current Backnang location—still in use today as it houses more than 350 workers in an expanded 25,000-square-meter headquarters.

With the appointment, Nilsson becomes the third general manager of d&b audiotechnik, working alongside Harman and COO Markus Strohmeier.

In the new role, Nilsson is responsible for finance, sales finance, IT and facility management at d&b. Originally from Sweden, he has worked in Germany for more than 20 years and brings management experience from roles in finance and controlling, as well as sales and marketing.

Previously he was group chief financial officer at Knauf Insulation, a manufacturer with 1.6 billion Euros of annual revenue and more than 5,500 employees worldwide. Nilsson graduated with a business sciences degree at the University of Gothenburg, and has a masters degree in business administration.

The move is the latest in a string of management changes throughout d&b; last summer saw d&b audiotechnik U.S. Group initiate a series of changes as longtime CEO Colin Beveridge announced his plan to retire.

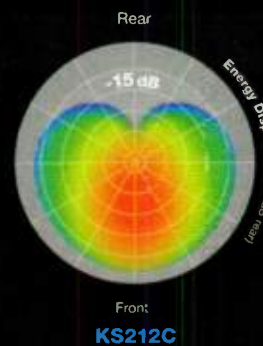
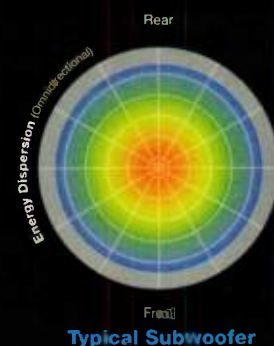
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Jens Nilsson (right) has been named d&b audiotechnik’s CFO/MD, taking the reigns from 31-year veteran Kay Lange.



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## Producer/Engineer Chris Tsangarides, Dead at 61

BY CLIVE YOUNG

UNITED KINGDOM—Grammy-nominated producer/engineer Chris Tsangarides died on January 7 following a battle with pneumonia and heart failure. He was 61. While best known for his extensive work with hard rock and metal acts like Judas Priest, Anvil, Gary Moore, Thin Lizzy and Yngwie Malmsteen, among many others, the British producer had a varied career, working with acts ranging from Tom Jones to The Tragically Hip, producing Concrete Blonde's breakout hit "Joey," and mixing Depeche Mode's "Never Let Me Down Again" single.

Acts he worked with included Black Sabbath, Ozzy Osbourne, Jan Hammer, Exodus, Samantha Fox, Overkill, The Sisters of Mercy, Joan Armatrading, Bruce Dickinson, Ian Gillan, Gilbert O'Sullivan, Killing Joke, King Diamond, Helloween, Y&T, Lords of the New Church, Loudness, Therapy? and The Straws, to name just a few.

As a child, he studied trumpet at the Royal Academy of Music. He began his studio career in 1974 as an apprentice at London's Morgan Studios, where his long association with Judas Priest began with the band's second album, 1976's *Sad Wings of Destiny*, on which he worked as a tape op.

Going on to engineer acts like Japan and Brand X, it was his work with Colosseum II that led that band's guitarist, Gary Moore, to appoint Tsangarides as producer for his 1979 solo album *Back on the Streets*, which included the hit "Parisienne Walkways." From there, his career took off.



Chris Tsangarides worked with everyone from Judas Priest to Depeche Mode.

In the early 2000s, Tsangarides founded his own studios—Rainmaker Music in South London, and The Dump in Kenley, Surrey—closing the latter in 2006 to open a new facility, Ecology Room Studios, in Kent that same year. In 2012 he co-founded Dark Lord Records with Dave Cousins of The Strawbs. An occasionally performing guitarist, Tsangarides was a member of techno/metal act Monocrom in the late 1990s and later Exmore, a 2012 revival of NWOBHM act More.

On hearing the news of Tsangarides' death, Black Sabbath's Tony Iommi tweeted, "I'm so saddened to hear of the passing of the Producer Chris Tsangarides—he has been a part of my life since the '70s when he worked as tape operator on the Sabbath album *Sabotage* and he's worked with me on lots of other albums and stuff. He'll be sadly missed. RIP my friend."

Likewise, Judas Priest posted, "We are saddened to hear of the passing of our friend Chris Tsangarides—his contributions to our metal and so many others will forever remain. Love and condolences to his family."

## Music Producer Rick Hall Dies at 85

BY KATIE MAKAL

NEW YORK, NY—Legendary music producer and recording engineer Rick Hall, owner of FAME Recording Studios and father of the "Muscle Shoals sound," died at his Alabama home on Jan. 2 after a long illness. He was 85.

One of the most influential figures in American music of the last 50 years, his uncanny instinct for hit songs propelled the career of countless artists.

Hall co-founded FAME in 1959 in Florence, Ala., with Billy Sherrill and Tom Stafford. In 1961, following a business disagreement, Hall retained the FAME name and moved the studio to nearby Muscle Shoals, Ala., where he began to define the Southern soul sound.

The long list of Southern soul classics recorded at FAME includes Wilson Pickett's "Land of a Thousand Dances," "Mustang Sally" and "Funky Broadway," James and Bobby Purify's "I'm Your Puppet," Aretha Franklin's "I Never Loved a Man (the Way I Love You)" and "Do Right Woman (Do Right Man)," Clarence Carter's "Slip Away" and "Patches," Arthur Conley's "Sweet Soul Music" and Otis Redding's "You Left the Water Running." Hall also produced Etta James' signature tune, "Tell Mama," for Chicago-based Chess Records.

Identified early with soul and R&B artists including Aretha Franklin, Otis Redding and Wilson Pickett, Hall went on to produce songs in every genre of popular music. He found success in the 1970s recording a stream of hits for the



Rick Hall in the 2013 documentary film *Muscle Shoals*.

Osmonds and Donny Osmond. He also produced Bobbie Gentry's "Fancy," Mac Davis' "Baby, Don't Get Hooked on Me" and Paul Anka's comeback record, "You're Having My Baby."

Later, with songwriter and co-producer Robert Byrne, Hall developed the band Shenandoah into one of the most successful country acts of the 1980s. Moving into the 21st century, Hall recorded three songs with the country band Alabama for its *When It All Goes South* anniversary album. In 2007, he reactivated his FAME Records label through a distribution deal with EMI.

Hall was inducted into the Alabama Music Hall of Fame in 1985. The 2013 documentary film *Muscle Shoals* brought renewed attention to his career and introduced the Muscle Shoals sound to a new generation of listeners.

In 2014, he received a Grammy Trustees Award, a lifetime achievement honor for non-performers. That recognition was followed in 2015 by the publication of his memoir, *The Man from Muscle Shoals: My Journey from Shame to Fame*.

## Sweetwater Scored in 2017

FORT WAYNE, IN—Sweetwater had a strong 2017, tallying sizable figures both in terms of sales and adding employees. The MI/pro audio online retailer saw its highest total sales ever as it reached \$619 million, up 22% over 2016. At the same time, Sweetwater increased its workforce 14% to 1,255 employees.

A considerable amount of the company's sales came from the holiday season—December 2017 sales were \$71 million, up 22 from December 2016, and both Black Friday and Cyber Monday 2017 were reportedly the company's biggest ever. Sweetwater's annual total sales

increases have ranged from 17.5% to 28% every year since 2010.

In all, Sweetwater had more than 360,000 first-time customers last year, and its employees, primarily the sales force, handled more than 4.3 million phone calls.

Sweetwater's biggest outreach every year its annual GearFest, a yearly open house/trade show that attracted more than 14,000 participant from 45 different states in 2017, up 20% over 2016.

In line with its various growing stats, the retailer purchased 55 acres of land adjacent to its Ft. Wayne, IN, campus for a total of 166 acres;

opened its fourth warehouse, 43,500 square feet in size; and plans to start a number of new building projects in mid-2018.

Sweetwater founder and president Chuck Surack concluded, "2017 was an exciting year of growth throughout our company. I am so grateful to our customers, vendor partners and especially our



Under founder/president Chuck Surack, Sweetwater has seen sales increase between 17.5% and 28% every year since 2010

amazing employees for their friendship and loyalty. I am looking forward to a wonderful 2018."

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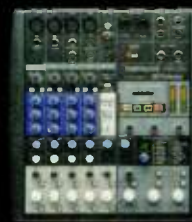
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# Guitar Center Ramps Up B2B Biz, Acquires AVDG

WESTLAKE VILLAGE, CA—In a move seen as the beginning of a planned aggressive expansion of its Business Solutions Group, Guitar Center has acquired San Francisco Bay Area-based Audio Visual Design Group (AVDG), aiming to use the new arm as its entry into offering integrated solutions.

The acquisition, announced in late December, is expected to serve as the kickoff of a concerted move into the B2B waters. “With the changes in the marketplace, we’ve decided to apply additional resources to expand our presence to service clientele who are looking for system design and installation of audio, video and lighting solutions and beyond,” said Ron Japinga, president and CEO of Guitar Center.

AVDG offers system design and installation in both corporate and residential market sectors, and will

operate as a dedicated arm of the Business Solutions Group, allowing the division to provide personalized, account-based services. Privately owned, the San Rafael/San Jose, CA-based design-build firm has spent the last two decades specializing in audio-visual systems for commercial and residential spaces worldwide. More than 80 people make up AVDG’s staff, ranging from programmers and installers to design engineers and technicians from such diverse sectors as gaming, high-tech, financial, legal, health care, education and hospitality.

According to Doug Carnell, Guitar Center vice president of Business Solutions, “Guitar Center has been seeking opportunities to bolster our Business Solutions Group and we have found an ideal partner in AVDG. This mutually beneficial relationship will provide AVDG’s



team the vast resources offered by Guitar Center, while opening up Guitar Center’s Business Solutions Group to opportunities in the commercial and residential market sectors.”

The acquisition will not only provide Guitar Center with a footprint in the integration market, however, as AVDG sees the move as beneficial not only for itself but most importantly, for its customers. Robert Scharffer, AVDG’s

CEO, noted, “Just as Guitar Center is not your typical musical instrument retailer, AVDG is not just another integrator, and as such we want to continue and grow what we have built. Guitar Center will give us access to additional financial and operational resources, offering new avenues of growth and new opportunities to better support our clients.”

Guitar Center  
guitarcenter.com



## Not Dying

(continued from page 8)

studios in 2015—the equal of that perilous high point that 24/7 Wall St. says the industry dropped from. What’s more, that 1,700 is the third-highest number of recording facilities ever in the Census Bureau’s statistics. The only higher years were 2007 (1,729) and 2008 (1,793), just before the Great Recession began.

That means the number of U.S. recording studios has been growing since 2009, and there are more studios today than there were in 2006 or any year before that. While we’ve watched a lot of high-profile studios in major metropolitan areas shutter over the last 15 years, runaway real estate markets have always played a major part in those sad decisions, especially in Manhattan and parts of Nashville. It’s not always realistic to have big live rooms in those areas today—though many still exist, like Manhattan’s Conclave Studios, seen at the top of this story. With popular music tastes moving away from live instrumentation, those live rooms aren’t always necessary either.

The thing to keep in mind, however, is that according to the Census Bureau statistics, for every big-name studio that’s gone under, usually another has opened somewhere else, much like when NYC studio owner David Amlen saw his Times Square-based MSR Recording fall victim to the real estate market. That event in-

spired his move across the Hudson River, where he founded the Sound On Sound Recording complex in Montclair, NJ. So, again, recording studios are not dying out.

Let’s get back to the stats: The Census Bureau’s 2015 figures also show that studios employed 5,037 people with an average wage of \$54,608. Both figures beat those proffered by 24/7 Wall St. and the BLS, but to be fair, neither government agency’s figures accurately reflect the recording industry, because self-employed individuals—freelancers—are not included in their estimates. Accordingly, there could be hundreds, possibly thousands of additional recording pros making a living from studios in the United States, and there’s no guessing how that would affect the average wage statistic.

Fine, we’ve debunked 24/7 Wall St.’s stats, but moving beyond the inaccuracies, what really makes the article so frustrating is that these kinds of stories and their big, broad-stroke headlines—like the one *USA Today* used, “America’s 25 dying industries include sound studios, textiles, newspapers”—are damaging.

The story undermines an entire industry’s validity and intimates that people working in it must be willfully turning a blind eye to oncoming disaster. What exactly are recording studios ignoring? Studios are the production lines of the music industry—an industry not in 24/7 Wall St.’s article. According to the RIAA, the music biz raked in \$4 billion in the

first six months of 2017 alone, up more than 17 percent from the previous year. Even if you put aside the “he said/she said” of the various government statistics, the RIAA’s figures show that recording studios as an industry aren’t going anywhere, if only because they are ancillary to a much larger machine.

Studios are also part of the larger pro audio ecosystem, and the important word there is “pro,” as in “audio created by professionals.” Pros are people with real-world experience and education, regardless of whether they’re working in a famous big-room studio or a small, private facility, and they are not going to be replaced by weekend warriors with Garageband and \$29 computer speakers from a Best Buy clearance bin. Sure, there are bound to be outliers—there always are, and should be, for that matter, because that’s how artistic professions grow—but that doesn’t change the fact that the greatest feature a studio can offer is its professional staff: people with hard-won knowledge and talent who can make a client sound better than he or she has any right to. Presenting that career as analogous to a part-time job like “video store clerk” is disingenuous at best and extremely disappointing.

Nonetheless, the fact remains: Recording studios are alive and well—changing with the times, growing in number and providing both current and future audio pros with creative, satisfying work for many years to come.

## SSL Acquisition

(continued from page 5)

to imagine a world without SSL. It is obvious with this sale that there are many in this growing Audiotonix group that are as nuts about new tech and good audio as we are. Each manufacturer has their own particular markets, strengths and idiosyncrasies but through collaboration, there will be a lot of opportunities to spread knowledge and skills to benefit the group as a whole.”

Gabriel, the majority SSL shareholder, has invested in Audiotonix as part of the transaction: “I am also excited by what could be created by all these new potential synergies so I have chosen to use a chunk of the sale money to invest in this newly expanded version of Audiotonix. I wish Audiotonix and all who now sail in her every success.”

Antony David, MD of Solid State Logic, adds, “I am very proud of the achievements our team have made to date with the expansion of SSL. To reach our full potential we need the support and resources of a larger group to help us achieve our aspirations. In Audiotonix we have found a partner that is as fiercely obsessed about audio, products and customer service as we are.”

Audiotonix  
audiotonix.com



## MPSE Announces Golden Reel Nominees

LOS ANGELES, CA—With the Hollywood awards season in full swing, the Motion Picture Sound Editors (MPSE) has announced its nominees for the 65th MPSE Golden Reel Awards. The awards recognize outstanding achievement in sound editing in 23 categories encompassing feature films, television, animation, computer entertainment and student work. Nominees represent the efforts of the world's most talented sound artists and their contributions to the past year's most outstanding feature film, television, animation and computer



entertainment productions.

During the ceremony, the 2018 MPSE Filmmaker Award will be presented to Kathryn Bigelow, and John P. Fasal will be recognized with the 2018 MPSE Career Achievement Award. The 65th MPSE Golden Reel Awards ceremony is scheduled for Sunday, Feb. 18, at the Westin Bonaventure Hotel in Los Angeles.

For a full list of the nominees, read the *Pro Sound News* story online at <http://bit.ly/2rxTXde>.

Motion Picture Sound Editors  
[mpse.org](http://mpse.org)

## Oscar Sound Nominations Revealed

BEVERLY HILLS, CA—*The Shape of Water* is the film to beat as the Academy of Motion Picture Arts and Sciences revealed the field of contenders for the 90th annual Academy Awards. *The Shape of Water* picked up 13 nominations, including for sound mixing (Christian Cooke, Brad Zoern and Glen Gauthier) and sound editing (Nathan Robitaille and Nelson Ferreira).

Director Guillermo del Toro's fantasy film leads a pack of nine best picture contenders—the Academy allows up to 10 in the category—that also includes *Three Billboards Outside Ebbing, Missouri*, with nine nominations, and *Dunkirk*, with seven.

There are just five films in the sound categories, with an identical list of nominations for both mixing and editing: *Baby Driver* (sound editing Julian Slater; sound mixing Julian Slater, Tim Cavagin and Mary H. El-



lis), *Blade Runner 2049* (sound editing Mark Mangini and Theo Green; sound mixing Ron Bartlett, Doug Hemphill and Mac Ruth), *Dunkirk* (sound editing Richard King and Alex Gibson; sound mixing Mark Weingarten, Gregg Landaker and Gary A. Rizzo), *The Shape of Water* and *Star Wars: The Last Jedi* (sound editing Matthew Wood and Ren Klyce; sound mixing David Parker, Michael Semanick, Ren Klyce and Stuart Wilson).

The Academy Awards presentation, which will be hosted by Jimmy Kimmel for the second time, will air live on ABC on March 4 at 8:30 p.m. EST, slightly earlier than last year.

The Oscars  
[oscar.go.com](http://oscar.go.com)

## Nielsen Music Releases 2017 Sales Reports

BY STEVE HARVEY

NEW YORK, NY—Vinyl album sales were up for the 12th consecutive year, music streaming continued to grow and, for the first time ever, R&B/hip-hop was the dominant genre, according to Nielsen Music's 2017 end-of-year report.

The surge in music streaming continued throughout 2017. Overall consumption of albums, songs and audio on-demand streaming grew 12.5 percent year over year, and a 59 percent increase in on-demand audio streams offset track and album sales declines, the report states.

Ed Sheeran's *(Divide)* conquered all in total volume (albums + track equivalent albums + on-demand audio streaming equivalent albums), followed by Kendrick Lamar's *DAMN.* and Taylor Swift's *Reputation*. The biggest song of the year was "Despacito" in terms of total activity (sales + on-demand audio streaming equivalents), followed by Ed Sheeran's "Shape of You" and "Humble." by Kendrick Lamar.

Luis Fonsi & Daddy Yankee's Spanish-language "Despacito" and its crossover remix featuring Justin Bieber also made Latin music history by topping the Hot 100 chart in 2017. It topped the Digital Song Sales chart, followed by Sheeran's "Shape of You," with Sam Hunt's "Body Like a Back Road" in third place.

Seven of the top 10 most-consumed albums in 2017 were R&B/hip-hop. The dominance of the genre was driven by a 72 percent increase in on-demand audio streaming.

Yet rock music still drives the vinyl format, which accounted for 14 percent of all physical album sales in 2017. Vinyl album sales hit



a new Nielsen high in 2017 with 14.32 million units sold, up 9 percent over 2016's 13.1 million total.

Top of the heap was the reissue of the Beatles' *Sgt. Pepper's Lonely Hearts Club Band*, with some 72,000 copies sold (figures are rounded). In second spot? The Beatles' *Abbey Road*, with 66,000 sold.

But vinyl sales comprised more than just the Beatles' catalog. The soundtrack *Guardians of the Galaxy: Awesome Mix Vol. 1* rounded out the top three with sales of 62,000. In total, according to Nielsen, 77 separate titles sold more than 20,000 copies each on vinyl in 2017. That figure, too, is up over 2016, when 58 titles reached that sales benchmark.

For comparison, in 2016, the vinyl album top three included Twenty One Pilots' *Blurryface*, with 68,000 sold, David Bowie's *Blackstar* (66,000) and Adele's *25* (58,000).

The 2017 top-selling vinyl albums also included Ed Sheeran's *(Divide)* (62,000 copies), Amy Winehouse's *Back to Black* (58,000), Prince and the New Power Generation's *Purple Rain* (Soundtrack) (58,000), Bob Marley and the Wailers' *Legend: The Best Of...* (49,000), Pink Floyd's *The Dark Side of the Moon* (54,000), *La La Land* soundtrack (49,000) and, at number 10, Michael Jackson's *Thriller* (49,000).

Nielsen  
[www.nielsen.com](http://www.nielsen.com)

## Powersoft Debuts North American HQ in New Jersey

NEW YORK, NY—Amplifier manufacturer Powersoft has opened an East Coast headquarters in the New York City metropolitan area. The 3,700 sq. ft. facility, located in Kearney, NJ, will house Powersoft's operations, sales, support, warehousing and distribution for the U.S. and Canada. The space features product demo rooms, collaborative spaces and views of New York City. With its global headquarters in Florence, Italy, the

Powersoft executive team will be able to take advantage of frequent direct flights between Italy and nearby Newark Liberty International Airport.

"Our new regional headquarters location in New York is a testament to the tremendous growth potential we see in the North American region," says Powersoft's Luca Giorgi, general manager, North America. "As we continue to achieve double-digit

growth and raise our brand profile internationally, we are looking to increase our presence in the U.S. and Canada—in both footprint and scale. This will be achieved by streamlining our operations, increasing our sales presence and becoming more successful in the small- to medium-sized installation market."

Powersoft  
[www.powersoft-audio.com](http://www.powersoft-audio.com)





## Installing Audio at the Beach

ALAYNA, TURKEY—Turkish audio pros recently designed and installed a brand-new One Systems sound reinforcement system for the likewise brand-new Goya Beach Club in Alanya, Turkey.

The Goya Beach Club sports a pool/sunbathing area, club bar/restaurant on the lower level and a beach bar restaurant adjacent to the beach, so the audio team at Istanbul-based sound distribution company AKHAN-TT Ses Isik Gorsel sistemler had its work cut out for it.

Aiming to provide music and paging without overwhelming guests at the venue, Akgun specified four One Systems 104/HTH loudspeakers for the pool and sunbathing area. Meanwhile, the pool bar gets a little more club-like with audio from a pair of 106/HTH and loudspeakers along with two 108/HSB subwoofers.

Over at the beach area, the system had to provide outdoor coverage across an area 15 meters deep and 32 meters wide, so Akgun opted for a pair



Four One Systems 104/HTH loudspeakers to provide guests of the pool and sunbathing area with medium-high output that would not overpower their stay.

of 208/HTC loudspeakers mounted to poles near the beach bar entrance.

Not all of the system has to survive the sun and sea air—there's an indoor lounge, bar and restaurant located adjacent to the pool area, and for that area, Akgun specified two 108/HTH along with two 108/HSB subwoofers for the space, reinforced by four 106/HTH loudspeakers. The two 108/HSB subs from the pool bar are brought indoors during the winter months to provided additional low end to the club atmosphere.

One Systems, Inc.  
onesystems.com

## Sound Art Covers HOW Arena Event

EDMONTON, CANADA—These days, religious arena events pack all the production punch of a top-shelf music tour. As a case in point, a recent YC Alberta Youth Christian Group event held at the Rexall Place Arena in Edmonton, which interspersed a number of CCM touring acts and various ministry sessions for a crowd of 10,000. Sound Art, with offices in Winnipeg, Manitoba, and Calgary Alberta, pulled out all the stops in supporting the event.

Having recently added several Yamaha CL and QL consoles with Rio input/output boxes to its inventory, Sound Art opted to provide a CL5 for the event. "We chose the CL5 for a couple of main duties," said Dan Frerichs, general manager, Sound Art Calgary.

"It was the main traffic console that all of the other touring consoles routed through via AES and the system drive for mixing between the large format line array at one end of the arena, fading over to a large in-the-round system for the center stage where the ministries took place."



Sound Art fielded a Yamaha CL5 console for a recent YC Alberta Youth Christian Group event held at Rexall Place Arena in Edmonton, Canada.

The CL5's built-in Dan Dugan auto-mixing was used for the ministries portion of the event, which saw numerous Countryman mics used.

Four Yamaha Rio3224-D input/output boxes were used in conjunction with the Yamaha CL5—two at front of house for the centerstage wireless and PA outputs via AES; one at the main stage to pick up other mics and sends; and a fourth at centerstage for ministry inputs, front-fill and monitor outputs. "All of these were routed through Luminex switches running redundantly; I love the CL5 for complex jobs like this," said Frerichs.

Yamaha Corporation of America  
yamahaproaudio.com

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~ **Keb' Mo'** - Roots music legend



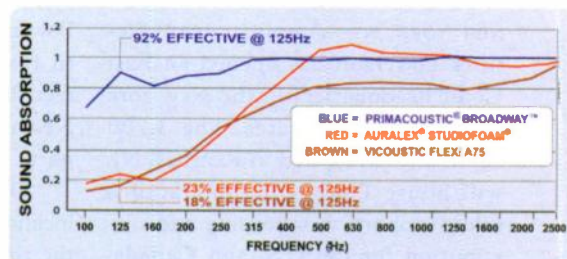
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~ **John Rzeznik** - Performer/artist/producer - Goo Goo Dolls.

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~ **John Rzeznik**

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## A Wonderful Tour

LONDON, UK—The Killers, currently crossing the U.S. on the North American leg of their world tour, recently closed out the U.K. leg with two nights at London's O2 Arena. Along for the U.K. journey was long-time audio provider Capital Sound, which fielded its Martin Audio MLA PA. The tour behind the band's *Wonderful Wonderful* album finds FOH engineer Kenny Kaiser mixing the show, with system tech Toby Donovan on hand to keep an eye on the system.

The MLA setup included main hangs of 17 MLA elements and two MLD Downfills per side, with side hangs consisting of a dozen MLA and a MLD Downfill per side. Supplementing them were secondary side hangs of 10 MLA Compact enclosures on each side.



For The Killers' recent UK tour, 21 Martin Audio MLX subs resided across the front of the stage, grouped into seven three-high ground stacks, with the bottom enclosure reversed.

Giving the low-end some fire-power, 21 MLX resided across the front of the stage, grouped into seven three-high ground stacks, with the bottom enclosure reversed. Bolstering that were five MLX subwoofers flown on each side at a 45° angle between the main and side hangs to ensure

low-end reinforcement round the sides. To complete the coverage, six of Capital Sound's favored Martin Audio DD12's were used as front fills. Martin Audio

www.martin-audio.com

## Crafting Mixes at The Arts Club

LONDON, UK—Think your favorite club is legendary? London's The Arts Club was founded in 1863 by Charles Dickens, Anthony Trollope and Lord Leighton. Not everything about it is old, however—take its new audio system, built around Allen & Heath mixers and an L-Acoustics PA.

Supplied by SSE Audio Group, the new mixing setup offers a dLive S5000 surface with Dante and AES3 I/O audio networking cards installed, and a DM48 MixRack. An Allen & Heath ME-1 personal mixer tackles drum monitoring duties.

"The mainstays of The Arts Club tech team use dLive systems out on the road," said Richard Watts, SSE Audio Group sales manager, "including Jonathan Lewis [Travis FOH] and Dave McDonald [Frank Ocean FOH], so it was an obvious choice for the venue."

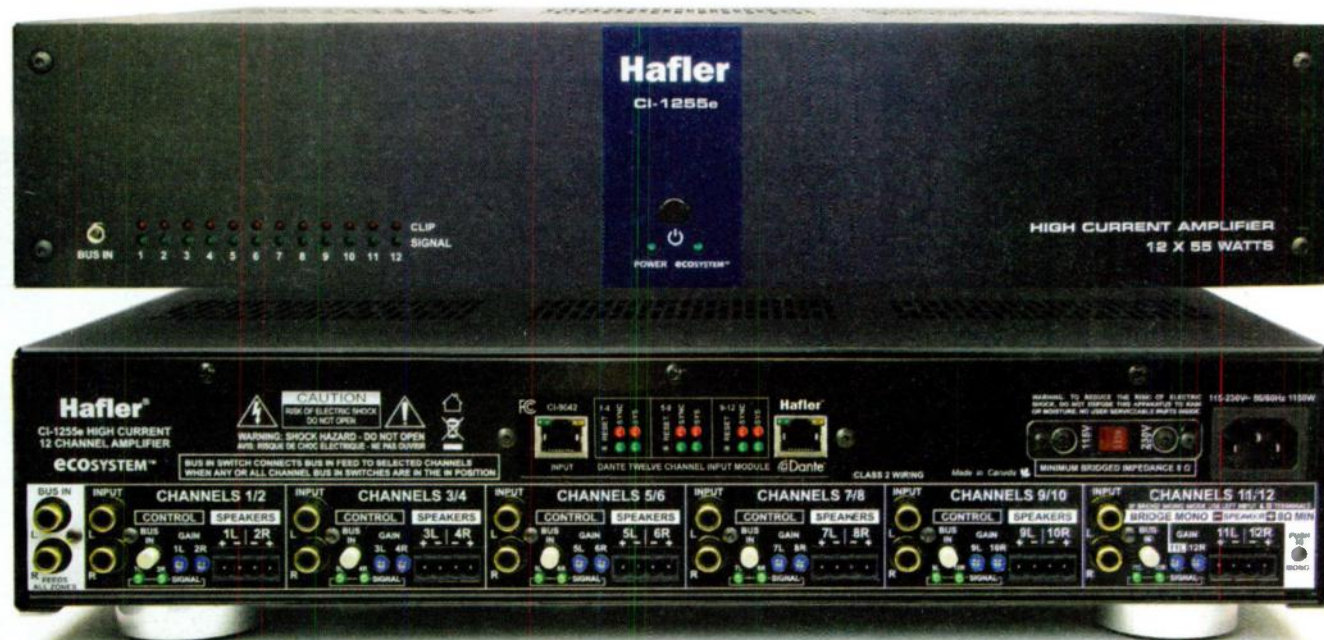


Arts Club head tech Charles Bidwell with the venue's new Allen & Heath dLive S5000 surface.

Head technician Charles Bidwell remarked, "When touring engineers—of which we get many at The Arts Club—use it for the first time, it becomes familiar instantaneously and I've had nothing but good feedback from them. In fact, I like the dLive system so much I purchased my own dLive C1500 surface and CDM32 MixRack for FOH duties on Santan Dave's U.K. tour."

Allen & Heath  
www.allen-heath.com

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# Santa Rosa's House of Rock Gets on a Roll

BY STEVE HARVEY

SANTA ROSA, CA—Large swaths of Santa Rosa were devastated in October 2017 during one of California's worst fire seasons on record, but the Tubbs Fire missed the Rock Star University (RSU) House of Rock and the industrial park where it is located. Owners of the multipurpose facility, who hope its combination live performance venue and multimedia production facilities will nurture the Sonoma County music scene, recently installed a 48-channel SSL Duality delta SuperAnalogue console in House of Rock's recording studio.

"We got really lucky," says studio manager and engineer Jared Havens. "The fires went around the industrial park on both sides. Buildings down the block are gone."

House of Rock opened with a bang in mid-2016 with shows by Quiet Riot and Blue Öyster Cult, followed by a summer season that included The Tubes with Fee Waybill, Puddle of Mudd, The Babys, Dokken and L.A. Guns. The facility was built out around 2012 as a private rehearsal space and showroom by a local entrepreneur for his young twin sons, Vincenzo and Vittorio Piazza, who perform as V2 ("V Squared"). Freddie Salem, former guitarist with Southern rockers The Outlaws,

signed on as a co-owner in 2014.

House of Rock's day-to-day business is handled by Havens and technical director Evan Alexander, who previously worked for Sound Expressions, a local area AVL rental, sales and integration company that has supplied equipment to RSU since day one. "I came in to help with both the live and recording sides and I started managing the studio," says Havens, who joined the organization about 18 months ago. "But if a band doesn't bring a mixer, I'll mix for them on the concert side."

The founder's original plan called for a gradual expansion to encompass a venue, soundstage and production facilities with an educational slant. The venue also houses a restaurant and extensive backstage amenities. The latest addition to the business, dubbed RSU Recording Studios and Filmworks, offers the gamut of multimedia production services, including a recording studio, in-house multicamera HD video recording and editing with live switched production, and webstreaming.

The team called on Arthur Kelm, chief engineer at Capitol Records, to design the recording studio—which is on the upper floor overlooking the live venue—and integrate the equipment. In response to client demand, the new SSL Duality replaced a pre-



An SSL Duality replaced a previously installed control surface and in-the-box solution.

viously installed control surface and in-the-box solution.

Most of the processing is done in Pro Tools or on the console, but the sound begins with the analog preamps. Says Havens, "It's the best of both worlds."

He adds, "I've done a lot of sessions in the past where people have insisted on recording through a particular flavor of console and then mixing on an SSL." But with SSL's Variable Harmonic Drive (VHD), he says, "They don't need any other consoles—it's one console for recording and mixing. That's probably its biggest advantage."

Catering to all tastes, multiple channels of outboard API 3124+, BAE 1028, Millennia HV-3D and Focusrite RedNet MP8R mic preamps are additionally available. The control room credenza also houses a selection of processing devices: two Tube-Tech PE 1C EQs, two Empirical Labs EL8 Distressors, a Smart Research Stereo C2 compressor and a Kush Audio Clariphonic EQ. Monitoring is via in-wall custom ATC mains and PMC twotwo.5 nearfields.

"We sourced a lot of the equipment from Vintage King Audio and Sweetwater," reports Havens. "We

(continued on page 28)

## Louisville, KY, Recording Studio Robbed, Vandalized

BY KATIE MAKAL

LOUISVILLE, KY—A person suspected of breaking into, robbing and vandalizing a Louisville, KY recording studio just before Christmas has been apprehended by local police. At a court hearing on Jan. 1, James Daniel III, 43, was charged with burglary and criminal mischief for his role in the break-in at Goldsmith Studios, which is owned by musician, producer and engineer Brian Cronin. Daniel pled not guilty.

On Dec. 22 at about 5:20 p.m., a man was recorded on surveillance video kicking in the back door of the recording studio to gain entry. Once inside, he used a vintage tape machine remote to smash recording equipment in the control room, including the facility's Toft ATB 32 console, a Yamaha NS-10M studio monitor, outboard racks and an API Lunchbox packed with 500 modules from Radial, BAE and Shadow Hills, among others. Moving into the piano room, he destroyed two



acoustic guitars as he damaged pianos and overturned a vintage keyboard.

Within 90 seconds, the intruder left the building with three guitars, including a 2010 Gibson SG, an Ibanez four-string bass guitar and a Samick Greg Bennett FA 2 electric guitar. The three guitars are valued at \$2,800 and damages to the studio and equipment are estimated to exceed \$20,000.

Cronin said that he was alerted to the break-in by Goldsmith Studios' security system and praised



Goldsmith Studios' surveillance video of the robbery

the efficiency and professionalism of Alarm-1 Protective Services. "Fortunately I'd had cameras put in, which helped identify the guy who did it," Cronin said.

Though the cameras did not prevent the robbery, they proved

to be a great asset once the crime was in progress. He added, "Having an alarm system that's tied into a monitoring station that will send police out is really beneficial. They showed up within 10 minutes of the

(continued on page 28)



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# Sacrificing a Ferrari for Halo Studio's Sound

BY STEVE HARVEY

HAMILTON, ONTARIO—Some music producers spend hours at the mixing console, week after week, dreaming of the day when they can buy their first Ferrari. Roman Marcone, owner of Halo Music Studio in Hamilton, Ontario, flipped that dream on its head, selling his classic Ferrari to buy his first SSL desk.

Marcone, who started out as a touring musician, spent a couple of years working in the U.K. before taking positions at Catherine North Studio and Porcelain Records, both in Hamilton. Just over two years ago, having left Porcelain, he bumped into an old friend who owns a local live music venue, This Ain't Hollywood, and mentioned he was looking for a home for his own studio. By chance, his friend was looking for a new tenant above the club, which is referred to locally as The Saint. Hence the name, Halo.

"It was a boarding house, the worst place I'd ever been in," says Marcone, "but they helped the tenants find new homes and we tore the place apart."

Halo, which also offers rehearsal space and music and engineering lessons, was initially equipped with a vintage Audiotronics 310 desk that had started life in a broadcast facility. "It wasn't my ideal board," says Marcone, who had previously worked on Ward-Beck and MCI 500 series desks.

Scouring the internet for a replacement console, he spotted an SSL 6064. "They wanted 90 grand and I jokingly said, I'll trade you my Ferrari. He said that might work." Marcone backed out when the deal began to look a little shady, he says, "but it sparked my interest, so I went looking for an SSL."

He found one being brokered by Bret Richardson in Georgia that had come out of Doppler Studios in Atlanta. The facility closed in mid-2016 after a 46-year run, during which the likes of Aerosmith, Bruce Springsteen, Aretha Franklin, Faith Hill, Whitney Houston, Kanye West, Stevie Wonder and numerous others had worked there.

Over the years, some of the people with whom Marcone had worked had bad-mouthed SSL desks, he says. "I'd never used one, but I found myself using the SSL plug-in a lot on Pro Tools and thought it was great, so I took a chance."

Marcone sold his Ferrari and hit



Roman Marcone gets the sound he wants, whether it means finding Prince's tape machine, bolting mics to the ceiling or selling his Ferrari to land a historic SSL E/G series hybrid console.

the road to pick up the new desk, along with some vintage mics and modern outboard gear. Halo's mic locker now includes Neumann U47 and U47 fet, AKG C12, RCA 77 and BK-5B, and EV 664, RE10, RE18 and RE20 models, among many others. Hardware processing includes an Eventide H3000, Sony R7 reverb, various dbx compressors and a CBS Audimax III 444 leveling amp.

The console is an E/G series hybrid: "It was an E series, and SSL upgraded the motherboards and center section to a G series in the mid-'90s and expanded it from 48 to 64 channels, adding G and E/G series modules."

It was only when he got back to Hamilton that he realized the desk was a little large for the room. "So I reduced it to 48 channels. It was an empty frame and dozens of boxes, with every nut and bolt in one jar. I put it all together myself—it took about three and a half days. They gave me every nut and bolt, lightbulb and switch, and six power supplies. It was such a wonderful experience."

Having torn the space apart when he moved in, Marcone has retained the stripped-down walls and floor. "The concept of this place for me was about the feel. If you feel good making music, you make good music," he says. "I've run a few studios over the years and have taken the best elements from each one

and turned this into my last one; I don't like moving anymore."

Marcone, who says he learned from a lot of great producers over the years, found that they all favored recording a band playing together in a room. "If you're a band, the goal should be pulling it off live. Maybe there is stuff you need to fix and overdub, but if you can fix it with the player, that's our goal."

Key to Halo's sound, in addition to the exposed brick walls, are the ART T4 mics permanently installed in the ceiling, enabling a repeatable setup for every session. "I have an overhead directly over where I put the drum kit. There's a V, almost like a Decca tree, of microphones that are based on my room and the drum kit. Then I set the bass in the opposite corner, centered in the room, so that it's balanced on the room mics," he explains.

Guitar amps can be in the room or in an adjoining room, but still audible, he says. "But the drums and the bass are always solid. That's your foundation, and from that point you can set up as many mics as you want for different types of flavors."

Marcone now finds himself adding less processing in his Pro Tools rig, which features Antelope Orion converters, not least because the desk offers different flavors of input modules plus onboard compressors. He's also trying to use fewer plug-ins, he says. "I don't think they

sound great. It's a small difference, but multiplied by 32 tracks, that turns into something. Less mass in music makes it more pleasing."

Halo's Studer A80 MkII 2-inch 24-track recorder is also getting less use now, he says. "I leaned on it to get the tone I was expecting from the other board. I haven't used it a lot since we got the SSL, but I keep it maintained and ready to go."

The machine came from Prince's place in Toronto, he says, with a Dolby SR/A noise reduction unit, serial no. 24. (Prince was married to a woman from Toronto and lived in the city between 2001 and 2006.) An Otari MTR-12 Series 2 half-inch 2-track is also available.

"I used to record things how I wanted them to sound, then somebody steered me the wrong way," he recalls. "I would just record it and figure it out afterwards. For the next two weeks, you're struggling, trying to figure out a way to make it work. But if you do it on the way in, you've painted a picture and all you need to do is put a little varnish on it."

Since he installed the SSL, he says, "I've been able to dial in my dreams on the way through. If I've messed up, I'll use plug-ins to fix it, but that's rare now. The last four or five tracks that we've done here have mixed themselves on the way in."

Halo Music  
www.halomusic.ca

MARTAHENSON PHOTOGRAPHY



# Software Tech

## IS MODULAR SOFTWARE THE FUTURE?



BY CRAIG ANDERTON

In a way, this is a follow-up to last month's column about Cakewalk's demise. Although many users plan to stay with Sonar until it breaks, others are evaluating different hosts and being reminded of a harsh reality: No single program does it all. One might have better MIDI functionality, another better video support, or there could be unique, program-specific functions. So you can either choose one program and accept its limitations, or become facile with multiple programs and deal with transferring projects.

As a potential answer that could also be software's "next big thing," consider modular software that could mix and match elements from various programs. This already exists to some degree: Plug-in standards allow effects from different manufacturers to be compatible with hosts from other manufacturers. There are also examples like the integration between Studio One, which doesn't include notation, and Notion, which is all about notation.

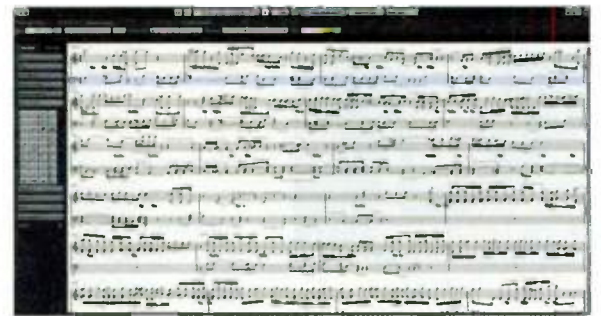
ReWire is another excellent example of modular thinking. For programs based on a traditional studio paradigm such as Pro Tools, rewiring a program like Reason Essentials into the host provides virtual instruments, effects and tempo-synched possibilities (e.g., step sequencing). This adds some attributes associated with programs like Ableton Live and FL Studio that are based more on beats-oriented music. Also, because music production is incorporating an increasingly nonlinear approach, ReWire allows veterans to supplement their existing skill set so they can work fluidly with today's musical styles while leveraging the expertise they've gained over the years—expertise that those raised on a beats-oriented program haven't necessarily acquired yet.

Although ReWire is a success story, some attempts haven't survived the test of time. Yamaha's Open Plug-In Technology (OPT) specification, which integrated synth editors tightly within a host, was introduced at the turn of the century and embraced immediately by Cakewalk and Sonic Foundry. But it had more potential than simply editor integration; Sonic Foundry implemented OPT in Acid 4.0 to allow MIDI editing in a previously audio-only program. Using it

was awkward compared to programs that started with MIDI, but it nonetheless hinted at the possibilities of modular software.

Today's DAWs are mature and somewhat interchangeable. They all cut, paste, copy, run plug-ins, handle ReWire and so on. However, each

one also has unique functionalities. For example, only Sonar and Acid Pro can create Acid-format stretchable files. Although the format's usefulness has diminished somewhat



Someone who uses Ableton Live might not buy Cubase for its notation, but they'd probably be willing to buy a Cubase Notation module. (Pictured: Cubase Score Editor)

(continued on page 28)

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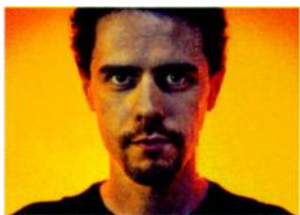
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**ARTIST:** JOAN BAEZ  
**ALBUM:** WHISTLE DOWN THE WIND  
**LABEL:** BOBOLINK / RAZOR & TIE RECORDS  
**PERSONNEL:**  
**Produced by:** Joe Henry  
**Engineered by:** Ryan Freeland  
**Studios:** United Recording (Hollywood, CA); Stampede Origin (Culver City, CA)  
**Mastered by:** Greg Calbi at Sterling Mastering (New York, NY)  
**EQUIPMENT NOTES:** Hybrid Neve 8068 / 8088 console; ATC SCM45 studio monitors; Avid Pro Tools



**ARTIST:** CODY CARPENTER  
**ALBUM:** CODY CARPENTER'S INTERDEPENDENCE  
**LABEL:** BLUE CANOE RECORDS  
**PERSONNEL:**  
**Produced by:** Cody Carpenter  
**Engineered by:** John Spiker  
**Studios:** Studio Supreme (Hollywood, CA)  
**Mastered by:** John Spiker at Studio Supreme (Hollywood, CA)  
**EQUIPMENT NOTES:** Neve 5412 console; API 2500 stereo compressor; Overstayer Stereo FET Compressor; Adam A7X, Yamaha NS-10, Auratone, Crane Song Avocat and JBL 3 Series 3 LSR308 monitors; Avid ProTools 11; FabFilter Pro-Q; Universal Audio Soundtoys Plug-Ins; Lexicon and Valhalla reverbs; Apogee Duet; Apple Logic Pro X;



**ARTIST:** RAUSCH

**ALBUM:** BOOK II  
**LABEL:** SELF-RELEASED  
**PERSONNEL:**  
**Produced by:** David Ivory and Doug Rausch  
**Engineered by:** David Ivory, Gary Wehrkamp, Rich Mouser and Doug Rausch  
**Studios:** Dylanava Studios (Lower Gwynedd, PA); New Horizon Music Studios (Stroudsburg, PA); The Mouse House (Altadena, CA); Doug Rausch's home studio (Doylestown, PA)  
**Mastered by:** Vlado Meller (Charleston, SC)  
**EQUIPMENT NOTES:** Trident 24 Series console; Calrec UA 8000 console; Universal Audio Apollo Quad; Tannoy PBM-6.5 nearfields with sub; various Genelec monitors; AKG K701 reference headphones; Avid Pro Tools



**ARTIST:** ARIELLE  
**ALBUM:** MIND LION  
**LABEL:** SELF-RELEASED  
**PERSONNEL:**  
**Produced by:** Arielle and Adam Peri  
**Engineered by:** Arielle and Adam Peri  
**Mix Engineer:** Adam Peri  
**Studios:** Home studios (Austin, TX; Winnetka, CA)  
**Mastered by:** Adam Peri at home (Winnetka, CA)  
**EQUIPMENT NOTES:** BAE 1073mp preamps, BAE 10DCF compressor as channel strip; Dynaudio Acoustics BM-6P studio monitors; Avid Pro Tools, Cubase



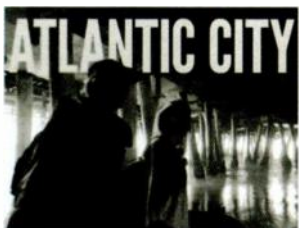
**ARTIST:** JESSE EPLAN  
**ALBUM:** TRAP HARMONY  
**LABEL:** SELF-RELEASED  
**PERSONNEL:**  
**Produced by:** Jesse Eplan, Corwin "MeizKing" Griffith and Ricky Belfort  
**Engineered by:** Corwin Griffith  
**Studios:** Victorious Soundz Studios (Central Islip, NY); private studio  
**Mastered by:** Corwin

Griffith at Victorious Soundz Studios (Central Islip, NY)  
**EQUIPMENT NOTES:** Apple Mac Pro; Yamaha HS8 studio monitors; Apple Logic Pro; Avid Pro Tools 10



**ARTIST:** JIMBO MATHUS  
**ALBUM:** SOLO BLUES  
**GUITAR:** JIMBO MATHUS PERFORMS LUCINDA WILLIAMS' CAR WHEELS ON A GRAVEL ROAD  
**LABEL:** SOLO SOUNDS  
**PERSONNEL:**  
**Produced by:** Eric "Roscoe" Ambel

**Engineered by:** Rick Caughron  
**Mix Engineers:** Eric Ambel and Mario Viele  
**Studios:** Delta-Sonic Sound (Memphis, TN); Cowboy Technical Services (Brooklyn, NY)  
**Mastered by:** Mario Viele  
**EQUIPMENT NOTES:** Neotek Elan consoles; Avid Pro Tools 192/24-bit; Burl Mothership converters; RCA ribbon mics; ADAM P33A studio monitors



**ARTIST:** SKRIZZLY ADAMS  
**ALBUM:** ATLANTIC CITY  
**LABEL:** SKRIZZLY ADAMS  
**PERSONNEL:**  
**Produced by:** Katalyst and Skrizzly Adams  
**Engineered by:** Ken Lewis and Skrizzly Adams  
**Mix Engineer:** Ken Lewis  
**Studios:** private studio (NJ)  
**Mastered by:** Chris Gehringer at Sterling Sound (New York, NY)  
**EQUIPMENT NOTES:** SSL console; ADAM A7 studio monitors; Avid Pro Tools



**ARTIST:** MYJA  
**ALBUM:** MYJA

**LABEL:** WINDMARK RECORDS  
**PERSONNEL:**  
**Produced by:** Jason Elgin  
**Engineered by:** Jason Elgin  
**Studios:** The Barn (Malibu, CA); Windmark Studios (Santa Monica, CA); Synchromesh Studios (Birmingham, AL)  
**Mastered by:** Roger Lian at Roger Lian Mastering (New York, NY)  
**EQUIPMENT NOTES:** Undertone Audio LC24-JE console; Chris Pelonis Signature studio monitors; Avid Pro Tools



**ARTIST:** KIM WILDE  
**ALBUM:** HERE COME THE ALIENS  
**LABEL:** EARMUSIC  
**PERSONNEL:**  
**Produced by:** Ricky Wilde  
**Engineered by:** Sean J. Vincent  
**Studios:** RAK Studio 2, 4 (London, England); Dog House Studios (Welwyn, UK); Psycho-Central Productions (Hitchin, England)  
**Mastered by:** Tim Young at Metropolis (London, UK)  
**EQUIPMENT NOTES:** API (RAK/2) and SSL E Series (RAK/4) consoles; Yamaha NS-10M, Genelec 1032A, AuraTone, Tannoy RevealX studio monitors; Apple Logic Pro X, Avid Pro Tools



**ARTIST:** JUNYA BOY  
**ALBUM:** TBD  
**LABEL:** NONSTOP ENTERTAINMENT  
**PERSONNEL:**  
**Produced by:** Yung Bala and Rick Lander  
**Engineered by:** Big Bo Drums  
**Studios:** Starke Lake Studios (Orlando, FL)  
**EQUIPMENT NOTES:** Icon Mic chain:414/U87/bluebird-Neve 1073/Avalon 737/LA2A/Distressor; HD1 studio monitors; Avid Pro Tools HD

## notes

### Voice Alumnus Visits PSNE

WATERFORD, CT—Billy Gilman recently worked with chief engineer Evan Bakke at Power Station New England (powerstationne.com) to record his first pop music release since finishing as a runner-up on Season 11 of NBC's *The Voice*, tracking three songs live in Studio A's signature 35-foot dome and mixing in Control Room A on a Neve 8068 MkII.

### British Grove Upgrades Prisms

CAMBRIDGE, UK—Mark Knopfler's British Grove Studios upgraded its 24 Prism Sound (prismsound.com) ADA-8XR multichannel converters with Prism's new interface cards to connect with the facility's six Avid Pro Tools | HDX systems; the facility now has more ADA-8XR converters than any other studio in the world.

### Wez Clarke Winds Up on SSL

LONDON, UK—U.K.-based Grammy Award-winning mix engineer Wez Clarke, who has worked with Beyoncé, Jess Glynne, Clean Bandit, Craig David and Tinie Tempah, has upgraded to a 48-channel Solid State Logic (solidstatellogic.com) Duality Delta SuperAnalogue hybrid console from a SSL AWS 948.

### Archiving Conference Readies

CULPEPER, VA—Registration has opened for the Audio Engineering Society (aes.org) conference dedicated to Audio Archiving, Preservation and Restoration, held June 28-30, 2018, at the Library of Congress Packard Campus in Culpeper, VA. The event will explore topics including physical/object-based preservation, handling and storage of audio carriers, mechanical vs. optical transfer, and the digitization and restoration of obsolete formats.



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## U2 Producer Barlow Surrounded by Genelec

BRIGHTON, UK—Record producer Andy Barlow didn't work on U2's latest album in his kitchen ... but he could have, as that's where he keeps a pair of Genelec 8030 monitors. They're not alone, however; over in his home's studio, there's Genelec 1238 main monitors and a set of 8331 coaxial 3-way monitors, used as his mobile system for mixing on the road.

Andy Bensley of U.K.-based Genelec distributor Source Distribution set up the new 1238s in the Brighton studio, "where I do pretty much all of my mixing, from U2 to David Gray and Lamb in just the past year," said Barlow. He wanted them after working with a pair during several months co-producing U2's new album, *Songs of Experience*.

"We used the big 1238CF monitors in a makeshift studio inside the Canadian Embassy in Dublin," he said. "It was opposite Bono's house, in a huge room that needed all the acoustic help it could get. The 1238s and the use of GLM software were a huge bonus in that respect. The album was mostly made in places like that—mansions, hotels, venues. The only purpose-built studio we used was Rick Rubin's place, the Shangri-La in Malibu, where I had a pair of



U2 producer Andy Barlow's home studio now sports Genelec 1238 main monitors and additional 8331 coaxial 3-way monitors.

8050s. The band members really like Genelec, too."

Much of his production time was spent in a smaller room at the embassy "where I preferred to mix because [Genelec 8351s] sounded great in there," said Barlow.

Now his home studio is set up with 1238s. "The 1238s are absolute-

ly amazing; I couldn't imagine a better sounding monitor in this context," says Barlow. "They sounded great straight out of the boxes, but then we ran the room through the GLM processing and they sounded 30 percent better again. We made a few further adjustments by ear, as opposed to the GLM microphone, and now they just

light up the room in such a beautiful way. You can feel every frequency, and play them really loud yet still talk at a normal, relaxed level. The mix is wide and smooth and there's not a hint of distortion. I've never heard anything like it."

Genelec  
genelecusa.com

## United Archives "Lost" John Lennon Demos

BY CLIVE YOUNG

HOLLYWOOD, CA—Alone in Bermuda in 1980, John Lennon began writing songs for the first time in years—some that would become the foundation for his final album, *Double Fantasy*, and others that were meant for his fellow former Beatle, Ringo Starr, to record. With only consumer cassette recorders available on the island, Lennon began demoing the songs and eventually gave Starr a tape of tunes that included a rough draft of "Real Love," later to be augmented by the surviving Beatles for a Beatles Anthology single in 1995. But in the years after Lennon's death on December 8 that year, the simple cassette became priceless to Starr—not as memorabilia, but for its personal significance. And then it went missing.

Or so he thought. Lennon's producer/engineer, Jack Douglas, explains, "I was hanging out with Ringo [recently] and he said to me, 'I had a bunch of John's memora-



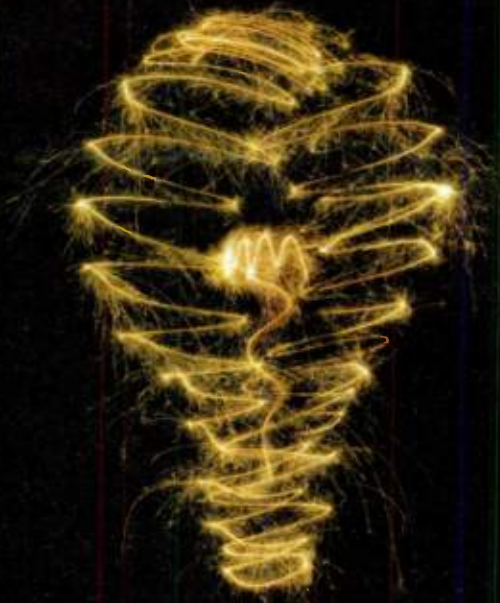
Pictured in United's archiving suite are (L-R) studio manager Robin Goodchild, archive engineer Dan Johnson and producer Jack Douglas.

bilias in a box and when I moved, the box disappeared. I don't have that cassette from Bermuda anymore."

As it turned out, the cassette was safe in the hands of Douglas, who co-produced *Double Fantasy* with Lennon and Yoko Ono. As he recalled, the cassette only existed because Lennon's sojourn to Bermuda began with a sailing trip from Newport, RI, to the small island nation. What started as a relaxing yacht voyage became a nightmare, however, when the boat was enveloped by a severe storm that left most of the crew seasick and exhausted. Ironically, the only person unaffected was the passenger—Lennon—so the former Beatle wound up single-handedly steering the boat through the storm, alone for much of the trip. When he arrived in Bermuda, he found himself energized with regained confidence for having survived the terrifying ordeal, and that in turn, led to an unexpected deluge of songs.

(continued on page 28)





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## House of Rock

(continued from page 20)

ordered most of it online.”

The studio operates standalone or in tandem with the live venue. Twin Pro Tools HDX rigs—one in the studio, tied into the stage with transport over Dante via Focusrite RedNet HD32R interfaces, and one at FOH—enable live recording at the venue. The SSL also handles the broadcast mix for live performance webcasts.

The tielines allow the venue’s stage to be used during music production. “I’ve done drums on stage for a record twice now,” he says. “For one record, we put the whole band on stage and put guitar amps in the isolation rooms.”

The live room adjoining the control room, large enough for a drum kit, has a window overlooking the stage. “If you have a vocalist isolated

and the band on stage, they can see each other really easily. And there’s a window from the control room to the stage.”

The 15,000 sq. ft. live venue can accommodate more than 650 people, but House of Rock typically caps attendance at 500, according to Havens. The house system includes a flown JBL VerTec VT4886 rig powered by Crown amps, with a 96-input Soundcraft Vi3000 console at FOH and a Soundcraft Si Performer 3 desk at monitors.

In addition to the rockers who have come through the venue over the past 18 months, a list that also includes Winger, Lita Ford and Foghat, “We’re reaching out to a lot more local artists,” says Havens. “We’re going to try and get a local show every weekend. Santa Rosa has never had a great venue, so it’s our goal to build that up and use the venue to promote the studio, and vice versa.”

Solid State Logic  
www.solidstatellogic.com

## Software Tech

(continued from page 23)

with improvements in DSP time-stretching, “acidized” files remain an ideal solution for some projects. I don’t know coding, but it seems like there could be a standalone Acidization module one could call up in another program. Some programs already do this kind of functionality by fencing off particular modules from a flagship program to create “light” versions. Loading complete modules from a different manufacturer doesn’t seem that different.

Or consider video editing. Most DAWs provide only the basics, but Acoustica’s Mixcraft has unusually sophisticated video functionality. Maybe the video section could be its own module that other hosts could load.

The big and perhaps insurmountable problem is that host programs would need to be designed with “hooks” to accept these modules, just like they have with plug-ins and ReWire. But if the modules could inherently be standalone, it might not be that difficult. Nor would it need to be an extensive effort. The main modules that come to mind are MIDI editing (OPT showed it’s possible), creating

Acidized or REX files, video, notation and step sequencing. It may even be possible to use different mixing console modules (Harrison Mixbus, anyone?) or hooks for effects chains that could load like a regular plug-in, but host plug-ins—and may the best FX chain implementation win.

Aside from the benefits for users, this would provide more income for DAW manufacturers. Someone who uses Ableton Live might not buy Cubase for its notation, but they’d probably be willing to buy the Cubase Notation module. Rather than use a DAW’s proprietary stretching option, users might prefer to load an Acidization module so they could create clips readable by any DAW.

Yes, this would take an industry-wide effort, but MIDI has proven industry-wide efforts are possible. It could start small, by coming up with a ReWire variation for seamless notation integration into programs that don’t have a staff view. And if modular software means a better experience for users and more potential income for software companies, that’s an incentive to investigate the concept further.

Author/musician Craig Anderton updates [craiganderton.com](http://craiganderton.com) every Friday with new tips, links, info on his latest products, and more, as well as tweeting at [twitter.com/craig\\_anderton](https://twitter.com/craig_anderton).

“As a potential answer that could also be software’s ‘next big thing,’ consider modular software that could mix and match elements from various programs.”

## Goldsmith Studios

(continued from page 20)

guy breaking in, but he had already left.”

Cronin is working with his insurance company to repair the damages and replace his equipment, and noted, “It happened a month ago today and I’m still scratching the surface on getting it all put back together.... He did a considerable amount of damage in the 90 seconds he was in there, for sure.” He hopes to have the studio repaired and open for business in a month, though he said that goal may be optimistic.

Despite the setback, Cronin was able to celebrate the release of the 2018 Louisville Accord CD on Jan. 11, an charity album recorded at Goldsmith with the goal of giving back to the community.

Two years ago, Cronin and Crescent Hill Radio hosts Charity Radcliffe and CJ Cumberland co-founded The Louisville Accord, an original recording project that challenges local songwriters to write and record a song in four hours. Twenty musicians are paired across genres, delivering 10 completely original works of audio art. Proceeds from sales of the CDs are donated to a local nonprofit.

Cronin explained the genesis of Accord: “The three of us sat down over dinner one night [in 2016] and started talking about the idea of bringing different musicians together and seeing if we

could get them to write a song together. Between the three of us, we knew a bunch of musicians in town. I’m not sure how it is in other cities, but in Louisville, we have these little pockets of different genres—they’re all really, really talented people and they don’t really intermingle. So the goal was to get people from different genres, put them in a room together and give them four hours to write and record a song, which is a pretty monumental task when people don’t know each other. I mean, writing a song in itself is one thing, but doing it with people you don’t know is something totally separate. And being expected to have it recorded within four hours of meeting the person is a pretty tall task.

“Basically it’s 20 musicians from town and they’re paired up. The twist on it is that we end up putting out a CD that gives money to a local nonprofit. None of the musicians or anybody involved in the production make any money off of it. It’s all a labor of love.”

Cronin said that proceeds from the 2018 Accord CD are going to AMPED Louisville, a program that provides a safe environment for youth to explore their creativity through music. AMPED provides free access to education, instruments, technology and performance opportunities for Louisville’s young to thrive through the power of music.

Goldsmith Studios  
[facebook.com/GoldsmithStudios](https://facebook.com/GoldsmithStudios)

## Lennon

(continued from page 26)

When Douglas realized he had the lost demo cassette, he knew what to do. “I wanted to make a CD of the cassette for Ringo and came to United to work with archivist Dan Johnson,” Douglas said.

While United has recorded thousands of legendary sessions going back decades, its archiving department is a relatively new addition, well suited to preserve the priceless recording. “We built our new archiving studio to accommodate analog and early digital recordings that are nearing the end of their shelf lives,” said United studio manager Rob Goodchild. “We ensure recordings are properly preserved and archived.”

Nonetheless, Johnson, head archivist at United, had no idea he would be saving legendary lost demos when he came to work that day. “I didn’t know what Jack was planning; he booked some time and explained he wanted to transfer a cassette,” he recalled.

Johnson soon found out and then faced a different challenge: “It was one of those ‘Oh my God’ moments, but you have to maintain a level of professionalism.

“I made sure everything was aligned properly and that the machine would accept the tape,” he added. “The cassette was in great condition and played back perfectly.”

Douglas, on hand to hear the transfer, was also pleased, praising the results: “It’s incredible to hear what Dan has done.”

United Recording  
[unitedrecordingstudios.com](http://unitedrecordingstudios.com)



## briefs

### MPR Upgrades Axia Consoles

CLEVELAND, OH—Minnesota Public Radio chief engineer Bill Dahlstrom and Tom Nelson, director of engineering and facilities, are upgrading the facility's 24 Livewire-networked Axia Element consoles to Axia Fusion consoles, working closely with The Telos Alliance (telosalliance.com).

### SMPTE Offers ST 2110 Course

WHITE PLAINS, NY—In March 2018, SMPTE (smpste.org) Fellow Thomas Bause Mason will lead a SMPTE Virtual Classroom educational course, "Understanding SMPTE ST 2110: Live Production of Professional Media Over Managed IP Networks," focused on the SMPTE ST 2110 standard.

### Sony Gets Unreal with Jumanji

CULVER CITY, CA—At Sony Pictures Post Production Services (sonypictures.com), supervising sound editor Joel Shryack, sound designer/supervising sound editor/re-recording mixer Julian Slater and re-recording mixer Kevin O'Connell responded to the visuals of Columbia Pictures' *Jumanji: Welcome to the Jungle* with a soundtrack of animal noises and made-up languages.

### HOB0 Gives Voice to Voyeur

NEW YORK, NY—The Netflix documentary *Voyeur* received audio post production in the form of a collaboration between HOB0 (hoboaudio.com) and indie film mixer Tom Paul of Gigantic Studios, with HOB0's senior engineer Chris Stangroom and engineers Stephen Davies and Julian Angel focusing on dialog clean up.

### High Rock Rolls with Calrec

SARATOGA SPRINGS, NY—High Rock 1, the first production truck to roll out of Saratoga Springs, NY-based High Rock Mobile Television, features a 40-fader Calrec Audio (calrec.com) Artemis Light audio console sourced by Bennett Engineering, installer and integrator of all systems in the 40-foot, dual-expando vehicle, which was manufactured by Gerling and Associates.

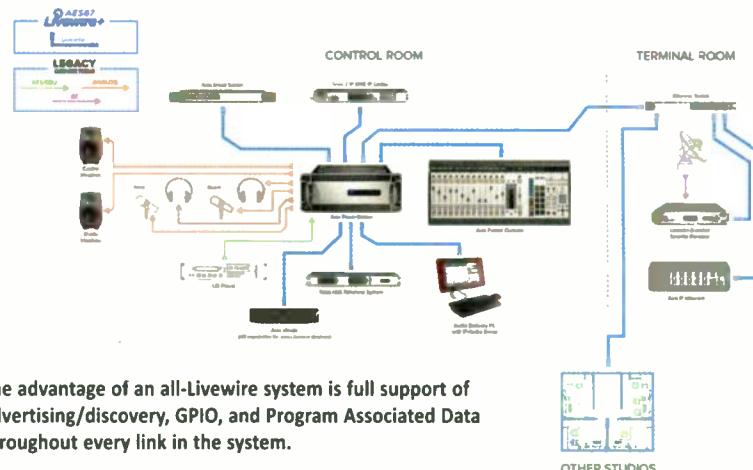
## Understanding the Livewire+ AES67 Protocol

BY JOHN SCHUR

Over the last 15 to 20 years, broadcast audio systems have undergone revolutionary changes—from analog to digital technologies, from manual to computer-assisted workflows, integrating related systems such as telephones and intercom systems, and much more.

One key enabling technology is Audio over IP (AoIP), which delivers a number of significant benefits, including operational flexibility, scalability and lower costs. However, implementing AoIP systems to take advantage of these benefits depends almost entirely on the existence of and support for interface and interoperability standards to ensure that the many elements that make up professional audio systems are capable of working together. To that end, there are several AoIP protocols designed to achieve this goal by easing implementation and integration, including the increasingly popular Livewire+ AES67.

Originally known as Livewire, this



The advantage of an all-Livewire system is full support of advertising/discovery, GPIO, and Program Associated Data throughout every link in the system.

pioneering technology was created in 2003 by the Telos Alliance as a means of transmitting low-latency, high-reliability audio over switched Ethernet. Livewire+ AES67 adds full compliance with the AES67-2013 interoperability standard for high-performance AoIP transport over IP audio networking products. This allows devices to seamlessly connect directly to Livewire+ networks for connecting audio streams, regardless of device type or manufacturer. Livewire+ AES67 also offers the flexibility to incorporate and comply with future AES and SMPTE standards as

they are approved and released, while simultaneously offering backward compatibility with the RAVENNA networking protocol.

Today, 70,000 connected devices worldwide use the Livewire or Livewire+ AES67 protocols, and 100 companies provide compatible equipment. While these numbers are impressive, adoption continues to grow steadily for a number of key reasons.

In the coming years, studios' transition to IP will continue, but the number of available protocols, methods, hardware and audio device-

(continued on page 30)

## |||||

## 2018 A Crucial Year for ATSC 3.0

BY STEVE HARVEY

LAS VEGAS, NV—The Advanced Television Systems Committee (ATSC) chose opening day of CES 2018 in Las Vegas to announce that the complete 20-part suite of the ATSC 3.0 next-generation television standard has won final membership approval. The milestone release of the ATSC 3.0 standard marks the end of a five-year effort to set the guidelines for a reimagined TV broadcast system that combines over-the-air and broadband services.

The Federal Communications Commission had already voted its adoption of the ATSC 3.0 technical standards suite in a 3-2 party-line vote decided by chairman Ajit Pai during an open commission meeting on Nov. 16, 2017.

The new TV service will be far more adaptable and flexible than previous standards, commented ATSC president Mark Richer in a statement. "ATSC 3.0 will bring historic innovations to broadcasters and to viewers, from robust transmission to immersive audio, and from 4K Ultra-HDTV to interactive services and more," he said.



From left, Gary Shapiro, president and CEO of the Consumer Technology Association, Sen. Gordon Smith, president and CEO of the National Association of Broadcasters, and ATSC President Mark Richer celebrate the approval of the ATSC 3.0 next-gen TV standards at CES 2018 in Las Vegas.

The next-gen standard offers an immersive, object-based audio system delivered via new and improved audio codecs—primarily Dolby AC-4 in the U.S. The new system supports 7.1.4 loudspeaker playback, which includes overhead channels, via individual speakers, soundbars and even over headphones. The object-based audio paradigm presents opportunities for advanced personalization features such as choices of sports commentators (home team or away team announcers, for example)

and alternate languages. Because the audio is rendered according to the player and, potentially, the listening environment, the system promises to compensate for noisy backgrounds or less than optimum speaker placement in a room.

The approval of the suite of standards tees up 2018 as a crucial year as the ATSC helps shepherd the industry into the next phase. "The ATSC is uniquely positioned to support initial launches of 3.0 services

(continued on page 30)





## Livewire+ AES67

(continued from page 29)

es can make the process confusing. Livewire+ AES67 cuts through this noise to accomplish interconnectivity more easily at a lower cost.

Using Livewire+ AES67, uncompressed digital audio, device control messages, program-associated data and routine network traffic is carried over a single Ethernet cable in real time. This reduces the number of cables to deploy, significantly reducing the time required to wire an entire facility. All sources and devices connect using readily available Ethernet cables, which can carry up to 250 audio channels each, depending on the network link capacity. This link aggregation eliminates expensive multi-pair cable for interconnecting studios, resulting in potentially significant savings in labor costs alone.

Configuration can also be just as simple. With Livewire+ AES67, every audio source is given a text name and numeric ID, which are transmitted from devices over the network thanks to a built-in device discovery mechanism. All hardware products have built-in web engines that can be accessed via any common browser or by using an Axia program called iProbe. Users simply enter the names of their desired input sources using just a PC and web browser, with a configuration window enabling any necessary parameter changes for the selected sources.

As a result of these capabilities,

installation and configuration, which may have taken weeks in the past, can now be completed in hours thanks to Livewire+ AES67.

Unlike Internet audio, which suffers from reduced quality as a result of limited and variable bandwidth, Livewire+ AES67 uses Internet protocols but is intended to deliver uncompressed audio over local area networks (LANs). Livewire+ AES67 is the only fully compliant protocol that also features Unicast SIP modes of

sion-critical broadcast applications in major metropolitan markets.

A key benefit of Livewire+ AES67 is its ability to enable computer data, phone, audio and control to be transmitted on a single network. Naturally, this type of converged networking environment can generate significant cost efficiencies throughout a broadcast facility.

Further contributing to the cost-effectiveness of Livewire+ AES67 is that the most widely used and high-

audio channels into the system.

The latest release of Livewire+ AES67 includes a driver that can handle up to 24 bi-directional stereo or mono audio streams directly through a computer's network card and now features PTP clock synchronization. This allows the computer to be connected directly to the network using an existing Ethernet connection, eliminating the cost of an additional sound card and the port needed to connect it to a console or router. In many cases, this can save broadcasters many thousands of dollars.

Studios' transition to IP-based broadcasting has been underway for several years, but has been hindered by the sheer number of protocols, integration methods, legacy hardware and advanced audio devices, which can be confusing at best. The advanced capabilities and other key benefits of Livewire+ AES67, on the other hand, simplifies interconnectivity and upgrades, while offering greater flexibility and cost-effectiveness.

By implementing Livewire+ AES67 solutions, studios can take advantage of best-of-breed technologies to satisfy a wider range of applications within network environments. Best of all, Livewire+ AES67 is designed to work with future standards as they are released. This ensures that the Livewire+ AES67 will never be obsolete and continue to deliver quality, reliability, flexibility, cost savings and many more benefits well into the future.

John Schur is the president of the Telos Alliance TV Solutions Group.

*Today, 70,000 connected devices worldwide use the Livewire or Livewire+ AES67 protocols.*

operation, meaning it is also suitable for VLAN and WAN applications.

The controlled, high-speed Livewire+ AES67 network provides more than adequate bandwidth for large numbers of channels of high-quality uncompressed audio in real time, eliminating the risk of audio drop-outs from network outages and other issues affecting transmission. Long accepted as a reliable means of transporting virtually any kind of data or signal, IP has become a reliable option for telephone, intercom, teleconferencing and many other applications. According to the Telos Alliance, as of April 2015, more than 5,500 studios around the world had been built using the company's Axia IP-audio infrastructure employing the Livewire+ AES67 protocol for mis-

ly respected companies in the radio industry have adopted the technology. This allows broadcasters to select best-of-breed solutions and connect as many audio devices as possible directly to their audio network. In addition to simplicity, this removes the need for extra I/O devices, delivering even lower overall system costs.

Livewire+ AES67 allows wiring to be installed in hours, as opposed to the weeks that are often required. Livewire+ also generates savings from the way it handles audio from PCs, which nearly all broadcast stations use as their primary means of playing and editing audio. With a traditional network, PC-based audio is transmitted through a router input card or console module, which adds significant cost when bringing multiple

## ATSC 3.0

(continued from page 29)

and products beginning this year," Richer wrote in a recent statement on the organization's website. "In addition to our ongoing standards work, the ATSC has a very important role in educating stakeholders about how the technology works and assisting in implementation planning.

"Going forward, I see the ATSC as an important information center for broadcasters and manufacturers preparing to launch services and products. That means exciting opportunities for ATSC members to get engaged in field testing, field trials and plug-fests this year. Also opportunities to contribute to important new areas like conformance and compliance, privacy and security, and so on."

ATSC 3.0 consumer devices are unlikely to be introduced in the U.S.

until CES 2019 or possibly even 2020, according to industry observers. Meantime, in South Korea, three broadcasters will go live with an ATSC 3.0 service that focuses on over-the-air delivery of 4K Ultra HD video of the 2018 Olympic Winter Games from Pyeongchang in February. Consumer equipment is already available in stores.

The expectation is that U.S. broadcasters will not trail too far behind the Koreans. Indeed, with the finalization of the ATSC 3.0 standard, 2018 looks likely to be the year that broadcasters and consumer electronics companies begin forging relationships to deliver the new services.

Pearl TV, a business consortium established to help push adoption of ATSC 3.0, showed off several next-gen TV features at CES 2018. For example, Sony, in collaboration with companies including Ericsson and Triveni Digital, demonstrated a live ATSC 3.0 transmission at the Wynn hotel.

Pearl TV announced toward the end of 2017 that a group comprising E.W. Scripps Company, Fox Television Stations, Meredith Local Media Group, Nexstar Media Group, TEGNA, Telemundo Station Group, Univision Communications and Pearl TV had formed the first collaborative single-market effort to plan for and implement a transition to next-generation over-the-air television broadcasting in a "model market." A total of 10 TV stations in Phoenix, AZ, the nation's 12th largest TV market, with over 1.8 million households, will participate. More than one in five viewers in Phoenix reportedly rely on over-the-air TV reception.

According to the announcement, the Phoenix "model market" project has several objectives, including "confirming basic TV service parameters and performance, determining the appeal of next-generation high dynamic range (HDR) video and immersive audio content to consumers,

assessing TV application features and implementation requirements, testing interactive and addressable advertising functionality, determining consumer device and service appeal, and ensuring effective and efficient interoperability with multichannel video programming distributor (MVPD) systems."

Also at CES 2018, Intel CEO Brian Krzanich revealed during his opening keynote that Intel True VR technology will power more than 50 hours of live VR programming from Pyeongchang, supplied to NBC Olympics by partner Olympic Broadcasting Services (OBS), of the opening (Feb. 9) and closing (Feb. 25) ceremonies and numerous sporting events. Viewers will reportedly be able to switch vantage points with accompanying natural sound captured at each camera location.

Advanced Television Systems Committee  
[www.atsc.org](http://www.atsc.org)  
Pearl TV  
[www.pearlrv.com](http://www.pearlrv.com)



# innovations: the manufacturer's view

## The Lowdown on Low-Frequency Absorption

### ACOUSTIC GEOMETRY CORNERSORBER

BY JOHN CALDER

Acoustics are a vital component of every room, especially in professional audio and recording studio environments. The science of acoustics is based on analysis of complex sound waves and a deep understanding on how sound travels based on the specific environment. No two rooms are alike, so the acoustic properties of each space vary. There are many factors that affect sound in rooms, including the size and shape of a room, where sound leakage exists, the number of doors and windows, and the contents of the room itself, from audio gear to furniture. All of these aspects need to be considered when diagnosing a space. The art and science of "acoustics" is essentially simple ... the tricky part is figuring out how it works in your space.

Acoustic Geometry has been offering acoustical sound-control products for nearly a decade, for a wide range of applications. A major component of creating room solutions is testing our products to ensure they will perform as designed. We don't take this obligation lightly, which is why we test our products at NWAA Labs, the only facility in the United States that can accurately test sound absorber products down to 40 Hz.

#### KNOW YOUR ROOM (MODES)

Room modes are one of the greatest problems in accurate sound recording and reproduction. Modes result from sound resonances at frequencies with wavelengths matching the room's dimensions: length, width and height. Modes at resonance frequencies—also called standing waves or eigentones—consist of nodes, which cause large energy cancellations in wavelength-dependent locations in a room, and anti-nodes, which cause large energy additions in different wavelength-dependent locations. Also, at frequency wavelengths longer than the room dimensions, called Schroeder frequencies, the room will "cross over" and sound becomes pressure-based instead of velocity-based.

To solve this room mode problem, low-frequency (LF) absorbers, sometimes called "bass absorbers" or "bass

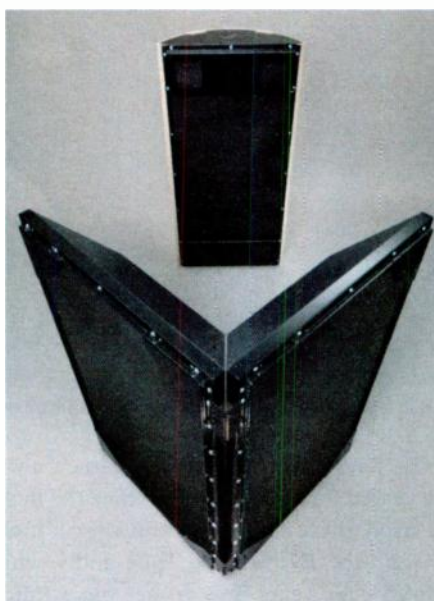
traps," can be used to improve modes' destructive effects in professional and consumer audio spaces. However, absorbers made of fiber and foam act only on sound *velocity*, whereas membrane absorbers act on sound *pressure*. Velocity, or the speed of sound in air, is about 1,130 feet per second, but it becomes 0 feet per second at hard reflective surface boundaries because sound energy is stopped by the boundary before reflecting; pressure becomes maximum at hard, reflective surfaces because the sound energy builds up before reflecting. This is why velocity-based fiber- and foam-based absorbers work far less effectively at boundaries than pressure-based membrane absorbers for frequencies below the Schroeder frequency room crossover, usually between 160 Hz and 200 Hz in small rooms.

To address this disparity, Acoustic Geometry developed a membrane-based low-frequency absorber, the CornerSorber, to complement the effective frequency range of our original LF membrane absorber, the Curve Diffusor, which was designed primarily as a phase-coherent diffuser above 300 Hz. The initial CornerSorber design goal was to use different membrane densities to offer different frequency ranges for the same enclosure, making them easily changeable in manufacturing, but when we tested our prototypes, there were some surprising results.

#### PUTTING PRODUCTS TO THE TEST

When testing sound-absorbing products, nearly all independent acoustical testing laboratories have reverberant chambers of under 300 cubic meters in volume. This is large enough to measure absorption results above 160 Hz, but it becomes very inaccurate below 160 Hz, again per Schroeder frequencies. There is only one test lab large enough, at 738 cubic meters, to be accurate for measuring absorption down to 40 Hz: NWAA Labs, in Elma, Wash.

To test the effects at NWAA Labs of different mass-loaded vinyl (MLV) membrane densities in CornerSorber



Curve LF absorption test array



Acoustic Geometry's Curve Diffusor (above) and CornerSorber, which both feature accurately tested low-frequency MLV membrane absorption.

enclosures, slide-in frame retainers were made to hold frames with different sets of membrane densities: 1 lb., 1/2 lb. and 1/4 lb. per square foot.

#### THE RESULTS

Some of the test results differed from our predictions, which were based on various resonance theories and subsequent logical assumptions. Notably, we found that absorption ranges and center frequencies, as well as effectiveness, did not change significantly with changes in membrane densities; the most effective membrane distance from the wall for CornerSorbers was not the same as for the earlier-tested Curve Diffusor design; and absorption profiles for the new design in "semi-free space" (more than 1 meter from any wall) was approximately an octave higher in range and center frequency than when in the "pressure zone," parallel with, facing, and close to the walls. Also, when the enclosures were reversed, with membranes facing into the test chamber instead of facing the walls, the results were also nearly an octave higher in range and center frequency than when parallel with, facing, and close to the walls.

We also tested our design premise that the most effective location for membrane absorbers is closely coupled to, in parallel with, and facing the wall surfaces in corners, standing

on the floor. This concept was proven to be accurate. Acoustic Geometry did not test with the membranes oriented horizontally (parallel with the floor), as membranes are less effective when at a right angle to gravity because of membrane displacement.

In summary, the type of absorber, and its location and orientation in a room, are critical to LF absorber effectiveness. Additionally, the set of 10 tests conducted by Acoustic Geometry proves the value of laboratory testing. If these products had been offered without accurate standardized laboratory absorption testing in a lab capable of accurately testing down to 40 Hz, our claims of product ranges and efficiencies would have been unfounded. This assertion is applicable to other LF absorber product designs and categories as well. Therefore, we feel it would be wise for consumers to check with manufacturers for results from an accurate LF testing lab before purchasing.

We strive to create products and solutions that are proven to work through accurate testing, ensuring that customers' rooms will actually "sound better," which is the goal for any critical-listening space.

John Calder is the director of Retail Sales for Acoustic Geometry.

Acoustic Geometry  
www.acousticgeometry.com



# Plug-Ins and More to Push Your Productions Out the Door



If you want to add some 'tude to your productions, dial in a Universal Audio Empirical Labs EL8 Distressor.

As I write this, the NAMM Show is a week away, and I already can't wait. As a longtime guitar player, it has become one of my favorite shows to attend, and aside from the great part of seeing old friends and meeting new ones, you always come away having learned about the latest and greatest—not only in guitar world, but also in the pro audio domain. With the addition of AES@NAMM this year, it's sure to be a good show all around.

I'll be checking out new stuff on the exhibit floor, but until then, I've detailed a few favorite toys I've been using recently to get my productions done. I look forward to sharing my discoveries from the NAMM Show after I hit the floor. Stay tuned.

## UNIVERSAL AUDIO ENGL SAVAGE 120

Developed by Brainworx for UAD hardware and Apollo interfaces, the

ENGL Savage 120 is unapologetically geared for ferocious metal tones. I've used the other UA/Brainworx ENGLs—the E765 Retro Tube and E646VS—for years now to get big, hard, aggressive sounds, both on guitar and bass. But the Savage 120 is a slightly different animal.

It's got four channels, dual three-band EQ, Depth Boost, Rough/Smooth, Contour and Presence, which gives you some extra tonal control. My ears hear this amp as having more targeted, quick-acting presence, and while the distortion is quite savage, it's not that fake, crunchy stuff that's not useable.

My Gibson Les Paul Custom and Ibanez 7-string sound especially good paired with the 120, and it's definitely a screamer. It's also Unison-enabled, which means you can track through Apollo interfaces with near-zero latency—something we guitar players

always appreciate. One slightly overlooked feature of these plug-ins is the inclusion of the built-in FX Rack, which includes Vintage delays, EQ filters, a Power Soak circuit and the all-important noise gate, because this thing is a monster.

## UNIVERSAL AUDIO EMPIRICAL LABS EL8 DISTRESSOR

Another great piece of hardware now available to us in software form, again for UAD hardware and Apollo interfaces, is the Universal Audio Empirical Labs EL8 Distressor. I'm a huge fan of using the Distressor on drums, be it overheads, room mics and snares. It's like having a blend of some of my favorite studio compression tools: the UA 1176 Teletronix LA-2A with some extra coloration using the "Dist 2 and Dist 3" modes.

On guitars (and bass), you have to be careful with it because you can



BY RICH TOZZOLI

Rich Tozzoli is an award-winning, Grammy-nominated producer, engineer and composer for programming such as FOX NFL, Pawn Stars, Duck Dynasty and Oprah & Deepak Chopra. [richtozzoli.com](http://richtozzoli.com)

easily push the compression to the point of full squash, unless that's what you want. But by using a nice 3:1 or 4:1 with just a touch of gain reduction (set by adjusting the input knob), you can really pound a guitar signal through a mix, even a super dense one. On clean funky Telecaster parts, I will often add some grit with the aforementioned Dist 2 or Dist 3 modes, which adds a touch of even/odd order harmonic distortion.

There's a reason that studio racks are filled with Distressors, and I, for one, am glad to have a rack of them inside my computer now. One welcome feature the software has that the hardware does not is the Dry/Comp Mix knob, which lets you dial in just the right amount. I find this especially useful when using a Distressor on stereo drum loops because you can use it to taste instead of altering the Input/Output blend. If you want to add some 'tude to your productions, dial in one of these.

## SONY C-100 HIGH-RESOLUTION CONDENSER MIC

Since Sony hasn't released a new mic in 25 years, the C-100 condenser is worth talking about. Billed as a high-resolution microphone, the C-100 streams directly from the lineage of the legendary C-800G, which I've used on multiple occasions with nothing short of stunning results. (There's a reason they are still back-ordered to this day!) Interestingly, the mic was designed in collaboration with Sony Music, so the "tweaking" went on over the course of literally years.

The dual-capsule, transformerless, multipattern design features front-switchable omni, uni (cardioid) and figure eight patterns, and the rear features an optional 10 dB pad and low cut rolloff. The 25mm diaphragm



The ENGL Savage 120 is unapologetically geared for ferocious metal tones.



covers 20 Hz up to 25 kHz, and the 17mm capsule covers 25 kHz up to 50 kHz. I know what you're probably saying—we can't hear up that high—but this mic is targeted for "high-res" capture, which could potentially take advantage of all that extra "air." The C-100 is smaller than a C-800G (especially without the Peltier device), but it still has a solid feel to it. It will be launched with a full protective case and shockmount system.

I was lucky enough to put a beta version through its paces—I and those who I recorded with were more than pleased with its performance. It shined on an acoustic 12-string Guild F-512, where it captured all the highs and shimmer, as well as every drop of booming bottom. It delivered the goods on both male and female vocals, as its should with its C-800 lineage. It also did a great job in two interesting places: on a guitar cabinet and as drum overheads/room mics.

On the guitar cabinet, it was thick and nasty, and had a much more open sound than a '57 and more highs than a '421. When I used a couple for room mics, and even as a single overhead (center) on drums, we were almost shocked how much of the kit it got, from the kick up to the tops of the cymbals (sonically). At one point, we had to make sure all the other mics were muted because we didn't believe the C-100

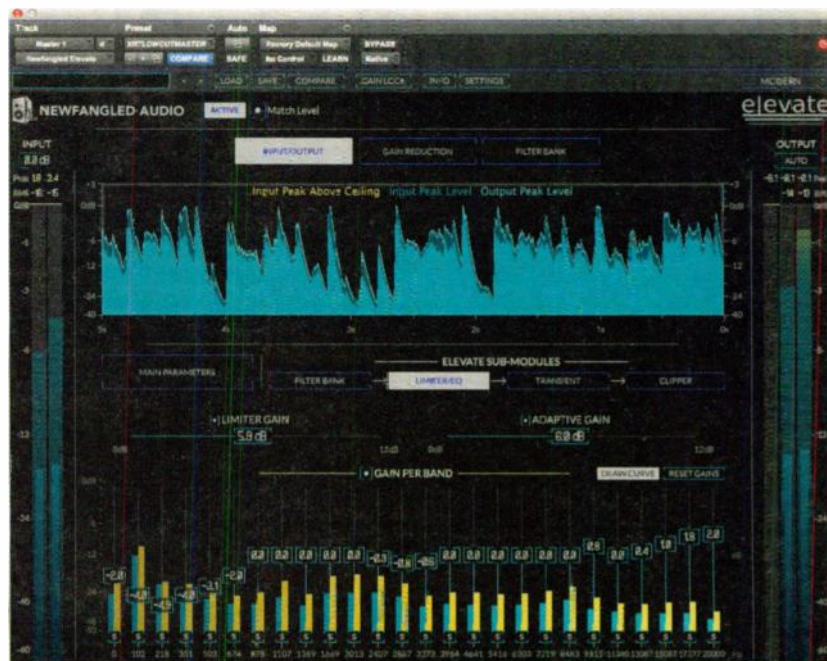
alone could deliver so much sound. Very impressive, and considering that the C-800G is over \$10,000 and the C-100 hits the street at around \$1,399, even more so.

Sony's attention to detail and focused effort to develop this product was worth it. This is not just a great mic; it's superb. Whether you're capturing high resolution or not, the C-100 will undoubtedly find its way into many mic collections.

#### NEWFANGLED AUDIO ELEVATE MASTERING LIMITER

Started by 15-year DSP-writing Eventide veteran Dan Gillespie, this one came into my Pro Tools rig by word of mouth from my "network"—a group of well respected (I say that lightly) engineers, producers and mixers with walls full of audio trophies, who share information with each other. Created by Newfangled Audio and distributed by Eventide, Elevate is called a "unique multiband limiter, human-ear EQ and powerful audio maximizer." How could you not want to check that out?

Since others have reviewed Elevate, I won't get into every parameter. Instead, I'll focus on the ones I find unique and most useful. First, it uses 26 filter and frequency bands, modeled from the human ear, altering the speed, transients and gain in real time. It uses artificial intelligence al-



Elevate does just what its name implies, naturally elevating your audio with punch, clarity, volume and attitude.

gorithms to help control the sound and increase loudness, while offering several ways to dig into audio specifics.

The Main Parameters page features a few key options such as Limiter Gain, Speed and Ceiling control. There's also Transient Emphasis and Spectral Clipper, which is like a harmonic driver. I like the fact that each of the 26 bands is allowed to adapt to its own signal to an extent using the Adaptive Gain, Adaptive Speed and Adaptive Transient controls, which are also on the main page. What's cool is that when these parameters are turned down, Elevate becomes a single-band limiter. When they are up, the artificial intelligence algorithm analyzes the signal across all the bands and adjusts the gain for each.

Aside from the Main Parameters module, there are four sub-modules: Filter Bank, Limiter/EQ, Transient and Clipper. Filter Bank allows you to solo one or more of the 26 bands (which can be lessened to save processing power) and adjust just that band's frequency; I use this feature all the time. As a longtime "in the box" mixer, I always use a master fader for my final output chain. With that in mind, I can click on one of the band's sliders in the Filter Bank and hear the audio coming out of that band (or bands). If it's too much, I can jump into the Limiter/EQ module and pull down those specific band sliders in the overall mix. Or I will go back into the individual elements of the mix

and correct there.

For example, my Fender Precision outputs a lot of frequency around 126 Hz, which I've discovered through Elevate. Instead of cutting that frequency's mastering band, I will notch that on the bass channel itself, which helps clean up the whole mix on the Elevate output. Also I will often push up a little bit of the higher frequency bands to add some overall sparkle to the final output. The point is, it helps you mix better because you can see and hear any trouble spots, allowing you to correct them however you choose.

Another tab I use quite a bit, to my surprise, is the Clipper, with its Drive and Clipper shape. Basically it allows you to add harmonic distortion that sounds as close to analog clipping as I've heard in a plug-in. I find this especially useful on some of the harder-edge rock pieces I need to compose for sports and car-centric shows, as it's like sending my final mix through a tube.

I've found that different limiters work best for handling different types of audio, be it hard rock, crime drama, orchestral or whatever. What I like best about Elevate is the fact that I can dig into the guts of it and make it work with every style, or if I choose to, quickly tweak a parameter or two on a rush job and still get the results I'm seeking. Simply put, Elevate does just what its name implies: naturally elevating your audio with punch, clarity, volume and attitude.

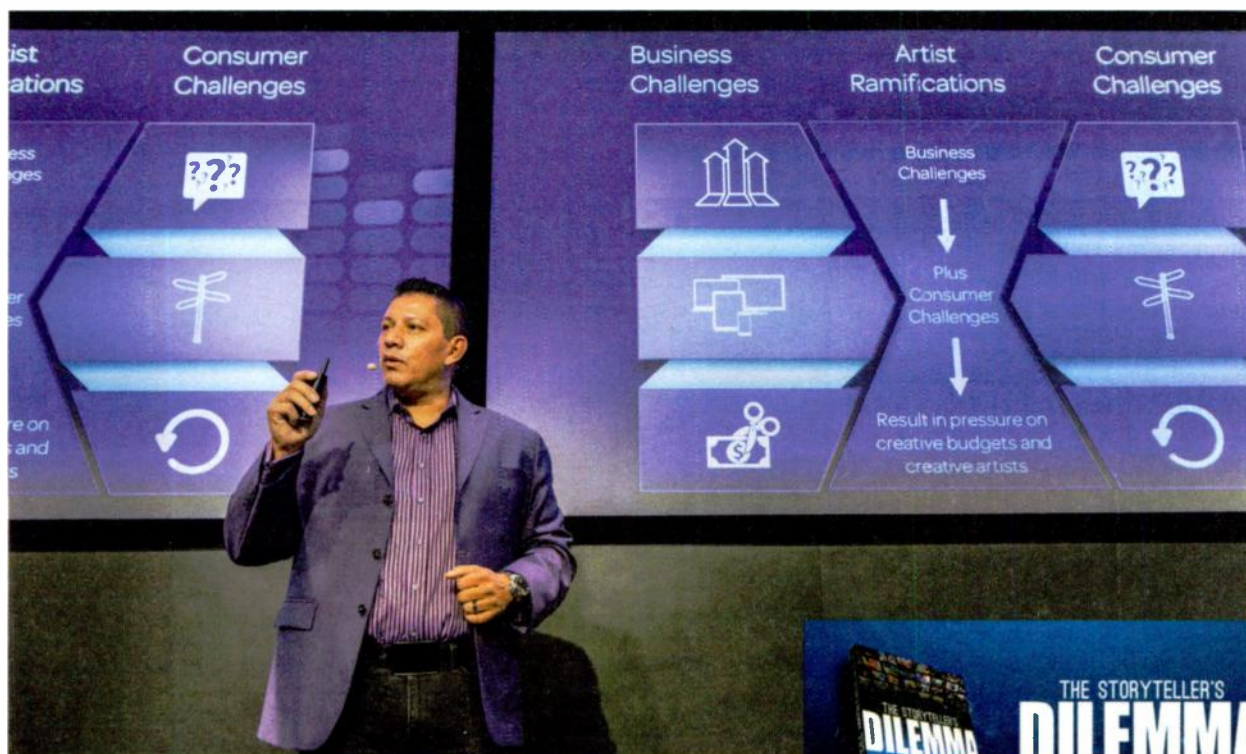


The C-100 high-resolution condenser is worth talking about.

"Since Sony hasn't released a new mic in 25 years, the C-100 condenser is worth talking about."



# The Storyteller's Dilemma



"It's easier than ever to tell stories, but it's harder than ever to make doing so economically viable. That's the storyteller's dilemma," writes Louis Hernandez Jr., CEO and chairman of Avid Technology.

MONTCLAIR, NJ—"It's easier than ever to tell stories, but it's harder than ever to make doing so economically viable. That's the storyteller's dilemma," writes Louis Hernandez Jr., CEO and chairman of Avid Technology, in his latest book.

*The Storyteller's Dilemma: Overcoming the Challenges in the Digital Media Age* (Hal Leonard, 196 pages), the third book from Hernandez, is an analysis of the impact of digitization on the wider media industry and a projection of where we go from here. In four parts—how storytelling is innate in humans; how we arrived at the current dilemma; why technology is a great enabler, though it produces unintended consequences; and one potential way forward—he lays out a perceptive and thoroughly researched dissection of the impact of digitization on the worlds of film, broadcast, news and music, and explores how, frankly, we can do better.

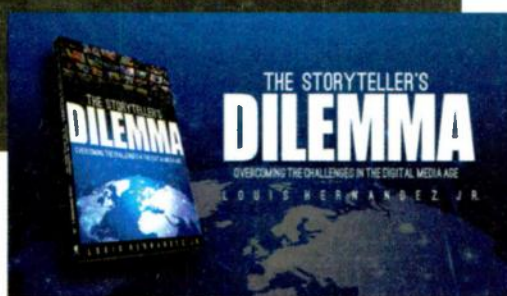
In presentations on behalf of Avid over the last several years, Hernandez has already laid out many of the observations of the content creation business contained in this book. As he has led Avid away from its somewhat rocky past and positioned the company for a stable and prosperous future, he has spoken about visiting clients from across the content creation spectrum. Drawing from those encounters, he peppers this book with astute firsthand observations regarding the intersection of storytelling and technology by individuals including *Star Trek* and *Star Wars* film editor Maryann Brandon, Sinclair

Broadcast Group SVP and CTO Delbert Parks III and Herb Trawick of *Pensado's Place*.

The book is written by the head of Avid, of course, so it's no surprise that Media Composer, Pro Tools and other company products are referenced. But then there is no avoiding the dominance of Avid technology in the media industry. All six of the major film studios, nine of the 10 leading international news networks and four of the five largest TV station groups use Avid tools. More than 70 percent of today's commercially published music and over 80 percent of streamed original content is produced using Avid solutions, he says.

The dilemma, as Hernandez sees it, is that the unintended consequence of digitization is that creative, informative and inspiring storytelling is being jeopardized. He argues that by moving to digital workflows while retaining antiquated systems, we have made things difficult for ourselves.

Digitization demands new connections, creates more complexity and results in less predictability, he writes. Media companies are having to pour money into the monetization of content, investing in storage, archiving



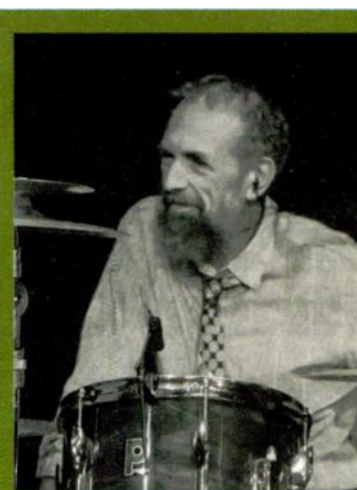
and retrieval tools and digital distribution. He adds that converting digitized media from one format to another and making it compatible with the world of available devices is big business.

At the heart of his thesis is the observation that there is an imbalance in investment between the tools and the content. Media businesses are challenged by the economic burden created by an emphasis on distribution, the complexity created by the proliferation of devices and unproven business models, and increased competition due to the explosion of content, Hernandez writes. Consumers are bewildered by choice, requiring curation and direction from trusted sources to avoid being drowned in a tsunami of content. As a result, he says, a smaller proportion of content is being consumed, and newer creative content and creative artists are losing out economically.

But this is no Luddite screed. There's nothing wrong with digitization; we just need to be more thoughtful about how we proceed.

One of the biggest issues facing

At the heart of his thesis is the observation that there is an imbalance in investment between the tools and the content.



BY STEVE HARVEY

Steve Harvey, PSN's Editor-at-Large, has worked in pro audio since 1980 and also contributes to other NewBay Media titles. [sharvey.prosound@gmail.com](mailto:sharvey.prosound@gmail.com)

the media industry is "disconnected, redundant workflows based on proprietary technologies. It's too complicated to get things done because processes, services and assets differ at various points in the value chain," writes Hernandez. But while Avid is an active member of the groups defining industry standards and working to make these proprietary technologies interoperate, "I believe that over the long terms, it is preferable to adopt open standards-based tools across the value chain," he states.

The lower level functions—file formats, data transmission, archiving, metadata tagging, digital rights management—currently consume a disproportionate amount of time, money and effort. "If we eliminate the things that don't separate us—those common elements—we can focus on the things that do differentiate us," he writes.

"I believe the way forward lies in creating a shared-services platform that all participants in the media value chain can tap into," he suggests. These technologies, processes, formats and standards should be universally recognized and highly automated, and not a source of added cost and complexity.

"Sharing the joy of stories is part of our social fabric," concludes Hernandez, stressing the need to act now and get ahead of the issues. "We must think about what makes us unique, rather than consume all our time, resources and attention dealing with short-term issues.... [A]dopting standards and shared services is the most viable way to accomplish this, the one that will benefit everyone—storyteller, audience and everyone in between."

Hal Leonard  
[www.halleonardbooks.com](http://www.halleonardbooks.com)



# Audionamix XTRAX STEMS

BY CLIVE YOUNG

Audionamix has made a name for itself with its line of ADX software offerings that can extract voices and instruments from mono and stereo recordings. The software comes in numerous varieties to cover different applications, but they all have three things in common: They require skill, patience and money to make the most of them. For users without some (or any) of those resources, however, the company has now introduced XTRAX STEMS, an entry-level edition for \$99, aimed at DJs, remix artists and producers—and it's a lot of fun.

The Mac-only XTRAX STEMS is fully automated, allowing users to convert a track into three stems—Drums, Music and Vocals—even if they lack pro audio skills. After a painless software installation and authentication, users can drop a .wav file up to 96 kHz/32-bit on to the software's dashboard to work with it. Other formats accepted—.aif, .aiff, .aac, .mp3 and .m4a—are converted to .wav.

XTRAX STEMS offers four separation algorithms to choose from: Automatic, which separates vocals from music only when detected; Generic, which puts the track's main melodic content and vocals all into the Vocals stem; and Automatic HQ and Generic HQ, alternate algorithms for their respective counterparts.

XTRAX STEMS uploads the file to the Audionamix website, where the company's servers do the heavy lifting; soon, the parsed stems appear and you can use the basic tools provided to solo, mute, pan and control the volume of the individual stems. If you've run a track through multiple algorithms, XTRAX STEMS lets you click through them while playing, allowing you to compare results. Users can export an entire track or specific time selection, and stems are saved as 44.1 kHz/16-bit .wav files.

As it is entry-level software, XTRAX STEMS provides a down-and-dirty separation in only a few minutes, so there's often artifacts in the results. More advanced versions of Audionamix's software offer on-board refinement tools to perfect a vocal separation, but those are absent at this price point.

That said, the results can be impressive, depending on the source and what you want to accomplish. XTRAX STEMS separated the drums and vocals—both rapped and sung—on Guru's hip-hop classic, "No Time To Play," with results that were DJ-ready,

while on the EDM-oriented "Magic" from Simple Minds' new *Walk Between Worlds* album, the vocal stem brought along much of the melody in between syllables. Regardless, the software consistently peels away enough material that it provides a great view of what's at work within a mix, making it a useful tool for students of produc-

tion or musicians learning a song. XTRAX STEMS won't supplant its more extensive older siblings, but it may well become a stepping stone to them, converting dabbling users into full-fledged

fans who want more control over results, leading them to the ADX line accordingly.



Audionamix's XTRAX STEMS dashboard

# TRUST THE ORIGINAL

The image displays a variety of Neutrik connectors. In the foreground, there are several RJ45 data connectors in different colors (gold, silver, blue, black) and a power connector. In the background, there are more connectors, including a large blue power connector and a smaller black one. The connectors are arranged on a dark surface.

## etherCON®

Ruggedized RJ45 data connector solution for data transfer in harsh and demanding applications. Ethernet cable- and chassis-connector with Cat 5, Cat 6, or CAT6A component compliance according to ISO/IEC 11801 and TIA/EIA 568-C.2; PoE+ compliant according to 802.3at Type2; million-fold proven rugged latch lock system; etherCON CAT6A intermateable with the existing etherCON CAT5 range; shielded system: high noise immunity and EMI protection.

## powerCON®

Mains connectors according to IEC 60320 I VDE and UL certified I Single-phase AC system for 16 A / 250 V (VDE) / 20 A / 250 V (UL) I Integrated twist-lock I Complete system including inlet and outlet cable connector and chassis I powerCON TRUE1 features breaking capacity under live load; IP65 environmental protection; direct cable-to-cable mating without couplers.

**NEUTRIK**

For more information visit us at [www.neutrik.com](http://www.neutrik.com)

WRH



## ART TRANS Y Compressor

From Applied Research and Technology, the ART Trans



Y is a two-channel solid-state compressor/limiter. It features a servo-controlled FET gain reduction circuit paired with a detented ratio control to provide reliable, repeatable results. An onboard de-esser can be used to reduce sibilance when compressing vocals, and a detector loop with separate input and output jacks allows for contoured compression. The ART Trans Y has a 10-segment peak sensitive level meter that can monitor either the input or the output. It also offers a +4/-10 I/O switch intended to optimize the signal to noise for operation with a wide range of equipment, and a link for stereo mode. The Trans Y is housed in a standard 1U rack-mountable steel chassis.

## Audinate AVIO Adapters

Dante AVIO is a new family of end-point adapters from Audinate that enable audio professionals to connect legacy analog and digital audio equipment to Dante networks. Adapters in the line include line-in and line-out analog adapters, a bidirectional AES3/EBU adapter and a bidirectional stereo USB adapter. Each Dante AVIO adapter acts as a completely independent Dante network device. The Dante AVIO USB adapter connects any computer to a Dante audio network without additional software, providing class-complaint stereo input and output that can be used by any audio application. The Dante AVIO AES3 adapter provides stereo input and output, allowing AES3-connected DSPs, mixers, compressors, preamps and more to be fully connected to any Dante network with no degradation of signal from extraneous D/A and A/D conversion.



## Audient iD44 Audio Interface

Audient has released its latest desktop audio interface, iD44. The unit sports four Audient Class-A mic pres—the same as those found in the company's large-format recording consoles—offering 60 dB of gain; new converter technology; options for digital expansion; new software intended for helping manage large sessions; a potential I/O of 20 in/24 out and an all-metal build. ADAT inputs and outputs are provided to aid the addition of up to 16 extra channels of mic pres.



## BAE Audio R53 Rack

The 1RU R53 three-slot horizontal 500 series rack



with linking from BAE Audio allows users to mount three “lunchbox”-style signal processors in a typical rack while conserving space. The unit offers a built-in power supply. Switchable linking on the front of the unit lets users pass signal from one slot to the next, allowing them to, for example, cascade a preamp into an EQ and then into a compressor without patching. The R53 is available for an MSRP of \$450. BAE is also selling a “loaded” version of the R53 for \$2,736 that includes a BAE 312A preamp, G10 EQ and 500C FET Compressor to comprise a channel strip.

## CEntrance MixerFace R4

Expected to ship in May, the smartphone-sized, four-input MixerFace R4 mobile recording interface will come in two models—with and without the internal backup recorder. While both can be paired with a smartphone or tablet for use with recording software, the second model adds a built-in stereo 16K/48K recorder. MixerFace R4 has two Neutrik combo inputs with Jasmine Mic Pres and 48V phantom power for mic, line or instrument recording, including HI-Z for electric guitar or bass. R4 also includes CEntrance's headphone amp, balanced and unbalanced outputs, a rechargeable battery



## firstlook

### SSL System T DAW Control

Solid State Logic is bringing its DAW control system to the System T broadcast console.

System T DAW Control makes ergonomic use of the hardware controls within Fader & Master Tiles and System T's multi-gesture touch screens. The DAW Control system uses a HUI implementation, so is designed primarily for use with Pro Tools, and is compatible with Reaper, Logic and any other HUI-compatible DAW. DAW Control for System T is a free update and is included in the v1.8 release of System T, which also includes a collection of new features and system enhancements.



with 8-hour capacity, and a tripod mount. Onboard controls include a low cut filter, AUX input and a zero-latency monitoring blend control. The MixerFace R4 base model will be \$299, while the model with built-in audio recorder will be \$349.

## Focusrite Clarett USB Interfaces



Focusrite has expanded its Clarett range with a new line of USB audio interfaces: the Clarett 2Pre USB (10-in, 4-out), Clarett 4Pre USB (18-in, 8-out) and Clarett 8Pre USB (18-in, 20-out).

All of the units offer up to 119 dB dynamic range. Clarett 2Pre USB, the most compact of the three interfaces, provides two mic/line/instrument inputs, four line outputs, MIDI I/O and an ADAT input. The Clarett 4Pre USB adds two additional mic/line preamps, dual stereo headphone outputs and S/PDIF I/O. The Clarett 8Pre has eight mic/line preamps, 10 line outs, ADAT I/O, MIDI, S/PDIF and word clock. All three interfaces ship with a bundle of software from XLN Audio, Focusrite, Softube, Ableton and Loopmasters.

## PreSonus Studio 1810, Studio 1824



Expected to ship in spring, PreSonus' Studio 1810 and Studio 1824 USB 2.0 audio/MIDI interfaces record at up to 24-bit, 192 kHz resolution

and offer XMAX Class A microphone preamps. All analog inputs and the main L/R outputs have eight-LED, ladder-style level meters. The Studio 1810 records up to 18 simultaneous inputs via two combo mic/instrument/line inputs and two combo mic/line inputs, four back-panel, 1/4" TRS line inputs, eight channels of ADAT Optical input (four channels at 96 kHz) and stereo S/PDIF inputs. The Studio 1824 records up to 18 simultaneous inputs (8x8 at 192 kHz), including two mic/instrument/line inputs and six mic/line inputs, plus eight channels of ADAT Optical input (four channels at 96 kHz) and stereo S/PDIF.

## TASCAM ML-32D, ML-16D

TASCAM has unveiled ML-32D and ML-16D, multichannel Line Level-to-



Dante and Dante-to-Line Level interfaces. Designed to provide connectivity between analog and digital components, the ML-32D and ML-16D allow audio engineers and systems integrators to connect 32 or 16 channels of audio between the analog domain and Dante-enabled digital components. Compatible with the TASCAM DA-6400, SS-R250N and SS-CDR250 multichannel audio recorders, the ML-32D and ML-16D offer Dante connectivity without features like mid-level microphone preamps, MADI and S/PDIF interfaces, and other lesser-used functions.



## Allen & Heath Updates GLD Mixers

The v1.6 firmware update for Allen & Heath's GLD digital mixer range adds the Dimension Chorus FX unit and numerous new microphone presets. The Dimension Chorus FX unit, a classic chorus based on bucket-brigade technology, offers varying degrees of density, from subtle special effects to heavier modulation. The new ProFactory mic presets, created in collaboration with Shure, Sennheiser and Audio-Technica, provide a starting point for working with microphones from those brands. Other enhancements in v1.6 include a post-fade option for the Automatic Mic Mixer and a 50 Hz noise on/off switch for the Space Echo FX Unit. The firmware update is available to users free of charge on the Allen & Heath website.



## Avid Venue On-Stage

Venue On-Stage is an iOS app from Avid that adds personal monitor mixing capabilities to Venue S6L live sound systems, providing new control surface and software workflows for monitor engineers. Avid has also released a software update for Venue S6L to accommodate app functionality. On-Stage allows engineers to remotely control any mix on their S6L desk, enabling them to walk the stage and fine-tune mixes emanating from performers' stage monitors. Additionally, up to 16 performers can control their individual monitor mixes with On-Stage. The On-Stage app is available to download from the Apple App Store. The S6L Software update is likewise available and free to download for customers with a valid Avid Advantage Elite Live support contract.



## MXL POP LSM-9

While brightly colored to give on-stage performers a little pizzazz, the MXL POP LSM-9 dynamic vocal mic is infused with technology that helps cancel vibrations and minimize handling noise. At launch, the POP LSM-9 will be offered in blue, magenta, yellow and green. The microphone sports a super cardioid polar pattern to capture vocals and little else. The body is an all-metal construction intended to provide durability for users.

## Radial Catapult Mini

The latest addition to the Catapult modular snake system, Radial's Catapult Mini allows users to drive four analog audio channels over a single shielded Cat 5 cable, eliminating the need for bulky multi-pair audio cable runs, and allowing contractors to use pre-wired networks to connect from one room to another. The Catapult Mini TX and the Mini RX can be used together as a pair, or they can be individually matched with any other Catapult stage box. For example, a Catapult TX4M can be used on stage to split four mic lines to feed the monitor console, while utilizing a Catapult Mini RX to receive the signal at the FOH console.



## Rational Acoustics Smaart v8.2

Highlights of the v8.2 update for Rational Acoustics' Smaart include a re-working of Smaart's SPL measurement functionality, integration with SG Audio's 10EaZy SPL measurement hardware, and the incorporation of some of the core features of 10EaZy software directly into the Smaart user interface. Other new features include SPL calculation centralization where logging or metering an input automatically triggers the calculation of 14 sound level metrics; a dedicated, time-stamped SPL Log File for each logged input



## firstlook

### QSC KS112 Powered Subwoofer

QSC has unveiled its new ultra-compact KS112 powered subwoofer at the NAMM Show. As the second model in the KS subwoofer series, the KS112 sports a single 12-inch transducer in a birch cabinet. On-board DSP provides variable crossover, delay and savable/recallable Scenes for typical applications.



A pair of M20 threaded pole receptacles provide a connection to a threaded speaker pole in either vertical or horizontal deployment (pole not included). Casters are included, and a locking security cover and padded transport cover are available options. The KS112 is covered by a QSC Global 6-year warranty with product registration, and is expected to have a US street price of \$999 when it ships in late spring 2018.

containing all SPL metrics; and an SPL history window that shows a graphical presentation of the log file generated from log-enabled inputs.

## Samson Expedition XP300

The XP300 portable PA from Samson Technologies sports a six-channel powered mixer that delivers 300 W to two 6-inch speakers. The mixer and speakers lock together, allowing the system to be transported in a single unit weighing just under 24 lb. Expected to ship in March, the all-in-one sound system is intended to cover audiences of up to 100 people. The mixer offers Bluetooth connectivity for use with laptops, smartphones and tablets. It features 16 presets of 24-bit digital effects with Send level control; a Sub output for integrating active subwoofers, two-band (bass and treble) EQ on all input channels, and phantom power for condenser microphones.



## Shure IntelliMix P300

Now available, Shure's IntelliMix P300 audio conferencing processor uses proprietary DSP algorithms to enhance audio quality in video meetings. The unit offers various connectivity options and integrates with Shure Microflex Advance and Microflex Wireless microphone solutions for AV conferencing. The P300 connects up to eight Dante microphone channels to a room video system, USB soft codec or mobile device. Each channel supports multiple IntelliMix DSP features, including acoustic echo cancellation, noise reduction and automatic gain control, plus automatic mixing. The USB connectivity enables the P300 to be used with common soft codec programs such as Skype and BlueJeans, while the 3.5mm connector allows users to implement a mobile phone or tablet to bring remote participants into a conversation.



## Yamaha CL/QL StageMix iPad App

StageMix, the iPad app for Yamaha CL and QL digital audio consoles that allows wireless setup, control capabilities and monitor mixing, has been updated with version 7. The update introduces a "custom" meter area and a more flexible fader area layout capability. The existing input-patching feature has been further developed to include a multichannel input patch function that allows multiple consecutive input channels to be patched as a group. Elsewhere in the app, control and monitoring support has been added for Shure's non-Dante compatible wireless receivers, including the AXT400, QLXD4 and ULXD4. Version 7 for the CL StageMix and QL StageMix applications can be downloaded from the iTunes Store free of charge.



There's more information on all the products featured at [prosoundnetwork.com/archive/feb2018](http://prosoundnetwork.com/archive/feb2018).



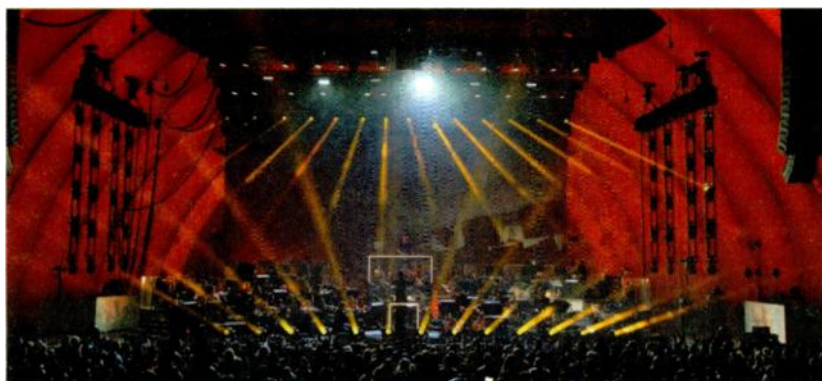


# Taking On Pete Tong at the Hollywood Bowl

BY STEVE HARVEY

HOLLYWOOD, CA—Dance music has turned increasingly to live instrumentation over recent years, offering audiences something to look at instead of a relatively static artist, and also enabling DJs to put a new spin on some old classics. British DJ and BBC radio presenter Pete Tong launched his Ibiza Classics project in the U.K. in 2016, with the 65-piece Heritage Orchestra and live performers re-creating dancefloor hits of the past 30 years. In late 2017 he brought the tour to the United States, culminating in a show at the 18,000-capacity Hollywood Bowl in Los Angeles.

The challenge facing Tong's production crew has been how to deliver a monitor mix to the orchestra, led by conductor and composer Jules Buckley, as well as a core group of electronic musicians, singers and guests. After going some way down the path of a homebrew solution, says Fred den Dulk of Netherlands-based Next Level Audio, he discovered the myMix personal monitor mixer, a networked system that enables each musician to dial in his or her own mix.



Musicians heard their mixes via MyMix systems when Pete Tong's Ibiza Classics played the Hollywood Bowl

On dates outside of Europe, the show picks up orchestral musicians locally. Monitor engineer Ron Peeters, also from the Netherlands, will typically offer a brief course on the operation of the system before a show, says den Dulk. But the system interface is a compact, one-knob unit that requires very little explanation.

"At one point, we had an orchestra and there was no time, so I just handed out the headphones and told them, OK, you can scroll through the channels, press the buttons and turn the levels up or down. And afterwards, there were no questions."

For Ibiza Classics, Peeters gives the musicians submixes, says den Dulk. "Ron puts out a couple of stems for the different musician

groups—let's say Vocal 1 mix, Vocal 2, Violin 1, Violin 2, Violas. Every group has its own basic mix. Then there is a vocal mix, which they can use or not use, a click track, communication and then 'more me'—more of themselves. If they want more of anything, they can scroll through the list and add channels. We give them what I think is a nominal level for every channel, and put each of them just a little bit on top of that. They have a good starting point, and from that they can play around."

There is no need for ambience mics for the orchestra, den Dulk continues. "We are close-miking the orchestra, and with that many mics open on stage, you've got a lot of

(continued on page 45)

## TPG Bows Bose Rig at Surprise Kendrick Lamar Show

BY STEVE HARVEY

LOS ANGELES, CA—Total Production Group (TPG) of Cerritos, CA, debuted its new Bose ShowMatch DeltaQ system at an outdoor charity event presented by L.A.-based record label Top Dawg Entertainment (TDE) in Watts shortly before Christmas. The four-hour show featured the hip-hop label's roster of artists, which includes Kendrick Lamar, SZA, Schoolboy Q, Jay Rock, Isaiah Rashad, Ab-Soul, SiR and Lance Skiiwalker, plus special guests Rihanna and Bay Area rapper E-30.

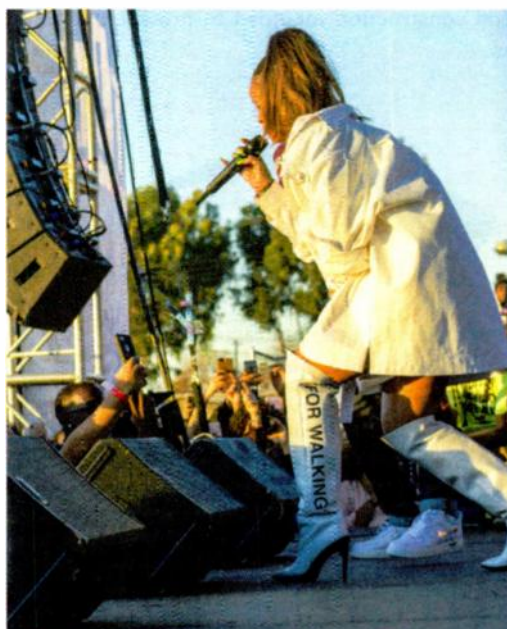
Concertgoers were encouraged to bring an unwrapped gift to receive free admission to the afternoon event, which attracted a capacity crowd of all ages to the recreation area in the center of Nickerson Gardens, reportedly the largest housing project west of the Mississippi River. The annual TDE Concert Toy Drive and Give-away has been held at the housing

project, where TDE's CEO Anthony "Top Dawg" Tiffith and rapper Jay Rock grew up, since 2013.

The event had previously suffered from audio issues, as TPG owner/partner Steve McAllister learned at a pre-show production meeting. TPG's new ShowMatch system—more than two dozen line array modules plus 16 ground-stacked Bose SMS118 subs, all driven by Powersoft Audio X Series amplifiers—was more than equal to the task, according to McAllister, providing plenty of low-end, even with the crowd pressed up against the subs.

"The vocals really cut through," he says. "That's so important with singers, and with hip-hop. If you can get those vocals to pop over the low-end, then that's awesome."

After the show, McAllister reports,



Rihanna was a special guest at the Top Dawg charity event, belting into a Sennheiser Digital 6000 wireless mic as the audience heard her via a TPG-provided Bose Pro ShowMatch PA system, seen here.

"I saw Top Dawg as he was leaving and asked how he liked it. He gave me the thumbs-up. He was totally stoked."

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### briefs

#### Pentatonix Perambles with Rivage

NEW YORK, NY—A cappella group Pentatonix toured this fall with FOH engineer Mark Woodcock manning a Yamaha (yamaha.com) RIVAGE PM10 console provided by Clair Global (clairglobal.com). Woodcock was taken with the preamps: "They are very warm and smooth and make the sound of vocals really clear and very easy to blend since there is no band accompaniment on stage."

#### Audio Stands for The Anthem

WASHINGTON, DC—When The Anthem opened in Washington, D.C., this past fall, the 57,000 sq. ft., \$60 million venue sported two DiGiCo (DiGiCo.biz) SD12 digital mixing consoles purchased through Eighth Day Sound (8thdaysound.com), and a d&b audio-technik (dbaudio.com) J-series line array system.

#### Halsey Flows with DPA

LOS ANGELES, CA—On the recommendation of FOH engineer Vincent Casamatta and monitor engineer Scott Wasilk, Halsey is using a DPA (dpamicrophones.com) d:facto vocal microphone on her current world tour. "The d:facto has a tight pattern and the bleed making its way into the microphone is more natural and usable than other options we have tried," said Wasilk.

#### Waves Roll with Run the Jewels

KNOXVILLE, TN—Hip-hop supergroup Run the Jewels has been on the road with FOH engineer Tomas Wolfe has been using a Waves (waves.com) eMotion LV1 Live Mixer. The tour's LV1 Mixer setup consists a Waves Extreme Server for DSP and DiGiGrid IOX interfaces for I/O on stage, and Waves Icon Platform M and Icon Platform X as the tactile fader controller.

#### Sounding Out the Palace

NEW YORK, NY—Built as a 3,400-seat cinema in the late 1920s, United Palace on gentrifying 175th Street now hosts concerts, services and more, providing audio via an L-Acoustics (www.l-acoustics.com) system with 20 K2 array elements, six K1-SB subs, eight SB28 ground subs and four X8 coaxials, all powered by a dozen LA8 amplifiers.



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## Fun, Fun, Fun on *Pet Sounds*' 50th Anniversary Tour

BY PAROO STREICH

Brian Wilson, the visionary behind The Beach Boys, is rolling his *Pet Sounds* 50th Anniversary Tour forward into 2018 with its final performances, and along for every stop of the journey is longtime production manager/FOH engineer Clint Boire. Having toured with Wilson since 2008, Boire says the show is all about recreating the vibe of the Beach Boys' music: "Brian's set is blockbuster from start to finish, and these are people's memories, so you have to be respectful of that," he said, speaking behind his console during the tour's stop at New York City's Radio City Music Hall. "When the audience walks out of the building, you see these big smiles. It's really powerful stuff that you don't get with too many other acts."

The tour, with gear and crew supplied by Schubert Systems Group (North Hollywood, CA) features Wilson on keyboards at center stage, backed by 11 supporting musicians, including former Beach Boys personnel Al Jardine and Blondie Chaplin. Seeking to enhance the experience of Wilson's beloved songs, Boire recently switched over to a DiGiCo SD7 desk which he feels bolsters his efforts as a soundman: "Before the tour started, I knew the sound needed to be stepped up to the highest quality as far as compressors, limiters, reverbs and basic movements of the console. The DiGiCo is a really nice console that's as professional as it gets."

Boire, a Canadian who has worked with Bonnie Raitt, John Fogerty and The Offspring, among others, discovered DiGiCo desks while visiting his old touring friends in the Raitt camp at the Greek Theatre in L.A. "Their new engineer had a fantastic sound; they were using the DiGiCo and it just felt so friendly to my ears," he recalled. "I knew that would translate beautifully to Brian's show because it seemed so smooth and we needed that transparent outlook in presenting the *Pet Sounds* album."

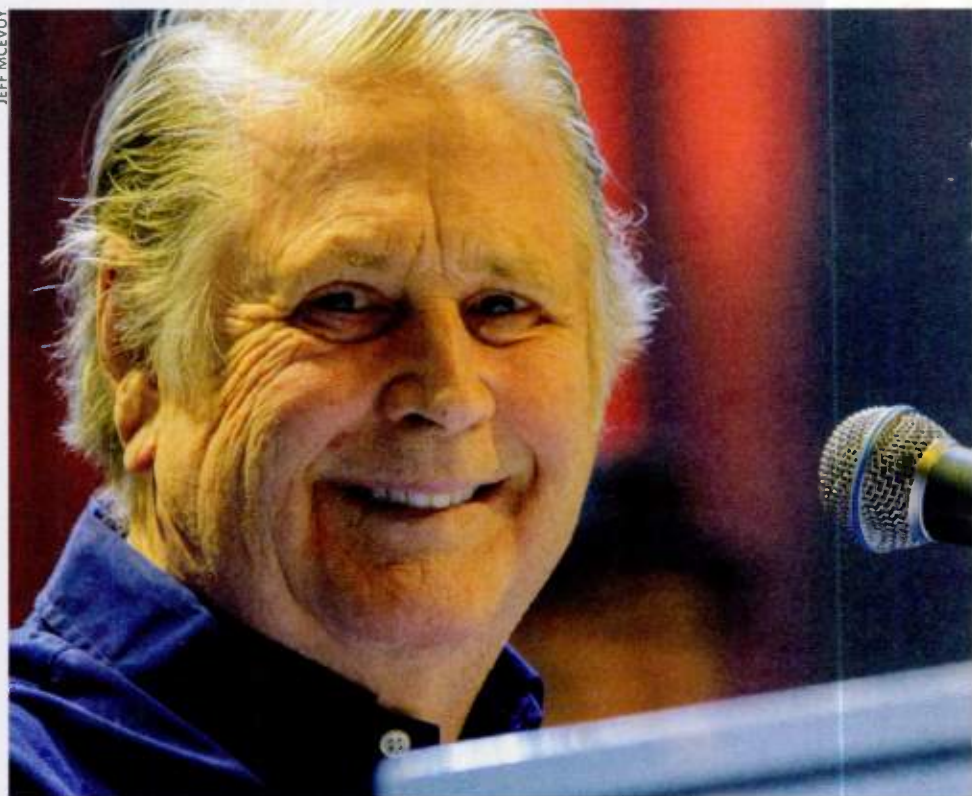
The Wilson tour features live musicians constantly traversing between different instruments; there are no playback tracks. "The DiGiCo has been very reliable," adds Boire. "My challenge with the desk has been getting to know how things are processed and patched, and how to design my

show file for workflow—setting it up to work fast so I can get what I need for this band."

Ensuring the PA conveys that transparency is a duty that falls on Bob "Icky" Alumbaugh, the tour's system engineer/crew chief, now in his third year with Wilson. He's found that his style blends seamlessly with Boire's: "If I can make the system as flat as I can so when Clint moves a fader or reaches for something, his movements translate quickly, then we've got it."

Boire agreed. "Trusting someone like Icky to be my ears in the house is really important and it ensures I'm doing a better job," he said. "We've never had an audience member tell us 'I couldn't hear over there.' We make sure that's taken care of at the beginning of the set and it works."

The tour travels with a d&b au-



Brian Wilson croons nightly into a classic Shure Beta 58 microphone on his *Pet Sounds* 50th Anniversary Tour.

diotechnik PA rig with 20 V8s, four V12s and eight each of JSUBs, Q10s, V Series boxes as sidehangs. However, at Radio City, the band used the house system: a Clair Global-designed JBL VerTec house rig of JBL VT4889 and VT4887A cabinets and VT4880A subs, all of which integrate with the tour's gear.

Miking for the production runs the gamut, with gear from AKG, Audix, Sennheiser and Shure. As might be imagined, the vocal mic choices are crucial when it comes to Beach Boys music, so Shure KSM-8 vocal mics are put to work for guitarist

Chaplin and original Beach Boy Jardine, who sings lead on "Help Me Rhoda," "Barbara Ann" and "Little Deuce Coupe," among others. "The KSM-8 mics are great and I had that on Brian as well, but we ended up going back to a Beta 58 ultimately for him because it worked better for his voice," said Boire.

AKG C414s are set on percussion and drum overheads, with a combo of Shure Beta 91A inside and Shure Beta 52A outside the kick drum. "I've gone between Audix D6 and the Shure in certain venues and systems," said Boire. "On toms, I've used Sennheiser and Audix; right now we're doing Shure Beta 98s on the floor toms and percussion to emulate the tympani used on *Pet Sounds*. These mics are all solid workhorses and I never have to worry about a mic going down. I love Shure SM 58s.... You try something else then you go back. It's one of those mics you can put it on anything in a jam and it works."

A well-known sound in Beach Boys' lore is the haunting, ethereal vibrato of the Electro-Theremin heard on the band's 1966 smash hit "Good Vibrations." After the instrument proved unreliable for the road, a similarly-inspired device called a Tannerin



Production manager/FOH engineer Clint Boire (left) and system engineer/crew chief Bob "Icky" Alumbaugh pause with the tour's DiGiCo SD7 inside New York's Radio City Music Hall.



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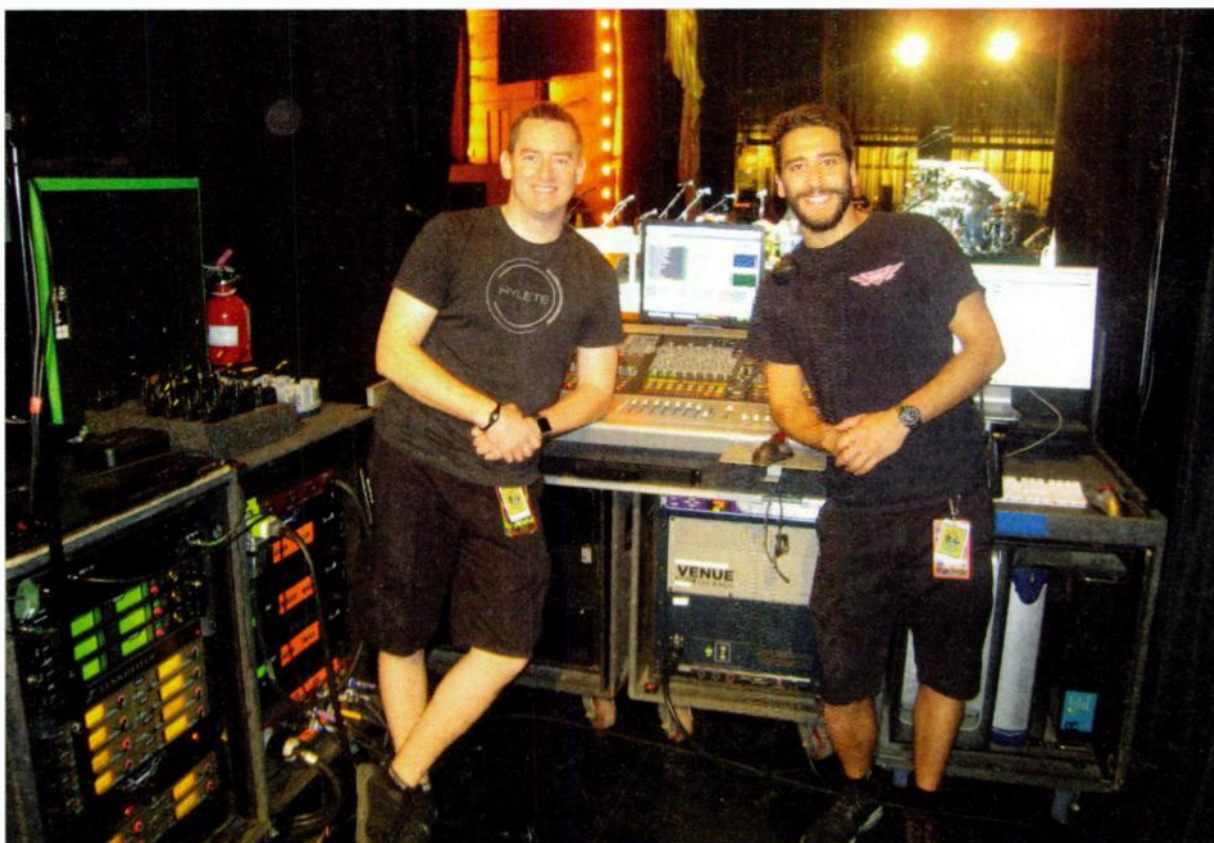
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(named for Electro-Theremin inventor Dr. Paul Tanner) was designed and built by Tom Polk of Austin, TX, as a near-perfect replacement for Wilson's tour. "There's only one or two out there," said Boire, who captures the instrument, played by multi-instrumentalist Probyn Gregory, with a Radial J48 DI.

That's not the only unusual instrument, however, as the tour carries a French horn, trombone,



Monitor engineer Jacob Archer (left) and monitor tech Daniel Parseghian oversee a monitor system centered around an Avid Venue Profile console.

trumpet, tenor sax, baritone, bass harp and banjo among other non-traditional rock tour instruments. Boire recounted, "We can go from a clarinet to a bass flute to something else and people tell us 'I could hear every single thing onstage!' People wonder how we get clarity on all those musicians out there doing different things. Knowing the musicians, knowing the music is 100 percent the way to do it."

In prepping for the tour, Wilson and band rehearsed four days at a Palm Springs casino, capping it off with a performance. "That really helped me get my gear dialed-in and gave me some time to experiment," said Boire. "You don't really have the luxury of doing a lot of that on the road, but these guys have been playing together so long that we use soundcheck to rehearse." Wilson's fave soundcheck go-to, the Beach Boys' 1965 tune "Salt Lake City," is a song warmly received by the pre-show meet and greet crowd. "We'll soundcheck 'Salt Lake,' something with acoustic guitar, then something with French horn like 'God Only Knows,'" said Boire. Soundcheck wraps with the show's opener, "California Girls," so that everything is in

place to start the show. "The set is constantly changing and that's fun because Brian has written over 500 songs, so at any particular time, he could pull one out or anything else entirely. We were in Spain last year in the middle of summer and he decided he wanted to do 'Monster Mash,'" Boire laughed, "but that's Brian Wilson!"

Archiving each show to Avid Pro Tools, augmented with the addition of stereo ambient mics, Boire stays close to his desk during the set. "I have a habit of constantly mixing each song...comps, EQs, it's all proximity effect," he said. "I try to stick near 100 dB-A weight. Blondie Chaplin is a rocker with an edge to him so he's probably the most level I get out of the band, but people tell me the mix is perfect and they're not going home with their ears ringing. It's nice to have someone come up to you and say 'I've seen a million shows and the sound was amazing.' So that's the reward."

"You're in people's emotions," muses Boire. "These are their memories and you don't know where they were at the time when they first heard that song or if they were on their first date. That's the magic."

"People wonder how we get clarity on all those musicians out there doing different things. Knowing the musicians, knowing the music is 100% the way to do it."

Clint Boire, production manager/FOH engineer, Brian Wilson

This is legendary and I'll never ever take it for granted.... It's very special for me."

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Brian Wilson

Schubert Systems

N. Hollywood, CA

FOH Engineer:

Clint Boire

Monitor Engineer:

Jacob Archer

Crew Chief/Systems

Engineer:

Bob "Icky" Alumbaugh

Monitor Tech:

Daniel Parseghian

FOH Console:

DiGiCo SD7

Monitor Console:

Avid Venue Profile

Microphones:

AKG C414; Audix D6; Sennheiser; Shure KSM-8, SM 58, Beta 52A, Beta 91A, Beta 98; Radial J48

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# Amplifiers Per Annum

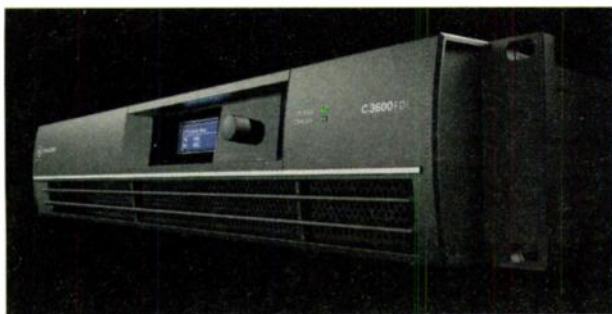
BY AL FERNALD

Amplifiers don't always get the attention they deserve. When audio pros talk gear, inevitably they start in with favorite mics, preferred speakers or the merits of various consoles, but it takes a while for amplifiers come up. Try running a system without them though. With that in mind, here's just a few of the amplifiers and related updates that have been introduced over the last 12 months.



## NEXO NXAMP MK2 AMPLIFIERS

In October, Nexo and parent company Yamaha Professional Audio introduced the new NXAMP4x2 MK2 and NXAMP4x1 MK2 amplifier models, replacing the original NXAMP4x1 model. The new amplifiers offer DSP control in 2U packages with front-panel touchscreen control of parameters. The amplifiers include Ethernet ports for integration with Nexo NeMo system management software, and can be remote-controlled and daisy-chained via a standard remote control card with optional Dante, EtherSound and AES/EBU network cards. Four high-end analog inputs use cascaded converters for low output noise, and four digital inputs are available through the rear panel expansion card slot, offering optional AES/EBU, EtherSound, Dante or AES67 inputs. Other rear panel connectivity includes RS232 serial and GPIO ports, along with Speakon outputs for each of the four channels.



## DYNACORD L SERIES AND C SERIES AMPLIFIERS

Dynacord's new L Series and C Series dual-channel power amplifier lines each offer a linear amp design, and integrate with configuration, control and supervision software tools from Dynacord. Four different models per series are available, with total output power ranging from 1,300 W to 3,600 W. The L Series is intended for live sound providers while C Series amplifiers are designed for installation applications. Both series of amplifiers feature Euroblock connectors for wiring, remote power-on delay, and GPIOs (general-purpose input/output) to interface with third-party controls. Onboard DSP for both series includes multiband PEQs (parametric equalizer), crossovers, limiters, and delay per channel. It also has true channel grouping control with extra DSP capabilities like PEQ, GEQ (graphic equalizer), and delay for each group.

## XTA AND MC2 120 AMPS

XTA and MC2 debuted their 120 Amps at this year's NAMM Show. The network audio, two-channel ampli-

fiers are designed to drive more than just subwoofer arrays. Available as the Delta 120 and DNA120 models from MC2 and XTA, respectively, they have 96 kHz Dante inputs as an option. Both will deliver over 7,000 W per channel into 2 ohms and 5,000 W per channel into 4 ohms. The Dante input option is switchable back to regular two/four-channel analog if needed. A single network cable can then be used to connect the processed audio from an XTA DPA amplifier to any number of DNA amplifiers to achieve the power levels required.



## CROWN CDi DRIVECORE AMPS

Introduced last summer, Crown CDi DriveCore Series power amplifiers are intended for commercial sound installations. The line provides DSP and the option for digital audio transport with BLU link, and the series includes two or four-channel models at 300/600/1,200 W output power ratings, as well as 70 Vrms and 100 Vrms direct output for use in global installations. The CDi DriveCore Series opts out of load monitoring, and instead focuses on speaker tunings for installations, so the series offers some different features than previous DriveCore iterations. A front panel screen and controls for setup allow customers to recall JBL speaker tunings, configure amp inputs and outputs and modify DSP settings. Bridgeable output channels drive two output channels as one.



## LINEA RESEARCH FIR CAPABILITY

Linea Research introduced FIR capable versions of its amplifiers at the NAMM Show; the new feature allows users to import loudspeaker manufacturer "greybox" FIR settings. The company's range of four- and eight-channel networked DSP amplifiers—the portable and touring-focused M Series and the installation and contractor C Series—offers models with power ratings from 400 to 5,000 W per channel, all with 96 kHz DSP and optional Dante networked audio.



## POWERSOFT DUECANALI 804 AND 4804

At ISE, Powersoft debuted its new Duecanali 804 and Duecanali 4804 two-channel amplifiers with optional DSP and Dante. Intended for medium-sized installations, the Duecanali 4804 offers 2 x 2,400 W @ 4 ohms; meanwhile, the Duecanali 804 offers 2 x 400W and is aimed for installations in retail spaces, restaurants and the like. The range is completed by the existing Duecanali 1602, which was launched at ISE 2017 and now sits between the two new products in the Duecanali range.

Shaping  
sound.

[dbaudio.com/moreart-lessnoise](http://dbaudio.com/moreart-lessnoise)

d & b  
audiotechnik



## ACT / STATISTICS

## CREW

## EQUIPMENT

## 1 U2 | CLAIR GLOBAL

Joe O'Herlihy (he); Alastair McMillan, Richard Rainey, CJ Eiriksson (me); Joel Merrill (cc/se); Tim Peeling (ase); Niall Slevin, Brandon Schuette (stage e); Mike LaCroix, Pascal Harlaut, Hannes Dander, Ann Butt (tech)

HC: DiGiCo SD7; MC: (3) DiGiCo SD7; HS: Clair Cohesion CO-12, CO-8; MS: Clair Cohesion CP-118; IEM: Sennheiser 2000 Series; HA: Lab. gruppen StakRak; HARDWIRED MICS: Shure SM48, SM57, SM58, SM81, SM98, Beta58, Beta87, Beta91, Beta52, Beta52a, Beta58, PG58; AKG C 451 EB, A51, C414 B; Sennheiser MD-421, MKH-416, MKH 50; Audio-Technica AT4050; DPA d.vote 4099, d.fine 4088; Countryman DI; Radial JD7, ProD8; WIRELESS MICS: Shure Axient; FOH EQUIPMENT: Lexicon 480L, PCM70; Summit DCL-200; Manley VOXbox; Avalon VT-737SP; Eventide H3500; Klark Teknik DN6000; Yamaha SPX1000; MONITOR EQUIPMENT: Lexicon PCM80; AMS RMX16; Yamaha SPX1000, SPX990; Amek 9098; Antelope Isochrone Trinity

## 2 BRUNO MARS | CLAIR GLOBAL

Chris Rabold (be); Ramon Morales (me); Chris Sullivan (cc/se); Scotty Megrath (ae); Paul Tobey (cc/rt tech)

HC: DiGiCo SD7 with SD Racks; MC: DiGiCo SD7 with SD Racks; HS: Clair Cohesion CO-12, CP-218; MS: Clair CO-8, CM-22, CP-118; IEM: Shure PSM 1000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure SM 81, 91a, 52a, Beta 181, SM 58, 57; AKG C-414, 45; Sennheiser MKH 451EB, MD 421, MD 409; Beyer M 88 TG; Audio-Technica; Telefunken M80, M60, TK62 capsule; Radial J48, SW8, EXCT-SA, X-Amp Reamp; Countryman Di; WIRELESS MICS: Sennheiser 9000 with 9235 handhelds; FOH EQUIPMENT: Waves Mercury Bundle, SSL Bundle, Abbey Road Bundle; Bricasti M7; Empirical Labs EL-8 Distressor; Midas XL42; Chandler TG1; TC Electronic 2290; MONITOR EQUIPMENT: Waves SSL 4000, API Bundles

## 3 METALLICA | VER TOUR SOUND

"Big Mick" Hughes (he); Jay Day (ahe); Bob Cowan, Adam Correia (me); Kevin Valind (cc); Chris Nichols (se); Justin Keasling (ase); Jess Hammersly (m/pa tech); Justin Steipleman (stage/pa tech); Logan Bell, Alex Pritchard (pa techs)

HC: Midas XL8; MC: Midas Pro9, Pro2; HS: Meyer Sound Lyon, Leo, 1100-LFC, VLFC; HARDWIRED MICS: Audix D6; Shure 91; Radial JD7, J48, JDX48; FOH EQUIPMENT: TC Electronic D-Two; Korg DRV-3000; BBE Sonic Maximizer

## 4 GARTH BROOKS | CLAIR GLOBAL

Dan Heins (be); Martin "Tike" Santos (me); Pat O'Neil (cc); Rob Rankin (se); Kevin Kapler (m tech)

HC: Yamaha Rivage PM10; MC: DiGiCo SD7; HS: Clair Solutions i218, i212, is218m; MS: Clair CM22, CO-8; IEM: Shure PSM 1000; HA: Lab.gruppen PLM 20,000Q; MA: Lab.gruppen PLM 20,000Q; HARDWIRED MICS: Shure Beta 91a, KSM137, Beta 98a, Beta 56a, SM57, SM58, Beta 58, Beta 57a; Telefunken M82, M81SH, M80SH, M60; Heil PR28; WIRELESS MICS: Shure Axient RF; Crown CM311 Headset; Telefunken M80 Capsules; FOH EQUIPMENT: Bricasti M7; TC Electronic M6000

## 5 GUNS N' ROSES | CLAIR GLOBAL

Caram Costanzo (be); Jeremy Bolton, Steve Carter (me); Tyson Clark (cc); Simon Bauer (se); Taylor Holden, Emmett Tubritt, Jon Brook, Leon Fink (techs); Dale "Opie" Skjerseth (pm)

HC: Avid Venue S6L; MC: Avid Venue Profiles; HS: Clair Cohesion CO-12, CP-218, CO-8, MS: Clair CM-22; IEM: Shure PSM 1000; HA: Lab. gruppen; MA: Lab.gruppen; MICS: Shure wireless; Radial JX44, DM1, Key Largo, ProD8, JDI, J48

## 6 ROGER WATERS | CLAIR GLOBAL

Jon Lemon (he); Matt Napier (me); Dean Mizzi (cc/se); Tim Joyce (surround e); Rich Burke (ae); Nicole Wakefield, Jeff Sterns, Noah Shaffer, Ken Hottenstein (techs)

HC: Midas XL-4; Yamaha PM5D; MC: DiGiCo SD7; HS: Clair Cohesion CO-12, CP-218, i-3 surround system; MS: Clair CM-22, 12am, CP-118 Sub; IEM: Sennheiser 2000 series; Shure hardwire; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure Beta52a, Beta 52, SM57, SM58, KSM313, SM91, SM48, Beta 87, Beta 98; AKG C46; Audix D2; Milab DC-96B; Neumann KM184; Sennheiser MD-421, e935, MKH-416; Radial SW8, JDI, J48, JX62, DM1, SGI; WIRELESS MICS: Shure Axient Digital, R Series; FOH EQUIPMENT: Waves Mercury bundle/Max BCL, Smart C2; Massenburg GML8200; Tube-Tech CL-2A; Avalon VT-737-SP; Empirical Labs Fatso; Bricasti M7; TC Helicon; Eventide H3000; Lake LM44, LM26; MONITOR EQUIPMENT: Lexicon 480L; Lake LM26; TC Electronic D-Two; Empirical Labs EL-8; Smart Research C2; Midas XL-42

## 7 LADY GAGA | EIGHTH DAY SOUND

Paul Ramsey (he); Simon Higgs (me); Wayne Hall (cc/se); Chris Fischer (m tech); Clinton Reynolds (rf tech); Greg Horning, AndyDudash, Chris Smith (tech)

HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b audiotechnik J8, J12, J Sub, B22, V8, V12; MS: d&b audiotechnik M4, B6; IEM: Shure; HA: d&b audiotechnik; MA: d&b audiotechnik; HARDWIRED MICS: Shure; Sennheiser; Radial JCR Reamp, SW8; WIRELESS MICS: Sennheiser; Shure; FOH EQUIPMENT: Bricasti; TC Electronic System 6000; Tubetech; MONITOR EQUIPMENT: TC Electronic System 6000

## 8 COLDPLAY | WIGWAM / FIREHOUSE PRODUCTIONS

Daniel Green (be); Chris Wood (me); Tony Smith (sys designer); Nick Mooney (cc); Jack Murphy (se); Ali Viles (rf); Nick Davis (band tech); Brett Taylor, Richard Cook, Tyler Clapp, Adam Banister, Damian Burns, Peter Smith (pa techs)

HC: DiGiCo SD7, SD-RE Rack; MC: DiGiCo SD7; HS: d&b audiotechnik J Series (Firehouse-provided); MS: d&b audiotechnik M2; IEM: Sennheiser 2000 series; HA: d&b audiotechnik D80, R1, Array Processing (provided by Firehouse Productions); MA: d&b audiotechnik D80; HARDWIRED MICS: Sennheiser; Neumann; Shure; Earthworks; Telefunken; Gefell; Radial SW8, J48, JRak8, ProD8; WIRELESS MICS: Shure UR2 SM58; FOH EQUIPMENT: Waves; Radia; Neve; Chandler; BAE; Retro; Avedis; Pultech; Electrodyne; Chandler; Thermionic Culture; Opticore DD2; Avid Pro Tools; RME; TC Electronic 2290; Empirical Labs Distressors; Bricasti; Lake LM44, DirectOut; Sonnet; API; MONITOR EQUIPMENT: Aviom; Avid Pro Tools; Sonnet

## 9 BILLY JOEL | CLAIR GLOBAL

Brian Ruggles (he); Josh Weibel (me); Rich Schoenadel (cc/se); Jay Yochem (m tech); Tom Ford, Bryan Darling (tech)

HC: DiGiCo SD5; MC: DiGiCo SD10; HS: Clair Cohesion CO-12, i-3, P-2, R4, CP-218; MS: Clair CM-22, SRM, ML-18; IEM: Sennheiser 2050; HA: Clair StakRak (Lab.gruppen); MA: Lab.gruppen; HARDWIRED MICS: Shure; AKG; Sennheiser; Audio-Technica; Radial J48, JDI, SW8, Firefly; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Waves

## 10 TIM MCGRAW / FAITH HILL | CLAIR GLOBAL

Randy Rhodus (he); Robert Miller (me); Francis Principato (cc/se); Michael Robertson (mse); Heath Stimmel (ae); Nathan McBee (rf tech); Brandon Allison, Clayton Johnson, James Anderson Hall (tech)

HC: Avid Venue D-Show with two extenders; MC: DiGiCo SD5; HS: Clair CO-12, CO-08, CP-218; MS: Clair CP-118; IEM: Shure PSM 1000; HA: Lab.gruppen PLM20000; HARDWIRED MICS: Audix D6, Audio-Technica; Beyer M 88, TG D58c; Electro-Voice RE20; Shure SM57, SM58, Beta 91, KSM32; Sennheiser MD-421, MD-409, MKH 416; Radial JDI, J48, SW8; Countryman DT85; WIRELESS MICS: Shure Axient, R series; FOH EQUIPMENT: Lake LM44; JKD 8MX2; ATI PRO6; Smart Research C2; API 2500; dbx 160XT; TC Electronic 1128 with 6032 head; Apogee Rosetta; Alesis Masterlink ML-9600; Tascam CD-RW2000; Waves Live, API collection

**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 2017, as ranked by Pollstar.

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# Peavey Powers School's Sound Systems

MERIDIAN, MI—Lamar School in Meridian, MS may be a private school, but it still requires public address systems. As part of a broad renovation plan, the school recently updated audio systems in its cafeteria/auditorium, gym and soccer and football fields. Audio engineer Tom Stuckman designed and implemented the systems, which are based around Peavey products.

To complement the soccer field's new scoreboard, Stuckman adorned it with an end-fire outdoor speaker system, opting for a pair of Peavey Elements 115C passive speakers powered by an existing amplifier/mixer the school owned. The boxes have rotatable horns, so they were configured as horizontally stacked cabinets, narrowing vertical dispersion while increasing the throw across a wider horizon-

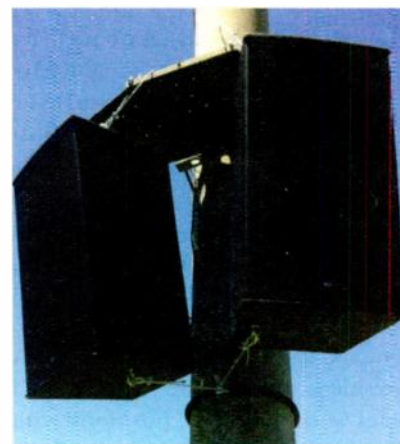
tal dispersion pattern. Since the field doesn't have a press box, Stuckman mounted the equipment—a mixer, a 150-foot cable reel to feed the speakers, a Peavey mic, and an STI media playback interface—onto a wheeled cart, allowing audio to be controlled from the sidelines when needed.

Meanwhile, over at the football field, a press box now houses a rack with a Peavey PV10BT mixer feeding into a Crest ProLite 5.0 advanced Class D power amplifier. That in turn sends audio to home and guest speakers mounted on the near side of the field. With four Elements 115C speakers attached to two light poles in line with one another, two cabinets are aimed at the home side and two toward the guest bleachers.

Inside the school, the "cafetorium" audio system now sports a trio

of Peavey SSE-12 speakers arranged in an exploded cluster above and in front of the performance stage. Due to the school's diverse requirements for the room, a Digitool MX16 digital processor is used as a voltage-controlled system mixer for each application in addition to its standard duties as an loudspeaker management system. A custom panel with simple mute toggle switches for the PVM18S lectern mic, dual PVM480 overhead mics and front sources complete the straightforward arrangement.

Over in the gym, Stuckman opted to have all audio come from a single point: a single central cluster on a ceiling-hung grid with four Peavey QW2F mains below the grid and two SP118 subs secured atop. A pair of Crest ProLite 3.0DSP power amplifiers with digital processing handle



Peavey Elements 115C speakers cover both home and away sides on Lamar School's football field.

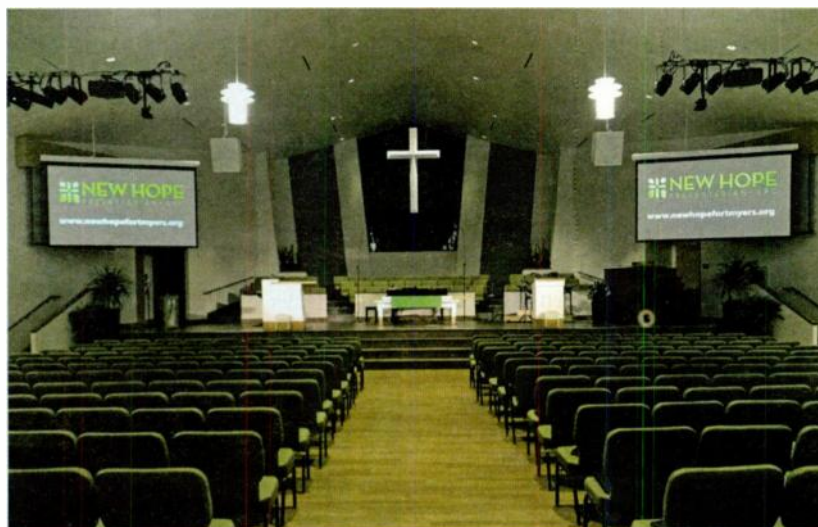
both the crossover and power duties for the system, while a Peavey PV10BT mixer with Bluetooth controls the inputs and outputs. All the electronic components are housed in a custom rack.

**Peavey**  
peaveycommercialaudio.com

# New Hope's New Sanctuary Gets New Audio

FORT MEYERS, FL—New Hope Presbyterian Church recently completed a new 80x80-foot sanctuary with a peaked ceiling that can seat up to 250 people. To ensure all worshipers can hear every note of both its traditional and contemporary music services, the facility was outfitted with an audio system designed and installed by Creative Sound and Lighting Solutions (Cape Coral, FL).

Rob Robinson of the company's sales and installation activities, noted that the company opted to install two PreSonus WorxAudio X3 line arrays, suspended by a single 1.5-inch pipe directly over the front edge of the stage, with the left and right arrays positioned 30 feet apart. Robinson said, "The enclosures are painted white, so they blend in with the room's aesthetics really well. With the X3's broad, 160-degree horizontal dispersion pattern, coverage is clear and consistent throughout all areas of the room."



The sanctuary at New Hope Presbyterian Church (EPC) is covered by two PreSonus WorxAudio X3 line arrays.

The FOH position is located at the back of the room in an open sound booth, based around a 32-channel PreSonus StudioLive 32.4.2AI digital mixing console. "The console's scene recall capabil-

ity is already assuming an important role while mixing the services," said Robinson. "As the staff gets more comfortable with the technology, they will have a wealth of features to avail themselves of—particularly since

video assumes an equally important role in their services. The church has a full-time livestream person in the projection booth who can place any camera shot up on the screens. This combination of sound and imagery is really quite impressive, and the new mixer will certainly add to their overall capabilities."

With the successful opening of services at New Hope Presbyterian Church's new sanctuary, Robinson reported, "Our client has been very complimentary. We've been told by numerous people how easy it is to understand every spoken word no matter where one happens to be seated—and the music sounds big and full through the system. This has been another very successful project."

**Creative Sound and Lighting Solutions**  
creativesoundsolution.com

**PreSonus Audio Electronics**  
presonus.com

# Ibiza Classics

(continued from page 38)

ambience. Ron does use ambience for the vocalists, though."

The electronic band, background vocalists and stream of guests—at the Hollywood Bowl, a long list topped by Moby, Aloe Blacc and AlunaGeorge—are served by a typical complement of in-ears and wedges. Peeters favors DiGiCo desks, says den Dulk, and at the Bowl he used an SD7 with an SD9 sidecar. FOH

mixer Tom Gelissen, another Dutchman, has also been using the SD7, but he plans to switch to an Avid S6L for 2018's European shows, he adds.

Den Dulk's myMix rig accepts three 96 kHz 32-channel MADI streams from Peeters' SD7 that are passed through a DirectOut Technologies MADI.9648 sample rate converter and into two 48 kHz 64-channel MADI streams, then into a pair of RME ADI-648 units for conversion to ADAT. "We are big fans of RME, and the ADI-648 was exactly what the situation called for," he says.

"These units have unparalleled reliability and never let you down."

The ADAT streams are sent to the myMix IEX-16L input expander units, which are networked to the main Cisco switch. On stage, smaller 8-port PoE switches provide distribution to the personal mixers, which at the Hollywood Bowl were mounted on the front right leg of each orchestra member's chair.

The bulk of the audio production is rented locally, says den Dulk—in the U.S. from VER Tour Sound, in Australia from JPJ, and in the U.K. from Skan PA Hire. But the myMix

system fits into a set of cases and racks that flies between shows, he says.

"I've made Pelican cases with 16 units in each box. I have a big drawer case with all the switches and cabling, and then there's the input rack. I have just five or six cases of air freight."

And in over a year of touring, he says, "Not one of the units has broken."

**myMix**  
www.mymixaudio.com

**RME**  
www.rme-audio.com





Michael Palmer

L-Acoustics has named **Michael Palmer** to the new post of head of sales. Palmer comes to L-Acoustics from Allen & Heath, where he spent 11 years as U.S.

national sales manager and later vice president of sales. He has also held sales and marketing positions with Turbosound and Radian Audio Engineering. At L-Acoustics, Palmer oversees sales throughout North America; works with sales managers; and liaises with installation and touring applications teams, as well as consultants, contractors and concert/event production companies.



(l-r) Jim Boitnott, Rick Naqvi, Bret Costin

PreSonus has promoted **Jim Boitnott** to chief operating officer; **Rick Naqvi** to senior vice president of global sales; and **Bret Costin** to senior vice president of research and development. A graduate of Elon University, Boitnott was a professional musician before becoming president/CEO of NOTION Music; when that company was acquired by PreSonus in 2013, he became executive vice president of product services and later EVP of marketing in 2015. As COO, he will be responsible for internal operating activities.

Naqvi, a Baton Rouge native and LSU grad, joined PreSonus as employee No. 4 in October 1995, following four years as a sales associate at an MI/recording equipment retailer. Since then, he has traveled the world to work with sales reps, distributors, dealers and customers.

Costin has designed products and managed and directed product development at a variety of companies, ranging from Avid and Compaq to M-Audio and PreSonus. The University of Florida engineering graduate served as PreSonus' vice president of R&D between late 2010 and mid-2012, and returned for a second stint as VP in January last year.

Allen & Heath USA has brought on **Pat McConnell** as its central regional sales manager. In his new role, McConnell will be tasked with promoting sales growth and strengthening existing relationships across the Central Region. A graduate of the



Pat McConnell

University of Wisconsin, Madison, and a Certified Technology Specialist, McConnell is a longtime user of Allen & Heath products and was a sales representa-

tive for the brand at a previous company. He has 25 years of sales and music technology experience.



Aaron Kunz

Yamaha Professional Audio division has appointed **Aaron Kunz** to the position of district manager for the commercial audio sales team. Kunz will be responsible for the Arkansas, Iowa, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, South Dakota and Texas territory. He replaces veteran district manager, Jeff Wilson, who recently retired. Over the last decade, Kunz has worked as a regional sales manager with both Harman Professional and Loud Technologies.

Kunz has worked as a regional sales manager with both Harman Professional and Loud Technologies.



Margie Kirby

**Margie Kirby** joins husband Rik Kirby at the helm of Allied Professional Technologies, where she'll be extending the company's services further into the marketing

realm. With more than 28 years of experience in the professional audio industry, Kirby most recently held the post of director of marketing at Renkus-Heinz, prior to which she held marketing and trade show management roles with TEAC's Tascam division. Allied ProTech is the U.S. distributor and marketing partner Linea Research and Belgium-based Luminex Network Intelligence.

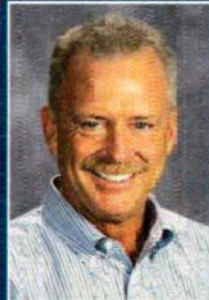


Ron "Spider" Entwistle

Multi-platinum producer **Ron "Spider" Entwistle** has joined PMC USA as user relations and product manager. With more than 35 years' experience in the music industry,

Spider has been a songwriter, recording artist, singer, multi-instrumentalist, programmer, editor, sound designer, recording engineer, mixer, remixer, DJ, studio owner and consultant, work-

## 60SECONDS

Craig JOHNSON  
Full Compass Systems

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

**A:** Chief executive officer (CEO) of Full Compass Systems. Chief executive responsible for the development, implementation and execution of the company's strategic goals and objectives. I will be working with the company's talented management team and employees to continue delivering the best-in-class experience and unparalleled customer service Full Compass Systems is known for, and helping to accelerate growth in the direct, online, wholesale and retail channels.

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

**A:** I come to Full Compass with many years of experience in the pro audio, video, lighting and musical instrument markets. I spent 12 years at Musician's Friend, a subsidiary of Guitar Center, where I held several senior positions including president/COO and chief executive officer. I was then appointed chief supply chain officer of Guitar Center. I also served as chief operating officer of Gibson Guitar, where I was responsible for the company's worldwide manufacturing operations.

[Including other positions,] I have nearly 30 years of direct marketing and ecommerce experience. I attended Iowa State University, where I majored in computer science.

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

**A:** You'll see rapid evolution of our ecommerce platform and online customer experience—digital commerce transformation, relevant content to assist/support our customers, improved digital commerce capabilities and better site functionality. There will be further marketing program optimization and attribution, looking at the print, email and digital mix, investment and spend optimization to drive customer acquisition and retention. We'll also focus on new products and new markets, increasing R&D capabilities, product development and the innovation pipeline as we look to new product introductions, core product enhancements and strategic supplier partnerships. We'll additionally develop new business opportunities that leverage our core infrastructure and add market share and/or incremental customers.

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

**A:** We will deliver long-term profitable growth and value to all our constituents (customers and employees) by: consistently exceeding customer expectations by providing a "best in class" customer experience and service excellence in all that we do; growing our customer base and winning a greater share of its annual purchases through effective acquisition, retention and reactivation programs; being where our customers browse and shop, providing a seamless multi-channel selling experience for all our customers and leveraging the assets of the brand across all channels to achieve competitive advantage; providing our customers with great prices and product selection, delivering innovation to become the "go to" source for their product and solution needs; leveraging our core capabilities to grow—building upon our core business DNA to expand our brand portfolio into underserved markets; and fostering employee engagement, satisfaction and retention—providing our employees with the opportunity to expand their horizons, enhance their strengths and talents, and maximize their potential.

ing with the likes of Beyoncé, Lady Gaga, Frank Ocean, Eric Clapton, Pink, Massive Attack and Steve Winwood. He has also collaborated with numerous top producers and Academy Award-winning filmmakers and multinational corporations



(l-r) George Dreyer, Jon Garner, Brandon Rinas

A new senior product engineer, **George Dreyer**, and two additional

sales representatives, **Jon Garner** and **Brandon Rinas**, have joined VUE Audiotechnik. Dreyer has 25 years of electrical and professional speaker design experience with Alesis and Carvin, and will lead amplifier and electronic development. Garner sports an eight-year track record in sales management, inside sales and tech support with Powersoft, and a background in electronics and electrical engineering. He'll focus on live sound and touring, while Rinas will tackle house of worship systems, using his background in live sound reinforcement, studio engineering and custom audio visual installations, having started his career as an engineer with Sound Image before moving to its contracting division.



# Taking A Holistic Approach

PETER THOMAS,  
MANAGING DIRECTOR, PMC

BY CLIVE YOUNG

While U.K.-based PMC (Professional Monitor Company) has been underway for more than a quarter century, its profile in the U.S. has grown considerably in recent years, as underlined by numerous high-profile adoptions of the company's offerings, like the QB1-A reference monitors installed in Capitol Studios in Hollywood, CA. PMC USA, the company's U.S. arm headquartered in California, is likewise increasingly visible, in part due to a new Nashville office, further cementing the company's presence on these shores.

It's a far cry—and 26 years on—from when company co-founder Peter Thomas left a comfortable job at the BBC to go into business with friend Adrian Loader. "The 14 years I spent at the BBC is relevant," says Thomas today, "because I had excellent holistic training in everything from microphones through to recording consoles, communication systems and even the transmission chain. Loudspeakers were my main interest and I was responsible for testing the speakers the BBC was designing, so I got to know all the speaker manufacturers very well."

That, in turn, led to co-founding PMC: "I designed a prototype loudspeaker for Radio One's studio, Maida Vale 4, which produced much higher SPLs than other BBC speakers but with similar audio characteristics. I couldn't sell to the BBC while still working for them, so I left to set up PMC, and that prototype became our first product—the BB5-A active main studio monitor. This design was snapped up by the BBC Maida Vale and Metropolis Mastering, along with many other professional studios and artists such as Prince and Stevie Wonder who wanted them for their own studios."

Initially Loader managed the business while Thomas headed R&D, but when his co-founder died in 1997, Thomas moved to the position of managing director; today, his son, Oliver Thomas, is in charge of R&D and product development.

Job titles are far from the only things that have changed in the in-

tervening years, however. "I started PMC as a family company and that's what I'm trying to hold on to, even though it gets harder every year as we get bigger," says Thomas. "Our distributors, suppliers and staff are part of our family and this is important because people will go the extra mile if they feel they are part of something."

There are more and more people who feel they're a part of PMC's story these days. Over the last quarter century, the company has grown from five to 60 employees while diversifying into different market sectors. As Thomas notes, "The spread of products and the diversity of our sales outlets helps us ride economic peaks and troughs, because if one market is down, then another is usually on the up. Not having all our eggs in one basket has served us well." Some of those baskets include HiFi, custom install for home theaters, and an array of pro sectors, including composing, recording, mixing, mastering, post production and broadcast.

Not only is PMC a part of diversified markets, but it is a part of them around the globe as well, says Thomas: "We now export to over 50 countries. We have seen superb increases in exports since the U.K. decided to leave Europe and these now account for 75% of our sales. One reason for this is because we are cushioned from higher-price imports as we make the lion's share of product components here in the U.K. Our turnover has grown 25% in the last year and we have taken on a lot of new people to cope with the new models in our product range."

PMC's head office is Holme Court, a large building with five acres of land in Bedfordshire. The site houses R&D and product development, IT, sales, marketing, servicing, purchasing and administration, and 25 people are employed there across the various departments. The company's main factory is in Luton, where all its products are assembled, though PMC is in the process of applying for planning permission to bring manufacturing into Holme Court as well.

"Unlike some U.K. companies, we haven't outsourced to China," Thomas says adamantly, "because we



Peter Thomas, managing director/co-founder, PMC

want to retain control for quality reasons. We subcontract some cabinet and drive unit manufacturing to other companies in the U.K., but everything is made to our design. As a medium-sized company dealing in low volume, high value goods, we have to rely on some subcontractors to get our products made, but these suppliers have worked with us for so long that they are part of the PMC family and we have great relationships with them."

That said, PMC has no problem with China—in fact, that's one of the company's biggest markets, says Thomas. "The U.S. is our top market, especially for pro products, but China is biting at its ankles thanks to the success of our HiFi products there. After that, Europe is our main market, but we are also picking up business in new territories like Thailand and Hong Kong, where we have very good distributors."

Nonetheless, the U.S. is a top priority for the company, and that's handled by PMC USA. "The U.S. is our biggest market, especially for our pro speakers, so getting closer to customers there is very important," says

Thomas. "Customers like the fact that our U.S. team consists of PMC factory specialists and they have direct contact with the head office, being able to deliver the best support to our clients. We know we make expensive products and we understand that people buying them want to be looked after."

"PMC USA, headed by Maurice Patist, distributes our products in the States," explains Thomas. "This employs seven people and has an office with warehouse and service department in California. We also recently opened an office in Nashville, which is a fully operational studio where clients can demo the entire spectrum, from compact to the large systems, and even use the facility to mix their own projects."

Having a full-fledged studio to demo gear in falls right in line with how Thomas describes the company's philosophy, both for creating its products and how it views its customers' needs. He shares, "Our ethos is very holistic—we are never satisfied, and we are always pushing to improve what we do. PMC loudspeakers combine science and art, engineering and emotion. They are designed to be forensically accurate, but also to convey music and sound as naturally as possible, as its creators intended."

PMC  
pmc-speakers.com

"Our ethos is very holistic—we are never satisfied, and we are always pushing to improve what we do."

Peter Thomas, managing director/co-founder, PMC



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Retail in 2018

(continued from page 1)

600 MHz frequency spectrum.

The two retail companies overlap somewhat in their customer bases but follow two different approaches. At Sweetwater, headquartered in Ft. Wayne, IN, “We tend to try to build relationships one-on-one,” says Mike Brinker, pro audio group manager—merchandising. “That leads us down a path with a lot of customers. We do anywhere from entry-level to mid-level to professional.”

Full Compass, based in Madison, WI, and marking 40 years in business, sells directly to end users, especially in the educational and house of worship sectors, according to Ryan Mauer, the company’s director of sales. “But we also have a large part of our business that ends up, through small AV contractors, in integration markets, into corporate AV, and putting large packages together for the audio and video chain. That really creates a unique scenario for us in terms of how to stock product and which items to have available for our customers.”

Mauer reports that, for Full Compass, collaborative spaces and corporate bring-your-own-device environments such as conference rooms and huddle spaces are becoming much more prevalent. “Those worlds are combining for us right now. We’re probably not the only ones experiencing that, but we are seeing that those couple of things have an impact on the business,” he says.

While Sweetwater sells a very broad spectrum of products, says

Brinker, “Specifically in pro audio, we do a lot of speakers and, as a single category, mixers do extraordinarily well, especially digital mixers. They’re really the future, because digital connectivity has replaced copper snakes for us.”

Digital desks cross multiple categories, he continues, enabling recording, stage monitoring and virtual soundchecks. At the high end, consoles such as Avid’s S6 are selling well into educational and house of worship applications. “It’s probably the most competitive and the biggest single category for us in pro audio,” says Brinker.

For both companies, the FCC’s auction of much of the 600 MHz spectrum to carriers such as T-Mobile has focused attention on the wireless mic market. Existing customers with RF equipment that is about to become non-compliant are moving quickly to replace it with gear operating outside the 600 MHz band. “As we expected, the house of worship market is obviously going to be key,” says Mauer, “as well as any place where wireless ends up—so broadcast is there as well.”

Customers who weathered the loss of the 700 MHz spectrum to HDTV broadcast are generally aware of this latest spectrum crunch, Mauer continues. As for other customers, he says, “I think the end markets are pretty well educated, and if they’re not, I think we’re doing a pretty good job from a salesperson and technical perspective to get that done. Frankly, that’s what we do probably as well or better than any of our competition.”

Brinker agrees that the market is better informed this time around, not least because some of the politics around the 600 MHz auction made

headline news. Sweetwater’s uptick in RF equipment sales has been given a boost by the trade-in programs offered by manufacturers such as Shure and Sennheiser, he says. “It has been a big push, not just for us but for everybody who sells wireless.”

That first round, affecting the 700 MHz band, encouraged the vendors to get their R&D teams innovating, comments Brinker. “They’ve had to come out with new models and new categories, and when you do that, you get incremental improvements. Wireless is pretty exciting right now.”

Sweetwater’s sales into the educational market have brought about a symbiotic relationship. “We have a lot of fantastic relationships with different universities and large school districts around the country,” reports Brinker. “We help them with all of their needs and their programs, and of course we end up employing a lot of the guys and gals that graduate from the technology programs.”

Mauer has observed the market morphing as clients increasingly think like consumers, even when they are purchasing on behalf of a business, thanks to a certain dominant e-commerce company. “We’re watching the younger generation of buyers, the Amazon generation, doing some significant part of their research virtually, before they engage for technical assistance—if they even do. They’re doing the bulk of the work, and then it’s about the supply chain that can support that product line. That’s where a transition is occurring.”

Full Compass  
[fullcompass.com](http://fullcompass.com)

Sweetwater  
[sweetwater.com](http://sweetwater.com)

SR’s Winter

(continued from page 1)

wherever they go, so if they have promotional stuff that they’re ramping up for, we’re offering a good amount of support for those as well.”

While the work is a bit different from the rest of the year—Boessneck noted Eighth Day was providing audio for a trio of themed cruises and the NHL All-Star Game, among other gigs—the winter months still provide an opportunity to size up the previous year and rethink how the new one will be approached.

“We take a look at what our biggest challenges were from the year before and create training that will help make those things better for 2018,” said Gingrich. “We get a lot of our road staff in here to Lititz

to brush up on the latest technology, pick their brains on the problems they’re seeing and spot opportunities for improvement. Education and training is huge for us—I think at the end of the day, our people end up setting us apart. You can spend as much time as you want on the gear, but if the people aren’t well trained, you’re going to fall flat on your face.”

The educational insights flow both ways, too, he noted. “We’re getting a good cross-section of different kinds of tours and different kinds of skill sets so that we can have a really good conversation,” he added. “It’s not just [training]; it’s a lot of us trying to get feedback from the people who are on the front lines. It’s a huge opportunity for us, because we design our own speaker enclosures, to ask, ‘What’d you guys like about this? What didn’t you like?’ Obviously we get that throughout the year, but get-

ting that when we have larger groups of people is very helpful.”

But with many major artists’ income increasingly dependent on touring instead of music sales these days, the slow time of year isn’t that slow anymore for the sound companies that support them. Many acts are doing promotional work, appearing on awards shows or are deep in rehearsals for the productions they’ll mount this summer. As Boessneck noted, “The more you can work in January, the better off you are. It helps everybody that the industry is working at this time of year. It isn’t ‘Oh, we wait until January to fix the mic cables.’ In 1980, you did that; you don’t do that in 2018.”

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# Swedish Grooves

BY JACQUES SONYIEUX

*Running Out of Love*, the most recent album from Sweden's Radio Dept., combines infectious beats and lush atmospheric synths against a politically charged conceptual canvas. In a modern era littered with downloadable singles, streaming playlists and rampant digital distractions, *Running Out of Love* stands out as a holistic work of art, demanding nothing less than a complete, uninterrupted listening experience. *Pro Sound News* spoke to the band's core duo, Johan Duncanson and Martin Larsson, as they worked on new tracks at their home studio in Stockholm, Sweden, ahead of the second leg of their North American tour.



The Radio Dept.—Johan Duncanson (left) and Martin Carlberg—close out the second leg of their U.S. tour this month.

## ON MINIMALIST GEAR

**Johan:** Nothing's changed really for us when it comes to technology. We just have more toy keyboards and more toy guitars than we had in the beginning. We started off recording on 4-track cassettes at the end of the '90s, and when we started working on computers, we kept doing it the same way. We've tried to have as little stuff as possible so we can control everything and focus on the songs rather than the gear. This approach is cheap for us, because we don't make a lot of money, and we can record anywhere because our setup is very mobile. We want musical challenges when we start recording new music—we want to try new things, but not new gear.

**Martin:** And definitely not plug-ins. We hate plug-ins and we don't know how they work!

## ON THE PRODUCTION LANDSCAPE

**Martin:** We started out trying not to use guitars—we are both guitarists, and it is too easy for us to make a “guitar song.” We were going to do more electronic-sounding music and then it grew into something bigger. Doing it this way is interesting for us because it keeps us on our toes.

**Johan:** We really care about the production. It's not like we say “f\*\*k it” and just record. If that were the case, we would just make some kind of troubadour music, or just acoustic guitar and vocals if we only cared about the songs. But, of course, we care about the production—we care about it a lot and we always have. At the same time, we want it to sound gritty in a way, and kind of home-made.

## ON TRUSTING OTHERS

**Martin:** We've known Tomas Boden, our mix engineer, for years. It took me a year to convince Johan to release the tracks to him so he could work on them.

**Johan:** This is because we've always done projects by ourselves from start to finish. I was still very reluctant to let him near our tracks, even though I've known him and like him a lot. He's a genius in the studio, he's got a lot of musical projects of his own, and he's a brilliant guy. I eventually got used to the idea of letting him listen to the stuff, and after a while he almost felt like he was in the band.

## ON BASS-IC ALLERGIES

**Johan:** We are kind of allergic to a lot of bass, so we don't want things too bass-heavy. A lot of modern productions, in my opinion, at least, are way too bassy. I like records from the '70s and the '80s, before people started producing records that way, with a lot of subs and stuff like that. For

some music you need it, of course, but for a lot of music you don't. We've mastered with many different people throughout the years, and that's one of the things we usually come back to and want them to change. When we get the tracks back, it's usually too bass-heavy for my taste.

## ON A CONCEPTUAL CANVAS

**Johan:** We didn't start out trying to make this big, conceptual album, but we realized during the process what it was turning into. For some reason, I couldn't write music about other stuff, so in a way it just kind of happened. And when it came to choosing artwork and stuff, we already knew what the album was about and so on. A lot of the tracks on the album are political, but they are political in different ways. For example, I am very happy with the song “Swedish Guns,” which is, of course, about the Swedish arms industry. I've had a hard time listening to a lot of political music throughout my life, since I tend to think that it can get boring, but on this album I just couldn't write about anything else. I was still happy that I was able to make some of the songs more personal because otherwise it would have been too disconnected. I think a lot of people associate our music with some kind of intimacy—sometimes you want to get as far from that as possible, but I still didn't want to let that go, because music is supposed to comfort, too.

## ON LONGEVITY

**Martin:** I don't know what is behind our longevity. I think we are still friends, I hope. This is the key, I think—that we are still friends through all of this. Johan is my best friend and I can't argue with that. It's always work, and of course we have our struggles and our differences. Also, time is not always on our side when it comes to these projects, because we live in different cities and also life comes in between. But I don't think I want to analyze it too much; if it works, it works. And we will continue until either we are no longer friends or until it becomes boring.

**Johan:** I think also I have such a hard time compromising with people when it comes to music. It took years just be able to let Martin this close in a way, so it is also something you don't want to give up too easily. I think we've both thought about quitting, but then you solve it by screaming at each other a little bit, then saying you're sorry and starting to make new songs.

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

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## TIPS & TECHNIQUES

### From the Pros

#### 1 You Don't Need to Slam an Input at 24-Bit

In the analog days, it was often desirable to drive preamps as hard as possible, for tonal purposes. The same held true in the 16-bit world, but for issues relating to the noise floor. However, neither of these issues apply to 24-bit, so give yourself valuable headroom—you'll need it later on.

#### 2 Check for Mono Even though it's 2017

In the old days, one often checked mixes for mono compatibility due to technological constraints of the times. You should still do this today, since your average listener won't hear a mix in perfect stereo (think sitting in the driver's seat, or sitting on the left side of a couch).

#### 3 Try Out a Manual De-Esser on Vocal Tracks

What is a manual de-esser? The answer is, you. Go through the track and manually gain down each sibilance, either by clip or pre-fader automation. Pretty quickly, you'll learn to recognize the football-like shape of a peaky sibilance, which will expedite the process. Sure, it takes time, but it's one of the most natural ways to tame those ear-splitting "ssssss" sounds.

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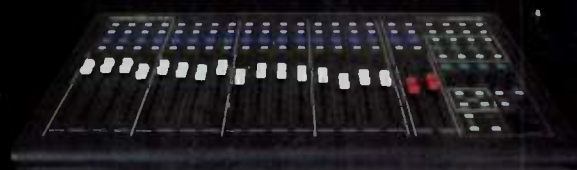
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