

pro sound

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ProAudio
Review

NEW

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January 2018



JUSTINE BASIL

VILLIANS STYLE—Queens of the Stone Age brought the rock this past fall with an Eighth Day Sound-supported U.S. tour behind the hit album, *Villians*. The journey, which culminated with the band's first-ever headline show at New York City's Madison Square Garden, found leader Josh Homme belting through a Telefunken-Elektroakustik M80 handheld dynamic mic at every stop along the way.

Connectivity Trends: AoIP, Wireless & Beyond

BY STROTHER BULLINS

The pro audio industry boasts a massive wave of new components in the pro audio category of interconnects. Whether they're A/D dongle-type products from manufacturers such as Switchcraft, fresh ventures in fiber optics from firms such as Whirlwind, or new AoIP and wireless tech-

nology from Neutrik, savvy audio professionals know that when it comes to signal flow, it is truly the connections that matter.

Though best known for its connector lines, Switchcraft offers other modern connectivity solutions such as its AudioStix DI product line, intended for audio environments that must

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Gearbox Gets In Gear

20

Darrel Sheinman's lifetime love of jazz led to his founding the Gearbox record label focusing on previously unreleased live archive recordings; now he's opened his own ultra-analog mastering facility in London.



Depeche Mode's Spiritual Sound

40

The alternative pop mavens are in the middle of an 11-month world tour—their biggest in years—and at each stop, the groups' longtime audio team uses new and old technology to help convey the warmth and humanity in the band's famously synth sounds.



NAMM Doubles Down on Pro Audio

BY STEVE HARVEY

The 2018 NAMM Show gets a new look this year with more

floor space, the inaugural AES@NAMM Pro Sound Symposium: Live & Studio and a new education and professional development

campus. The show, which reportedly attracts 100,000 attendees from 139 countries annually, is being held January 25-28, 2018 in Anaheim, CA.

The most noticeable change, no doubt, will be Anaheim Convention Center (ACC) North. The new construction expands the ACC's total floor area by 20 percent, adding 200,000 square feet of multipurpose space, half of which—on the top level—is column-free. For comparison, Hall A, tradi-

tionally hosting most of the pro audio exhibitors, is approximately 146,000 sq. ft. ACC North is next to the arena and behind the Hilton Hotel, with its front door on Katella Avenue, and is connected to the existing facility via a climate-controlled pedestrian bridge on Level Two.

NAMM noted in a September 26, 2017 announcement that companies including Avid, Harman, QSC, Shure, Sennheiser, Pioneer,

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| 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 Soun0 | 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 |
| Avenged Sevenfold | Crosby, Stills & Nash | G. E. Smith | Justin Bieber | Metric | Roger Hodgson | The Flecktones |
| Babyface | Crowded House | Garbage | Justin Meldal-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 | MØ | 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 Kravtzt | 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 Metheny | Soundgarden | Weezer |
| Bryan Adams | Dwight Yoakam | Jeff Beck | Linkin Park | Paul Boothroyd | Stanley Clarke | Will.I.Am |
| Buddy Guy | Earth, Wind & Fire | Jennifer Lopez | Lionel Richie | Paul McCartney | Steely Dan | Whitesnake |
| Butch Walker | Ed Sheeran | Jerry Douglas | Little Big Town | Paul Simon | Steve Earle | X Ambassadors |
| Cannibal Corpse | Elton John | Jason Aldean | Luther Dickinson | Paul Weller | Steve Lukather | You Me At Six |
| Carrie Underwood | Eminem | Jason Derulo | Macy Gray | Pink | Steve Miller | Zac Brown Band |
| Casting Crowns | Emmylou Harris | Jacquire King | Marcus Miller | Portugal. The Man | Steve Morse | Zakk Wylde |
| CBC Television | Enrique Iglesias | Jimmy Buffett | Mariah Carey | Peter Gabriel | Steve Stevens | Zella Day |

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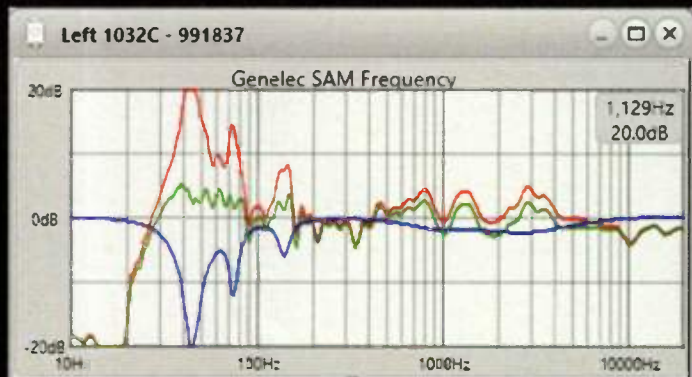


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Gibson Shuttters Cakewalk

BY CLIVE YOUNG

BOSTON, MA—After 30 years, music/DAW software company Cakewalk has been shut down. The announcement came Friday, November 17, from parent company Gibson Brands, which said Cakewalk was ceasing new product development, stating the move was made to “better align with [Gibson Brands’] acquisi-

tion strategy that is heavily focused on growth in the global consumer electronics audio business.” Gibson Brands acquired Cakewalk in late 2013.

Initially founded in 1987 as Twelve Tone Systems, Cakewalk was an early pioneer of MIDI sequence software, over time growing to develop products like its respected SONAR DAW, various virtual instruments and effects, and a handful of entry-level musical consumer products. Following eight years of growing collaborations, Roland

invested in the company in 2003, eventually taking a majority stake in 2008. Cakewalk was sold to Gibson Brands four years ago, a purchase made with the intention of forming a new brand, TASCAM Professional Software, that would publish Cakewalk products and develop joint products with TASCAM.

Cakewalk remained largely based around SONAR, which it moved to a subscription format via a “rolling updates initiative,” issuing 12 updates a year. Nonetheless, the company continued to explore new paradigms and

was releasing new products as recently as late September, when it debuted the fledgling Momentum platform, a hybrid smartdevice/PC-based four-track DAW.

In a statement on Cakewalk’s website, CTO Noel Borthwick, a 19-year veteran of the company, assured customers “Cakewalk’s servers will continue to operate, you will still have access to all of your online assets, and your software will continue to work normally. A dedicated team has been established during this transition period to continue to serve the Cakewalk community.”

Cakewalk
Cakewalk.com

briefs

AIMS, MNA Merge

BOTELL, WA—The Alliance for IP Media Solutions (AimsAlliance.org) and the Media Networking Alliance have merged to form a single trade association for promoting IP in the media and entertainment industry. The merger comes after a two-year history of collaboration, and is intended to facilitate a stronger impact on the industries they serve. The new joint organization will retain the AIMS name and will be governed by the existing AIMS bylaws. Full members of both organizations voted to approve the merger on December 13.

Sonoris Teams with Plugivity

DAMWALD, NETHERLANDS—Sonoris (sonorissoftware.com), which creates audio products for recording and mastering, has entered a distribution partnership with Plugivity (plugivity.com), which distributes audio software, plug-ins, and sound libraries via electronic download delivery. The complete line of Sonoris professional audio plug-ins and stand-alone DDP solutions can now be downloaded from Plugivity-affiliated professional audio resellers worldwide.

MPG To Honor Langer, Winstanley

TOWN—Producers Clive Langer and Alan Winstanley will receive the PPL Presents The MPG Award For Outstanding Contribution To UK Music at the UK’s 2018 Music Producers Guild Awards (mpg.org.uk) in March, 2018. Over the years, the pair created hit records for artists such as David Bowie, Elvis Costello, Dexy’s Midnight Runners, Bush, Lloyd Cole and the Commotions, Morrissey, The Teardrop Explodes, Catatonia, They Might Be Giants, Sandie Shaw and Hothouse Flowers, among others.

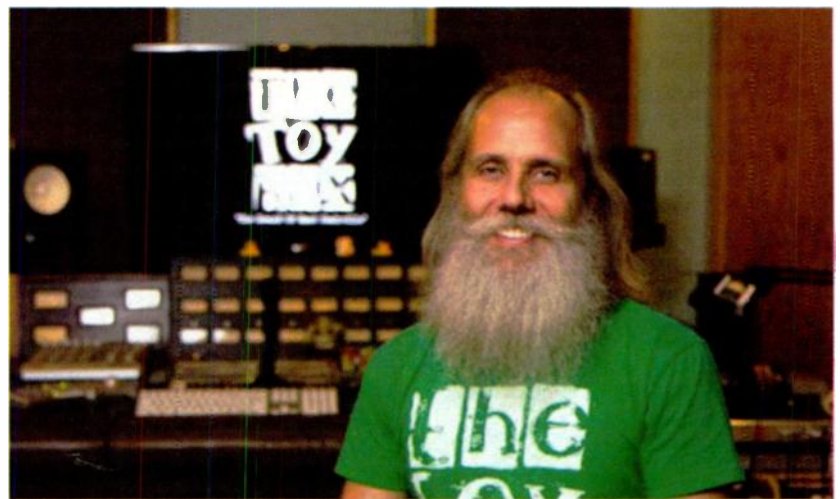
Nashville Producer Sues City

BY STEVE HARVEY

NASHVILLE, TN—Elijah “Lij” Shaw, owner and operator of The Toy Box Studio in East Nashville and the man behind Bonnaroo’s Hay Bale Studio, has filed a lawsuit against Nashville Metro Council’s ban on business owners receiving clients in their homes.

Shaw, together with Nashville hair stylist Pat Raynor, has teamed up with the Institute for Justice (IJ) and the Beacon Center of Tennessee to file the suit. Shaw has lived in East Nashville for 17 years, where he converted his garage into a production

(continued on page 19)



Elijah “Lij” Shaw, owner and operator of The Toy Box Studio in East Nashville, has filed a lawsuit against Nashville Metro Council’s ban on business owners receiving clients in their homes.

L-Acoustics Opens NYC Office

NEW YORK, NY—Aiming to underline its presence on the East Coast and also the Broadway theatrical market, L-Acoustics has opened a new office in midtown Manhattan, located within walking distance to Penn Station.

Having opened this fall, the space will be used for training, meetings

and housing the company’s East Coast support team. The new facility’s first training session—L-Acoustics System Fundamentals—was held October 30.

The company’s East Coast team includes Scott Pizzo, regional sales manager; Jesse Stevens, applica-

tions engineer; and newly appointed sales manager Sandy Macdonald, who spent the past 12 years managing sales in the Northeast for Meyer Sound. MacDonald will be coordinating efforts with Jesse Stevens, who spearheads Application support for Broadway designers and Certified Providers for L-Acoustics in the region. The duo will ensure that L-Acoustics and its L-ISA immersive solutions are available to Broadway sound designers as well as provide local support to theater sound design consulting firms in the tri-state area.

Recent Broadway productions using L-Acoustics systems include *Warpaint*, *Bandstand* and *Springs-teen on Broadway*. Meanwhile, spring 2018 will bring along *Mean Girls*, a musical written by and based on the Tina Fey movie, and *Escape to Margaritaville*, a musical based on the oeuvre of Jimmy Buffett.

L-Acoustics
l-acoustics.com



L-Acoustics has opened a New York City office, because if they can make it there, they can...OK, they’ve already made it.



SOUNDRECORDING

Rethinking the Mastering Studio 20
For mastering engineer Maor Appelbaum, change is good. Trying new pieces may not only expand his options but also bring to light new possibilities with his existing equipment, he says.

Studio Showcase:
NightBird Recording Studios 22
The story of NightBird Recording Studios is as rock n' roll as it gets: Producer/writer Jed Leiber was collaborating with legendary guitarist Jeff Beck in a guest room at the Sunset Marquis Hotel. Noise complaints led to the hotel's manager offering them space in the basement to continue in—and Leiber arguably never left.

SOUNDPOST/BROADCAST

T-Mobile Aims to Ease 600 MHz 'Phase Zero' Transition 27
While its aggressive roll-out of 600 MHz services is moving faster than the FCC's expected 10-phase timeline—prompting the term 'Phase Zero'—T-Mobile is trying to work with those impacted by the effort.

Confetti Institute Ready to Celebrate New Contemporary Music Hub 27
The Nottingham-based Confetti Institute is close to completing a new facility with multiple edit bays, recording studios and live performance venues, plus a broadcast component.

SOUNDTECHNOLOGY

Sound Innovations: PMC result.6 Active Nearfield Monitor 29
UK loudspeaker manufacturer PMC has always been a design- and engineering-led company. Perhaps it was inevitable that creating the newest, most affordable member of PMC's professional range would prove more involved than the compact dimensions of the speaker itself would suggest.

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Amplivox SW925 Travel Partner Plus Battery Powered PA System; Electro-Voice ELX200-10P and ELX200-12SP Powered Loudspeakers; Mackie Thump 15BST Powered Loudspeaker and Thump 18S Subwoofer; Peavey PVXP 12 DSP Powered Speaker System; PreSonus Quantum Audio/MIDI Interface; Flare Isolate Aluminum Earplugs; Roswell Delphos Mini K47 Large-Diaphragm Condenser Microphone; Waves Torque Drum Pitchshifter Plug-In; BAE 500C 500 Series Compressor

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Honors Event Brings On Bose 38
The Producers Choice Honors recently drew the likes of Lita Ford, Maria Conchita Alonso and Paul Sorvino to Hard Rock Hollywood to take part in the festivities. Bose had a hand in the event, too, in terms of the audio and, as it turned out, some of the entertainment

Live Sound Showcase:
Depeche Mode 40
The alternative pop mavens are in the middle of an 11-month world tour—their biggest in years—and at each stop, the groups' longtime audio team uses new and old technology to help convey the warmth and humanity in the band's famously synthetic sounds.

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Craig Anderton considers the closing of Cakewalk as a cautionary tale for companies—and customers.
viewfromthetop 47
As a professional musician, James Lamb conducted at Carnegie Hall and Lincoln Center, but today he conducts business as the founder and president of Point Source Audio.
music,etc. 50
Jaques Sonyieux talks with The Luxembourg Signal about the ins and outs of long-distance recording the value of value-driven equipment and achieving artistic continuity.



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Turning Pages, Online and in Life

If you look to the masthead on the right, you'll see the number 40—as in Volume 40. As in “*Pro Sound News* has been around for 40 years.” That’s pretty mind-blowing, though if we’re being honest, the real anniversary isn’t until October. That was the month our founder, Paul Gallo, took Volume 1, Issue 1 to the 1978 AES Convention, kicking off a publication that would become an integral part of the industry, bringing readers insight and information on everything pro-audio—a role we’re still proudly fulfilling four decades later.

These days, of course, we share a lot of that news on the internet, both at prosoundnetwork.com and all over social media (follow us on Facebook and Twitter to see for yourself; we share more pro audio news than anyone). The internet is crucial for getting you the latest info these days. Society is only getting more information-intensive as time goes on and audio professionals are no different: We want to access knowledge anywhere at any time, whether we’re using a laptop in a personal studio, a smartphone in the pocket of a location recording bag, or an iPad at FOH that’s supposed to only be used for the house system (good luck with that).

Two of those examples were mobile-based, and that’s no coincidence. Zenith Media predicts mo-

bile devices will account for 79 percent of global internet use by the end of 2018, and Statista reports that already 65 percent of the actual time people in the U.S. spend online is via mobile devices.

With that in mind, we’ve just finished radically revamping our website, prosoundnetwork.com, to be lean and clean (not mean) on mobile. The site has a new, clear and uncluttered design that’s optimized to get you where you want to go fast. It loads quickly, is simple to use and reading it on a mobile device is a far more enjoyable experience. That said, the new design doesn’t throw desktop/laptop readers under a bus; with the new site, what works on a small screen is only even more usable on a larger one. You’ll find big, splashy photos that let you see the whole picture, so to speak; easier navigation; and better-chosen related stories. We have more online innovations set to roll out in coming months, but in the center of it all is the same concise, informative pro audio reporting that we’ve always been known for. In short, the new site is pretty neat, we’re proud of it and we want you to take a look.

Times change, as do information-delivery methods, but there’s also something to be said for tradition. We still have a print edition (you may have noticed that you’re

reading it) and this particular issue comes with one of our biggest traditions at PSN: the long-awaited, much anticipated *Pro Sound News* Calendar.

I’m not kidding about that anticipation part—every December, I get a daily round of emails, Facebook messages and more, all asking the same question: Hey, where’s the calendar? Just 20 minutes ago, reader A.C. Smith wrote to ask about it, pointing out, “It’s kind of an annual ritual around here to hang up the new year’s ‘wish list’ of gear pinups in the office. Do we need to find something else to fill that hole on the wall come next month?”

Changing calendars is always bittersweet, though. We look forward to the times to come, and feel a little sad to close the book on the times that have passed. Here at *Pro Sound News*, that’s particularly felt this month as we say goodbye to long-time staffer and friend, technology editor Strother Bullins, who, after years at PSN and fellow NewBay titles *Mix*, *Sound & Video Contractor* and *Pro Audio Review*, is moving on to follow his passion for music education. We’re not letting him off the hook that easy—you’ll still see his byline in our pages in the future—but we’ll look forward to hearing how he’s inspiring a new generation to be enraptured by sounds and music.

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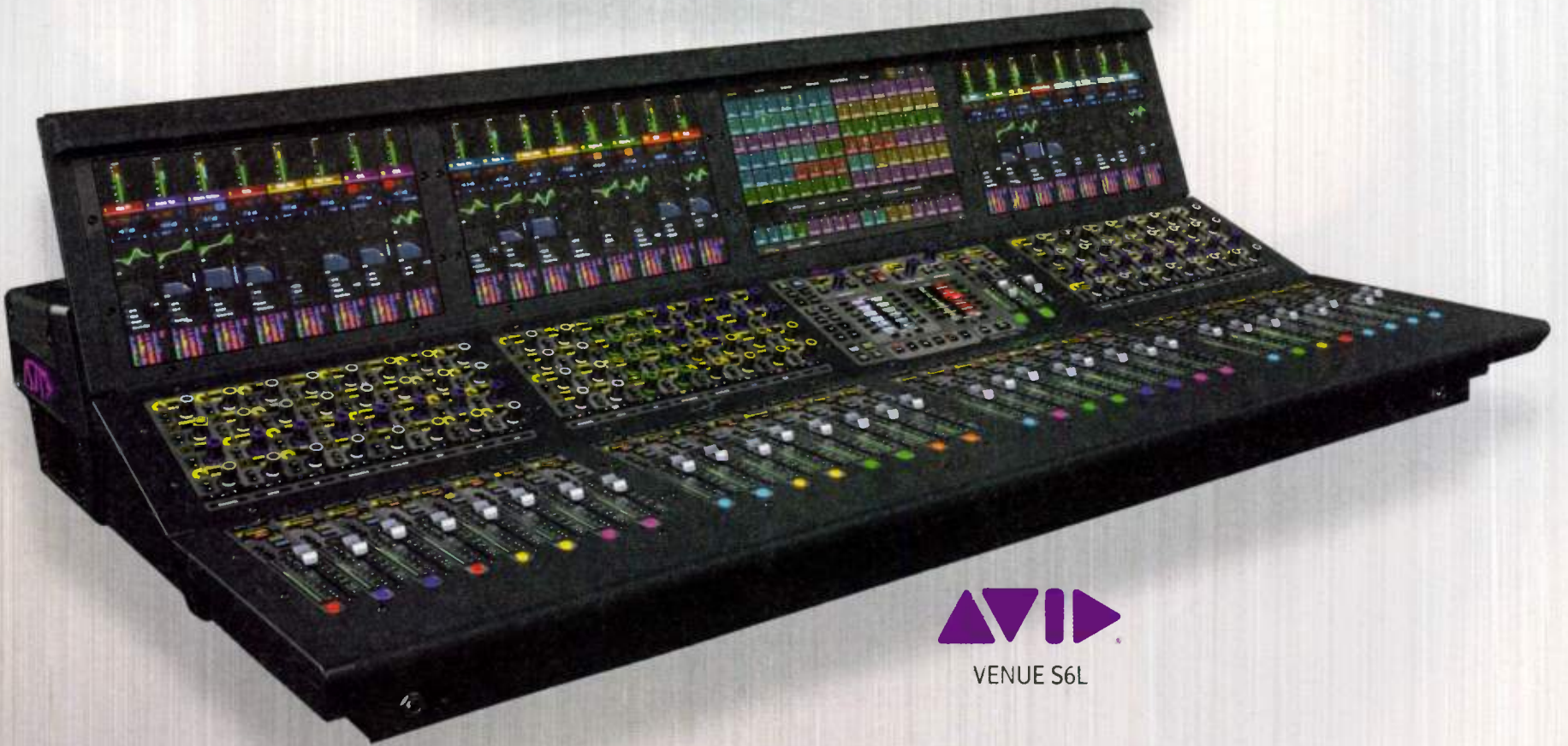
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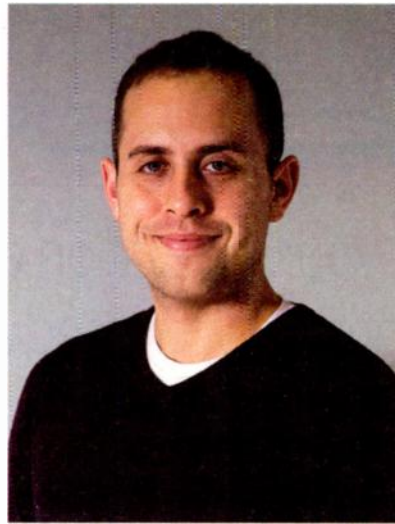
DPA Microphones Acquires Sound Network

ALLEROED, DENMARK—DPA Microphones has acquired UK pro audio distributor Sound Network [no relation to our website, prosoundnetwork.com]. The company has distributed DPA for the last two decades, making inroads for the manufacturer's products into the UK broadcast, live sound and theater markets.

DPA's decision to acquire Sound

Network came after Sound Network co-founders Pete Wandless and Ralph Dunlop announced their intention to retire from the business they started in 1994. All of Sound Network's staff will remain with the company in their usual roles. The company name will also continue, as will its distribution arrangements with other manufacturers such as Sony Pro Audio, Meris, Bubblebee Industries, Qusted Monitors, Smart Research and China Cones.

Adam Pierce, Sound Network's sales and marketing director, will now head the company and report directly to DPA's EVP of Sales Nikolaj Forsberg. Pierce noted, "Sound Network has aligned itself with DPA's philosophy since its inception, so this is the next logical step for both companies to continue their growth and ambitions in the UK market. Sound Network's reputation for high level service and expertise will only be strengthened by a closer partnership with DPA Microphones and while it is 'business as usual,' our customers and our other manufacture partners will definitely benefit from this move. DPA have always inspired us as a brand, through its incredible product portfolio and its people, so we are delighted to become part of the family."



Adam Pierce will take over as the head of Sound Network.

"Sound Network has been a marvelous ambassador for DPA for many years and has invested heavily in the brand," says DPA's CEO Kalle Hvidt Nielsen. "By acquiring the business, we can maintain our close cooperation with the company and build on the strong relationships Sound Network already has with our all-important UK dealers and customers. Sound Network has a large range of prestigious customers, including most of the West End theatres that are influential beyond the borders of the UK. We will now be much closer to these important customers and that will give us even more insight into the environment in which our microphones are being used."

DPA Microphones A/S
dpamicophones.com

FCC Adopts Next Gen TV

WASHINGTON, DC—The U.S. Federal Communications Commission authorized the new ATSC 3.0 next-generation television broadcast standard for U.S. broadcasters in a party-line vote, decided by chairman Ajit Pai.

"The development of the revolutionary new Next Gen TV platform is more than five years in the making, and the hundreds of individuals and companies working on the ATSC 3.0 standard are gratified that the FCC has approved the standard for deployment," said ATSC president Mark Richer. "ATSC 3.0 is already being deployed in South Korea, and we anticipate that it will be utilized to help terrestrial broadcasters continue to innovate in the U.S. and around the world."

The new standard is the world's first TV broadcast system based on an Internet Protocol backbone, for compatibility with internet-delivered content and services. ATSC 3.0 greatly enhances the capabilities of broadcast television to deliver enhanced and personalized content for viewers.

"The monumental undertaking to create ATSC 3.0 represents a new approach to standards setting. In reality, ATSC 3.0 is a suite of 20-plus different standards that are extremely flexible and extensible to keep pace with ever-changing technologies. While it would be easy to look at today's FCC action as the end of the road, the reality is that this is just the beginning," Richer said.

ATSC
atsc.org

Listen Acquires Audio Everywhere Brand

BLUFFDALE, UT—Listen Technologies has acquired ExXothermic Inc.'s Audio Everywhere brand and products for plug-and-play streaming of wireless audio over existing Wi-Fi networks.

Listen's existing ListenWiFi brand will be renamed Audio Everywhere from Listen Technologies, and products under that branding will begin shipping December 11, 2017.

Audio Everywhere from Listen Technologies is intended to be a low-latency solution for assistive listening that can operate on a venue's existing wireless network, allowing users to stream sound via smart phones. Added to a venue's wireless network, it can reportedly accommodate thousands of users and more than 50 channels; users download the free app on to a mobile device, connect to the Wi-Fi network and tune into the channel displayed on the TV screen



Audio Everywhere
FROM LISTEN TECHNOLOGIES

Listen Technologies has acquired ExXothermic Inc.'s Audio Everywhere brand and products.

of their choice.

Current ListenWiFi customers will receive a free upgrade to Audio Everywhere from Listen Technologies software. There is no change in hardware.

ExXothermic, Inc.
exxothermic.com

Listen Technologies
listentech.com

Highlander Partners Buy Biamp Systems

BEAVERTON, OR—Biamp Systems has been acquired by private investment firm Dallas-based Highlander Partners from previous owner Lomar Corporation. Financial details were not released other than that Lomar will retain a minority investment in Biamp.

With the acquisition, veteran industry executive Rashid Skaf has been named Biamp's new president, CEO and co-chairman, effective immediately; Matt Czyzewski, previous president and CEO, will remain as executive vice president of technology.

Previously, Skaf led AMX for 15 years before selling it to AMX to Harman Industries in 2014 and later leaving to advise vari-



Highlander Partners has named Rashid Skaf as Biamp's new president/CEO.

ous investment groups, eventually joining Highlander Partner as a senior advisor.

In a statement, Skaf noted that while leading AMX, he "sought to acquire [Biamp] several times over the past 10 years. I'm delighted to have the opportunity to join and lead the Biamp team. I have no doubt that together we will usher Biamp into an exciting new period of growth and industry leadership that will benefit the company and its employees and channel partners."

Biamp
biamp.com

Pro Audio Exec Dave Christenson Dead at 54

BY CLIVE YOUNG

SEATTLE, WA—Pro audio executive Dave Christenson has died after a three-year battle with lung cancer; he was 54. He spent more than 25 years in the industry after transitioning from a musical career as the frontman of Columbia recording artists, Stabilizers, in the 1980s.

Originally hailing from Erie, PA, Stabilizers was comprised of Christenson and UK expat Rich Nevens, guitarist and now VP global sales for



Stabilizers, seen here on the cover of its 1986 album, *Tyranny*, was comprised of Dave Christenson (left) and Rich Nevens.

Focusrite Pro.

“Dave and I met in ’83 in Erie PA and quickly hit it off musically and started recording,” Nevens said. “We made our demo on my four-track Portastudio, which got a lot of local radio play, and we ended up signing with Columbia Records and moving to LA in ’85.”

In Los Angeles, the pair recorded their album at Conway Recording Studios. When their single, “One Simple Thing,” hit the Top 40 in 1986, the duo wound up touring with Crowded House, appearing on *American Bandstand* and shooting a music video with a recent film school grad, David Fincher, who would go on to direct *Fight Club*, *The Social Network* and more. “It was an amazing few years,” said Nevens.

However, despite selling 150,000 copies of their debut album, *Tyranny*, the duo were ultimately dropped in 1988 along with scores of other Columbia acts when Sony acquired CBS Records, the label’s parent company. After a second album was recorded



Stabilizers frontman-turned-pro audio executive Dave Christenson (center), seen here in 2014 with engineers Richard McKernan (left) and Mick Guzauski, who recorded the band in 1986.

for MCA but never released—ironically, due to another label housecleaning when Matsushita bought MCA in 1989—the two musicians reinvented themselves.

“Our close friendship has lasted since we moved over to pro audio, when we both joined Euphonix as a startup,” Nevens recalled. Christenson eventually moved to Seattle and held senior sales positions at LOUD Technologies/Mackie, SSL and Sony, specializing in international sales management, before co-founding Audio Agent, an integrated sales and marketing agency, in Seattle in 2006.

Later, in 2012, Christenson co-founded Tracktion Software Company with Julian ‘Jules’ Storer, the original creator of Tracktion, and fellow Mackie veteran James ‘Woody’ Woodburn, in order to acquire and resurrect the music production software and brand.

Nevens recalled that while Christenson moved into pro audio, “he never lost his love for singing and working in the studio.” As Christenson

himself remarked to GoErie.com in 2016, “We both ended up making our livings and raising our families and all that within the audio industry, which is relatively small but global. Rich and I tend to run into each other in foreign countries more than we do here in the U.S. It’s not the arc I would have predicted for us, but it’s certainly been an interesting and fun ride.”

THERE’S MORE ▶ See the video for “One Simple Thing” at prosoundnetwork.com/jan2018



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QSC Gets Classical at Château de Grignan

GRIGNAN, FRANCE—An outdoor dance and theatre adaptation of Alfred de Musset's *Lorenzaccio* was presented this summer by the Pietragalla-Derouault theatre company, performing for three months as part of Château de Grignan's summer festival, which attracts more than 30,000 people every year. Mixing the show was engineer Mohn Pincemin, who put a QSC TouchMix-30 Pro digital mixer to the test.

A priority for Mohn was to have a small FOH position, because it had to be assembled and dismantled every night; accordingly, the compact mixer caught his eye as he prepared for the three-month production. "It is truly portable, very robust, the ergonomics are very relevant and it sounds great," said Mohn. "I knew that TouchMix-30 Pro had all the options an engineer could dream of to face complex situations."

"To manage the coverage of multiple loudspeakers, I used 12 outputs as well as two additional inputs for video recordings. Thanks to the TouchMix-30 Pro, I also had graphic EQ, delay and dynamics also available on each output," said Mohn. "As the show was also filmed frequently, I was able to use TouchMix to record it in multitrack very easily with an external hard drive. Being able to use



A QSC TouchMix-30 Pro digital mixer was used nightly all summer at Château de Grignan.

my iPad to adjust delays and be able to move freely throughout the site was a big help. Most of all, the sound quality of the TouchMix was really natural and rich-sounding, which is not always the case with a digital console."

Mohn plans to keep using the mixer on upcoming projects, such as adapting the *Lorenzaccio* show for the stage at the Alfortville Theatre, and mixing concert at the Avignon Opera House featuring a choir of 350 singers accompanied by 11 musicians. The desk, he feels, is a tool that supports his mixing philosophy: "As an engineer, my role is to highlight a performance, to give it character and framework and help to deliver impact on the audience. It's important to ensure that people have not gone out to a show without good reason!"

QSC
qsc.com

JTS Pro Attends Awards

TAIPEI, TAIWAN—Akin to the Oscars in the United States, Taiwan's annual Golden Horse Awards highlight the best of Chinese-language cinema. This year, the technical team used JTS Professional's UF-20 UHF wireless microphone system for the 54th edition's red carpet arrivals, held on November 25 at Taipei's Sun Yat-sen Memorial Hall.

The JTS UF-20 system included UF-20TB belt-pack transmitters and JSS-20 handheld transmitters used by the stars being interviewed.

"The Golden Horse Awards is a very important event that holds a special place within the Chinese language film world and beyond, so we are honored to have played a role in making it such a tremendous success this year for everyone who crossed the red carpet," commented Dowson Yu of JTS Professional.

JTS Professional
jts.com.tw

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~ Keb' Mo' - Roots music legend

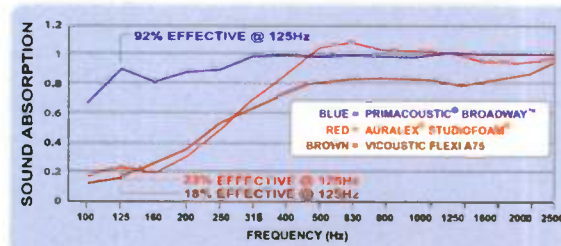


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~ John Rzeznik - Performer/artist/producer - Goo Goo Dolls.

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~ John Rzeznik

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Atmos/VR Facility Audio Lab 2 Opens

LONDON, UK—London's Grand Central Recording Studios has built a new facility—dubbed Audio Lab 2—aimed for Dolby Atmos Theatrical and third-order Ambisonics (TOA) immersive audio sound design and mixing.



WILL PRYCE

Audio Lab 2 has been designed for Dolby Atmos Theatrical and third-order Ambisonics (TOA) immersive audio sound design and mixing.

Audio Lab 2 sports a full Dolby Atmos Theatrical installation. Leveraging off the 32+1 Atmos speakers, GCRS also added an additional 16 lower level speakers to create what it claims is the world's first mixed Dolby Atmos Theatrical and TOA studio for VR work.

Throughout the project, run by studio manager, Chris Lagden, GCRS founders Carole Humphrey, Ivor Taylor and Raja Sehgal collaborated with Guy Wilson of AKA to create a semi-modular system for the room, allowing flexibility for future developments, David Bell of White-

mark Acoustics oversaw the acoustics while Matt Dobson of Exigy oversaw speaker design. A full 56 speaker channels and 70 speaker cabinets have been fitted into the space.

Richard Furse of Blue Ripple Sound collaborated with David Bell on the Ambisonic design, aiming to improve 360/VR sound design workflows so that clients will hear mixes develop in live-time from a dedicated work area.

Audio Lab 2/Grand Central Recording Studios
gcrs.com

Burgtheater Brings on SSL

VIENNA, AUSTRIA—The Burgtheater—the Austrian National Theatre—recently upgraded its audio systems, adding two SSL System T networked production systems along with a building-wide, redundant Dante Audio-over-IP network and SSL Network I/O.

The venue's previous digital console, which was the better part of 20 years old, was able to handle 256 possible inputs and outputs, so David Müllner, manager, Sound & Multimedia, looked to the System T, he noted, because it was "a larger system with similar workflow to the SSL Live console, and based on the same core Tempest Engine, but with networked audio engine and control surfaces, and a huge capacity of 800 fully-processed audio paths."

With the new system in place, the Burgtheater currently has five SSL Network I/O SB 32.24 Dante Stageboxes, four SSL SB i16s, and



The Burgtheater recently added two SSL System T networked production systems.

some additional output units. The system latency across the whole network has been set at 1 mS. There are actually two separate System Ts, on the same network. The main system consists of two redundant Tempest Engines, a 32-fader S500 control surface permanently installed in the control room, and two T-SOLSA PC-based online and offline control systems, one with its own Fader Tile. The second system has a single Tempest Engine and a 'mobile' 32-fader S500 control surface that can be deployed anywhere in the Burgtheater.

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From The PSN Blog: How to Beat the Five Trickiest Aspects of Recording the Naked Voice

Producer/Engineer/PSN Reviewer Rob Tavaglione recently shared his expertise on how to overcome some of the most common problems encountered when recording speaking voices.



If most of your work is in music production, you probably think that recording vocals is easy. Recording voice is a lot tougher, and by voice, I mean speaking, not singing. Speaking (whether instruction, narration, recitation, dialogue, announcing, etc.) carries a whole different set of stricter demands and requirements—intelligibility is paramount, consistent clarity a necessity and tone has to be familiar and natural, with an absence of the artsy distortions and effects we so often rely on with musical arrangements.

Music beds, nat sound and ambiances are all frequently used to not only enhance content, but to also mask the inherent ugliness that is a part of capturing voice. You don't realize just how much unwanted sound is part of voice capture until you work on an audiobook, or similar venture that is not aided by backing tracks or masking. Naked and exposed, the human voice creates a number of compelling problems for microphones and, subsequently, audio.

Here are the five problems I routinely encounter and solve to meet ever-increasing marketplace standards....

For all the tips, visit prosoundnetwork.com/jan2018.



BLOGGINGS

RECORDING IN A ROLLS-ROYCE

Collaborating with the famed luxury car maker, UK Grime artist Skepta recorded his latest track in a Rolls-Royce Phantom,



bringing a whole new meaning to 'high-end mobile recording' in order to illustrate how quiet the car's interior was. Alas, the resulting promotional clip was taken down after public outcry (he didn't wear a seatbelt), but Skepta's not the first person to lay down tracks in a car. Check out our short, weird history of people recording ditties in their jalopies.

SOUNDING OUT STRANGER THINGS

It seems like everyone is talking about the recently released second season of Stranger Things. It's fair to guess that there might be a few audio pros among the show's millions of viewers, so if you're one of them and naturally have been wondering about how its sound is handled, we've got you covered. Take a bike ride through our back pages—we've been covering the show since before it even hit the air.



Find these blog posts at
prosoundnetwork.com/jan2018.





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Pro Sound News brings you audio news every weekday on prosoundnetwork.com, Twitter (@prosoundnews) and Facebook (facebook.com/ProSoundNews)—but we also use social media to share links to interesting mainstream audio stories. Here's a few we recently shared; get their links at prosoundnetwork.com/jan2018.

- ▶ @zacbrownband's John Driskell Hopkins has opened his own studio, Brighter Shade Studios, in Atlanta
- ▶ At the @nypl for the Performing Arts (i.e. the branch at Lincoln Center), a new exhibit includes an explosive part of pro-audio history (literally!).
- ▶ A cool look at one of New York City's most famous recording facilities, the historic @ElectricLady Studios.
- ▶ He sold his 1991 Ferrari to buy a vintage @solidstatelogic desk, shipped it to Canada and then.... "The frame is 450 pounds unloaded. We strapped it to a rig, got it over the fence onto the roof..."

video vault

Sparks of Life at Sparklefly

Fort Worth, TX TV station WFAA recently aired a profile of Sparklefly Studio, a recording facility inside Cook Children's Medical Center in Fort Worth, run by Sonny Burgess. The clip subtly shows how and why these increasingly popular facilities can make a difference for young patients, helping them cope, heal and move on from life-threatening health problems.



Catch the clip at prosoundnetwork.com/jan2018.



Nashville Producer

(continued from page 5)

facility. He has worked with Grammy Award-winning performers such as John Oates, Tori Amos, Wilco and the Zac Brown Band. Raynor, a semi-retired widow, undertook an expensive renovation to her garage to establish a one-chair hair salon with a valid Tennessee cosmetology license.

Nashville homeowners may operate businesses out of their residences, but Metro added a residential zoning ordinance in 1998 that makes it illegal for those businesses to serve clients on the property. "The law, which the Nashville Metro Council passed without public debate or any record of its reasoning, imposes steep fines and potential imprisonment on local musicians, hair stylists, interior designers and other aspiring entrepreneurs if any customers physically come to their homes to do business," noted a statement from Washington, DC-based IJ.

The IJ says that it has analyzed Nashville's business records and found at least 1,600 home-based businesses operating within the limits of Nashville's consolidated city-coun-

ty jurisdiction, many of them illegally. There are exemptions, IJ notes. "The zoning code allows home-based daycares to serve up to 12 clients a day on the property. People who live in historic homes are also allowed to use their homes up to several times a week for special events, such as wed-

ding receptions and catered dinners."

Shaw's business is said to have lost significant revenue after he was ordered to stop publishing his address in advertisements. Raynor, meanwhile, now has the added expense of renting a commercial property.

"I'm a musician. Part of what I

love about Nashville is my ability to make a living and support my family doing something I love," says Shaw. "My home studio allows me to spend quality time with my daughter while keeping a roof over our heads. A man's home is his castle, and I should have the right to earn a living in mine."

Nashville's NewsChannel 5 reports that Shaw says none of his neighbors have ever complained about his operation. Indeed, more

than 50 of those neighbors signed a petition of support during a failed appeal of Metro's decision to shut him down.

Shaw also told NewsChannel 5 that he believes if there are no home studios, then up-and-coming or artists without sufficient funds won't be

able to afford studio time. "The music scene would just slowly die off," he is quoted as saying.

"This unnecessary and unconstitutional home-based business ban hurts honest and hardworking entrepreneurs in Nashville. Lij and Pat are productive, taxpaying citizens who are being punished for showing initiative and offering services that help other people," said Beacon Center litigation director Braden Boucek. "Home-based businesses offer people an accessible path to entrepreneurship. It shouldn't be illegal to make music, or make a living, in Music City."

According to the IJ statement, Nashville's own planning commissioners have said this law is against the American way. The top councilwoman for zoning has reportedly called it "dishonest." Even the law's defenders, who include former Councilman Carter Todd, have observed that Nashville's thriving illicit home-business scene doesn't "bother anybody," while "ironically working to keep it illegal," says the IJ. Institute for Justice ij.org

Beacon Center of Tennessee www.beacontn.org

"My home studio allows me to spend quality time with my daughter while keeping a roof over our heads. A man's home is his castle, and I should have the right to earn a living in mine."

Elijah "Lij" Shaw

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Gearbox Gets In Gear

BY STEVE HARVEY

LONDON, UK—Gearbox Records, a London label specializing in audiophile vinyl releases of live music, much of it jazz, has been a labor of love for owner Darrel Sheinman since he started the business as a hobby in 2009. In 2012, he went into the venture full-time and built a mastering studio, which he recently started to market for third-party projects.

Sheinman, a self-confessed “audiophile,” has been a drummer since the age of 13 and is an avid vinyl collector, especially of Blue Note releases. He came to the audio industry later in life, having previously spent years in maritime security and the stock market. “This is my third career, the hardest, but the one most loved,” he says.

Gearbox is located at Tileyard Studios, a creative complex near King’s Cross that is occupied by over 150 businesses, including 70-plus music studios and pro audio manufacturers, including Focusrite-Novation, Arturia and Spitfire Audio. The Gearbox facility is interconnected

with next-door neighbor Mark Ronson’s studio.

“When Mark moved in a couple of years after me, he said, ‘Why don’t we join up our rooms? We can master and record in one facility.’ He hasn’t used it much, but I’ve used it quite a lot,” Sheinman reports.

Initially scouring the archives at the British Library and the BBC for unreleased live jazz recordings that he could license and release, Sheinman would master at AIR or Soundtrap. “Very good studios and very good engineers,” he observes, “but there were certain things that I wanted to do which were much more analog-driven, using some of the techniques of the Mercury Living Presence and RCA era.”

Consequently, Gearbox’s mastering room is a cornucopia of vintage equipment, including Studer H37, J37 and A671 tape machines and Lang PEQs and limiters. Sheinman sourced the equipment himself, calling on specialists such as Studer’s Andreas Kuhn. “And we got a very rare Philips Pro EL 3501 tape machine from Ted Kendall, a sound re-



Darrel Sheinman’s lifetime love of jazz led to his founding the Gearbox record label and, more recently, his own ultra-analog mastering facility.

storer based in Wales.”

A Maselec/Prism Sound system forms the core of the mastering desk. “If you come in with a hi-res digital at 96k, we’ve got wonderful Apogee Symphony converters with a Thunderbridge. But we found that we get better results if we put the hi-res digital through tape first. Tape tends to find data in the digital domain and bring it to the fore, and alter the soundstage. It makes it a lot bigger.”

Sheinman encourages artists to attend mastering sessions. “The mas-

tering process is the last part of the creative process, not the beginning of the manufacturing process. It’s a very powerful position in the chain—we’re the last chance for an artist to make changes. I think it’s almost more important for an artist to be in a mastering session than any other point in the chain, other than the recording,” he says.

Monitoring is by Audio Note. “They were famous for making the Ongaku in the ’70s, hailed as the best

(continued on page 26)

Rethinking the Mastering Studio

BY STEVE HARVEY

LOS ANGELES, CA—For mastering engineer Maor Appelbaum, change is good. Trying new pieces may not only expand his options but also bring to light new possibilities with his existing equipment, he says.

But Appelbaum doesn’t change for change’s sake. “I’m not the guy who says, I have to have something; I want to have something. There’s a difference.”

It’s easy to get caught up in the excitement of that certain something that a new piece brings to a project. “I’ve had times when I’ve bought stuff that I thought would be super cool and it did what it needed to do for that project. But then you find it doesn’t fit with other stuff, so you put it aside.”

The danger is that you’ll feel you must use it on every project, he says. “If you have a piece that was super expensive, and you have to justify buying it, you put it on everything—but it’s hard to find pieces of gear that fit everything perfectly.”

That said, certain items justify their price tag and guarantee a good return on investment. “There are only a few pieces that will always recoup: speakers, the room, hopeful-



Maor Appelbaum constantly rethinks the gear used in his facility, but keeps a Maselec MTC 1X Mastering Transfer Console at its center.

ly your DAW. And there are things connected to that, like electricity,” says Appelbaum, who has a rack of Furman power conditioning, regulation and balancing units.

Plus, of course, the Maselec MTC 1X at the center of his set-up: “My mastering console, because it has a mastering section and a transfer section, is always in use.”

Speakers, too, are in use on every project. “My mains are PMC IB1S monitors. I love using them,” he says.

Evaluating every piece of equip-

ment is impossible, of course. “There’s so much stuff out there, I can’t say I’ve heard it all. But I’ve heard a lot, and I still listen to a lot. There’s a limitation to how much time you can invest.”

Trying a new piece may open new tonal possibilities based on where it goes in the signal flow, he says. “You change where something is in the chain, or cascade it with something else, and—oh, that’s an interesting approach.”

But in a console comprising 15 or more pieces, it’s not possible to

try every combination. “And there’s a limitation to what your ear can absorb at that moment.”

Over the past two years, he says, changes to his set-up have been largely for tone. “I’ll buy a compressor, but not for compression. Some of them have a color; you pass a signal through them and they just have something.”

On the mastering version of the Thermionic Culture Phoenix, for instance, he says, “You can pull the compressor out, but you can push the gain into it; I look at it like a guitar amp.” On a project for French industrial band Treponem Pal, “I pushed the gain 6 dB and the tube went into limiting by itself. It worked.”

Appelbaum purchased the SPL Iron for its tone, he says. “It has a bunch of options, but when I demoed it and put it in and out, on that specific project, it felt really nice.” Most recently, he remastered Pigface’s debut, *Gub Spoon*, using Iron. “It emphasized the whole image. We got a bigger-sounding record, a very natural stereo. The tone was [from Iron], a sheen without EQing.”

The Michaelangelo EQ from Texas custom shop HendyAmps, a stereo unit with a single set of controls (with left/right calibration), offers similar tonal possibilities. “You can bypass it and it still sounds re-

(continued on page 26)



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NightBird's Studio A was built in 1992 and completely renovated in 2007, gaining a 7.1 surround sound monitoring system, large LCD screens and a 110-inch projection screen and HD projector.

West Hollywood's Rare Bird

BY STROTHER BULLINS

The story of NightBird Recording Studios is just about as rock and roll as it gets: Producer/writer Jed Leiber was collaborating with legendary guitarist Jeff Beck in a guest room at the Sunset Marquis Hotel. Complaints about the ensuing noise prompted the hotel's manager to offer the pair a basement laundry room to continue working. And with that move to the basement, Jed—the future founder and owner of NightBird—had a 'eureka!' moment, envisioning the appeal of a world-class underground recording studio on the premises of this Mediterranean villa-style hotel beloved by musicians and artists of all kinds.

"I think, first and foremost, we have the advantage of being one of the very few 'destination' studios left in the world," explains Leiber. "We are tucked away, but perfectly located just off of Sunset Plaza in the heart of West Hollywood. Our clients certainly enjoy the benefits of that relationship. Aside from what you would normally find in a state-of-the-art recording studio, our clients enjoy 24-hour room service, a high-renowned restaurant, three bars, two pools and hotel suites ranging from single suites to a luxurious Presidential Villa. So basically, the hotel serves as our studio's 'lounge.' The hotel's accommodations especially come into play when we have clients from out of town and, with the many musicians that frequent the Sunset Marquis already, we often get the call from hotel guests that want to shoot down to the studio after their dinner to start up a writing session or perhaps to work on a mix from their show at the Hollywood Bowl that night. We have some of the best engineers and assistant engineers in the business, and we make every effort to ensure our clients are well taken care of, with privacy and security guaranteed."

NightBird took flight after the construction of Studio A in 1992, followed by Studio B in 2003 and a complete renovation of Studio A

in 2007. Besides updated aesthetic details, Studio A gained a 7.1 surround sound monitoring system, large LCD screens and a 110-inch projection screen and HD projector, broadening the room's appeal to filmmakers, too.

"NightBird's various rooms have grown organically over the years as demand increased," offers Angelo Caputo, studio manager and director of Technology for NightBird. "We've built out several new rooms over the last few years alone to accommodate some of the long-term writing sessions that have been more common recently. Studio A was the first studio built in the early '90s—originally called The Studio at The Sunset Marquis—and was home to some of the best artists, writers and producers of the time. [Leiber] originally planned to build out a studio for his busy work schedule, producing and writing for Jeff Beck, John Oates, Cyndi Lauper, and composing for film and TV. He employed the architectural and acoustical expertise of George Augsperger, and made sure the studio space sounded as good, if not better, than some of the best rooms he had worked in in the past."

"As demand for the studio grew, Jed added Studio B just down the hall, and continued to develop the facilities to keep on the cutting edge of music technology," continues Ca-

puto. "Both Studio A and B feature a large control room space, with a digital console—first a Euphonix, then a Digidesign D-Control & D-Command—and a smaller recording room. Larger than a traditional 'vocal booth,' each recording room was more than enough space to set up another production space, and even house a Yamaha nine-foot Concert Grand."

"West Hollywood continues to be a mecca for creative people and, as such, we've become a kind of 'center' for musicians and filmmakers alike," adds Leiber. "Not only have we had some of the best musicians and music producers in the business come through our studio, but we've also enjoyed the company of directors, producers, actors and editors, as we have a great film screening setup in our Studio A. There really is nothing like being able to have a meeting at the Cavatina restaurant, take a quick elevator down to a great recording studio and screen a film with the production team. In addition, there are many great writers and producers that live very close by, and they've made NightBird their home away from home, taking advantage of our facilities and highly knowledgeable staff."

Added in 2013, Studio C was built to accommodate American Idol. "[The] production team took

over the studios for several months each year to record and produce the music for the top-ten contestants of each season of the show," explains Caputo. "Studio C is a production room/lounge combination that provides a great space for writers and producers to work with a unique space that is conducive to creativity. As we look into the future, we plan to develop more spaces nearby, and plan to built out a rehearsal space, a multi-purpose filming space, and even some more production rooms/editing bays, as we've had some more demand for that recently as well."

Gear-wise, NightBird was equipped for maximum flexibility, purposefully choosing Avid ICON rigs for both Studios A and B. "Each engineer and producer has their own method of working, and having a desk that is flexible enough to accommodate nearly every workflow is very important to allowing creativity to take a front seat to technical know-how," reasons Caputo. "We've seen instances where the ability of an engineer to find their way around the console can make or break a session, and we wanted to make sure the studios were outfitted in a way where nearly anyone with a working knowledge of Pro Tools and audio signal flow can find their way around the room and gear. We stuck with control surfaces for consoles, and concentrated on getting the best outboard gear possible to give us the flavors and sounds that the artists and producers wanted and needed. Jed, as a piano/keyboard player, amassed a collection of synths and keyboards that allow us to pull up just about any sound, and there certainly are some gems in [our equipment] list that you won't find elsewhere."

For monitoring, Studio A has used Tannoy DMT System 215 main monitors from the beginning. "We have [Yamaha's] classic NS10s in each of our studios as well," notes Caputo.

Meanwhile, Studio B's main monitors were recently upgraded to ATC's SCM150ASL Pro enclosures, paired with dual Subwoofer Pros 18-inch subwoofers. "We've been ecstatic with their performance and reputation so far," continues Caputo. "We've had a lot of great feedback in all rooms, and we're especially proud of the fact that George Augsperger's touch, along with Jed's ear, has kept these rooms sounding as accurate and as fresh as possible throughout the years."

NightBird Recording Studios
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ARTIST: WARBLY JETS
ALBUM: WARBLY JETS
LABEL: REBEL UNION RECORDINGS

PERSONNEL:

Produced by: Samuel Shea
Engineered by: Warbly Jets
Mix Engineer: Claudius Mittendorfer
Studios: Ultrasound Studios (Los Angeles, CA)
Mastered by: Dan Gerbang at Howie Weinberg Mastering Studio (Los Angeles, CA)
EQUIPMENT NOTES: Amek Angela console; Avid Pro Tools; Yamaha NS-10M, ADAM Audio A7X, Focal studio monitors



ARTIST: TODD KESSLER
ALBUM: ABOUT MEMORY
LABEL: WYZGUY RECORDS

PERSONNEL:

Produced by: Marc Daniel Nelson & Ran Jackson
Engineered by: Marc Daniel Nelson & Ran Jackson
Mix Engineer: Marc Daniel Nelson
Studios: New Monkey, The Village (Los Angeles, CA); Gravity, Room Over Lake (Chicago, IL)
Mastered by: Eric Boulanger at The Bakery (Los Angeles, CA)
EQUIPMENT NOTES: Trident A-Range console; MCI JH-24 recorder; Avid Pro Tools; ATC SCM45A studio monitors



ARTIST: MARY HALVORSON QUARTET
ALBUM: PAIMON (MASADA BOOK TWO)
LABEL: TZADIK RECORDS

PERSONNEL:

Produced by: John Zorn
Engineered by: Marc Urselli
Studios: EastSide Sound (New York, NY)
Mastered by: Scott Hull at MasterDisk (Peekskill, NY)

EQUIPMENT NOTES:

Harrison Series 10B console; Avid Pro Tools HDX 12; Focal SM9 studio monitors



ARTIST: AZAR SWAN
ALBUM: SAVAGE EXILE
LABEL: AUFNAHME + WIEDERGABE

PERSONNEL:

Produced by: Kris Lapke, Zohra Atash, Joshua Strawn
Engineered by: Kris Lapke, Zohra Atash, Joshua Strawn
Mix Engineer: Kris Lapke
Studios: Primal Architecture Studio (New Orleans, LA); White Violet Studio (New York, NY); Kris Lapke's home studio (Queens, NY)
Mastered by: Friedemann Kootz at Black Flag Mastering (Berlin, Germany)
EQUIPMENT NOTES: MOTU 828 MK2 modified by Black Lion Audio; Soundcraft EFX12; Apple Logic X; Dynaudio BM5A MKII studio monitors



ARTIST: LENKA
ALBUM: ATTUNE
LABEL: SKIPALONG RECORDS

PERSONNEL:

Produced by: Lenka
Engineered by: Josh Schuberth
Studios: Love Hz studios, Endomusia Productions (Sydney, Australia); The Church Farm (Billinudgel, NSW, Australia); Lenka's home studio
Mastered by: Steve Fallone at Sterling Sound (New York, NY)
EQUIPMENT NOTES: API

512c; Neve, API, Shadow Hills 500 series pres; Lynx Aurora 16 converters; Avid Pro Tools 12; Audeze EL-8 open back headphones



ARTIST: LUKAS NELSON & PROMISE OF THE REAL
ALBUM: LUKAS NELSON & PROMISE OF THE REAL
LABEL: FANTASY

PERSONNEL:

Produced by: John Alagia
Engineered by: Alex Williams, Dan Piscina, John Alagia, Niko Bolas, Merle Chornuk and Shao Jean Sim
Mix Engineers: John Alagia, Dan Piscina, Billy Centenaro
Studios: The Village (Los Angeles, CA); Pedernales Studios (Spicewood, TX); Atomic Sound (Brooklyn, NY)
Mastered by: Brad Blackwood at Euphonic Masters
EQUIPMENT NOTES: (Atomic Sound) Neve VR 60 console with Flying Faders; Avid Pro Tools HDX



ARTIST: THE FLOOZIES
ALBUM: FUNK JESUS
LABEL: ALL GOOD

PERSONNEL:

Produced by: Matt Hill
Engineered by: Matt Hill
Studios: Home Studio Loft (Kansas City, MO)
EQUIPMENT NOTES: APPLE LOGIC; M-AUDIO BX8 STUDIO MONITORS



ARTIST: DANA BUOY
ALBUM: ICE GLITTER GOLD
LABEL: EVERLOVING

PERSONNEL:

Produced by: Dana Buoy, Abe Seiferth, John Morgan

Askew

Engineered by: Abe Seiferth, John Morgan
 Askew

Studios: Transmitter Park Studio (Brooklyn, NY); Flora Recording and Playback, Scenic Burrows, The Hobbit Hole Studios (Portland, OR)
Mastered by: JJ Golden at Golden Mastering (Ventura, CA)

EQUIPMENT NOTES: SSL XL, API Legacy consoles with Uptown Automation; Apple Logic X; Avid Pro Tools; ADAM S3a with Sub 8, Genelec 1029, ATC SCM25a, Yamaha NS10M studio monitors



ARTIST: DU YUN
ALBUM: ANGEL'S BONE
LABEL: VIA RECORDS

PERSONNEL:

Produced by: Paola Prestini
Engineered by: Marc Urselli
Studios: National Sawdust (Brooklyn, NY)
Mastered by: Marc Urselli
EQUIPMENT NOTES: Avid Artist Mix; Horus, Hapi networked mic pres; Avid Pro Tools HDX 12; Genelec, Focal studio monitors



ARTIST: AMIGO
ALBUM: AND FRIENDS
LABEL: CARLISLE BEAUREGARD RECORDS

PERSONNEL:

Produced by: Amigo
Engineered by: Mitch Easter
Assistant Engineer: John Pfiffner
Additional Recording: John Plymale
Studios: Fidelitorium Recordings (Kernersville, NC); Overdub Lane (Durham, NC)
Mastered by: Dave Harris at Studio B (Charlotte, NC)
EQUIPMENT NOTES: Prism Sound converters, Avid Pro Tools HDX

notes

Avid Connects Maroon 5

BURLINGTON, MA—GRAMMY Award-winners Maroon 5 and their engineer Noah Passovoy used Avid (avid.com) Pro Tools' cloud collaboration technology when the schedules and commitments of the band and other creative contributors made recording their sixth album, *Red Pill Blues*, together in the same room at the same time impossible.

Hodgson Gets Hapi and Horus

PORTLAND, ME—Independent Audio (independentaudio.com) supplied a significant quantity of Merging Technologies' Horus and Hapi networked converters and Pyramix Native Pro DAWs to the Hugh Hodgson School of Music campus in Athens, GA, for the first major refurbishment of the school's recording facilities since the mid-'90s.

American Mobile Racks RedNets

LOS ANGELES, CA—Remote production company American Mobile has configured three identical rack systems of Focusrite (focusrite.com) RedNet products, including 64 channels of RedNet MP8R mic pre/converters, DG4R 64-channel MADI bridges, HD32R Pro Tools HD bridges and RedNet AM2 two-channel headphone/line out interfaces.

METAlliance Sets March Event

LOS ANGELES, CA—The Music Engineering and Technical Alliance (metalliance.com) will present its 2018 immersive recording workshop, "In Session with The Guys," at Capitol Studios in Hollywood on March 10 and 11, covering every aspect of production, from mic technique and recording basic tracks to critical listening and advanced mixing.

Lessons We Can Learn from Cakewalk's Demise



BY CRAIG ANDERTON

After 30 years of operation, Cakewalk Music Software shut down in November.

As a Cakewalk Sonar user since 2000, it was not a happy moment for me. (However to be fair, Microsoft has always been good about backward compatibility. It's likely that Sonar will continue to work "as is" for at least several more years.)

How could one of the seminal software companies have come to this? There's no single reason, but having been "orphaned" by software

new users, but start chipping away at market share held by some other companies.

Be versatile: Although Sonar was my primary DAW, I recorded numerous classical projects in a Pro Tools studio, used Studio One's project page for album assembly,

Ableton Live for live performance, and have Logic on my MacBook Pro when traveling. Just as we need to backup data, we need to backup our skill set. I don't need to slam on the brakes and switch to another DAW; it's more like a crossfade, as I finish Sonar projects in Sonar, start

new projects in a different program, and continue using Sonar for functions it does best (e.g., creating loop libraries).

Practice "universal backup": When archiving projects, in addition to backing up the project file, *(continued on page 28)*

[Forums] are a free focus group giving free consulting—ignore them at their own peril.

before (and I'm sure it will happen again), I do have some observations that may be helpful to those of us who depend on music software to make a living—including the companies that make the software.

The ecosystem matters: Programs with significant market share tend to be part of an ecosystem. Steinberg has interfaces and is interwoven with Yamaha, Ableton Live defined its own market and offers add-ons as well as hardware control surfaces, MOTU's interfaces help support Digital Performer, Avid has always been about interfaces and control surfaces, and so on. PreSonus is a good example of how an ecosystem changes everything: When the company announced it was introducing a DAW, many in the industry laughed and said "Yeah, right, like the world needs another DAW" and predicted an epic fail. But because it became part of a developed ecosystem that integrated with mixers, interfaces and even live performance—and because PreSonus needed software to ship with its interfaces anyway—it did well enough not only to attract

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Gearbox

(continued from page 20)

amplifier ever built. We use one for monitoring in the studio.”

The UK manufacturer’s owner is also an avid gear collector and had an old Haeco Scully lathe with Westrex heads and cutting amps moldering away in storage. “He and I decided to

restore it; I leased it off him and put it in my studio. We’ve done a number of great direct-to-disk cuts,” says Sheinman, using Ronson’s live room.

Sheinman will often record using a Decca tree. “Unusually, the three mics we’re using are ribbons. A lot of engineers say you can’t do that—you’ve got figure of eight patterns and phase lobes—but the three ribbons I’m using are extremely rare and have cardioid patterns, so we don’t

get that issue.”

In the center position is a 1959 RCA KU-3A. Two Western Electric 1142RA ribbons sit on the outriggers. “They sound delightful,” he says. You get all the richness of ribbons but they’re not dark, so there’s good airy top-end.”

Tileyard’s audio facilities were put together by Chris Walls of Level Acoustic Design, who was formerly with Munro Acoustics. Sheinman

brought Walls in to modify Gearbox. “Because it’s a floating floor, there’s a resonance at about 1 kHz, unfortunately, when you walk around. We drilled through the floor and rested the lathe on the girders of the building for additional stability.”

But construction work in an adjoining building made it impossible to work. “Chris found some special rubber tuning devices which could go under the feet. Now we can even cut when someone is drilling.”

Prism Sound
prismsound.com

Gearbox Records
gearboxrecords.com

Appelbaum

(continued from page 20)

ally nice. I use it a lot, but not on everything.” Appelbaum had the unit customized to enable finer tuning on the controls.

He has also added an older unit, Legendary Audio’s Masterpiece, designed by Rupert Neve, after sending it to company founder Billy Stull to move the power supply outboard and modify some EQ controls. The signal flow can be customized according to the positioning of the modules in the rack.

The tape texture section is interesting, he says: “It’s heavy-handed, but in a good way. On certain things, you put it in and it’s just what I need. But even with no texture, there’s something that happens on certain material on the low end.”

Ultimately, however, it’s about the ears, not the gear. “You can give me a minimal setup and I’ll work with it, and hopefully get the results that I want. Maybe it will take me longer, or it’s not the exact result that I could do with another piece of gear. But I can get it to sound the way that I’m happy with and the client is happy with.”

Appelbaum will present “Mastering for the International Market” on January 25, 2018, at the NAMM Show. “I’ll be talking about different styles and different territories—there are different aesthetics—and the reasons behind me doing specific treatments,” he says.

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briefs

Ferrofish Goes Mobile

ENGLEWOOD, CO—Remote sports broadcast company Mobile TV Group selected Ferrofish's (ferrofish.com) A32 and A32 Dante converters for three of its mobile units, using them to receive audio from the announce booth in the venue and send it back out to the 39 Flex truck on one fiber, and move audio via MAD1 between the 42 Flex truck's A unit and VMU (Visitor Mobile Unit).

Podcast Hubs Launch with Sennheiser

NEW YORK, NY—Following a previous collaboration at a Manhattan pop-up store, MouthMedia Network has launched two new podcast recording studios in New York City powered by Sennheiser's (sennheiser.com) audio solutions, including the Ambeo Smart Headset for 3D audio recording, HD1 Wireless and PXC 550 wireless headphones and other models.

PodcastMusic.com Launched

LOS ANGELES, CA—SourceAudio (sourceaudio.com) has launched PodcastMusic.com, a new subscription-based service intended to simplify the difficulties of obtaining the licenses necessary for podcast use by bundling the master use, synchronization, mechanical and direct performance licenses into a single monthly transaction.

Lawo Scales Up U.S. Presence

ELMSFORD, NY—German manufacturer Lawo (lawo.com) has expanded its U.S. operations, adding personnel and opening a new support and logistics hub in Elmsford, NY. The new facility is intended to complement Lawo's existing US headquarters in New York City, West Coast Sales and Support office in Los Angeles, and Canadian headquarters in Toronto.

GatesAir Achieves World Standards

QUINCY, IL—GatesAir (gatesair.com) has implemented the latest iterations of the ISO 9001 standard for Quality Management Systems, as well as the ISO 14001 standard for Environmental Management Systems. GatesAir also has achieved full compliance with the OHSAS 18001 Occupational Health & Safety Assessment.

T-Mobile Aims to Ease 600 MHz 'Phase Zero' Transition

BY STEVE HARVEY

NEW YORK, NY—T-Mobile's swift roll-out of new services after acquiring the largest chunk of the 600 MHz band in the Incentive Auction has put wireless microphone operators in "phase zero" of the FCC's original 10-phase plan for the TV station frequency repack. If any carrier that acquired 600 MHz spectrum wants to start services in an area, it can, provided the company sends advance notification to protected users—but wireless mic operators are considered secondary users and are not protected.

Licensed and unlicensed wireless audio equipment operators must vacate spectrum in the 600 MHz band as soon as new licensees announce their intention to begin using it. Carriers like T-Mobile are not working to a timetable, noted Karl Voss, lead frequency coordinator for the NFL, who coined "phase zero" for those impacted ahead of the FCC's schedule.

Many RF mic users are unlicensed, and even Part 74 license

holders are typically approved for operation by frequency blocks or geographic area, making it difficult for T-Mobile to target them with notifications, said Voss, speaking at the DTVAG Spectrum Workshop at the SVG Summit 2017 in New York on December 12. The workshop stressed the urgency of the RF spectrum crunch on wireless mic operators following the FCC's Incentive Auction.

Dan Wilson, senior manager Spectrum Engineering, T-Mobile, encouraged wireless mic operators to visit the carrier's dedicated website: howmobileworks.com/spectrum. This is how T-Mobile wants everybody to get information, he said. When the company updates the list of counties in which it is beginning 600 MHz services, it also notifies those on its "significant email distribution list," he said.

T-Mobile is very serious about being a good spectrum neighbor, he continued, urging those not on the list to contact the company. The carrier is also working with SBE and NFL frequency coordinators and,

less successfully, with tech companies such as Microsoft and Google and the white-space database companies, he reported.

Jackie Green, president and CTO of Alteros, noted that there is a major milestone coming up in less than a year. The FCC's rulemaking prohibits "the manufacture, import, sale, lease, offer for sale or lease, or shipment of wireless microphones or similar devices intended for use in the United States that operate on the 600 MHz service band frequencies" after October 13, 2018.

Anyone who has equipment that operates in the 600 MHz band or in the duplex gap but that has more than 20mW of output power may no longer use it, she noted. Commercially, companies may no longer do business with 600 MHz equipment, which will significantly impact rental houses.

It's important to get the word out that wireless mic users can't rely on the FCC's projected 39-month transition plan to replace affected equip-

(continued on page 28)



Confetti Institute Ready to Celebrate New Contemporary Music Hub

BY STEVE HARVEY

NOTTINGHAM, UK—Confetti Institute of Creative Technologies is about to unveil a new £9 million Contemporary Music Hub that will focus on music production and performance, and live technical events education. The 38,500-square-foot complex, designed by UK firm White Mark, features music studios, rehearsal rooms, editing suites, social spaces and an auditorium, with phase one opening this month.

Confetti was founded in 1994 in Nottingham, England by chief executive Craig Chettle, a musician, engineer/producer and tour/production manager. In 2015, Nottingham Trent University—named University of the Year at the 2017 Times Higher Education Awards—acquired Confetti Media Group, retaining Chettle and his staff.

Confetti has grown over the years from its original Neve VR-equipped studio—still in service—to occupy almost an entire block in Nottingham's city center Creative Quarter. Along



Confetti Institute of Creative Technologies' new £9 million Contemporary Music Hub is overseen by (l-r) director of operations, Greg Marshall; founder/chief executive Craig Chettle; and CTO Joe Duckhouse.

the way, Chettle established a group of companies that include Antenna Media Centre, Spool film and TV audio post studios, Constellations furniture design and manufacture, and a partnership with local broadcaster Notts TV. Confetti's further (FE) and higher (HE) education programs

have grown to also encompass games, VFX, VR and other media.

Sitting in the restaurant at Antenna, where over 400 member businesses have a presence, Chettle and his team had been eyeing the Marco Island complex across the street for

(continued on page 28)

T-Mobile

(continued from page 27)

ment with gear compliant with the new rules, said Voss. Start budgeting for replacing equipment and start replacing that equipment now, he said. Voss also observed that there are wireless mic operators who are completely unaware of the FCC's new rules or of T-Mobile's aggressive service roll out plans.

Wilson revealed that T-Mobile, which won licenses to 622–632 MHz in the downlink spectrum (663–673 MHz in the uplink block) in the New York metro area, will begin services in Manhattan in Q3 2018 after assisting incumbent FOX TV station WWOR to relocate. He said that operators in New

York City will initially not see a lot of uplink activity because there are currently only two 600 MHz handsets on the market, but there could be 10 more introduced in 2018.

T-Mobile's tests have revealed several scenarios in which the carrier's equipment and wireless mics can interfere with each other, Wilson reported. In the uplink spectrum, the wireless mic will cause interference to the T-Mobile base station. In a venue, a wireless handset could cause interference to a wireless microphone receiver.

In the downlink spectrum, wireless mic interference directly into handsets is a concern, he continued. The downlink base station into the wireless receiver is also a concern. Each downlink receiver is 40 W plus the antenna gain, he noted. Anyone doing frequency scans will

immediately see T-Mobile's downlink, which is active 24/7, he said, but handset use will depend on customers in the venue.

While T-Mobile is unwilling to release rollout information more geographically specific than the county level, for commercial reasons, said Wilson, the company will provide more details under an NDA. The company is already working with a number of TV stations and station groups, he said.

Wireless mic operators should not assume that the TV station repack will follow the FCC's 10-phase timetable. As Wilson noted, T-Mobile is working with stations to move them earlier—and in some cases, much earlier.

T-Mobile National Development - Spectrum
howmobileworks.com/spectrum

Anderton

(continued from page 25)

save the raw audio for all tracks (either as one long file per track that always starts at the beginning, or Broadcast Wave File clips so they line up on the timeline), as well as rendered audio for all tracks with effects, automation changes, etc. If you import the latter tracks into a DAW, unless there are panning law issues, the project should play back exactly as it did when it was archived. However, if you have second thoughts about a track, pull up the raw track and start over in the context of the other tracks. Given inexpensive storage, having these two flavors of audio files is cheap insurance against future incompatibilities.

Content matters: Aside from Avid, Native Instruments has better revenue than any other music software company—yet NI doesn't even make a DAW. Although its hardware is a major factor in this success, it made products designed to work with any DAW—that's a much bigger market than selling to the users of a single DAW. Kontakt is the best-supported sampler in the industry, and that's no accident. Native Instruments did everything possible to make sure there was plenty of content, and it snowballed. People bought Kontakt because it had great content, which encouraged people who made content to support Kontakt because it had a big installed base, so more people bought Kontakt, so more people made content...rinse, lather, repeat. Kontakt is my go-to sampler because I don't think it's going anywhere.

Listen to the forums—but ignore the forums: Here's a suggestion for music software companies. Yes, user forums are a hassle. There are vocal minorities who have specific agendas and won't give up, and they—as well as the occasional toxic malcontents—need to be ignored. But there are legitimate users with genuine concerns, and they're a company's "canaries in a coal mine." These are the people who are a free focus group giving free consulting—ignore them at their own peril. However, running a forum requires some serious skills. Companies who want to get the most out of a forum need moderation, and the developers need to show up from time to time as well to put their finger on the pulse of the community. Although some consider forums passé in the age of Facebook, they can be a powerful asset—and an early warning system—for companies.

Check out author/musician Craig Anderton's web site at craiganderton.com, and YouTube channel at youtube.com/thecraiganderton.

Confetti

(continued from page 27)

years. Constructed in the thirties as a four-story postal sorting office, it was unoccupied for years before a developer added 10 stories of apartments in 2006.

"But the ground floor and the basement never got developed," says Chettle. "We kept looking at it, thinking, are they ever going to do anything?"

Confetti had already added Space 2, a nearby film and TV production center with a 1,600-sq.-ft. floating soundstage and 4K production gallery plus a green screen VFX stage, 25-seat Avid- and Adobe-equipped media lab and Dolby Atmos screening room. But when a new developer acquired Marco Island, Chettle saw an opportunity to realize Confetti's long-held expansion plans.

The basement level of the new Hub is being configured with five music recording studios. In phase one, Studio 1, accommodating a class of 12 students, will feature a Studer A827 2-inch machine, currently in the Neve room, and a new 48-channel SSL Duality desk. Studio 2 will feature a hybrid analog/digital setup. Both studios will include freestanding Exigy monitors (Exigy speakers are also installed at Spool).

Phase one will additionally include edit rooms equipped with 8-bus consoles and will run Ableton and Logic for FE-level students. "We introduce Pro Tools at HE level," says Confetti's chief technology officer, Joe Duckhouse.

An initial block of rehearsal facilities comprises one large and five mid-size rooms, all with nine-foot ceilings. Two further blocks are planned. The basement will also house a 5,000-square-foot "black box" event training space.

At street level, a 2,200-square-foot performance venue (seating 164 or 300 standing), lobby, bar and green rooms wrap around the existing premises of PMT (Professional Music Technology), reportedly the UK's largest musical instrument retailer. "We'll have a house set-up, but the technical design challenge is to make [the venue] flexible enough that we could hire in any equipment—PA, desk, lighting rig," says Duckhouse.

"We're going through engineering challenges to design this room because of the 364 flats above it," adds director of operations Greg Marshall. "We're currently going through the design criteria to build a 200-square-meter (2,100-square-foot) floating slab, working with our structural engineers, White Mark and a company called Christie & Grey."

Everything is networked: "Any of our facilities can be accessed and brought up in any of our spaces across all of our sites," says Duckhouse. "We carry Dante for audio, NDI for broadcast video, and we run DMX and comms over IP, all ultra-high quality and ultra-low latency."

The team initially worked with White Mark when the firm designed Spool's mix stage, one of the first Dolby-certified rooms outside London. "We just clicked, and they've been advising us and designing a lot of the rooms for about eight years," says Chettle. The two

companies have partnered on major third-party projects and Confetti, which has its own construction company that builds all its facilities, also manufactures quadratic diffuser panels for itself and White Mark.

White Mark's managing director, David Bell, comments, "Confetti's new Contemporary Music Hub will, undoubtedly, be an educational center of European significance. Its facilities, both in quality and variety, will fully reflect the highest standards of the professional workplace and offer students a learning experience in a context that truly represents the world in which they hope to succeed."

Confetti wants this to be a community hub. "In the daytime, it will be an education space for higher-level students," says Chettle. "In the evenings, we want it public facing, with gigs of all different descriptions. My vision is for the live space to work for the audience, the bands and the people that are running it."

Further, says Chettle, people operating rehearsal rooms in the city are interested in consolidating with Confetti's new facilities. There are also plans to partner with a local mastering engineer to house his Scully lathe in the music production area. All this forward-thinking is expected to benefit every stakeholder, from employees to students to visitors, helping ensure that Confetti will remain an integral part of the community and not blow away like, well, confetti.

Confetti Institute of Creative Technologies
confetti.ac.uk

White Mark
www.whitemark.com

innovations: the manufacturer's view

Results & How To Achieve Them

PMC RESULT.6 ACTIVE NEARFIELD MONITOR

BY OLIVER THOMAS

UK loudspeaker manufacturer PMC has always been a design- and engineering-led company. Perhaps it was inevitable that creating the newest, most affordable member of PMC's professional range would prove more involved than the compact dimensions of the speaker itself would suggest.

The challenge was this: Could the PMC engineering team, whose previous most affordable compact nearfield retailed for over US \$5,000 a pair, produce a simple, easy-to-use monitor that would provide a more affordable introduction to the sonic benefits of our ATL designs, yet still offer the features that won PMC its reputation in high-end professional studios, mix facilities and mastering houses? Namely (to use the points

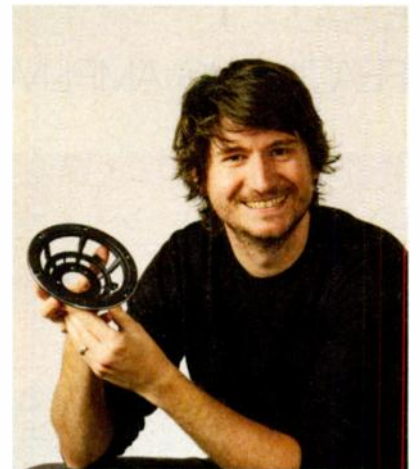
can be relatively straightforward—but no-one at PMC wanted to resort to the tactics used by many manufacturers when creating an entry-level product: making a smaller, 'meaner' product, using much cheaper materials and components, omitting all the innovative features, or accepting a less impressive performance. Apart from reducing the size of the new speaker, none of these other approaches was ever going to be acceptable in a PMC design.

In fact, even making the result.6 smaller required a great deal of engineering. The Advanced Transmission Line lies at the heart of all PMC speakers, from small to large, but it is not a technology that lends itself to being scaled in a straightforward manner. The bass-loading effect is produced by a tightly engineered combination of bass driver,

These days, some companies save money when designing loudspeakers by employing cheap drivers. They then use a built-in DSP section to tweak the compromised responses and crossover and bring the output back to something approaching a reasonably acceptable tonal balance (albeit at the expense of resolution and a natural sound). PMC has never taken this approach—where DSP is used, it is always sparingly, to obtain an extra few percent of performance from a design that is already well engineered, and not to salvage a poor one.

For the result.6, our team soon realized that at the projected retail price of the speaker, there was more to be gained by reinvesting the cost of a DSP section in other aspects of the design. The potential complexity of a menu-driven DSP system also seemed an ill fit for the 'simple and approachable' concept we had started out with for the new speaker. So we chose instead to sidestep DSP completely, and instead made use of our engineering experience to create a sophisticated, high-order, pure analogue crossover. User options are streamlined to a ± 10 dB Trim control on the rear panel. The result6's Class D amplification was also new, optimized by means of extensive measurement and performance analysis sessions, together with double-blind listening tests, during product development, and mechanically isolated from the cabinet in the finished monitor by custom-designed mounting hardware. Some aspects of the result.6 driver designs, such as the natural-fiber cone in the LF driver and the HF dispersion grille, took the designs used in the proven twotwo nearfields as their starting point, but even these elements were refined for the new speaker rather than being adopted wholesale in their original twotwo form.

Perhaps the most visually distinctive aspect of the new speaker is the treble driver's finned surround. This was another new development for the result.6, engineered to eliminate cabinet edge effects that might have arisen due to the centrally placed treble driver. The fins not only block the reflections from the cabinet's edges, which, left untreated, would cause



Oliver Thomas, head of Design, PMC

comb filtering and a smearing of the HF response, they also enhance the treble driver's already generous HF dispersion, greatly reducing the difference in the on- and off-axis response and making for the usual generous PMC 'sweet spot'.

The result.6 represented another milestone for PMC—it was the first speaker to benefit from our new in-house laser measurement system, which enables us to accurately measure the displacement of the drive unit cone and therefore optimize its performance when coupled to the transmission line loading it. This was particularly useful while finalizing the design of the ATL in the result.6 and integrating it with the cabinet and LF driver, and will be used on all PMC designs in the future.

As is frequently the case with new designs, the name of the product was one of the last pieces of the puzzle, but it arrived pretty quickly. When we considered it, the ethos of the product—which can actually be applied to all PMC professional products—seemed to be about getting to finished results faster. And of course, it had a 6-inch bass driver...

The result.6 contains a lot more engineering than is apparent from its size, but far from being a cut-down version of an existing PMC product created to hit a price point, it's one we can be as proud of as we are of our larger designs—and it retails for US \$2,950 a pair. In both respects, I'm happy to say that we, as engineers, got the result we wanted, too.

Oliver Thomas followed his father, PMC's co-founder Peter Thomas, into the loudspeaker design business after obtaining his engineering degree and experience in other industries. He is now Head of Design at PMC.

PMC
pmc-speakers.com



PMC result.6 Active Nearfield Monitor

most commonly made by our customers): high-resolution, accurate and natural-sounding audio, an extended, dynamic bass response, clean, undistorted mid-range and natural-sounding highs with a wide 'sweet spot', together with a highly consistent tonal response at all output levels, conferring the ability to create finished work at speed that translates accurately to any playback system, small or large. And... could this new speaker be bought to market for US \$3,000 or less? Designing to a price

loudspeaker cabinet and transmission line working in combination; if one of the elements changes materially in size or construction, the design has to be re-engineered from scratch. Since it was clear from early in the design process that the speaker would feature a newly designed bass driver and cabinet, the ATL had to be rethought from first principles, with a newly designed absorptive lining with different geometry, and then custom-tuned with the new cabinet and bass driver.

Impressive Portable PA (PPA) Components

FEATURING AMPLIVOX, ELECTRO-VOICE, MACKIE & PEAVEY



In review, the SW925 package has proven to be incredibly “outdoors friendly.”



The ELX200-10P is useful in both main and stage monitor applications.



BY STROTHER BULLINS,
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Today, the best live sound reinforcement products generally categorized as Portable PA (PPA) are all over the proverbial map in feature set, size and even weight, yet what they should all have in common is impressive portability in relation to their individual capabilities. The four products I review here—from AmpliVox, Electro-Voice, Mackie and Peavey, respectively—are each defined by certain attractive features and remarkable performances. As such, they are four unique products useful to a particular subset of potential customers. Read on to discover which may be perfect for your needs.

AMPLIVOX SW925 TRAVEL PARTNER PLUS BATTERY POWERED PA SYSTEM

More closely resembling a rolling Pullman-style suitcase than any portable PA (PPA) product I've used on the market, AmpliVox's feature-packed SW925 Travel Partner Plus Battery-Powered PA System is incredibly flexible and sounds great. Backed by a six-year limited warranty, the SW925 provides a string of key features in its 35 lbs., 23 x 11.5 x

11-inch enclosure: 250 Watts of power; a rechargeable/replacable battery capable of 6-10 hours of untethered use; built-in USB/SD card media player with remote control; Bluetooth connectivity features; 16-channel UHF wireless microphone system with variable channel select (584-604 MHz range); three Neutrik XLR/TRS combo input channels with phantom power; RCA, eighth-inch and quarter-inch inputs with separate level control; Voice Priority background music ducking and Voice Enhance “karaoke-friendly” features; and much more. Optional equipment for the SW925 abounds, including a 16-channel wireless speaker transmitter; an electret headset microphone; a wireless companion speaker for stereo use; and a notably well-designed, water-repellent outdoor protective cover featuring an acoustically transparent panel for use over its “speaker side” in questionable weather.

In review, the SW925 package has proven to be incredibly “outdoors-friendly.” I've placed it in damp busking scenarios and similar party situations; it performed flawlessly everywhere I utilized it, garnering many

compliments on its sound along the way from musicians, performers and clients alike.

Considering its extreme flexibility and ability to cover small to medium-sized club or conference hall settings, the SW925 is an ideal PPA for corporate venues, schools and houses-of-worship, as well as singer/songwriters and acoustic duos, scrappy DJs/KJs and more. It is worth noting that AmpliVox's American-made products are not low-cost options; there are, indeed, more affordable products on the market that may do most of what the SW925 can do. However, buying into the company's Travel Partner Plus line allows customers to build out a truly modular portable PA system, one that is relatively future-proof, rugged and upgradable. That said, I don't look forward to shipping this review unit back, as it's a real joy and comfort to use with its trustworthy industrial (nearly military-grade) design elements and components.

ELECTRO-VOICE ELX200-10P AND ELX200-12SP POWERED LOUD-SPEAKERS

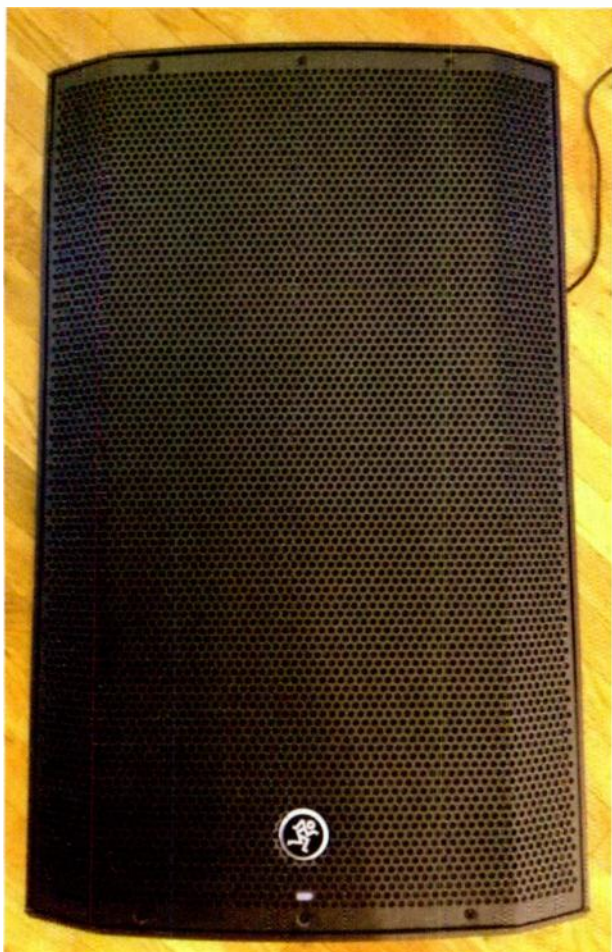
Electro-Voice never disappoints me

in the Portable PA category. Why? Its designs and materials are straightforward, user-friendly and rugged; built-in amplifiers are generally powerful and dependable; I/O is logical and useful; and the DSP-sculpted sounds are open, clear and hype-free. In my experience, E-V offers the largest collection of truly “workhorse” PPA products in the marketplace.

Reviewed here, E-V's new ELX200 Series full-range powered loudspeakers and accompanying powered subwoofers are descendants of the ELX100 Series, yet with many significant updates and changes; these include more power (all ELX200 cabinets gain 200 W, jumping to from 1000 W to 1200 W), redesigned LF and HF drivers, polypropylene cabinetry for its full-range models (formerly plywood) and much more. Yet the most significant features of the ELX200 Series resides in its DSP offerings, allowing ELX products to be more flexible than ever.

My review package from E-V came complete with two ELX200-10P loudspeakers (\$549 street, each), the series' 10-inch, two-way powered enclosures, and two ELX200-12SP powered subwoofers (\$649 street, each) featuring a 12-inch LF transducer—the most compact “stereo with dual subs” rig available within the ELX Series. I/O includes two input channels accepting mic or line-level input via Neutrik XLR/TRS combo jack, or stereo RCA (unbalanced and summed) signal; and mic or line-level input via Neutrik XLR/TRS combo jack, respectively. A XLR output is also provided, carrying the balance of inputs 1 and 2.

Cutting to the chase, the system provided an aural quality in line with



I was able to adjust the Thump15BST pair remotely, even gaining an additional Bluetooth channel for music streaming.



I found the no-frills PVXp 12 pair to be a powerful and bargain-priced stereo rig.

the best E-V systems I've experienced over my years reviewing so many PPA systems—open, full, powerful and smooth, yet accurately strong and punchy—in a surprisingly compact system. E-V's latest version of its PPA DSP—QuickSmartDSP—provides four presets and adjustment of five user-programmable presets alongside sub/top system match, three-band EQ, input level and master volume control via LCD display and an intuitive turn/push physical knob user interface. It operates much like E-V's previous generation DSP parameters, yet is further refined in its display, metering and overall preset, and, at least to my ears, EQ quality. The ELX200-10P is useful in both main and stage monitor applications, featuring both three M10 threaded points for suspension as well as pole mount placement.

Considering placement, what if these ELX200 Series components are purchased to be installed and otherwise out of easy reach? E-V's QuickSmart Mobile app is a godsend in these and many other applications. Case in point, I auditioned the ELX200-10P pair at a local house-of-worship (HOW) as installed speakers overhead and was able to dial in precise EQ curves, levels and various other settings—such as muting—from both my iOS and Android devices via Bluetooth connectivity. As I was already mixing via tablet GUI, having this freestanding app to fine-tune the E-Vs was incredibly valuable. The app is notably well designed and

user-friendly, thus, I believe, it adds much to this significant ELX Series relaunch.

Together, these features and the ELX200 Series' proven performance make it a top "affordable PPA" contender. It is ideal for portable as well as out-of/hard-to reach applications, all potentially well served by its clever QuickSmart Mobile flexibility.

MACKIE THUMP 15BST POWERED LOUDSPEAKER AND THUMP 18S SUBWOOFER

Alongside its good-sounding, affordable and intuitive mixing products, Mackie has long built some remarkable powered loudspeakers for both portable PA (PPA) and installed live sound applications. Over the years, I have reviewed and regularly used many of these products, and, throughout this time, I experienced Mackie's continued refinement efforts, as the brand effectively became the leader of the burgeoning PPA marketplace. Mackie closed in on this market from all angles: from the trailblazing, high-end and pro tour-worthy HD Series, to the unique all-in-one mixer, main and monitor powered enclosure called Reach and its little cousin, the battery-powered mixer/stereo speaker "personal PA," FreePlay.

Though never the cheapest option available in powered loudspeakers, Mackie has made concerted efforts to serve budget-restricted yet discriminating customers with its Thump Series, now

redesigned and relaunched with compelling modern features and, via its full-range offerings, in two forms: standard and "Boosted," with the latter providing a built-in digital mixer with full-color LCD screen, "turn/push" input knob, and a range of super useful Bluetooth-enabled wireless adjustment flexibilities. General Thump Series full-range enclosure highlights include 1300 W per box (1000 W for LF, 300 for HF); dual mic/line inputs via combo XLR/TRS jacks featuring Vita preamps; XLR thruput; remarkably good build quality and portability; and a notably open, extended and surprisingly voluptuous sound.

For this evaluation, I received two Thump15BST (Boosted) full-range two-way powered loudspeakers (\$499 street) and one Thump18S powered subwoofer (\$699 street), also providing 1300 W of power; a smaller full-range enclosure, the Thump12A, is available in both standard and Boosted forms, too. The full-range enclosures are robust, scratch-resistant polypropylene, surely decreasing overall weight, while the 18S is made of standard 15 mm plywood.

In use, this three-piece Thump Boosted rig reminded me of the delight of discovering Mackie's Pro DX Series of wireless digital mixers. After downloading the simple and free Thump Connect app for both my iOS and Android devices, I was able to adjust the Thump15BST

pair remotely, even gaining an additional Bluetooth channel for music streaming. Between house-of-worship (HOW) applications, a high-volume DJ/KJ job and a range of live performance gigs, I can't quite express how valuable Thump Connect's wireless channel EQ adjustments, mute features, and more became while already mixing and controlling audio via tablet, wirelessly. Add in the system's portability and superb sound, Thump—and specifically, Thump Boosted—products have become top contenders in my book for permanent or semi-permanent installation environments such as HOWs, theaters and various other performance venues and/or users that must consider the bottom line.

And speaking of bottom—even without the Thump18S sub engaged—a Thump15BST pair is remarkably capable of delivering powerful, lush lows. As such, at approximately \$1,000, I must say that a Thump15BST stereo pair will leave a mark as one of the most versatile yet affordable PPA options available on the market today.

PEAVEY PVXP 12 DSP POWERED SPEAKER SYSTEM

Peavey is a brand that spans more musical and pro audio products than any other I can name; instruments, instrument amplifiers, and a broad range of pro audio products are all under the Peavey umbrella. As such, Peavey has comprehensively empowered the musicians of America for generations. I'll bet that, in total, I've used more Peavey PA components than any other brand, ever. Growing up and now living in a rural area means I have a mom-and-pop music store—not a Guitar Center—close to me, where I can buy a high-quality, American-made HP2 guitar (\$1,999 street), a beloved 6505 guitar amp, powered loudspeakers, mixer, and microphones, all branded Peavey, from the same store.

Yet considering the competition, there's little doubt that Peavey has been challenged in recent years within the portable PA category, so it has introduced its latest line: the PVXp Powered Speaker System featuring the PVXp 12 DSP (\$399 street), a two-way, 830W bi-amped full-range enclosure.

The speaker delivers a range of notable features, including a fan-cooled amplifier delivering 630 W for LF and 200 W for HF via 12-inch woofer and 2 3/8-inch titanium diaphragm tweeter, respectively. Its coverage area is wide thanks to Peavey's Quadratic Throat Waveguide technology, delivering even 100 by 50 degree high-frequency sound. Enclosed

(continued on page 35)

PRESONUS QUANTUM ■ ROSWELL DELPHOS MINI
K47 ■ FLARE ISOLATE ■ WAVES TORQUE ■ BAE 500C ■
BAE 500C

PRESONUS QUANTUM AUDIO/MIDI INTERFACE

Thunderbolt is where it's at—at least in my studio, where my desktop Mac Pro “trashcan” and my MacBook Pro (for location work) both utilize this very fast, high-throughput, low-latency interconnection technology. So I was very excited to see PreSonus' new top-of-their-line recording interface—named Quantum—that employs Thunderbolt 2 alongside new-generation microphone preamps, comprehensive control software and reportedly easy integration with Studio One, PreSonus' all-in-one, do everything DAW.

PreSonus has squeezed a whole lot of utility into only one rack space: 24-bit conversion at up to a sample rate of 192 kHz; eight channels of recallable Class-A XMAX mic preamps; two instrument DIs; 10 line-level outputs on quarter-inch TRS; two channels of SPDIF I/O; wordclock I/O; 16 channels of ADAT optical I/O; MIDI I/O; and Thunderbolt 2 (with two connections for daisy chaining more devices onto your Thunderbolt bus). There is also a built-in talkback mic, mute/dim/mono monitoring functions and two independent headphone circuits.

Quantum comes equipped with Studio One Artist, the “lite version” of PreSonus' powerful Studio One, which allows remote control of the XMAX preamps via your computer. You are not married to use it with Studio One (or Artist) however, as UC Surface is also provided free; it allows remote mic amp control as

well as an abundance of useful features (like metering and a RTA display), even if you employ a third-party DAW.

The Quantum has 60 dB of gain available at the preamps, achieves 120 dB of dynamic range and utilizes DC-coupled outputs. For the full list of features and specs, visit the Quantum page on the PreSonus website.

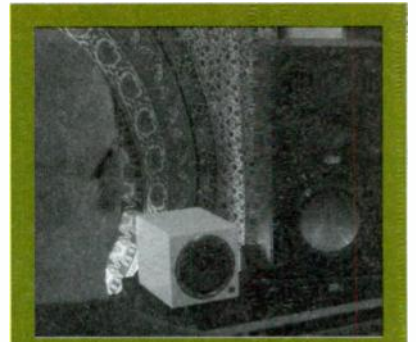
It's been a long, long time since I've used PreSonus mic amps, so I must say that they've come a long, long way. On that note, the Quantum itself seemed to pack more heft and weight than I expected, with a nice solid feel overall. In particular, the external PSU connects with a typical-looking co-axial plug that actually twist-locks into place. Note to other manufacturers: PreSonus has raised the bar; up your game!

The combo input jacks and line outputs had a good firm feel in use, even though they are directly surface mounted to the PCBs. Onboard metering was reasonably visible for such small meters, although more metering is available via UC Surface. The rotary encoder is fine; it didn't have the firmest feeling and the switches were about the same. I go into this critical detail because, frankly, I've had durability problems with some PreSonus gear in the past and wanted to accurately assess just how much value can be expected for the bucks. So far, I'd say that the hardware quality has definitely improved; even if it doesn't quite match the level of hand-

soldered boutique gear, it doesn't feature the elevated price tag of such gear either.

Encouraged by success around the studio, I went ahead and took the Quantum out on a location job. It wasn't a tough one: 44.1 kHz sample rate, only four inputs of choir overdubs for a live concert Gospel recording, and foldback of only one mono mix to a powered wedge for choir monitoring. Quantum's mic preamps sounded great with my Neumann and Roswell LDC mics, handling the headroom demands nicely without any noticeable phantom power sag. The sound wasn't exactly big and euphonic-like with transformer-coupled mic amps (or tube-driven models or any that strive for a bigger-than-life presentation); instead, it was more reference and uncolored, just as they should be for this product.

In order to dig in deep, I put together an entire song at 96 kHz with the Quantum, desktop project studio-style. My TR-8 drum machine sounded great through the line level inputs 1 and 2, set for -10 sensitivity. A Cajon tracked well (with a ribbon and a spaced pair of Mini K47 condensers) with natural dynamics, sufficient thump and slap, while a tambourine sounded great with no audible distortion, nor converter nastiness (tambourine will reveal bad preamps and converters, in my experience). Bass DI'd through input 1 set for instrument level/impedance was plenty fat, yet plenty articulated, too. A pair of condensers



BY ROB TAVAGLIONE

Rob Tavaglione owns and operates Charlotte's Catalyst Recording and has been a long-time Studio Contributor. twitter.com/robtavaglione

on acoustic guitar showed realistic reproduction and a wide soundstage. A variety of synths tracked perfectly though the line inputs. I did find myself wishing for high pass filters and a polarity flip, which aren't at hardware level or included with UC Control—a big oversight, in my opinion. The mic pre's range is 0 dB to +60 dB, and that zero starting point was handy, let me tell you—those were hot mics! The headphone outputs sounded great, too: plenty loud, nice, flat and easily routable.

For \$1,000 street, it looks to me like PreSonus has a real winner here. Yes, considering its competition, it's a “budget unit,” but the construction is pretty darn good; the features are more than respectable (if not entirely complete) and the sonics are excellent. The fact is, I could barely tell the Quantum apart from my usual top-shelf, premium-priced system. There are still a few inconveniences associated with desktop production, but this Quantum dramatically minimizes those issues. It's a truly competitive audio production product in every way, delivering bang-for-the-buck in proportions I have never experienced before.



Quantum employs Thunderbolt 2 alongside new-generation microphone preamps, comprehensive control software and easy integration with Studio One.

FLARE ISOLATE ALUMINUM EARPLUGS

All professions seem to have some inherent risk and for us audio engineers, it is hearing loss and tinnitus. Not unlike our musician brethren, we have to find ways to frequently monitor high SPL sound with accuracy and yet still preserve our hearing. For live sound work, whether FOH or monitors, I would typically use Etymotic Research's Musician's Earplugs ER-15 prescription-molded

ear plugs. They offered about 15 dB of level reduction (I'd only wear the -25 dB buttons in the loudest of situations) with reasonably flat frequency response, flatter than foam earplugs or similar at least, and a comfortable custom fit. After decades, those plugs finally wore out, or got lost, and (out of curiosity) I found myself in search of modern alternatives.

Flare also makes IEMs and sleep-

aid earplugs, but these Isolate Aluminums got my attention for not only attenuation, but promised clarity. The concept is that even though the solid aluminum plug (fitted with replaceable and cleanable Earfoam seals) blocks significant sound transmission, more hearing via bone conduction is encouraged. Veteran wearers of plugs know that attenuating sound increases the perception of bone conduction

and it's in no way minor—activities like chewing and walking get “amplified” to Godzilla-like epic low-frequency focused levels.

The Isolates don't attenuate quite as much as the 15-25 dB I'm used to, but it appears to be enough attenuation for amplified club-level shows, mowing the lawn, using a leaf blower, long highway driving trips

(continued on page 34)

ROSWELL DELPHOS MINI K47 LARGE-DIAPHRAGM CONDENSER MICROPHONE

Microphone expert Matt McGlynn knows mics like very few do and builds one of my all-time favorites: the Delphos, a transformerless, large-diaphragmed condenser known for nearly flat frequency response, truthful dynamics and a profound lack of character or personality (bad traits with people; very good traits with microphones). Now, McGlynn has updated his young company's bestseller, the Mini K47, with updated circuitry, an improved look and better accessories—perhaps rivaling the Delphos at its game.

The Mini K47 is built around its K47 capsule, a 34 mm, three-micron thick diaphragm that reportedly captures the warmth and response of a particularly legendary microphone surnamed 47. The surrounding circuitry aims for neutrality, with no transformer in the way of accurate fidelity. The MK47 utilizes a polystyrene input coupling capacitor and polypropylene main signal caps, offering lower noise floor and more transparency compared to often poorly chosen budget caps found in many affordable mic models. This simple, clean circuit is unencumbered by pads or filters, making for a pure signal path.

The newly updated K47s offer a Cutaway shock mount, allowing very close placement to sound sources; a nice microfleece storage sock; and an aluminum storage case, just like big bro Delphos. In fact, the MK47 barely differs from the Delphos in description and specs. This begs the question—what's the sonic difference?

Upon opening the K47 boxes, one

point is abundantly clear: This is a lot of mic kit for a mere \$299 direct—a kit that exactly matches the Delphos. The fit and finish look great, but that is to be expected from the ultra-detailed Mr. McGlynn whose team does a thorough check of each mic before shipment, ensuring quality that some affordable mics miss.

The new shock mount garnered excessive attention from me, as they always do; I am one cynical critic when it comes to mounts, because really, is there anything worse than buying a great mic with a crappy mount that haunts you with each placement? The Cutaway design is ideal, the threading is sufficiently smooth and the pivot just passes muster (yes, it holds, but a slight bump is enough to unseat it). The top-notch aluminum case and storage sock are on-point and quite welcome at this price point.

First application: the wild-card microphone in a standard drum-mixing set-up. This time, the K47 was needed to fill in missing detail from a drummer with lots of snare grace notes and non-“the 2 and the 4” hits. Here the MK47 handled the level without overload, showed a nice normal cardioid pattern and presented a detailed and slightly lean frequency balance (via a Focusrite ISA mic amp).

Ultra-predictable me chose acoustic guitar next, as I needed to know more about the mic's response before tackling other apps, and acoustic guitar always provides. Mounted as a spaced pair (both miking the body, one near bridge and the other near neck), I found the K47s to be well matched, low noise (with 13 dB of

The Mini K47 is built around its K47 capsule, a 34 mm, three-micron thick diaphragm.



self-noise, I got as much noise from hot preamps as the mics) and nicely midrange-focused. With a pair of Delphos mics set-up coincidentally for comparison, the K47s didn't capture the same low depth or low-mid fullness, but instead offered a kind of a mid-scooped pre-EQ'd version of the guitar. I usually prefer to do a little EQ'ing manually, but many people would prefer the “ready to go” balance of the K47s.

The controlled bottom end and slightly flattering low-mids made for some nice electric guitar sounds. You can overload the K47 with level here and wish for a pad, but I was ok with moderate amp levels, no problem. The K47s' tone was a natural match for chimey sounds, guitar layering overdubs and bringing out subtle detail in thick chord-inversions, due to that “pre-EQ'd” curve that allows overdubs to sit politely in the mix.

As I did some more assorted overdubs with the K47s (backing vocals, percussion, cajon, tambourine, Leslie cabinet, etc.), I felt like I really got to trust the mic for a present and slightly forward sound, with a nicely controlled bottom, a musical dip in the boxy (300 to 400-ish) regions, hot output and a slight taming of dynamics.

A Mini K47 is a useful addition to any mic locker, but I can especially recommend one (or a pair really) for those just building their mic collections. They'll find the kit to be durable, the mics sonically flexible and the tonality “mix ready” with a ready-to-go sound that requires little help. It's as if the Mini K47s took all the positive cues from their big brother Delphos and delivered them with a slightly smaller, more easily manageable and focused sound. Roswell scores again!

WAVES TORQUE DRUM PITCH-SHIFTER PLUG-IN

Waves has a new plug-in that offers pitch shifting for drums. That probably doesn't seem all that revolutionary, except that it sounds so good, it's almost amazing.

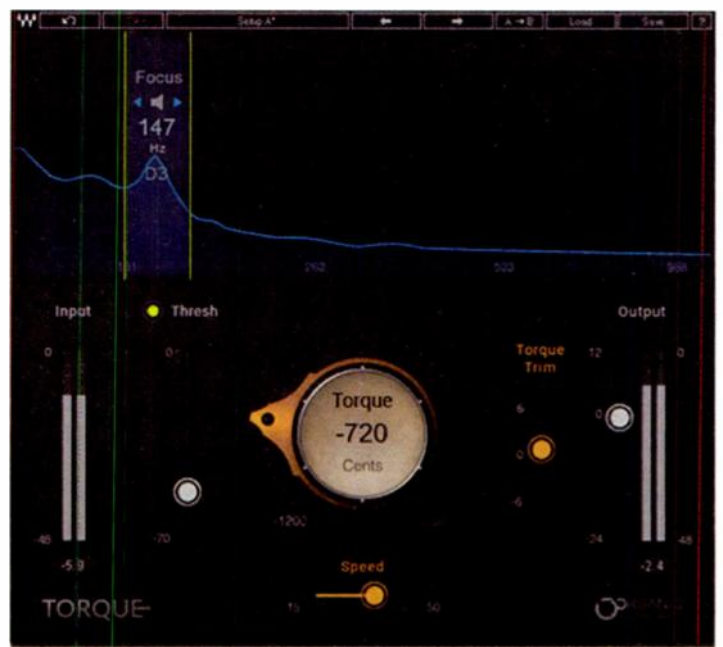
Torque (\$69 regularly, \$29 on sale) uses Waves' new Organic ReSynthesis technology, which separates the pitch, formant, amplitude and carrier information of a signal, pitch shifts to your desire and then rebuilds the signal with the other original characteristics intact. It's powerfully cool stuff that also fuels Waves' Smack Attack transient-shaping plug-in. For that matter, separating and manipulating individual envelope characteristics from a sound is enabled by other plug-in manufacturers,

too, with wildly revolutionary results. From Waves, expect to see a whole line of future processors that will further explore the possibilities created when a carrier signal is made to follow the pitch and/or dynamics of another signal. Sound designers rejoice!

Back to the specific task at hand, Torque works on acoustic and electronic drums, on individual drums as well as kits, offering up to 12 semitones (an octave) up or down. There's a Focus section, threshold and trim controls, as well as Speed and I/O

(continued on page 35)

Torque uses Waves' new Organic ReSynthesis technology.



BAE 500C 500 SERIES COMPRESSOR

Most of us know BAE for its excellent Neve-clone mic amps, whether rack mount or 500-series, which are all well built and mighty tone-ful. But you may not know that it also has a much buzzed-about guitar pedal (the Hot Fuzz) and a utilitarian 500-series compressor, the 500C. It's a FET-based, single-channel, classically styled dynamics controller with a lot of versatility squeezed into a single space.

The 500C is built around three 2520-type op-amps, with a transformer-coupled output, a feedback type limiter, all in a fully enclosed case. There's a sidechain high-pass filter option (SC HPF at 125 Hz), ratios of 2, 4, 8, 12 and 20:1, with an ABI (All Buttons In) ratio setting reminiscent of 1176s which the 500C is loosely modeled after. There's even a gain reduction on/off switch, useful for not only comparisons but also to use the 500C without dynamics, solely for its circuit/transformer color.

The 500C has a fixed threshold, so you select a ratio, then drive the input until you get the desired gain reduction, adjusting output level for make-up gain. Attack and release controls are offered as well.

I only had one 500C for review, so I didn't get to do a slew of informative stereo (or dual mono) tests like drum overheads, piano, bass

guitar DI and miked amp, spaced pair acoustic guitar and so on, but I did get to try the accompanying mono version of most of these applications and found the 500C appropriate at just about anything. One might say the best thing about FET compressors in general is their ability to get work done quickly and cleanly, without much apparentness, unless you try to make them purposefully audible. And that's what the 500C did at pretty much all ratios: tame dynamics without much audibility, except with a little extra hi-fi sweetness and punch courtesy of the superior electronics and transformer output.

Drum room, bass guitar DI, mono synths, vocals and horns are all fair game for the 500C, no problem. Pretty serious squeezing is available without any pumping, assuming you tweak your attack and release a little. That's all good, but I had a lot of fun using the ABI "magic ratio" for a lot of over-the-top containment. It reacts somewhere between a jacked-up 1176 or a Distressor, with ridiculous amounts of reduction that actually sounds nice. I was squeezing 10-15 dB off of my country-western bass DI track that I need to sit really still, without any nastiness (once I very carefully set attack, release and input).

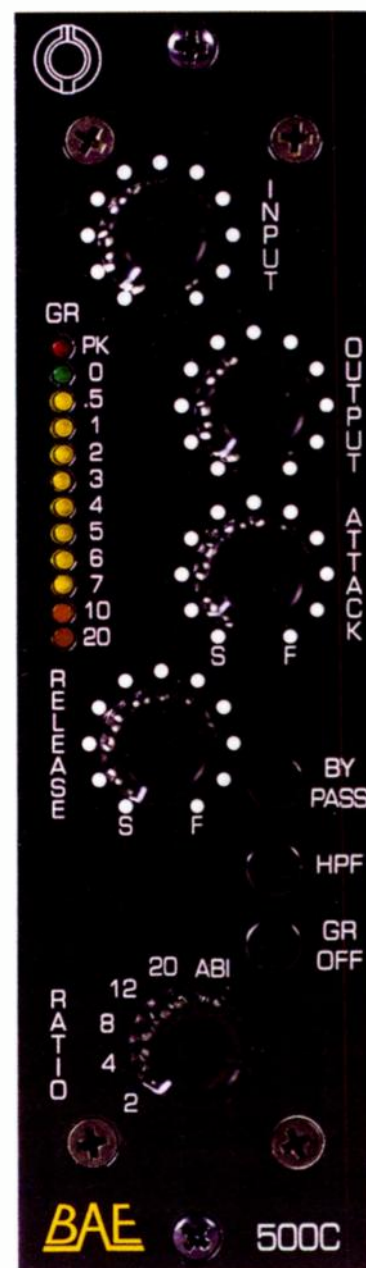
Metering is a little Spartan, so this

is really a "use your ears, not your eyes" kind of device. At least there's a true bypass and gain reduction bypass, so you can hone in carefully on minute differences and inform yourself to what you're really hearing.

My only complaint is really about the 500 Series form factor. There are a lot of controls squeezed onto the 500C's face and it's not always easy to twist knobs and push buttons without disturbing other controls. The switches aren't lit, the knobs don't have any legends and the whole set-up requires some good lighting to see what you're doing. After a spell, you'll get comfortable enough by hand I'm sure (by ear, really), but the 500C requires a little fat-finger effort at first.

At \$950 each, a pair of 500Cs would rival a top-shelf \$2,000 rack-mounted compressor, in both costs and performance to tame your L/R buss, or stereo subgroups or stereo inputs. I didn't get to try such apps, but the 500C's flattering sonics would surely be welcome on those buses based on what I heard on the many applications in which it did excel. As far as I know, BAE has made nothing but great sounding products and this 500C continues that tradition.

The 500C is a FETbased, single-channel, classically-styled dynamics controller.



Flare

(continued from page 32)

and I would expect airline flights, too (based on previous experience).

The frequency balance was definitely different than that of foam plugs, standard filters or custom filters. I've never heard ear plugs of any kind even approach flat response and the Isolates do indeed sculpt the frequency spectrum, too, but in a way that is entirely unfamiliar to me; there is an excessive abundance of bottom end (of course) but a lot of detail remains there, unlike all other plugs I've tried that congeal the bottom end all together (or "one note bass" as some call it). There's definitely a loss of certain mid and high frequencies, but some high-highs remain, allowing a little more detail and intelligibility than other plugs. Speech recognition is slightly hampered, but the "more present than with typical plugs" sibilance that manages to get through helps a lot. Music monitoring wasn't trustworthy in a reference "mixing" kind of way, but surprisingly pleasant

These Isolate Aluminums got my attention for not only attenuation, but promised clarity.



and way more rewarding than using foam plugs, with distortion (which I created by slightly overdriving my

car's stereo) seemingly more discernible than when using no plugs.

I found myself getting a good fit

with the medium-sized Earfoam fittings, although smalls and larges are also provided. I do not have symmetrical ear canals (don't mock; you probably don't either) and I have found getting a snug fit absolutely essential to earplug and IEM performance; I did get a sufficient fit with the Isolates, even if the left one sits a little askew in my ear.

If you're in the high-risk category of sound exposure, you'll need far more than just a pair of Isolate Aluminums to put together a comprehensive hearing protection strategy (one that should likely involve IEMs, headphones, low-attenuation earplugs, high-attenuation earplugs, ear muffs and so on). I can recommend the Isolate Aluminums for their reasonable price (\$33.65 direct), moderate attenuation and a unique balance to their intelligibility that might just make them ideal for unique professional applications (as well as a slew of real world apps, too).

Earplug and IEM efficacy is dependent on the details of each user, but you can give these Isolates a try without worry, as they carry a 30-day money back guarantee.

Waves

(continued from page 33)

controls. But you'll likely not even need to dig in past your wrist, much less your elbows, as Torque just simply works with almost no effort. I slapped Torque on kicks, snare and toms with reckless abandon, adjusting the Pitch and Focus controls and moving along with nary an afterthought. The tracking is extremely accurate (at least with properly recorded drums with typical isolation), the results very consistent and artifacts are simply not audible during typical usage.

Individual drums work ideally, overheads and room mics behave and sound quite well, drum busses work OK, too (though with a few artifacts)

PPA Components

(continued from page 31)

within a well-made polypropylene cabinet with flying points and pole mount, it is flexible in placement, offering a better-than-average range of I/O, too: balanced XLR/TRS combo input, unbalanced dual RCA inputs (summed), and XLR and paralleled quarter-inch thru-put.

The rear panel of the PVXp 12 DSP also boasts an intuitive LCD display screen for access to its Advanced Digital Signal Processing (A.D.S.P.) parameters. The multiple factory EQ presets are well chosen, and users may tweak via treble and bass parameters. One particularly wise feature is a recessed mic/line switch, effectively avoiding accidental changes of input type.

But how does it sound? Directly compared with competing products costing anywhere from \$100 to \$250 more per enclosure, I will say, "Very impressive." Monitored flat without adjustment, the PVXp 12 DSP's high frequencies are just slightly forward, in my opinion, thus I dialed the HF adjustment back approximately -2 to -3 dB and was quite pleased. That said, in some highly absorbent environments—such as heavily carpeted houses-of-worship (HOW) and theaters—some natural HF boost may come in handy. That said, the PVXp 12's touted waveguide delivered notably even coverage across the HOW where it was auditioned for several weeks. In both HOW as well as portable PA applications, I found the no-frills PVXp 12 pair to be a powerful and bargain-priced stereo rig at an impressive \$800 street.

and whole mixes don't work well at all (This is a drum pitch shifter after all, but out of curiosity, I had to push too far). The key is to get that Focus section (which helpfully indicates its pitch center in both numerical frequency and note name) lined up over the fundamental note of the drum (or sometimes the second harmonic), with a slight tweak of Speed. You can solo the Focus section and sweep it to find ideal placement, but you cannot

change the bandwidth of the focus (and I kinda wish that I could).

The GUI is easy on the eye and uncluttered, there's sufficient I/O metering and a processing indicator LED that definitely helps in avoiding mis-tracking through setting appropriate Threshold. An output trim is nice, too, as sometimes levels get loud and swell a bit when down-tuning drums.

I especially like the ease of tun-

ing the kick to the song's tonic note, tuning snares to avoid clashes with instruments/vox and tuning my triggered drums to match the acoustic drums. It's all so quick and effective, this could be very useful for live sound as well. In fact, there's a zero-latency component included, too. Way to go, Waves; I'll be tuned-in for the other Organic ReSynthesis pitch shifters (and who knows what else?) that I hear are on the way.

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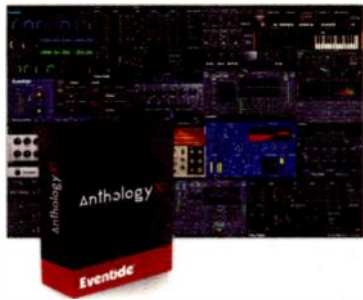
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NEUTRIK

EVENTIDE ANTHOLOGY XI BUNDLE

Eventide is shipping Anthology XI. It includes all 17 Eventide plug-ins from the previous Anthology X and adds six of its most recent efforts: Blackhole, Fission, Tverb, UltraTap, MangledVerb and 2016 Stereo Room.

The Anthology XI bundle is available as AAX/AU/VST formats for Mac OS X 10.7+ and Windows 7+ (with no iLok dongle required).



DRAWMER MC7.1 SURROUND CONTROLLER

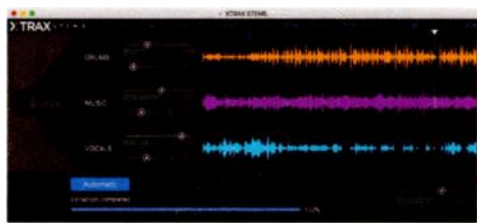
TransAudio Group, U.S. distributor of Drawmer has introduced the Drawmer MC7.1 surround sound monitor controller, offering the same circuitry and mix-checking features as Drawmer's MC2.1 and MC3.1 stereo models.

MC7.1 adds surround sound interconnectivity and functionality for mixing 7.1, 5.1, stereo, mono, or any other multi-channel format.



AUDIONAMIX XTRAX STEMS

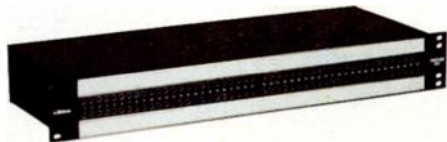
Audionamix has introduced XTRAX STEMS, reportedly the first fully-automatic stem creator to help create multi-track content that is controllable during live sets, opening up possibilities for remixing, sampling and a capella creation on the fly as well as avant garde music composition



Features of XTRAX STEMS include export capability for individual stems as audio files; creation and exporting of new volume and pan mixes; mono or stereo file compatibility; up to to 96 kHz, 32-bit compatibility; four cloud-based separation algorithms to tailor file separation; and more.

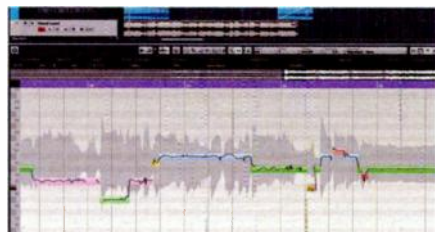
BITTREE PROSTUDIO 9625F PATCHBAY

Bittree's ProStudio 9625F provides a 96-jack rackmount configuration. The PS9625F comes in a 1.5 RU rackmount form factor with 96 TT (bantam) connectors in a high-density 2x48 configuration, with 12 DB-25 rear connectors for interfacing with Avid ProTools and Tascam I/O.



WAVES PLUG-INS FOR STEINBERG CUBASIS IOS DAW

Waves Audio and Steinberg have joined forces in offering Cubasis and Cubasis LE users three in-app purchasable 25th Anniversary versions of the following plug-ins: the Q10 multiband parametric EQ; AudioTrack EQ, compression and gating; and the L1 Ultramaximizer.



TEGELER CRÈME PASSIVE EQ

Tegeler Audio Manufaktur is now shipping its Crème—a passive EQ based on the Pultec plus a bus compressor—in North America. The brand was first recognized on the pro audio scene with its Schwerkraftmaschine in exhibition, a

firstlook

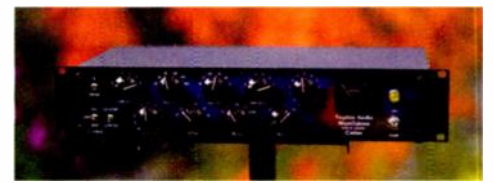
UNDERTONE UNFAIRCHILD 670M II

Undertone Audio has announced the launch of its re-designed UnFairchild 670M II compressor/limiter.

Features of the UnFairchild 670M II include six original Time Constant presets; "Variable" mode with independent Attack and Release time adjustments; stereo linking; two M/S modes; side chain processing; feed back or "feed forward" functionality; and universally detented user controls for recalls.



plug-in controllable stereo analog vari-tube compressor featuring variable side-chain that works as a low-cut, tilt EQ, and a mixer to blend compressed and uncompressed signals as well as transformer balanced inputs and outputs.



SENNHEISER AMBEO HEADSET

Apogee and Sennheiser have co-developed the Sennheiser Ambeo Smart Headset, a product designed to both capture and play back 3D immersive audio via Sennheiser's own ambisonic software.

While Sennheiser's professional Ambeo capture product, the Ambeo VR microphone, ships with a balanced split four XLR breakout cable and the downloadable Ambeo A-B format converter (for VST, AU, and AAX Mac/PC plug-in (free download), the new Ambeo Smart Headset, connects via Lightning connector to iOS devices.

Key features include built-in microphones; Transparent Hearing, allowing users to blend surrounding live sounds with audio via the iOS device; Active Noise Cancellation; an additional telephone microphone; headphone speakers; and Apogee's proprietary Soft Limit software, microphone preamps, and A/D and D/A conversion.



RØDE AI-1 AUDIO INTERFACE

RØDE Microphones has released the AI-1, marking its first foray into the realm of USB audio interfaces, available on its own or as part of a new bundle, The Complete Studio Kit.

The AI-1 sports a Neutrik combo jack input and discrete Class-A preamp, allowing users to connect a microphone, guitar or line-level instrument, like a synthesizer. The AI-1 offers zero-latency playback by enabling a direct monitoring feature and playback via headphones/speakers. It features 48V Phantom Power and is class compliant, eliminating the need to install drivers.



UA EMPIRICAL LABS EL8 DISTRESSOR PLUG-IN

Universal Audio has introduced its new Empirical Labs EL8 Distressor Compressor plug-in. Created in collaboration with Empirical Labs, the plug-in emulation is designed for UAD hardware and Apollo interfaces as part of UAD Software v9.4.



GRAVITY LTS 01 B LAPTOP STAND

Adam Hall Group's Gravity brand has unveiled its new LTS 01 B tabletop holder for laptops and music production controllers. The LTS 01 B can be placed on a flat surface as-is; alternately, its detachable tripod base can be attached to a table edge with the supplied clamp to save space.

Two tilt-adjustable support surfaces facilitate positioning of the laptop or controller. The surfaces have rubber pads to help prevent slipping and damage to the equipment and the area underneath the stand. The LTS 01 B can be folded for transport and storage.



QSC AC-C2T CEILING-MOUNT LOUDSPEAKER

QSC has shipped the new AC-C2T AcousticCoverage Series loudspeaker, a 2.75" full-range loudspeaker with 70/100 V transformer and 8 ohm bypass. The AC-C2T offers a wide conical coverage, intended to help reduce the number of loudspeakers needed to cover a space. Integrators can use advanced voicing with Intrinsic Correction via the Q-SYS Platform or CXD Series amplifiers. The AC-C2T includes a 4-pole Euroblock connector to loop through wiring.



MEYER SOUND VLFC FOR LEO FAMILY

Meyer Sound has announced the introduction of the VLFC very low frequency control element. According to the company, VLFC is the first large-scale loudspeaker system engineered to create visceral impact at frequencies below the threshold of hearing.

The VLFC is a self-powered system housing two low resonant frequency 18-inch cone drivers. The on-board power is supplied by a two-channel Class AB/H bridged amplifier with complementary MOSFET output stages.



COMMUNITY IV6 MODULAR VERTICAL ARRAY ARRAY

Community has expanded its I SERIES family with the new IV6 Modular Vertical Array 600 system, designed for installed indoor or outdoor applications, IV6 is a scalable, adaptive system featuring wide-dispersion IV6-1122 array elements (12-inch, 2-way) available in two complementary vertical coverage angle versions (5-degree and 15-degree).

The single 18-inch IV6-118S subwoofer can be flown above or behind any array to provide additional low frequency impact.



ALLEN & HEATH QU SERIES sE MICROPHONE PRESETS

Allen & Heath has announced the availability of the latest ProFactory channel libraries for its Qu Series digital mixers. The new presets cover a range of sE Electronics microphones, including the V3, V7, VR, 4400a and RNR1.



ProFactory Mic Presets offer engineers a parameter-based starting point. The team at Allen & Heath worked closely with sound engineer Frederik Brandt Jakobsen at sE Electronics, who developed the settings for each microphone and instrument combination. The presets are available now as a free download from the Qu series product pages on the A&H website.

CLAIR BROS. 1.5AM+ STAGE MONITOR

Clair Brothers has added to its One Series 12- and 15-inch coaxial stage monitor with a self-powered version of the 1.5AM monitor called the 1.5AM+.

The 1.5AM+'s internal, factory-programmed DSP loudspeaker processing gives users Xover, EQ, Limiter and a total of four preset options, including two '12AM Emulation Mode' preset options (32 dB gain or 38 dB gain), providing similar frequency response voicing and low-frequency phase response to the long-established 12AM monitor model.



JBL PRO VTX A12W LOUDSPEAKER

JBL Professional has introduced its new VTX A12W line array loudspeaker. Part of its VTX A Series family, the new loudspeaker sports a 120-degree dispersion pattern for wide horizontal coverage, allowing it to be used in the lower part of an A Series-based line array, providing a wider pattern to balance coverage closer to the audience. VTX A Series' new high-frequency (HF) section features three drivers that combine the HF phasing-plug and waveguide into one part with the expectation of improving tolerances and sensitivity while reducing distortion and weight.

The patented JBL Radiation Boundary Integrator (RBI) found in A Series loudspeakers combines four 5-inch mid-frequency drivers into the high-frequency waveguide. Meanwhile, a lightweight 12-inch neodymium low-frequency woofer (LF) features a fourth-generation Differential Drive design, with a new dual-voice coil, dual-magnet arrangement introduced with the VTX A12.



AVLEX MIPRO ACT RECEIVERS

Avlex has expanded to MIPRO's 2400 Series wireless receiver units: the ACT-2412A Dual Channel and ACT-2414A Quad Channel wireless receivers. Utilizing 2.4GHz ISM band four-frequency FSK modulation circuitry, the two receiver systems designed as full 1RU units to aid installation.



firstlook

YAMAHA CL/QL STAGEMIX V.7

StageMix Version 7, the iPad App for Yamaha CL and QL digital audio consoles that allows wireless setup, control capabilities, and monitor mixing, has been updated.

Version 7 introduces a new "CUSTOM" meter area and a more flexible fader area layout capability. Also, the existing input-patching feature has now been further developed to include a multi-channel 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.



There's more information on all the products featured at prosoundnetwork.com/jan2018.

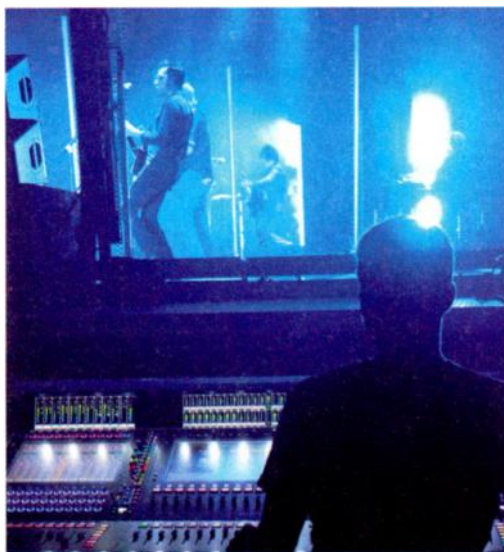


Monitoring QOTSA at The Garden

BY IAN MACDONALD

NEW YORK, NY—Queens of the Stone Age, Palm Desert’s biggest band led by the charismatic Joshua Homme, kicked off a tour in the summer of 2017 in support of its seventh studio album, *Villains*. Evident in its effect-heavy production courtesy of Mark Ronson, the collection is more disco inferno than the group’s usual midtempo but still brings Queens’ signature hard-rocking heat. The tour culminated in October at Madison Square Garden in New York City, creating a new highwater mark for the band’s touring successes to date; it also was the band’s final U.S. show before heading to Europe a week later.

With assistance from Eighth Day Sound, the U.S. tour leg stopped at every size venue imaginable, from large sheds, theaters and TV studios to arenas and festivals filled by small armies of fans. “It’s all fun; no show is identical, so it keeps it interesting to say the least,” said Spencer Jones, monitor engineer for the tour, speaking at the Garden.



Spencer Jones tackled Queens of the Stone Age’s monitors nightly on a DiGiCo SD7 desk.

As such, one of the biggest challenges was getting the band’s mixes to sound as consistent as possible for each performance. On tour with the group for the first time but no stranger to the music, Jones met this head-on with an arsenal of, while minimal, versatile gear. Jones cited his stage-side DiGiCo SD7 console as a key component in his setup.

“The SD7 is bigger and you’ve

got a ton of control right at your fingertips—multiple screens, inputs on each side and two sets of main faders, which I find particularly convenient. For example, I have the main output faders on the bottom, effects and VCAs on top, making moves quicker,” says Jones.

All the effects on the new album meant that that flexibility with changing cues allowed Jones to react quickly to high-energy transitions between material new and old. Jones typically works as a FOH engineer, but as a monitor engineer, his five clients (aka the band members) are the most discerning listeners in the room. As such, he finds reactive—and ideally proactive—changes are especially important in such a situation.

“Josh has a great ear and has some specific requests, but he knows the language and is great at communicating with a sound engineer,” said Jones. “I think it’s important for a monitor engineer to think of themselves as an extension of the stage. For me, it was about finding the right

(continued on page 39)

Honors Event Brings On Bose

BY STEVE HARVEY

HOLLYWOOD, CA—The Producers Choice Honors (PCH) brought its annual Red Carpet Press Event, the opening salvo of Tinseltown’s awards season, to the Hard Rock Café in Hollywood in November.

Bose Professional, recipient of an award in the Pro Sound category, temporarily installed a ShowMatch DeltaQ line array system for the occasion, flying five modules—three SM100x05 (100-degree horizontal by 5-degree vertical dispersion), a single SM100x10 and an SM120x20—with three Bose SMS118 single-18-inch subs on the floor on each side of the stage. Rick Boring, Western regional sales engineer for Bose Professional, provided on-site support—and accepted the award on behalf of the company.

As Boring noted on-site, this particular Hard Rock was designed as a restaurant, not a musical venue: “There’s glass on the side, and glass and stone on the back wall, but the hardest component for the sound design is the four-and-a-half-foot columns in the middle of the room. We had to do a cross-firing array to have



Phil Celia, Bose Pro’s Las Vegas-based business manager—Western Region, fronted Black Diamond, a Neil Diamond tribute act, at The Producers Choice Honors in Hollywood, performing through a Bose ShowMatch DeltaQ line array system.

no shadowing behind it. We’re also doing a bit of gain shading at the bottom, so we don’t blast people out right below the arrays.”

Powersoft X8 eight-channel amplifiers drove the PA, as Bose recently developed a new set of presets during extensive testing of the ShowMatch system in conjunction with Powersoft amplifiers in order to provide new efficiencies. “The new presets can

drive one to three boxes per channel of X8 amplifier and still maximize peak performance of our boxes,” said Boring. “Before, we were being ultra-conservative and recommending only doing two boxes. The amplifiers are eight channels of 5,200 watts each, so that’s roughly 42,000 watts per two-space rack unit. We have plenty of headroom, as you can imagine.”

(continued on page 39)

briefs

D.A.S. Dials In Ulysses

NEW YORK, NY—Ulysses’ Folk House recently had Canal Sound & Light of New York City and its installation partner, AVprosNY, update the house system with Vantec Series loudspeakers from D.A.S. Audio (dasaudio.com) to cover the 5,000-square-foot space, which includes a DJ booth at the bar and live music stage, plus an additional outdoor beer garden.

Alcons Arrive in Austin

AUSTIN, TX—Based in Austin, Texas USA, StageTech recently purchased a new Alcons Audio (alconsaudio.com) system. Company CEO Bill Mester opted for a system comprising six LR7/90 micro line array modules, two LR7B double-tuned, concentric bandpass bass modules. Also part of the system are a Sentinel10 Amplified Loudspeaker Controller, cases and flying hardware.

PWS Keeps Latin Grammys’ RF A-OK

LAS VEGAS, NV—Professional Wireless Systems (professionalwireless.com) recently provided RF coordination and equipment for the annual Latin Grammy Awards broadcast on Univision Network, watched by 8 million people around the world. PWS provided more than 250 channels of wireless systems, including Shure Digital Axiem, Sennheiser and Audio-Technica wireless microphones, as well as 28 channels of Shure PSM-1000 in-ear monitor systems, along with Radio Active Design UV-1G and Reidel Bolero wireless intercoms.

DPA Helps Witness

LONDON, UK—DPA mics (dpamicrophones.com) helped overcome the challenges of presenting Agatha Christie’s *Witness for the Prosecution* in the debating chamber of London’s County Hall. Four DPA d:dicat 2011C mics captured the judge, witness box and clerks, and actors were fitted with 10 d:screet 4061s, supplied by Stage Sound Services.

QOTSA

(continued from page 38)

gain structure and learning what each member of the band likes to hear, preempting a change before they even needed to think about it.”

Jones used Shure PSM 1000 in-ear monitors for all five band members, but mixes were also conveyed via d&b audiotechnik V8s used as sidefills, J-SUB subwoofers and a drum subwoofer.

Over at the side of the stage, Jones used a minimum of onboard effects, and nearby racks sported a Bricasti M7 for use as his main reverb and a Thermionic Culture Vulture was essential for capitalizing on several songs’ distortion. Meanwhile, a pair of Eventide Eclipses were also in the setup, one designated for use as a doubler at all times and the other as a flanger for the chorus on the effect-heavy *Villains* opener, “Feet Don’t Fail Me.” An Eventide Reverb 2016 and a Demeter Amplification RV-1D

Real Spring Reverb rounded out the core rig.

“I personally requested an Empirical Labs Distressor for the main mic,” says Jones. “It’s a great compressor and an ideal solution for keeping your vocal in check at all times. It’s always one of the first two items I pick. We use a lot of Telefunken mics—M80s on all vocals, M81s on a lot of the guitars, an SM7 on one of the guitar channels and a vari-

ety of drum mics like the Earthworks DP30/C, AKG 414s and Neumann 184’s”

FOH engineer Stewart Bennett had a preference for many of the microphones, and Jones worked closely with him, especially during the rehearsal phase. While manning the monitors can be a demanding role with an extra dose of responsibility, Jones has been making the most of it.

“It’s been really fun; I can almost

treat it as a FOH gig and act on my own instead of waiting for a musician to ask to turn it up or down first,” says Jones. “I factor in my interpretation of the music and their preferences, and then get their signoff on the way it should sound... It makes the job more fun to get acquainted in such a way, especially when you dig the tunes.”

Eighth Day Sound
8thdaysound.com

Bose

(continued from page 38)

The two stacks of three subs were set up in cardioid configuration with the middle cabinet reversed: “We’ve got configuration files that now make it really simple to recall a preset. As long as you have it wired correctly, it just works—the polarity is flipped and it’s all dialed in. Then, you just EQ it to the acoustics of the room.”

There is a Yamaha M7CL mixing desk installed at the side of the Hard Rock Hollywood stage for the monitor engineer, while the FOH engineer mixes on an iPad running Yamaha’s StageMix remote app. “I felt that the Bose system was very consistent across the room. Because I mix from an iPad, there’s a lot of running around and adjusting, but on the Bose system, I could pick a spot and EQ it and generally it was pretty consistent wherever I went, within reason. Those big pillars obviously cause problems, but there’s nothing you can do about that,” said Wells.

The evening’s Bose connection even extended to the performances, with the debut of Black Diamond, a Neil Diamond tribute band fronted by Phil Celia, Bose Pro’s Las Vegas-based business manager—Western Region.

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Depeche Mode's Spiritual Sound

BY CLIVE YOUNG

NEW YORK, NY—38 years into the band's career, Depeche Mode is arguably bigger than ever, as proven by its massive Global Spirit world tour supporting the band's 14th studio album, *Spirit*. By the time the 11-month mix of stadium and arena gigs wraps up in late March, the group will have played for millions of fans around the world, and helping ensure they all hear every note is a seven-man audio team overseeing audio production from Britannia Row (London, UK).

Key to the band's live sound are longtime engineers Antony King (FOH) and Sarne Thorogood (monitors), who, after mixing the last few Depeche Mode tours on aging Midas XL8 desks, decided to change things up, moving to a SSL L500 Plus console at FOH and Midas ProX at stageside. "SSL was a no-brainer," laughed King. "They've made decent stuff for donkey's years so you're not going off-piste. I called them up, took an old Depeche Mode show up to their office, and they set me up with some speakers, showed me how to assign everything and said 'See if you enjoy it'—and I did."

The result is that King uses the desk to mix 80-odd channels every night, with each show recorded to a custom-built Magix Sequoia



Antony King mans an SSL L500 Plus console at FOH.

DAW. As might be expected, snapshots are used to move from song to song and trigger some effects, but nearly all of the latter originate off-console in two racks of outboard gear. "I have Manley VoxBox on the vocals—a very versatile thing to have—and a Chandler TG1 Limiter on the drums, because if you set it to limit and smash it, you get a really cool sound out of those," he said. "I've also got a Fatso on the snare for a bit of fun, and an old Yamaha REV7 on the snares and the toms as a throwback reverb because they

don't make anything that filthy anymore. There's an Eventide H3000 because nothing quite does that as a plug-in, and two TC Electronic M6000 for all the vocal reverbs; it's got loads of cool stuff like multi-band compressor and a de-esser I use." That said, plug-ins are still employed at the FOH position: "I have a UAD Quad Box set up and I run it Dante in and out of outboard, so I run some emulations like an old RMX16—older pieces of gear where you'd need three on the road just to always have one that worked."

On the current Depeche Mode Global Spirit tour, vocals for Martin Gore (left) and frontman Dave Gahan are captured with Beyerdynamic G 1000 handheld transmitters with hypercardioid TG V70w interchangeable capsules.



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d&b
audiotechnik



Sarne Thorogood, monitor man for Depeche Mode for 20 years, oversees a Midas ProX desk at stageside.

The result of all that gear is that while the band may play electronic music, the vibe is decidedly warm and human, and indeed, King aims to create a live-sounding mix as opposed to merely aping the original tracks. Nonetheless, he acknowledges that some trademark sounds are essential; for instance, tour drummer Christian Eigner pounds a real drum kit, but the snares and kicks often trigger samples layered on top, retaining the energy of the live snare

while musical director Peter Gordeno has a wired TG V70 for vocals, and Eigner's drums are surrounded by a slew of Beyerdynamic mics.

Above them all on stage is a massive L-Acoustics K1/K2 system, with left-right hangs of 16 K1s with four K2s each for down fill; side hangs of 14 K1s and four K2s each, and a dozen Karas used as rearfills since the audience is sold 270 degrees. A full 12 KS28 subs line the front of the stage, spaced evenly with a

sends four mono mixes and five stereo mixes to floor monitors across the stage. "Dave still has his wedges," said Thorogood, "so any time he likes, he can pop them out, plus the wedges give the weight that you won't get from in-ears. Martin is the same set up that he's always had—one in-ear—which is just his vocal and click track."

For Thorogood, key to mixing monitors is to not only listen to the mixes but also to what the artist is truly asking for: "There are so many little factors with a perfect in-ears left-right mix where if you make one little adjustment here, it's going to affect something over there. An artist might say, 'I need my vocal louder.' OK, if you turn the vocal up, what that's doing is also turning everything else down, so it could be a situation where he or she needs everything up. Alternately, the artist might say 'I need more band, I need more everything else apart from me.' OK, that means your vocal needs to come down."

While the FOH position has a slew of outboard gear, Thorogood leans more heavily on the onboard offerings of his Midas ProX desk: "I use everything on the console apart from my two external reverbs, which are TC Electronic M3000s for Dave's vocal."

This month will find the tour resuming as it runs through Europe for a second time. "Europe is more interactive," observed King. "They'll sing more, and probably are more

responsive to newer stuff; they get on board." But that said, the North American run this past fall gave the Old World a run for its money, he said: "The crowd in Montreal hit 110-plus on the meter! It was super loud and there's no point in fighting that—you just let them scream it out of their system."

Britannia Row
Britanniarow.com

"The crowd in Montreal hit 110-plus on the meter! It was super loud and there's no point in fighting that—you just let them scream it out of their system."

Antony King, FOH engineer, Depeche Mode

while presenting the familiar flavor of the original track.

Along with the consoles, another switch for the tour is a full-on move to Beyerdynamic mics across the board. Impressed with M160 ribbon mics, King contacted the manufacturer and soon was experimenting with the company's offerings during rehearsals. "We decided if the first day didn't go well, we'd just change it back, but it worked out great," King recounted. As a result, both frontman Dave Gahan and guitarist Martin Gore use TG 1000 handheld transmitters with hypercardioid TG V70w interchangeable capsules,

selection of Karas used as frontfills.

"Usually on the ends, we'll put an ARC on the floor just pointing up because the rear fill is quite high—it brings the image down a bit so it doesn't feel like you're listening to something from somewhere else," said King.

Previous Depeche Mode tours had flown sidefills for the band, but those have gone away this time around, as the band continues its migration to personal monitors. Between musicians, spares and techs, Thorogood looks after 10 sets of Ultimate Ears 18+ PROs on Sennheiser wireless, and likewise

Ditto.

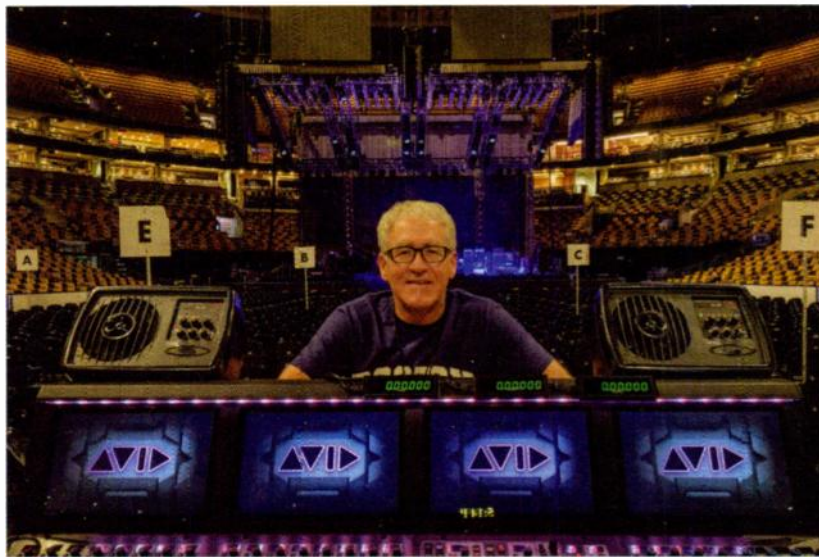
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Galaxy Rolls with Scovill

NEW YORK, NY—At each stop on Tom Petty and the Heartbreakers' 40th Anniversary tour this past summer (sadly, their last), the setlist always sported a mix of the new and the comfortably familiar—and the same could be said of the audio system herded by longtime FOH engineer Robert Scovill. While the new was represented by the Sound Image-supplied Avid S6L console and EAW Anya PA, the familiar could be found via a product that was coincidentally marking its own 40th anniversary—Galaxy Hot Spot speakers—as pairs of PA6BTs could be found at both the FOH position and monitorworld.

"They were absolutely the perfect choice for our shout system," Scovill said. "I had our stage technician, Fumi Okazaki, on a wireless headset coming out of one speaker and monitor engineer Greg Looper coming from the other. The second set of inputs on the Hot Spots allowed me to route one of my stereo solo buses to them as well."



FOH engineer Robert Scovill used Galaxy PA6BTs as the shout system on the recent Tom Petty and the Heartbreakers tour.

Additionally, a third Hot Spot was used to communicate with video production trucks when necessary. "We could give the video people that third Hot Spot," he said. "That solved what always seems to be a big challenge with a production truck—how do we all talk and hear each other?"

Other uses were found for the Hot Spots—during rehearsals, Scovill offered Benmont Tench, Petty's pianist and keyboard player, a pair of PA6S Hot Spots as an alternative to his large format monitors.

At other points, Scovill used a PA6S Hot Spot built into the shell of a snare drum in order to check arrival times of the snare to four overhead drum mics on Steve Ferrone's kit. Temporarily replacing the actual drum with the "speaker drum," he physically adjusted the microphone positions while viewing the phase trace in an FFT analyzer, with the Hot Spot delivering pink noise as the source.

Galaxy Audio
galaxyaudio.com



George Squires will be using a Yamaha PM10 desk when he tackles monitors for Tears For Fears this spring.

Tears For Fears Squires A PM10

NEW YORK, NY—Eighties pop stalwarts Tears For Fears have a new greatest-hits set out, *Rule The World*, and a UK arena tour lined up for the spring, building on the momentum of a 29-city US run with Hall & Oates last summer. For all those shows, the band has monitor engineer George Squires on tap, and for the summer journey, he in turn brought along a Yamaha PM10 digital audio console, provided by Firehouse Productions.

Squires took on the PM10 to ensure he kept moving forward, he said. "Boredom was starting to set in, and I needed a change in my life," said Squires. "I was very accustomed to using Yamaha products for so many years, back to the analog days, and the consoles were always consistent and reliable. I think for me, the decision to try out the PM10 was the Yamaha collaboration with Rupert Neve Designs that was very attractive.... The SILK function inspired me and the fact that it was signed off by Rupert Neve himself, added to the smile on my face."

Squires notes that along with the SILK function, he likes the fact that all of the Rupert Neve Designs-inspired Dynamics are standard on the PM10: "No need for a Waves rack next to my console, plug-ins, or USB sticks; I have access to amazing Dynamics onboard, and no extra gear rental fees. The on-board effects are fantastic as well."

Firehouse Productions
firehouseproductions.com

Yamaha Corporation of America (YCA)
yamahaproaudio.com

Martin Audio Comes to Party at Cabo Wabo

CABO SAN LUCAS, MEXICO—Rock n' roll and favorite watering holes never get old, but audio systems do—which is why Sammy Hagar's Cabo Wabo Cantina in Cabo San Lucas recently updated its original circa-1990 PA with a Martin Audio Wavefront Precision Compact system.

The system was designed and commissioned by Jim Risgin of OSA International, Inc. working in collaboration with local contractors and Martin Audio distributor Audio Acoustica.

Risgin, who installed and tuned the system, noted, "Martin Audio WPC was chosen because it was the proper form factor, right size and had a good aesthetic look for the club. They needed a substantial PA, so we flew six WPC boxes a side with four SX218 subs mounted in the front face of the stage. The monitor complement includes four Martin Audio XE500s and four XE300s."

The system will be used year-round, so Risgin chose the system with an eye towards longevity.



Almost anything goes at Cabo Wabo Cantina—and that includes the original 1990 PA system, 'cause it really had to go. In its place is a brand-new Martin Audio system.

"There's a grand total of nine iKON iK42 amps installed for system control and DSP tuning is all done inside the amps," he reported. "We used 2-box per channel resolution which worked out well; the coverage is spot on. All and all, the system did what we wanted it to do and more."

Risgin offered that club manager/venue partner Jorge Viana was "ecstatic about the way it sounded" while the house engineers were "impressed" and "looking forward to

mixing on it every day."

But the big challenge, of course, was to see whether the new system would get Hagar's approval. On first encountering the XE Series monitors, Risgin recalled, "Sammy walked up to the wedges, sang a phrase, looked over at Jim Jorgensen, his monitor engineer, and said, 'I've never heard myself like that before.' Then he looked at me and asked, 'Are you the guy who's responsible for this PA?' before thanking me and saying, 'First time I've ever heard myself in here.'"

As it turns out, the system was installed just in time for Hagar's annual *Red 'Till I'm Dead—Sammy Hagar's Rock-N-Roll Birthday Bash*. This year's edition marked the Red Rocker's 70th year, so the event was filmed for a movie simulcast in 100 U.S. theaters, and featured a list of guest stars that included Toby Keith, James Hetfield, Dave Grohl, Kenny Chesney, Eddie Money, Chad Kroger, Bob Weir, Jerry Cantrell and Alex Gonzalez of Mana.
Martin Audio
martin-audio.com

Perusing Portable PA Possibilities

BY AL FERNALD

Portable PAs (PPAs) have been with us for decades, but advances in modern pro audio have made them more accessible—and musical—than ever before. Sporting increasingly clever DSP applications, familiar mainstream technologies like Bluetooth and thankfully lighter materials for enclosures, the modern PPA has a lot to offer pros and non-technical users alike. The last year alone has served up a bumper crop of PPAs (see Strother Bullins' multiple reviews starting on page 30 for more proof of that), and the NAMM Show later this month will surely introduce more advances to the burgeoning market segment. In the meantime, here's a recap of just a few of the PPAs that have been introduced over the last 12 months.

JBL Eon One Pro: JBL is now shipping the latest in its long-running Eon Series: the JBL Eon One Pro Rechargeable Portable Personal Linear-array PA. With even more us-



JBL Eon One Pro Rechargeable Portable Personal Linear-array PA

er friendly features than the original Eon One (reviewed in *Pro Sound News*, August 2016), the upgraded Eon One Pro Portable PA (PPA) is JBL's first all-in-one battery-powered linear-array PA system. Its rechargeable lithium cell provides six hours of performance, and other key features include Bluetooth audio connectivity, seven-channel mixer and notable portability, as the JBL Eon One Pro's high-frequency section and two spacers fit into the base unit. Harman claims that users can set up the system in seconds, choosing the right number of spacers to optimize the sound for each application.

Cerwin-Vega CVE Series PA: Cerwin-Vega's new CVE Series of PPAs consists of three lightweight powered, full-range loudspeakers and an accompanying powered subwoofer. Key features of each full-range enclosure include a built-in 1000 W Class D Amplifier; five selectable EQ curves; 2-channel combo XLR/TRS line/mic inputs; streaming audio via

Bluetooth; and a proprietary "CV Loud Limiter" for distortion protection. The CVE Series' full-range, 2-way models come in polymer enclosures with a 10-, 12- or 15-inch woofer and 1-inch compression driver coupled to a 90-degree dispersion HF horn. The 18-inch subwoofer model is housed in a plywood enclosure and powered by the series' 1,000 W Class D Amplifier.

Fishman SA330X PA: Unveiled at last year's NAMM Show, Fishman's latest SA Series product is the SA330x Performance Audio System, consisting of the 20 lb., 330 W (RMS) SA330x wide dispersion modified line array speaker system, the optional 30 lb., 300 W (RMS) SA Sub subwoofer, and the optional SA Expand 4-channel expander/mixer. The SA330x-centric system features a one-cable audio and power port offering channel expandability.

Key system features include two mic/instrument channels with combo quarter-inch/XLR inputs, 3-band EQ per input channel, four digital reverb effects with channel reverb level control, 48 V phantom power, Phase and Notch filters for feedback suppression, auxiliary stereo input with level control, balanced XLRs for both input channels and Main mix output and monitor channel I/O. Other features include a jack for remote channel mute and reverb mute, tripod stand and padded carry bag.

Peavey DM 112 Powered Speaker System: Peavey has long

been a part of the PPA market and had multiple current products in the category. While we review the PVXp 12 DSP Powered Speaker System on page 31, don't overlook Peavey's Dark Matter 112, or simply DM 112, a standard-sized, two-way powered speaker in polypropylene cabinetry. Key features and specifications include a 12-inch woofer with 1-1/2-inch voice coil and 32 oz. magnet; DX 14 1.4-inch titanium diaphragm dynamic compression tweeter; a sculpted frequency response of 68 Hz–19 kHz, +/- 6 dB; a maximum SPL of 124 dB peak; a sound dispersion of 110 degrees horizontal by 80 degrees vertical; and a mic/line XLR/TRS combo input and XLR output for additional loudspeaker linking or for use with a sub.

HK Audio Linear 3 Series: HK Audio's Linear 3 family includes the 12-inch/1-inch L3 112 FA, the 15-inch/1-inch L3 115 FA, and the multipurpose 12-inch/1-inch L3 112 XA, which can be used as a top or onstage monitor. The technology behind Linear 3 is aimed at use by performers who may not have a sound engineer or pro audio experience. Four EQ presets—Bass Boost, Flat (LF), Flat (HMF) and Contour, two of which are active at any one time—provide options for shaping the sound to fit the music style, venue and audience. Linear 3 mid/high units sport 1,200-watt class D power amps, Intelligent Multiband Limiters, and precision directivity and are de-

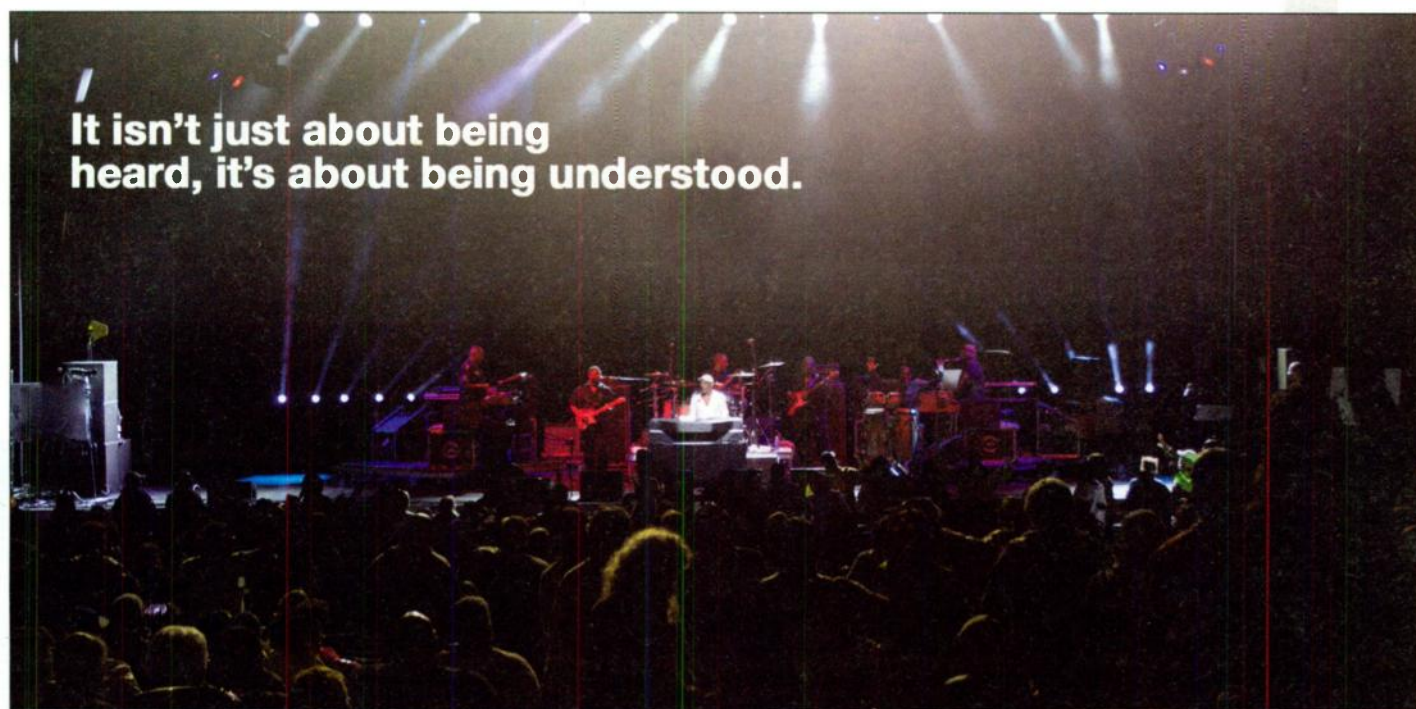
signed to be used in conjunction with Linear Sub subwoofers, including the new 15-inch L Sub 1500 A and the 18-inch L Sub 1800 A.

Elite Acoustics Engineering A2-5 Mini Portable PA: Elite's A2-



Elite's A2-5 Mini Live Performance Amplifier

5 Mini Live Performance Amplifier has four input channels plus auxiliary input alongside key features of Bluetooth connectivity, built-in effects, and a built-in rechargeable battery providing a reported eight hours of play time on one charge. The Class D bi-amplified A2-5 includes a three-band master EQ, effects/mix level control, master volume control, built-in handle, integrated 35 mm pole-receptacle, switchable direct out or line-level monitor output, and a built-in overcharge/over-drain protection designed to promote longer battery life. The A2-5's cabinetry is made of thick MDF and is wrapped in carbon fiber Tolex. Other features include 16 digital effects and +48 V phantom power.



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ACT / STATISTICS	CREW	EQUIPMENT
1 ENRIQUE IGLESIAS / PITBULL SOUND IMAGE	Brad Divens (he-Iglesias); Wil Madera (he-Pitbull); Eddie Caipo (me-Iglesias); Matt Holden (me-Pitbull); Marc Estrin, Ted Bible (cc); Dave Shatto (se); Chris Sharp (ae-Iglesias); Jesus Canton (ae-Pitbull); Matt Bock (RF); Ben Gordon, Matt Garrett (tech)	HC: Avid S6L (Iglesias); Waves LV-1 (Pitbull); MC: Avid S6L (Iglesias), DiGiCo SD5 (Pitbull); HS: JBL VTX 25, S-28, G-28, 4886; MS: Sound Image MA series; d&b audiotechnik M2; IEM: Shure PSM 1000; Sennheiser 2000; HA: Crown I-Tech HD12000; MA: Crown I-Tech HD12000, d&b audiotechnik D-80; HARDWIRED MICS: DPA, Shure, Sennheiser, AKG; WIRELESS MICS: Shure, Sennheiser; FOH EQUIPMENT: Waves; UAD Realtime Rack; MONITOR EQUIPMENT: Waves; McDSP; Sonnox; Plugin Alliance; UAD Realtime Rack
2 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, Andy Dudash, 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
3 BRUNO MARS CLAIR GLOBAL	Chris Rabold (be); Ramon Morales (me); Chris Sullivan (cc/se); Scotty Megrath (ae); Paul Tobey (rf 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; Beyers M 88 TG; Audio-Technica; Telefunken M80, M60, TK62 capsule; Radial J48, SW8, Spaceheater, 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
4 FOO FIGHTERS BRITANNIA ROW	Bryan Worthen (be); Ian Beveridge (me); Dan Ungaretti (cc/m tech); Adam Smith (se); Craig Ross, Will Whitaker, Chuck Wells (tech)	HC: Yamaha PM10; MC: Yamaha PM10; HS: L-Acoustic K1, K2, K15B, KS28, KARA, ARC; MS: d&b audiotechnik M2; IEM: Sennheiser; HA: L-Acoustic LA12X; MA: d&b audiotechnik D80; HARDWIRED MICS: Sennheiser
5 JAY-Z CLAIR GLOBAL	Ken "Pooch" Van Druten (be); Jimmy Nichol森 (me); Phil Kriz (cc); Adam Stuart (se); Rich Burke (m tech); Elliott Wiley (rf tech); Rich Thompson, Rachel Rozzi, Tim Baness (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Clair Cohesion CO-12, CO-8I, CP-218; MS: Clair CM22, CP-118; IEM: Shure PSM 1000s; Albatros Audio PH9B; JH Audio Roxanne (Jay-Z), assorted JH products (band); HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Sennheiser 901, 902, MKH-416; Shure SM57, SM58, SM91, KSM32; AKG C414; DPA d:vote 4099; Neumann KM184; Royer 121; Telefunken M81, M32; Audix OM7; Audio-Technica AT4050; Radial JDI, J48; WIRELESS MICS: Shure Axient, Axient Digital; Sennheiser 6000; FOH EQUIPMENT: Waves; Neve Master Buss Processor, 5059; Bricasti M7; TC Electronic M3000; MONITOR EQUIPMENT: TC Electronic System 6000
6 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
7 DEAD & COMPANY PROMEDIA/ULTRASOUND	Derek Featherstone (be/se); Matt Haasch, Ryan Cornelious (me); Lonnie Quinn (mse); Michal Kacunel (cc/se); Sean McAdam (se); Michael Bollella, Cody Scott (techs)	HC: Gamble EX56; Avid S6L (96 Ch. drums) with Pro Tools 12.7; MC: Avid Venue D-Show (96 Ch.), Venue Profile (96 Ch.); HS: (36) Meyer Sound Leo, (22) 1100-LFC, (16) 700-HP, (32) Milo, (16) Mica, (6) Leopard; MS: Meyer Sound MJF-212, MJF-210, 1100-LFC; IEM: Sensaphonics; JH Audio; Future Sonics; HARDWIRED MICS: Milab LC-28, LSR3000; Shure KSM8, KSM9, Beta91, Beta2, SM57; Sennheiser 421, 409, 904, 935; Neumann KMS104, Helpinstill model 280 piano pick-up system; AKG 414, 460; Telefunken M-80; FOH EQUIPMENT: Summit DCL-200, TLA-100; Empirical Labs Distressor; TC Electronic M5000, D-Two; Aphex 622 gates; KNAS Das Ekdahl Quad Massager; UltraSound DRSE Quad Panners; Metric Halo UNL2; TubeTech LCA-2B; UREI 1176; MONITOR EQUIPMENT: Sennheiser EW300G3
8 TRANS-SIBERIAN ORCHESTRA CLAIR GLOBAL	Dave Whitman, Michihiro Tanikawa (he); Scott Fraser, Earl McCoy (me); Jim Ragus, Dean Mizzi (cc/se); Erik Rodstol, Ken McDowell (mse); Nicole Wakefield, Thomas Birkhead, Mike Gamble, Rachael Stuenke (techs)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Clair CO-12/ i-5 CP218; MS: Clair CM-22; IEM: Sennheiser 2000; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure; Sennheiser; Radial; WIRELESS MICS: Shure AD-2
9 ELTON JOHN CLAIR GLOBAL	Matthew Herr (he); Alan Richardson (me); Cliff Downey (cc/se); Simon Matthews (m tech)	HC: Elton-owned custom-built/designed desk; HS: Clair CO12, i-3, P-2, CP218; MS: Clair 12AM, 212AM; IEM: Sennheiser 2000; Shure P6HW; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: AKG 460, C480B, 414/XLS; Audio-Technica AE6100, AE5400; Sennheiser MD-409, E-609; Shure SM57, Beta 58A, Beta 56A; WIRELESS MICS: Shure U4S; FOH EQUIPMENT: Clair iO; dbx 160i; Bricasti M7; TC Electronic 2290; Lexicon 80L; Eventide Eclipse; Aphex 612; Sony D12; Tascam DA-40 MKII; Alesis ML-9600; MONITOR EQUIPMENT: TC Electronic 1128
10 IMAGINE DRAGONS SOUND IMAGE	Scott Eisenberg (he); Jared Swetnam (me); Brendan Hines (cc); Cameron Whaley (se); Chris Demonbreun (m tech)	HC: SSL L500; MC: Avid S6L-32; HS: Adamson E15, E12, E219, S10; IEM: JH Audio JH16; Shure PSM 1000; HA: Lab.gruppen PLM 20000Q; HARDWIRED MICS: Shure; Audix; Sennheiser; Telefunken; WIRELESS MICS: Shure UR4D+ with Telefunken M81 Capsules; FOH EQUIPMENT: Rupert Neve Portico Channel Strip; SPL Mix Dream; Alan Smart C2; MONITOR EQUIPMENT: Shure Wireless Workbench

LEGEND: (he) house engineer. (ahe) ass't house engineer. (be) band's house engineer. (me) monitor engineer. (ame) ass't monitoring engineer. (bme) band's monitor engineer. (se) systems engineer. (ae) ass't engineer. (tech) technician. (cc) crew chief. HC: house console. MC: monitor console. HS: house speakers. PMS: personal monitor systems. MS: monitor speakers. HA: house amplifiers. MA: monitor amplifiers.

Top 10 grossing tours according to *Billboard*. Some tours did not report grosses for all shows; rankings may be affected as a result. Equipment and crew information are provided by the respective sound reinforcement companies.

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Craig Johnson

Full Compass has named **Craig Johnson** to be its new chief executive officer, making him responsible for setting the future strategy and direction of Full Compass Systems, as well as building and leading the senior executive team. Johnson previously spent more than 12 years at Musician's Friend, where he held several senior positions, including president / COO and CEO before being named chief supply chain officer of parent company, Guitar Center. He has also served as COO of Gibson Guitar, where he was responsible for the company's worldwide manufacturing operations. Most recently, Johnson served as CEO of Nasco, a direct marketer, manufacturer and global distributor of educational, health, medical technology, quality control and agricultural products, and prior to that, was CEO of Harry & David, a premium food and gift producer and retailer. He has nearly 30 years of direct marketing and e-commerce experience and attended Iowa State University, where he majored in Computer Science.



Chris Willis

Clear-Com has named **Chris Willis** as its vice president of Sales—a position where he will lead the global sales organization and drive revenue growth within all of Clear-Com's markets. He is also a member of the Clear-Com Senior Leadership Team, contributing to the strategic direction of the company. Willis joined Trilogy Communications in April 2016 as group sales and marketing director; following Clear-Com's acquisition of Trilogy, he took on responsibility for Trilogy and Clear-Com solution sales for the Military Aerospace & Government market for EMEA and Asia Pacific, and also worked with product management on Trilogy's MAG line. Prior to that, his career included senior sales and business development roles at various companies including L-3 Communications and VIT Security Group.

Clear-Com has also named **Gavin MacDonald** to the role of director of Global Service and Support, where he will lead and manage the company's global service and support teams. He is also responsible for developing a strategy to service Clear-Com



Gavin MacDonald

customers and improve customer satisfaction. MacDonald is currently the operations director at Clear-Com's subsidiary, Trilogy Communications. He joined the company in 2008 as purchasing manager and over nine years of service, also took on management of service and support, operations, manufacturing and testing. Prior to that, MacDonald spent eight years in purchasing at STI Ltd, an electronics manufacturer in the defense and aerospace sectors.



Dennis Dillinger

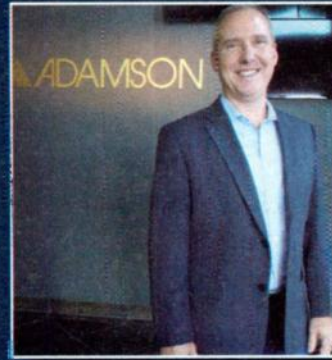
Yamaha Corporation, Professional Audio division has appointed **Dennis Dillinger** to the position of district manager for the expanding Commercial Installation Solutions (CIS) sales team. The dedicated team serves the sound reinforcement integrator, contractor, and CIS dealer base. Most recently, Dillinger held the position of western regional sales manager for Brightline and has previously held sales positions at RGB Spectrum and Premium Mounts. Based in San Diego, California, Dillinger reports to Randy Riebe, sales manager for CIS products and covers the new western CIS territory comprised of Alaska, Washington, Oregon, Montana, Idaho, North Dakota, Wyoming, Colorado, Utah, Nevada, Arizona, California, and Hawaii.



Rachael Fisher

Pelican Products has appointed **Rachael Fisher** as director of Worldwide Logistics and Warehousing. Fisher comes to Pelican with more than 17 years of logistics management experience with several Fortune 1,000 companies in North America and Europe. In her new role, she will develop and manage all strategic and tactical aspects of worldwide logistics operations and support services, including 3PL services, for customers of all Pelican business divisions.

L-Acoustics has appointed **Tony Szabo** as its new head of Application, Touring. Szabo will work di-



MARC BERTRAND
Adamson System Engineering

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

A: The new role is Managing Director of Adamson Americas. The primary

objective is leading and accelerating the strong growth that Adamson has achieved over the past few years in the North and South American markets by building a solid and strategic team across multiple segments.

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

A: I was the 11th employee when I joined Tannoy North America in 1994 and began working my way through the organization. Over the years, we built a strong, sustainable model that was able to grow and adapt through changing market dynamics, economic difficulties and significant technological change. I really enjoy the process of instilling a generational philosophy and building strong, effective teams.

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

A: More of the same, really, with a continued sense of urgency. I'm quite impressed with the entrepreneurial spirit and willingness to push the envelope across multiple disciplines that has led to Adamson's impressive growth in recent years.

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

A: Short term, an immediate and impactful growth in sales and market share in the Americas. For the long term, it's simply to exceed the expectations of our customers and management.

Q: What is the greatest challenge that you face?

A: We are in a fiercely competitive space with respected global brands, and so making certain that we deliver exceptional performance on every level for our demanding customer base is the greatest daily challenge.



Tony Szabo

rectly with Florent Bernard, director of Applications, Touring to deploy the strategy for the touring market and manage the touring applications team. As part of the senior leadership team, he will liaise with L-Acoustics partners and will support major projects around the globe. Across the last 25 years, he's worked in live sound in many roles—monitor tech, FOH engineer, crew chief, system engineer and more—through his involvement in tours with the likes of David Bowie, Bryan Adams and Kylie Minogue, and large-scale events like the Sydney Olympics Opening and Closing Ceremonies. Most recently, he served as senior systems engineer at L-Acoustics UK partner Adlib Audio Solutions.

TransAudio Group, U.S. has brought on **Aleks Bars** to the newly-created position of social media and marketing manager. Bars is an active musician (bass), holds a B.A. in Recording Arts from Loyola Marymount University (Los Angeles), has written, engineered and produced music across a variety of genres and media, and



Aleks Bars

has experience in pro audio and musical instrument sales. In addition to tackling social media across Facebook, Instagram, Twitter, and YouTube, and marketing, Bars will also produce videos and photography to support the new efforts.



Hannah Stern

Media asset management and production workflow software company Square Box Systems has promoted **Hannah Stern** to sales operations manager. Reporting to the company's CEO, Dave Clack, Stern will manage the Square Box project office and professional services for CatDV, the company's media asset management solution. Prior to joining the company in 2014, Stern served as a personal assistant for Lear Fitness in Leamington Spa, U.K. She received a bachelor's degree in geography from the University of Birmingham in 2012.



From Music to Microphones

JAMES LAMB, FOUNDER AND PRESIDENT, POINT SOURCE AUDIO

BY GLENN GREENBERG

Like many people in the pro audio business, James Lamb started out as a musician. The California native's career as a professional trumpet player led him to New York, where he also became an arranger and music director—and even conducted at Carnegie Hall and Lincoln Center. Returning to his home state after a few years, Lamb met the owners of Apogee Sound, which led to him becoming the company's national sales manager around 1993. "I've been in the business ever since," he says.

In 2000, Lamb was hired by Digigram, a French manufacturer of broadcast sound cards and network audio. "[It's] one of the premier companies in the broadcast sector," he explains. Lamb ultimately spent 10 years at Digigram in Business Development. His stint there, he says, gave him the opportunity to see "a different side of audio."

After noticing that there was a niche in the market for a more durable earset microphone, Lamb founded his own company, Point Source Audio (PSA), in 2008. "The company literally began on the development of a single microphone feature—the 'Unbreakable Boom'—that continues to be the flagship feature in our entire premium line of head-worn microphones today," Lamb says.

At first, Point Source Audio focused primarily on OEM manufacturing. "We were a startup with one product in 2008 when we launched the CO-7 'Unbreakable Boom' microphone and we were also manufacturing for other OEMs," Lamb explains.

That changed a short time later, however, with the arrival of Yvonne Ho, who became Lamb's partner and currently serves as VP of Marketing. The addition of Ho, Lamb says, marked the company's decision to launch the PSA brand. "We have grown our product offering and market penetration steadily since."

Lamb says that 10 years after its founding, PSA now offers a full line

of miniature microphones from earsets, headsets, lavaliers, proprietary earmounts and communication headsets. "In the last three years," he adds, "we have secured three patents for our EMBRACE earmount mics and our CM-series in-ear headsets."

PSA, headquartered in Petaluma, California, designs all of its mics and headsets in-house, Lamb explains, with an eye towards developing innovations to "stay ahead of the curve in terms of identifying new tools and features that are useful to the industry." The company focuses on products for theater, broadcast, houses of worship and live sound.

Those efforts have already paid off, in terms of industry recognition, as a number of its products have won awards from industry press in recent times, including the CO-8WD Headset Microphone in 2014 and both the CO2-8WL Dual Omni Lavalier Microphone and CM-i5 Audio Headset with Condenser Mic in 2017.

PSA takes a team approach to developing products like those, Lamb explains. The marketing and sales departments act as customer advocates, while everyone provides input along with the engineers during the R&D phase.

"We're a customer-driven company," he says. "Whether it's an end-user or distributor, someone who is ordering one mic or 100, we treat them the same." He adds, "My job is to make sure everyone [at PSA] has the tools and clear direction they need to be successful, so that the good folks who use our products walk away—and come back—happy."

PSA's products are sold through what Lamb describes as "a network of resellers and distributors that have close ties and deep knowledge of their markets." The company is actively expanding its presence in Europe, East Asia and beyond. Lamb also notes that PSA handles distribution in the Americas for his old employer, Digigram, and for another France-based audio network technology company, AuviTran, in North America.

Looking at the pro audio industry,



Lamb says that he does not see competition among the companies as a contact sport. "Everyone in the business is very good at what they do, and we really respect that," he says. "We approach [competition] like a game of golf—how can we keep improving our game and do better each time we go up to the tee?"

This strategy enables PSA to be "experts at what we do, be nimble and meet unfulfilled needs in niches that other companies can't approach with the same speed and tenacity," according to Lamb. "We've always taken a business approach that has allowed us to weather dips in the economy and keep our focus on innovations that fulfill the needs of our customers."

Lamb notes that much of his business perspective comes from his background as a musician. "I've been a musician since I was nine years old and I still think like one," he says. "My music teacher was my greatest mentor. He taught me the arts and how to nurture the special kind of

drive and discipline that is the true foundation for excellence."

That experience, Lamb says, has enabled him to understand and relate to "the challenges that people in the industry face while just trying to do their jobs." And in turn, it helps PSA "provide tools that help performers achieve the magic that they do on stage."

This month marks Point Source Audio's 10-year anniversary, and the company is planning new initiatives for both the short and long term—but for now, Lamb is keeping those plans close to the vest.

"We don't want to spoil any surprises," he says. But he does drop a hint: "As a business owner, artist, and performer, I am grateful every day for the opportunities I have had to work in this industry and be a part of the performing arts community. It's important for our company to give back, so to show our gratitude in our tenth year of business, we will be making a big contribution to the community." Lamb explains that the details of "a very inspiring program" will be revealed on January 1 on the company's website.

With Point Source Audio having reached its ten-year mark, Lamb says he is focused firmly on the company's future. "We are looking forward to the next decade," he says.

Point Source Audio
point-sourceaudio.com

"Everyone in the business is very good at what they do, and we really respect that. We approach [competition] like a game of golf—how can we keep improving our game and do better each time we go up to the tee?"

James Lamb



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NAMM Preview

(continued from page 1)

Roland/BOSS/V-MODA, Electro Voice, Yorkville and Presonus had booked space on Levels One and Two in ACC North. A quick glance at the current floor plan shows that virtually the entire pro audio community will be exhibiting in the new venue.

This year's show also sees the rollout of a new education and training program from the Audio Engineering Society, AES@NAMM, that targets working professionals in the live sound, recording and performance audio communities. AES@NAMM's Education Campus will occupy 20 rooms on the fourth floor of the Hilton, facing the Grand Plaza.

Symposium sessions will include day-long DAW (Digital Audio Workstation) Academy and Live Sound Console Academy courses of manufacturer-based training in eight of the rooms. Half-day morning and afternoon Line Array Loudspeaker System Academy sessions will be held in a bank of six classrooms plus a spacious system setup area.

Adamson, Bose Professional and EAW, with others reportedly to be added, are participating in the Line

Array Academy. QSC and Yamaha are supporting the Live Mixing Console Academy, and Lectrosonics and Sennheiser are supporting the Entertainment Wireless Academy. Manufacturers involved with the Studios Academy, which will take place in three separate studio environments, include Apogee, DigiGrid, Focal, Genelec, Meyer Sound Laboratories and Waves.

Participation in AES@NAMM sessions is an additional cost, with limited seating secured through advance registration. Attendees can purchase single-session tickets, or half-day or whole-day badges. Anyone registering for AES@NAMM will additionally receive a NAMM Show badge with full access to all exhibits and other activities. Academy trainees will receive a Certificate of Attendance to confirm their participation in training and educational sessions.

The AES presence at NAMM will also include papers and workshops, and will additionally include daily sessions in Spanish and Mandarin, which will be accommodated in a separate room.

NAMM's new education and professional development programming will also be hosted principally on the fourth floor of the Hilton, as well as

in the ACC at the NAMM Idea Center, in the Hall C Lobby, and the NAMM Member Center, in the Hall B Lobby. Session tracks include Music Business, Music Educators and Students, Music Retail, and Policy and Nonprofits.

Also on the fourth floor of the Hilton, a program of sessions curated by the Entertainment Services and Technology Association (ESTA) will offer four different education tracks: lighting, lighting networking, rigging and safety.

A new area of the show is additionally being transformed into a showcase where attendees will reportedly be able to test-drive new products. Lighting, rigging, DJ, sound, special effects and staging products and services will all be featured in what is described as "a completely controlled atmosphere."

NAMM has bundled more than 70 free sessions for sound, studio and stage professionals into its TEC Tracks program. And on opening day, yours truly will join a TEC Tracks panel of pro audio journalists organized by Dan Daley that also includes George Peterson and Mike Molenda and promises to be unique and informative.

NAMM
thenammshow.com

Connectivity

(continued from page 1)

employ new signal distribution forms on a budget. Specifically, Switchcraft's 318BT is said to be the world's first phantom-powered Bluetooth 4.0 audio receiver DI.

With available cable and connectors of almost every kind, plus tons of "black box" interconnect products, New York-based Whirlwind has been in business for more than 40 years, providing U.S.-built networking solutions for a wide range of end users. Most recently, the company launched a fiber optic department and builds custom signal and power systems for major clients worldwide.

Yet Neutrik is our industry's de facto leader in connectivity, whether by sheer number of patented high-quality audio connector types, connector proliferation in the field, or both. That said, Neutrik's most exciting XLR audio product is arguably its low-latency Xirium Pro line, reportedly providing compression-free and FCC license-free wireless transmission of audio within the 5 GHz band.

"Without a doubt, we are living

in an exciting time for multichannel audio transport," offers Fred Morgenstern, product director at Neutrik USA. "Three enormous trends are affecting our industry: digital multi-channel signal transport, A/V convergence and Wi-Fi device control. Even on mid-market and arguably lower consoles, AES50, Dante and other protocols are being used to send signals to the front-of-house position over one shielded twisted pair Cat 5e cable using [our] etherCON connectors. I should mention that Neutrik still sells an enormous percentage of the XLRs, quarter-inch plugs, and combo connectors used by the industry as well as speakON—another Neutrik invention. Those products remain at the core of Neutrik's product portfolio, but in terms of trends, multichannel signal transport over twisted pair copper and fiber optics are what's hot."

The inevitable growth of AoIP technology within pro audio necessitated more robust interconnects, offers Morgenstern: "When Neutrik invented etherCON, we knew that the standard RJ45 was too flimsy for professional connections, but we also knew that it was inexpensive and ubiquitous. So, etherCON has always offered the best of both worlds: It

rides the low expense and high availability of RJ45-terminated cables while adding excellent robustness via its metal locking shells."

"The AV industry—especially once uncompressed, state-of-the-art video is added—just cannot seem to get enough bandwidth," continues Morgenstern. "It's telling that, in 10 years, we've gone from offering two strands of fiber in one cable assembly to as many as 24 strands—and they're all being used! Once diverse AV signals are converged onto one network, the sky becomes the limit. It's great to see the devices that can converge and distribute all these signals, and it's really cool to see some of the applications."

Neutrik
Neutrik.us

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Switchcraft.com

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THERE'S MORE ▶ Visit prosoundnetwork.com/jan2018 for more of Fred Morgenstern's thoughts on connectivity from his long view at Neutrik USA.



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Field of Vision

BY JACQUES SONYIEUX

With its new album *Blue Field*, The Luxembourg Signal takes its dreamy—and catchy—indiepop soundscapes to a new level of artistry. Comprised of seven members located on both sides of the Atlantic, the band's new album is cohesive, fluid and well constructed. *Pro Sound News* recently caught up with a handful of the band's members and talked about artistic continuity and economical recording, among other things.

ON MAKING THE SECOND ALBUM COUNT:

Johnny [Joyner, guitar]: Like most bands, we wanted to try something different from what we did on the first record. Our first record came together pretty organically, as did the formation of the band—which basically formed from two bodies. Having two female vocalists to lead was great; on certain songs, Beth [Arzy, vocals] would sing really well, and then there were other songs that were more in Betsy's [Moyer, vocals] range. Also, on this record, we ended up using a lot more synths than we've had in the past. Brian [Espinosa, drums] has some Moog synthesizers he has owned for ages. From a writing standpoint, I probably wrote the majority of the songs on the last record whereas this one was definitely more of a collaborative effort.

ON WORKING WITH MARK RAINS:

Johnny: By this point, we had

worked with various people. Mark was someone we felt we knew and who we felt could go in there and put all the pieces together. Also, he mixed the first record and we just enjoyed working with him. I think he got the sound we were going for. Another great thing was that he played drums before he was a recording engineer, so he really understands drum tones and is able to get really good drum sounds. This of course is among the harder things to do. Working with Mark also helped from a cost perspective as well—we would put the foundation of drums down with him and then just take it home where we could experiment with guitars and keyboards. The bad thing about this is that you can have a record that takes a couple of weeks, or half a year or more because you have endless time to work on it at home.

ON NUANCES OF DRUM RECORDING:

Brian: Mark understands his



Transatlantic indiepop act The Luxembourg Signal recorded its second album, *Blue Field*, in a variety of ways.

room really well. He's got a great mic locker, a great drum locker, and he definitely understood our sound. He would hear a song and I would be behind the kit all miked up. Then he would run out of the control room, switch out a snare drum or switch out a tom drum and the mic place right where he needs and then run back in the control room. He knows exactly what tone he wants to get out of that drum, and was able to curate some of these sounds based on the tone of the songs. And I really appreciated that. We placed the utmost trust in him and it was such a relief for us all that it turned out so great.

ON CLICK TRACKS:

Brian: Much of the orchestration ends up happening in our home studio. Not to give away our secret sauce, but I have always been a click track guy as a drummer so I am used to it. Working this way, we can put down a guitar riff or a keyboard part, and sometimes, those original guitar parts or original keyboard parts make the final cut. We might end up putting some EQ on it, but thank God we recorded them to a click track so it just fits in that song!

ON VALUE-DRIVEN EQUIPMENT:

Brian: It is so nice to be able to get decent equipment at inexpensive prices now. A lot of our stuff is recorded on an RME Babyface Pro and it is such great quality. The converters are great, and so are the preamplifiers. All of the vocals on this album were recorded in our bedroom, and we tried several different mics on vocals. We ended up using a Neumann TLM 103 on Beth and an MXL V69 on Betsy. For Bobby's [Wratten] vocals, we sent that particular track to Ian Catt in London and he recorded it.

ON 'FALL FEELING':

Johnny: When I wrote the melody

line to that song, it just didn't fit into the vocal range of either Beth or Betsy. It just happens every so often where the melody may be just out of their natural range. We were messing around with it, and then Beth said 'Maybe Bobby will sing it.' We all thought that was a pretty good idea, and he was up for it. When you have material getting tracked without you, you are eager to get it back. But we knew that Bobby and Ian worked together quite a bit so we were comfortable that it was going to come back sounding good. He track sent back to us and it sounded really great.

ON ARTISTIC CONTINUITY:

Ginny [Pitchford, keyboards]: 'Blue Field' is a visual phenomenon that happens when you stare up at a bright blue sky and see funny dots and other things. So we thought that would make a great album title and that it could fit in with the artwork as well. We kind of wanted it to have a very bright visual—almost like station artwork along the lines of James Turrell, which features stark simplicity and brightness.

Brian: We used an artist named Michael Stickley who is an artist in Los Angeles. He does our covers and also did our 7-inch single for "Laura Palmer." Our relationship with him as an artist is similar to our relationship to Mark who does our mixing: Unlike a lot of other artists out there, he understands what you want. It was almost like mixing an album—we would tell him what we wanted, then he would send us something back until we were all in love. The idea for the cover came from Ginny and our artist was able to translate those ideas.

Jacques Sonyieux is a devout explorer of recording studios and the artists that occasionally inhabit them. Please send any tips or feedback to Jacques at: 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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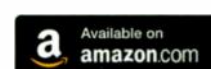
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