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Review

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September 2015

STAR MAN: Living legend, Al Schmitt, became the first recording engineer to be honored with a star on the Hollywood Walk Of Fame. On hand were a host of industry notables, with producer and musician Don Was (shown left) participating in the presentation along with artist Joe Walsh (to Schmitt's right).



Post Pros: The Evolution Will Be Televised

BY STEVE HARVEY

NEW YORK, NY—Ask several broadcast-related music production and audio post companies where the work is coming from these days and you're likely to get a different answer from each one. But if there is a theme, it is one of evolution and diversification as opportunities present themselves, even if that leads away from the core of the business model.

Howard Bowler, president and founder of Hobo Audio in Manhattan, suggests that there are certain universal things that any business owner needs to get right first. To paraphrase Apple's Tim Cook, he says, "You have to get the staff right first; that's the most important thing. You have to get the right strategy together. Then you have to get the execution in place. If you get

(continued on page 56)

International Image

Sound Image in the US and SSE Audio Group in the UK have joined forces for a new venture—United Audio Companies—which will allow each company to provide mirrored, seamless international support; Larry Italia takes charge of the Sound Image Integration Division.



DAW Migration: Pros Consider PT Alternatives

BY STROTHER BULLINS

Especially amongst professional power users, Pro Tools (PT)

is the market-leading digital audio workstation (DAW) without a doubt. However, in recent years, a number of factors have prompted

some stalwart PT-based pros to reconsider their unofficial alliances with the Avid (formerly Digidesign) recording suite. Here, we share insight from a cross-section of established professionals in the midst of a DAW migration, considering DAWs from pro audio firms including Apple, Cakewalk, Harrison, MOTU, PreSonus and Steinberg.

"I go way back with Digidesign," clarifies Nashville-based recording engineer Christopher Rowe, "all the way back to the Sound

Tools days. And I have historically been a dogged defender of the Pro Tools DSP-based platform. I suppose the first time I started to question the wisdom of my dedication was when I received files from Jack Antonoff (Bleachers, Fun.) of a song he'd written with Taylor Swift for me to mix. Jack had put the song together on a Pro Tools Native rig and his laptop. My four-card TDM rig came nowhere near being able to play the session back.

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Deep And Wide Inside

Yamaha's TF Series of small footprint, touch-enabled digital consoles are reviewed along with many more products in this month's PAR in PSN pages.



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Al Schmitt Honored with Hollywood Star

BY STEVE HARVEY

HOLLYWOOD, CA—The Hollywood Chamber of Commerce honored recording engineer, mixer and producer Al Schmitt with a star on the Walk of Fame, outside the Capitol Re-

cords tower where he most frequently works, on August 13, 2015.

“We hereby declare this Al Schmitt Day,” said Leron Gubler, president/CEO of the Hollywood Chamber of Commerce, presenting Schmitt with a resolution signed by the members of the City Council and the Mayor of Los Angeles. Schmitt is the first recording engineer to be presented with a star, said Gubler.

Music producer and musician Don Was, president of Blue Note Records, introduced Schmitt. “He’s not there to leave his thumbprint on the artist’s forehead; he’s there to quietly bring out the warmth and the intimacy of the performance. That’s a very noble mission,” said Was. “And let there be no mistake about it, it takes a beautiful cat to consistently make such beautiful records. I can think of no other figure in the entire

music business who is as loved and respected as Al Schmitt.”

Musician Joe Walsh also spoke at

150 gold and platinum albums—Al Schmitt has sold more records than anybody.”

“When I was a kid growing up in Brooklyn, something like this was beyond my wildest dreams,” said Schmitt, though admitting that he was “kind of a juvenile delinquent in my mid-thirties and forties.”

Schmitt credited several people askey to his success: “I want to thank Tommy LiPuma for 45 years of just great music. What a career we’ve had together.” Schmitt also thanked Paula Salvatore, manager of Capitol Studios, Capitol Records executive Maureen Schultz, and “Art Kelm, for keeping the studio running. He runs a tight ship.” Schmitt also thanked his family, especially his wife, Lisa. The event was attended by a host of music industry notables. (See cover for photo)

“When I was a kid growing up in Brooklyn, something like this was beyond my wildest dreams.”

Al Schmitt

the event, noting, “Elvis, for a while, sold the most records of anybody. For a while, the Eagles did, then Michael Jackson took over. U2 claims they’ve sold the most records of anybody. Nope. Twenty-four Grammys,

briefs

RØDE Microphones Acquires Aphex

SYDNEY, AUSTRALIA—Australian pro-audio company RØDE Microphones (rode.com) has acquired U.S. audio manufacturer, Aphex (aphex.com). Founded in the mid-1970s as Aphex Systems, the company’s audio gear is used in many parts of the pro audio industry, and is arguably best-known for the winkingly named Aural Exciter signal processor, which was inducted into the TEC Awards’ Hall of Fame in 2013. RØDE designs and manufactures microphones and related accessories for studio, live and location use.

Muscle Shoals Redo Begins

MUSCLE SHOALS, AL—Long-planned renovations for the legendary Muscle Shoals Sound Studio at 3614 Jackson Highway in Muscle Shoals, AL are slated to begin in late summer as part of an effort to preserve the facility, made possible through a grant from Beats by Dr. Dre. Les Tillery of Fuqua & Partners Architects, B. H. Craig Construction and Michael Cronin Acoustic Construction have teamed up for the renovation. The non-profit Muscle Shoals Music Foundation (msmusicfoundation.org) now owns the studio, which was founded in 1969 by Swampers Jimmy Johnson, David Hood, Roger Hawkins and Barry Beckett.

WAM Aims For AES Convention

SAN FRANCISCO, CA—Women’s Audio Mission (WAM, womensaudiomission.org), a nonprofit dedicated to the advancement of women in music production and the recording arts, is currently raising funds on IndieGoGo to send WAM staff and interns to the 139th Audio Engineering Society Convention, coming up in New York City on October 29-November 1. Donations can be made on the WAM IndieGoGo page at wam.rocks/1J2MQts



Sound Image Teams With SSE Audio; Adds Italia

NEW YORK, NY—Bringing together the combined strength of two sound companies known around the world, Sound Image in the US and SSE Audio Group in the UK have joined forces for a new venture—United Audio Companies—which will allow each company to provide mirrored, seamless international support for clients on both sides of the Atlantic.



Larry Italia

Dave Shadoan, president of Sound Image (Escondido, CA) noted, “Sound Image and SSE have very similar company philosophies. We both continue to invest heavily in today’s leading technology and we both put a heavy focus on our personnel and service; that is what sets us apart.”

Each of the companies has introduced common technologies so that touring acts will have a simple transition when they travel between the continents. All productions will have additional local contacts assigned to assist planning and coordination and reduce downtime.

“It’s not just a US Company operating via an EU satellite office or vis-versa in the US,” explained Redditch, UK-based SSE Audio Group MD John Penn. “It’s two full-service, national PA companies with a full

complement of staff, service facilities, vehicles, production managers and long-developed support networks that are made available to the touring production—in addition to the equipment inventory and crew. It means that when a tour hits a snag, SSE in Europe or Sound Image in the States are far more likely to resolve the issue quickly.”

In further Sound Image news,

pro-audio industry veteran, Laurence Italia, has been named vice president of Sound Image’s Integration Division. In the new position, Italia will be responsible for new business development for Sound Image Integration as well as assuming management of the day-to-day business and staff. Prior to joining Sound Image, Italia spent more than 28 years at Yamaha Corporation of America, most recently as vice president/general manager of Yamaha Commercial Audio Systems, Inc., where he was responsible for the growth of the company and its Yamaha Commercial Audio products. Sound Image sound-image.com

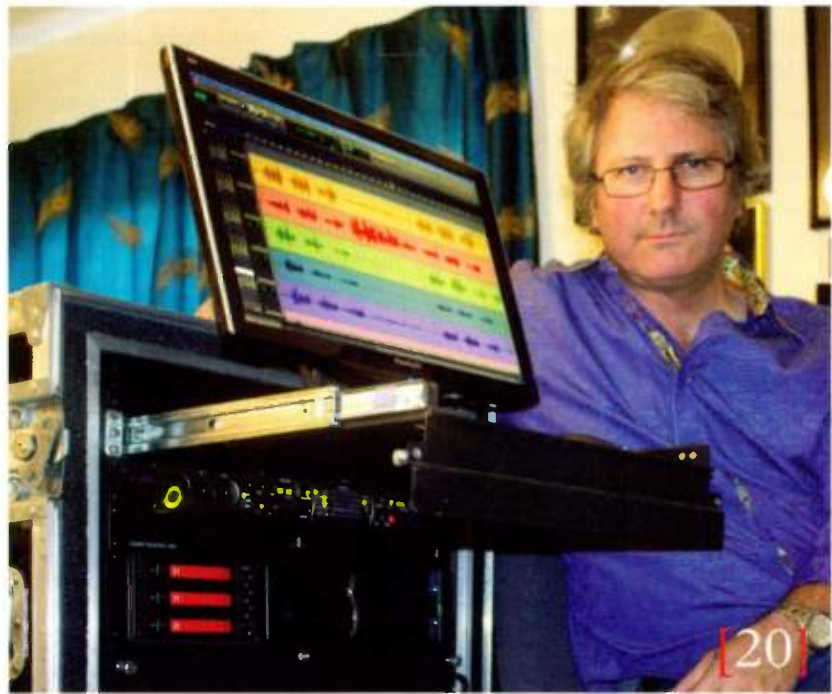
United Audio Companies uac.global



Team UAC (L to R): Mike Sprague, director of Touring, Sound Image; John Penn, MD SSE; Dave Shadoan, president, Sound Image; Jesse Adamson, director of Business Development, Sound Image; Yan Stile, hire director, SSE; Dan Bennett, project manager, SSE.



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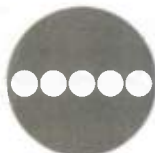


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The Times They Are A Changin' (Still)

If there's been a single dominant theme in this column over the years, it's been change: the rate of change (fast and getting faster), the impact of change (technical innovation fueling business upheaval and driving production and workflow overhaul), the benefits of change (lower cost, high-quality gear), the direction of change (digital everything, networked together).

While we've chronicled the negative impacts of change on our reader's lives (plunging budgets, increased competition, fading business models), we've also kept an eye out for success stories, for proof that talented, clever people can find a way to keep working and even excel in spite of, or perhaps because of, change. That's the hallmark of a *Pro Sound News* story, actually: the profile of one example of success born of perseverance, insight, talent, tools and maybe a little luck.

Sometimes, even folks who've been along for the whole ride can give an example of a way forward. A case in point is the Grateful Dead, which wrapped its farewell tour celebrating 50 years as a band with a five-night pay-per-view (PPV) live event (granted, the credit for the innovation and business model should go to the event production company, Live Alliance—livealliance.tv). Cited as "officially the largest syndication of a live music event in history" by Live Alliance, the tally was 400,000-plus ca-

ble/satellite subscriptions and online streams noted just after the concerts, with the numbers then expected to rise with Video-On-Demand through several more days of availability via satellite and cable.

In 1999, a Backstreet Boys concert generated 160,000 PPV buys—the previous record holder. Live Alliance put together a coalition of media companies to pull off the record-breaking achievement, including DirecTV, Dish Network, iNDE-

Clever people can find a way to keep working and even excel.

MAND, Vubiquity, Bell Canada, Rogers Canada, Major League Baseball Advanced Media and YouTube (for its first-ever paid music-stream event). Thus, the event was available on most any web-connected media device, worldwide, in what Live Alliance dubbed "360 distribution." The actual number of viewers was higher than the subscriber count, of course, once you allow for listening/viewing parties and other multi-viewer usage.

While there will be some old-school physical media follow-up, no doubt, the magnitude of the live and

on-demand views is staggering. Not just any act can repeat this performance, but it's heartening to see successful innovation, nonetheless.

Speaking of change, this is my last issue with *Pro Sound News*. It's been a fabulous 15-year ride, but the time has come for version 6.0 of my career.

As for *Pro Sound News*, it'll be in good hands and filled with familiar faces and bylines. The NewBay Media Pro Audio and A/V Group team is made up of individuals that I've been proud to call colleagues and that I will always call friends. That group includes Clive Young, who's been here longer than I have and is the anchor of the magazine; Strother Bullins, whom I've had the pleasure of working productively with in various capacities since the late nineties; Steve Harvey, who is an utterly reliable content-creating machine, and a major factor in any success I've had in publishing; and Tom Kenny, once a competitor, more recently a partner and always a comrade in the endeavor to make this a better industry. Behind the scenes is a crack production team made up of some of the finest people I know; you benefit from their hard work every month and they make the rest of us look good.

As for me, I'm not leaving pro audio, so for those of you with whom I cross paths regularly; I'll see you soon, wearing one of a few new hats.

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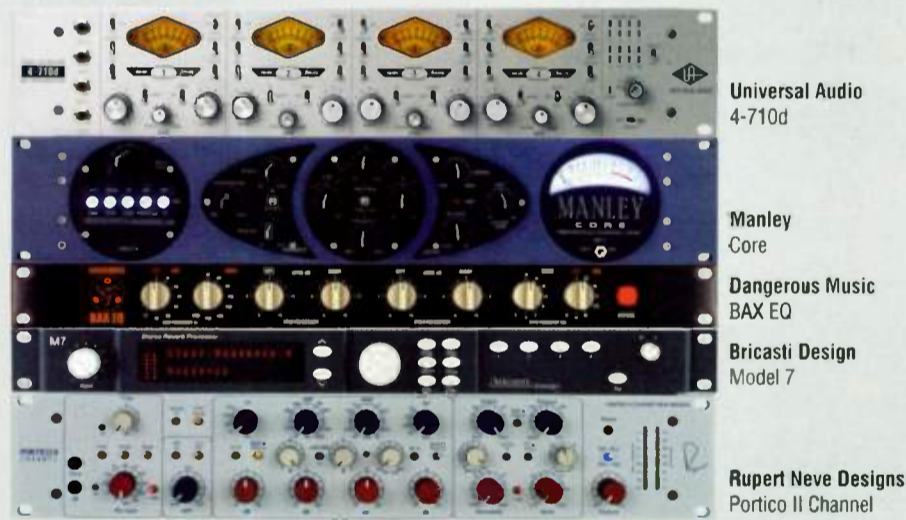
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GUEST COMMENTARY BY CHRIS DAVIE

Chris Davie has worked at the elite level of audio production and served as the vice president of the US division of SAE Institute. He is now managing partner of the consultancy firm, Sonority Group, specializing in education for creative industries (sonoritygroup.com).

NASHVILLE, TN—When I sought a school to learn audio engineering, the choices were very limited. In the decades since my education experience, aspiring audio engineers have become bombarded with choices and, in many cases, extremely skilled marketing and admissions departments are wooing them to attend their programs. This trend has been exempli-

fied not only in professional audio education but also across almost all academic studies; it has become the norm in public, private, not-for-profit and for-profit schools. As a result, we are seeing enormous growth in student debt and graduates not finding what the Department of Education terms “gainful employment.”

Gainful employment is a highly controversial topic in the Higher Education ranks and, as of July 1, 2015,

something all for-profit, many not for-profit and community colleges are becoming intimately familiar with. New regulations were imposed which hold a school accountable for the debt its graduates carry after graduation and that graduate’s ability to repay that money. The Department of Education estimates that if all schools governed under this new regulation were required to meet the standards immediately (there is a grace period to allow schools to prepare), 1,400 programs would fail the metrics and those students would lose their eligibility for financial aid, likely killing the future of the programs. The quick version of the regulation is that a student’s loan debt must stay within a certain percentage of his/her post-graduate earnings. If your program does not produce skilled and working graduates able to repay their loan debts, the school loses the ability to rely on federal financial aid—which can currently account for up to 90 percent of a school’s revenue stream.

So what does that mean for pro-audio education? There are three big factors at play in the equation of accountability to the Department of Education and ultimately the taxpayers: cost of attendance, student outcomes and graduate placement. They all boil down to whether a student is prepared and ultimately gainfully employed. The schools that balance those three factors will be in a great position, regardless of any new or existing regulations. Unfortunately, many institutions have poured huge dollars into the acquisition side to increase profit margins, build large infrastructures and train large volumes of students. They will need to re-balance quickly as those students graduate and search for jobs to pay back the accumulated loan debt. Accountability for career placement is not a new concept; however, tying graduates’ loan debt to income is. Considering a graduate placed for earning a few hundred dollars pulling feeder at a weekend festival is very different than that graduate’s ability to repay the government on a \$50,000 loan debt.

Some schools are beginning to insulate themselves from the Department of Education’s regulations by opting to not participate in Federal Financial Aid, offering apprenticeship-based education or shuttering certain programs. I think we will see many more non-traditional education options developing as a result. A key part of their success will be the collaboration and acceptance from industry. Graduate success is the ultimate metric for the quality of a program and though frightening for some, it is a very exciting time for pro-audio education. The educators that embrace the concept of “what’s best for the student” will no doubt excel.

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139th AES Convention NYC

NEW YORK CITY, NY—*If it's about audio, it's at AES* is the theme as this year's 139th AES International Convention prepares to take over the professional audio landscape of New York City, October 29–November 1, 2015, at the Jacob Javits Center. From the Special Events and Exhibition Floor presentations which can be enjoyed with just a free Exhibits-Plus badge, to the four days of in-depth Tech Program available to holders of the premium All Access badge, the 139th AES Convention will offer a range of topics and technologies that span the audio industry.



OCULUS' CHIEF SCIENTIST ABRASH TO KEYNOTE 139TH

Michael Abrash, chief scientist at Oculus, will give the opening Keynote Speech at this year's 139th AES International Convention in New York City. Known for his groundbreaking work in high-end graphics, performance programming and virtual reality, Abrash will offer his unique insights in his Keynote Speech, titled "Virtual Reality, Audio, and the Future," taking place at the Jacob Javits Center on Thursday, October 29, 2015, at 1pm in the Convention's Special Events Room.

Abrash's career has spanned a wide range over the last 30 years. He was the GDI development lead for the first two versions of Windows NT, joined John Carmack to write *Quake* at Id Software, worked on the first two versions of the Xbox video game console, co-authored the Pixomatic software renderer at Rad Game Tools, and worked on Intel's Larrabee project. Additionally, Abrash worked on both augmented and virtual reality at Valve, and currently leads the Oculus Research team. Oculus is focused on enabling players to experience anything, anywhere through virtual reality. The Oculus Rift and the Oculus-powered Samsung Gear VR allow players to step inside and immerse themselves in virtual worlds. As a result of the global Oculus developer community, VR is poised to transform gaming, storytelling, film, and much more. Abrash is also the author of several books, including *Michael Abrash's Graphics Programming Black Book*, and has written and spoken frequently on related topics.

"Michael's address is a great opportunity to bring awareness of VR to the audio community," stated AES139 Co-Chair, Jim Anderson. "In the future, audio will contribute to this field in ways that we can only presently imagine."



Michael Abrash, Oculus chief scientist Live Sound Expo To Inspire AES NYC

PROJECT STUDIO EXPO BACK

The 139th AES International Convention will once again showcase the popular Project Studio Expo (PSE) on October 30, 31 and November 1 at the PSE Stage on the Exhibition floor. The PSE offers presentations targeted to working in personal and project studio environments and is open to all AES139 attendees with either an Exhibits-Plus badge (free with advance registration) or a premium All Access registration.

This latest edition of the AES Project Studio Expo is presented in association with *Sound On Sound* and sponsors Genelec, Neumann and Prism Sound. This year's presenters on the PSE Stage for days one and two are slated to include respected industry veterans Craig Anderton, Larry Crane, Fab Dupont, Brian Jackson, Manhattan Producers Alliance, Hugh Robjohns, Mike Senior, John Storyk and Paul White. Topics cover a wide range of topics, from "Making the Most of Your Project Studio Purchasing Budget," "The Five Most Common Project Studio Recording Mistakes" "Personal Networking for the Audio Professional," "Outside the Box: Alternative Outlets for Your Music" and "Building and Developing a Career," to more technical issues.

On the third day of the Project Studio Expo, November 1, premier sponsor Prism Sound will take over the PSE Stage to present its "Mic to Monitor" series of educational seminars and workshops. Targeted at all levels of music production and engineering attendees, Mic to Monitor aims to dispel the many myths surrounding the recording process. The events answer all-important questions, such as what makes great gear "great," what it takes to become a successful and in-demand audio engineer, how recording professionals tackle different aspects of their productions, and how a hit sound is achieved. Each seminar features presentations from recording professionals, with audience Q&A, and opportunities to demo and win recording equipment.

LIVE SOUND EXPO TO ROCK AES

A quarter of all AES Convention attendees are involved in live sound; accordingly, along with the technical program's Live Sound Track, the 139th AES Convention will feature the return of the Live Sound Expo (LSE), introduced in L.A. in 2014 and produced in association with *Pro Sound News*.

Sponsors for the LSE include Cadac, Clear-Com, DiGiCo, DPA Microphones, EAW, L-Acoustics, Optocore, Sennheiser, VUE Audiotechnik, Waves Audio and Yamaha. This year, the LSE will be broken up topically across three days, addressing important segments of Live Sound and Sound Reinforcement.

Broadway Day (Friday, October 30) will include theatrical oriented sessions on Vocal Miking; Wireless Issues for Live Theater: Broadway and Beyond; Theater Sound System Design and Optimization; Console Automation; Networking; and Sound Design.

The Word And Music: House Of Worship Sound/Fixed Install Day (Saturday, October 31) presentations include topics such as Speech Intelligibility; Miking Grand Piano and Choirs; Mono vs. Stereo vs. LCR; IEM Fundamentals and Hearing Conservation; The Future of Wireless; and Modern Digital Mixing Console Fundamentals.

Tour Sound Day (Sunday, November 1) includes Virtual Sound Checks And Processing In A Networked Environment; Shed and Arena Loudspeaker Optimization: Pulling Big Shows Together; Choosing the Right Vocal Mic; and Talking with the Artist: Sharing the Vision.

"AES in New York was where I introduced a Live Sound Loudspeaker Networking Users Group in 1987 at the 83rd convention, and it has always been a destination for professional live sound, where it's the only pro-audio trade show to address standards and professional papers, while showcasing demo rooms and new products," stated veteran live sound engineer, writer/editor and Live Sound Expo host, Mark Frink.

The Live Sound Expo will be located on the show floor next to the exhibits. It is open to the public and is free with advance registration.

AES139 Convention
www.aes.org/events/139

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Going Wireless In Front of 400,000 Fans

LONDON, UK—Modern-day troubadour Ed Sheeran has made a name for himself in North America, but that's nothing compared to back home for him, where his current tour sold 400,000 tickets into two venues alone—London's Wembley Stadium and Dublin's Croke Park. As his crowds have grown bigger, going wireless for mics and his guitar

has become a necessity—but it wasn't a hastily made decision.

Supplied by production company Major Tom, Sennheiser's 2000 series wireless monitors and its flagship Digital 9000 Series microphones were in use throughout the UK tour. Front-of-house and monitor engineer Chris Marsh decided to change the microphone during Ed's last US tour, using Digital 9000 for his vocal, loop vocal and guitar [See this month's Centerstage chart on page 50 for more on his US tour]. "Digital 9000 Series has changed our lives," said Marsh.

"We had been looking at ways of moving Ed's guitar away from being wired, but we hadn't found a good-enough wireless system for him to lose the cable, which he'd been using since the very beginning. That was until we tried Digital 9000; unlike others we tried, we found it sounded even better than the cable.

"From an audio point of view, his vocal became a lot more prominent and his guitar sounded more natural. On top of that, we've been doing stadiums, so having something that has such strong RF capability made a real difference. It meant that Ed could be

up to 50 meters away from the receivers and still have rock-solid reception. It's made a really big difference to the show and to Ed's ability to move around the stage."

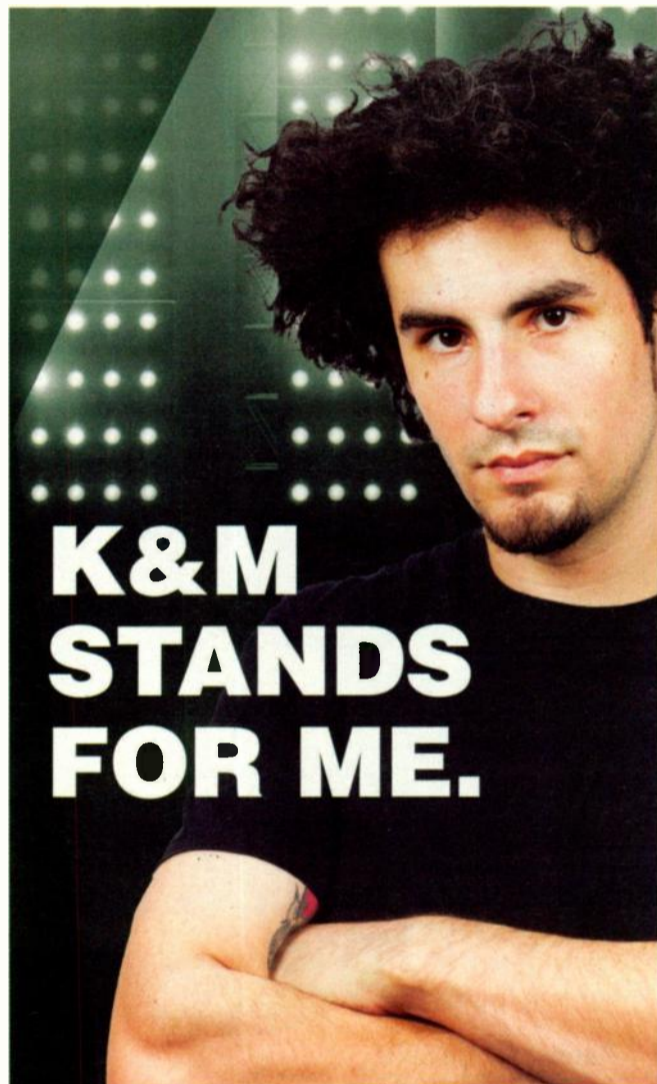
"Sennheiser has a long-standing relationship with both Chris and Ed," says Phil Cummings, relations manager EMEA for Sennheiser. "When we suggested that Chris try Digital 9000 for Ed, we were confident that it would perform as they wanted it to. We're delighted that it proved to be the right choice."

Sennheiser
sennheiser.com



CHRISTIE GOODWIN

400,000 fans attended Ed Sheeran's two weekend appearances in London and Dublin.

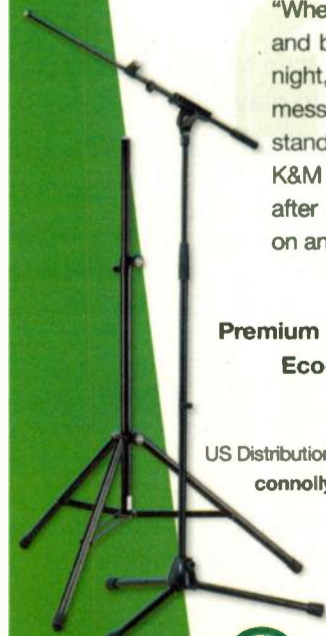


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Giving A Voice To The Voice Norway

FORNEBU, NORWAY—*The Voice* has become a worldwide phenomenon, with localized versions airing around the globe. Such is the case with *The Voice Norway*, which recently shot its 2015 edition in the 1,200-seat H3 Arena in Fornebu.

The production used VUE Audiotechnik PA for the house sound system, designed and installed by avonlyd AS. OB Team was in charge of the complete broadcast production including sound production, with avonlyd AS orchestrating the live studio sound production as the sub-contractor.

Edgar Andraa Lien, founder and systems engineer, avon chose, in cooperation with engineer and co-owner of avon, Tor Erik Johansen, a varied complement of VUE Audiotechnik loudspeakers in his system design: "We used six hs-28 dual 18-inch ACM subwoofers, four hangs each with four al-8 high definition line array elements, and two hangs each with one al-4SB flying subwoofer system and

six al-4 subcompact line array elements. The systems were flown in a U-shaped configuration with al-4s placed at the end of the stage behind the mentors' chairs."

All inputs from the stage went to the FOH Yamaha PM1D console and monitor consoles, with some of the lines subject to a four-way split. All of the band and vocal inputs were fed to the mixing suite, while the speech and audience microphones were sent to the OB truck. During the blind auditions, the singers used VUE Audiotechnik hm-112 high definition stage monitors, and then for the next rounds (Duels, Knock Out and Live) they were on in-ear monitors. Monitor mixes were generated using a Soundcraft Vi3000. IEMs were Shure, as were all of the microphones.

FOH mixing duties for all of the artists performing on *The Voice Norway* were handled by Johansen. "The FOH mixing position was situated between two al-8 hangs to provide a solid stereo image, and we placed a pair of VUE i-6a compact full range foreground systems on the for nearfield use," he explains. For some of the songs, band members moved from their normal positions out to the stage, in which case Johansen dealt with a total of 20 IEM systems and as many as 30 wireless microphones.

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Is Recording's Next Generation at the Library?

Faced with changing demographics, shrinking budgets and dwindling book-circulation numbers, many public libraries have begun reinventing themselves by adding Maker Spaces: tech-savvy facilities that provide everything from graphic-arts software like Photoshop and InDesign to 3D printers to simple—but sometimes complex—recording spaces.

While the rise of inexpensive pro audio gear has made it easier for people to create their own recording spaces, that equipment can still be frustratingly out of reach for those in poor neighborhoods—and through maker spaces, libraries can change that. Discussing the Memphis Public Library's recording space, Cloud 901, teen services coordinator Janae Pitts-Murdock told local TV station Fox13, "Teens who have that creative spark, who have that innovative spark, can have a place to hone those skills, to develop some 21st century skills, and it's an alternative to idle hands after school hours."

Recording at the library may well catch on—in St. Louis, the Central Library opened its own recording space in May, 2014, where in its first 15 months, more than 2,000 people used their library cards to book free time in the studio. "We've got young people coming in here working on music, older folks doing histories and poetry projects and recording for their community groups. The amount of products coming out is amazing and the diversity is even more amazing," Rob Tygett, manager of Digital Library Services, told local station KPLR.

For more, visit prosoundnetwork.com/sept2015.



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Pro Sound News brings you audio news every weekday on prosoundnetwork.com, Twitter (@[prosoundnews](https://twitter.com/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/sept2015.

- ▶ A Singapore sound engineer recorded noisy neighbors to prove they were too loud; now its a side business.
- ▶ Details on @USCThornton's new music production degree, created with @Young_Guru.
- ▶ Barron Studios recorded a 2 1/2-hour, 318-verse rap track for world-record attempt.



BLOGGINGS



THE BATTLE TO CAPTURE BATTLES

Battles has always been an interesting band, staking out a musical space somewhere between the conformity of modern electronic loop-based music and the improvisational nature of experimental, freeform rock. The trio mines the tension between musical forms, but recording that push-and-pull so that it maintains an organic truth isn't a simple process—and that's captured in the new, short documentary, Battles: The Art of Repetition.

IN-EAR MONITORS VS. THINGS IN YOUR EARS

For years I have regretted my pierced tragus. The tragus is that little flap of skin that covers the opening in to your ear canal. The actual piercing is remarkably painless (not a lot of nerve endings there). Trying to fit in-ear monitors or earbud-type headphones around the ring? Impossible—and very painful. An earbud never stays in place for long, so I can either jam it back in place every few seconds, live with over-ear headphone sweat (yum), or accept the poor stereo imaging from having one headphone further away from my ear than the other.

Find these blog posts at prosoundnetwork.com/sept2015.

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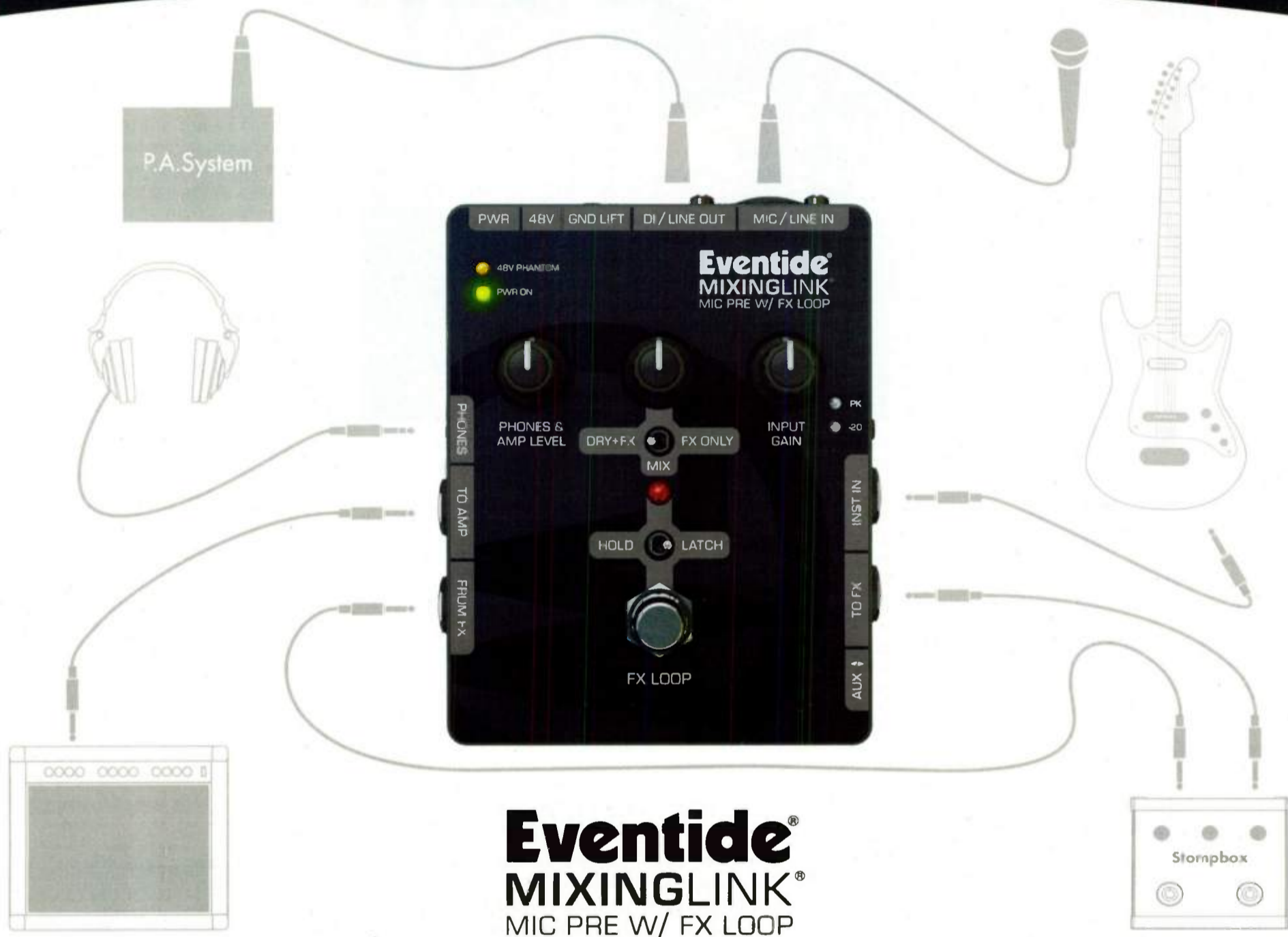


Urban Development

All the studio sheen in the world won't help a song if it's not working right. Watch country star Keith Urban and his longtime producer Dann Huff as they record Urban's latest single, "John Cougar, John Deere, John 3:16," at Nashville's Blackbird Studios, trying everything they can think of to make the track click. It must have worked—it sold 221,000 copies in the US by the end of July. Catch the clip at prosoundnetwork.com/sept2015.

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[20] soundRECORDING IIII

Solving The Devil's Dilemma: Road Recording

BY STEVE HARVEY

ANTIOCH, CA—After several years of separately developing their own mobile workstations for use on the road, veteran touring FOH engineers Brad Madix and Greg Price partnered up to create Diablo Digital, Inc. in 2013. The rigs, ranging from very compact rack-mounting solutions to stand-alone road case racks, are custom-configured to meet the needs of Diablo Digital's clients, but are essentially standardized on components from Apple, Avid and Sonnet Technologies.

The incorporation of multitrack recording and playback into the live performance workflow is nothing new, of course. But now, it seems, whether for multitrack recording for archiving, release or virtual soundcheck, playback of tracks to reinforce the performance, or for on-the-road editing, artists and their touring engineers are embracing mobile workstations.

"You are seeing people multitracking shows way more often than you did a few years ago," says Madix, currently on tour with Rush. Madix's resume also includes Beck, Van Halen, Shakira, Alanis Morissette, Jane's Addiction and many others. "Dierks Bentley has used our systems for a long time, Soundgarden had a sys-



Brad Madix of Diablo Digital with one of the company's live multitracking solutions, featuring Avid Pro Tools|HD software running on a Mac Mini in a Sonnet housing that also provides storage and console interface.

tem for a while, and Ozzy Osbourne and Black Sabbath both use them," he says.

"I tried to do this with Shania Twain back in 2004; we were lucky to get through a show," he continues, adding, "I didn't get into this to start a company; I got into it because I was frustrated with the gear I was getting." Happily, technology has advanced and now compact yet very powerful

systems may be easily packaged to withstand the rigors of touring.

Having individually assembled systems based on bulkier Mac Pro computers, Madix and his San Francisco Bay Area neighbor Greg Price—whose own touring credits include the likes of Van Halen, Rage Against the Machine, KISS, Aerosmith and others—first put their heads together a couple of years ago to develop a

more roadworthy rig. Sonnet's xMac Mini Server, a Thunderbolt-to-PCIe 2.0 expansion system and 1U rack-mount enclosure, offered a suitably compact solution.

"We tend to pop an Avid Native card in there, but we have done them with HDX cards as well," Madix elaborates. "We're not looking for plug-in power capacity as much as just getting onto the hard drive and back out again."

Diablo Digital's compact system includes Avid Pro Tools|HD software running on the Mac Mini, with the Pro Tools|HD Native PCIe card providing an interface to the Avid Venue console. Typically, a Sonnet Tempo SSD PCIe storage card in the second slot acts as the record drive. The system has a 64-track I/O capacity.

"We get a lot of work for those things," says Madix. "They're relatively inexpensive, which is really what drove us in the beginning. We're trying to get to the point where essentially you can throw this in with the system." But, he notes, connecting to a DiGiCo or Midas desk is slightly more complex and therefore more expensive, involving a DigiLink-to-HDX card or AES50 interface respectively.

A physically larger Diablo Digital
(continued on page 28)

Spatial Sound Imagined: *Smoke + Mirrors*

BY STEVE HARVEY

CALABASAS, CA—A unique collaboration enabled concertgoers at each show on the recent North American tour by Imagine Dragons to immerse themselves in artwork inspired by the band's new album presented in tandem with DTS Headphone:X mixes of each song. Nathaniel Kunkel mixed the tracks into the virtualized 11.1 presentation format from multitrack assets delivered directly from Manny Marroquin, who mixed this latest album, the band's second, which is entitled *Smoke + Mirrors*.

According to Jordan Miller, global communications director for DTS, "The band are true audiophiles and know DTS technology well; that was what made this current collaboration so great. The mutual respect and appreciation between DTS and Imagine Dragons was the key to the success of this project.

The Las Vegas-based pop-rockers had final approval of all the DTS Headphone:X mixes and were reportedly pleased with the outcome.

"We delivered the songs to the band for review as soon as they were internally approved, and the guys gave their thumbs up to each one. They were impressed right away and had minimal notes," Miller reports.

Smoke + Mirrors went straight to the top of the *Billboard* 200 chart upon release in mid-February, moving 195,000 units in its first week, more than doubling the best week of sales

Cantor apparently came up with a few hundred sketches that were subsequently whittled down to 14, one for each track on the album, as well as the album cover.

At each stop on the 40-date North American leg of the band's 10-month-long *Smoke + Mirrors* world tour, which currently extends through late February 2016, Cantor set up a pop-up art gallery at which

"Instead of having to fit and mask all of the musical elements in two channels, the mixes can breathe in 360 degrees of space."

Jordan Miller, DTS

for *Night Visions*, the band's debut release. Sales of *Night Visions* have been steady, totaling 2.5 million copies to date, enough to keep it in the *Billboard* 200 for 129 straight weeks—all but two of those in the top 100.

In 2014, during pre-production for the new album, the band reportedly invited San Diego-based visual artist Tim Cantor into the studio to hear some demo tracks. Inspired,

attendees could listen on DTS headphones to each track while studying the artwork it inspired. In a video available online, DTS captured the reaction of Dan Reynolds, the band's front man, to what he describes as the "3D landscape." "You're hearing the guitars floating around from behind you and above you; especially for us, it was exciting," he says.

While the Headphone:X mixes

stay true to the album's stereo versions, the immersive format offers a platform for some dynamic panning of elements such as drums and bass on "I'm So Sorry" and guitar at the end of "Hopeless Opus." Miller comments, "The original production on all the tracks on *Smoke + Mirrors* is very intricate and wonderfully mixed in stereo, so we had an amazing album to begin with. By design, the benefit of DTS Headphone:X is that it allows the auditory canvas to expand for the artist. Instead of having to fit and mask all of the musical elements in two channels, the mixes can breathe in 360 degrees of space."

DTS Headphone:X virtualizes 12 speaker positions—7.1 plus left and right front and rear height—into a mix that will reproduce in immersive sound on any pair of headphones. *Man of Steel*, featuring music for the film composed by Hans Zimmer, was the first soundtrack album to be released using the Headphone:X codec, in 2013.

Miller continues, "Certain tracks allowed for more creative freedom
(continued on page 28)

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DAW Migration

(continued from page 1)

I wasn't too surprised; it was a lot of tracks and, of course, I realized TDM was long in the tooth. So, I rented an HDX rig. Still not enough horsepower: a two-card HDX was what I needed to play the session back. That experience made me realize how powerful the native side of the fence is getting."

Today, Rowe is elbow-deep in PreSonus Studio One, a native DAW now in its third version. "It's the first DAW, excluding PT, where nearly everything I wanted to do was intuitive to me. Other 'Pro Tools killers' I've auditioned over the years seemed intentionally obtuse; I attribute that to them evolving from MIDI sequencers rather than audio editors. As an engineer, Pro Tools always made perfect sense to me. Were I a MIDI programmer, I'm certain I'd feel differently."

Engineer Russ Long, also Nashville-based, has been a Pro Tools user since Sound Tools as well, yet has experienced the wide range of available DAWs through real-world usage (and has evaluated them in the pages of *Pro Sound News* and *Pro Audio Review* over the years). He has his own theories on why Pro Tools has had seemingly undefeatable staying power amongst pro users. "It's a living, growing piece of software that continues to be updated on a regular basis," he explains. "Avid listens to its user's requests and complaints, and

Nashville Engineer Christopher Rowe is exploring migration to a new primary DAW, with PreSonus Studio One the current front runner.



constantly updates the application. That said, there are features available in other DAWs that I'd love to see added to Pro Tools: folder tracks; multiple-location marker rulers; the ability to have multiple projects open simultaneously and being able to drag audio, plug-ins, tracks directly from one project to another."

Long explains that the user's own skill is the true determining factor of whether a DAW is "pro-worthy," though Pro Tools has deservedly held its top position for solid reasons. "It's easy to use, it sounds great and since most everyone has it, shuffling projects back and forth between collaborators is generally quicker and easier.

Workflow features play a role in preferences, too. For example, many music programmers prefer the workflow of Cubase and Logic for the music creation process. Computer-platform preferences can weigh into the decision process, too: Windows OS users don't have the option of running Apple Logic, and Mac users can't run Cakewalk Sonar. Linux OS users have far fewer options than Windows or Mac, yet Harrison's Mixbus is one of the few DAWs that will run on all three. [Russ Long is currently reviewing Mixbus version 3 for an upcoming issue of *Pro Sound News*—Ed.]

Regarding Mixbus, its largely open-source component—the Ardour

workstation—is compelling for a variety of reasons. DAW collaborators are able to make changes, add features and otherwise contribute to the project. According to Harrison's Ben Loftis, online buzz ensued when a user contributed a reportedly working feature that allows Mixbus to import Pro Tools V.8 and V.9 session files directly; ptx. (Pro Tools 10) file compatibility is also reportedly underway. Loftis had no comment about this feature, "because it wasn't yet released."

Meanwhile, feature-film mixer Ian McLoughlin (*Babe*, *Dark City*) is a long-time user of Pro Tools and was also involved in the design and development of Edi-Tracker, an early DAW that used a touchscreen interface. McLoughlin also finds Mixbus quite alluring. "While Pro Tools is a great editing platform, it is just not designed as a mixing interface," he explains. "Mixbus, however, has been designed by a console manufacturer from the ground up as a dedicated mixing and mastering system. I can scan over 24 channels and see fader, pan, EQ, dynamics and Aux sends in one glance. It takes me far less time to get a great sound together on Mixbus."

"Some DAWs have caught up and, in some ways, surpassed Pro Tools."

Christopher Rowe

Rowe is auditioning Mixbus as well, but thus far, a Studio One migration seems to be the most comfortable. "Harrison has been doing digital control of analog better and longer than anyone," he notes, "so yeah, I'd love to see them get a foothold. As for Studio One, I think it's the similarity in workflow with PT that interests those of us who have been PT users since its pre-history. I've always loved the tight relationship of software to hardware that PT has, and I loathe the idea of having to use Core Audio, JACK or some other layer between the I/O and DAW. If Harrison implements some hardware that works directly with Mixbus, it would make it that much more interesting to me. Then again, I love the idea of using multiple DAWs and having hardware available to any of them. I love Universal Audio's UAD stuff, so maybe a couple of those new Apollo 16 units are in my future. I'm just not sure where I'll land just yet. But I know it won't be on PT 12."

(continued on page 27)

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The Ever-Evolving Subscription Model



BY CRAIG ANDERTON

It seems like only yesterday we covered changes in subscription software—last March, to be exact. But, in “computer years,” six months can be an eternity, and the subscription model continues to evolve and mutate.

Let’s pick up where we left off last month—Windows 10. That column covered audio tech, but now consider the distribution method. Although Windows 10 has been touted as “free,” it’s free only to those upgrading from Windows 7 or 8; computer companies will still need to pay for licenses with new computers, as will you if you want a new version.

But circling back to the main topic, you can think of Windows 10 as a subscription *portal*. Sure, you can use the included free Office lite apps—but I think Microsoft hopes you’ll subscribe to the full versions. Ditto for the free online storage, where you can buy more when you run out. And that “free” software will allow for some powerful data mining that makes serving you targeted ads just that much easier. I suspect if I ask Cortana (the Siri-like assistant) to find reviews on a new microphone, ads for that mic and its competitors will show up shortly thereafter.

Part of this addresses the reality that many users are still stuck on Windows 7 or even XP. By making Windows 10 an ever-evolving operating system that doesn’t require extra cash outlays but tempts users with products and especially subscriptions, Windows 10 users are likely to consume something from Microsoft eventually. This is a variation of sell the blades, not the razor.

We’re also starting to see content rentals. EastWest is known for exceptional sample libraries, but they’re not cheap. Enter Sounds Online Composer Cloud, where \$29.99 a month lets you access any products from its extensive collection of 49 virtual instrument libraries, and includes new libraries as they’re introduced. There’s also a student option that accesses fewer libraries for \$14.99, and even a one-month trial subscription where you can download four libraries for a month. However, you can still buy “perpetual licenses” (like Avid and Slate Digital) if you want to own products outright.

Price points. Interestingly, Composer Cloud was introduced in April at \$49.99 a month. 90 days later, the price dropped to \$29.99. Maybe the \$49.95 price didn’t get traction, or maybe it *did* get traction and EastWest figured they’d pour gasoline on the fire, but \$29.95 seems like a

“sweet spot” price. Slate’s two bundles rent for \$19.95 and \$24.95 a month, and Avid’s Pro Tools’ monthly rental is \$29.95 (or \$24.92 if you commit to a year, billed monthly—although I don’t understand why they didn’t choose \$24.96, just to be high-res). Adobe Audition rents

for \$19.99 a month, with no option to buy outright. Sonar sells only perpetual licenses, but you can pay upfront or in 12 monthly installments (\$9.99 to \$49.95 a month, depending on the version). So they’re all in the same general range.

(continued on page 27)

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ARTIST: ENOLA FALL
ALBUM: HELIOTROPIC
LABEL: SELF-RELEASED
PERSONNEL:

Produced by: Lachlan Mitchell
Engineered by: Lachlan Mitchell
Mix Engineer: Ryan Miller
Studios: Jungle Studios, Attic Studios (Sydney, Australia)
EQUIPMENT NOTES: API 312, Neve, Seventh Circle Audio J99 pre amps; Apogee AD converters; Avid Pro Tools 10HD; KRK V8, Yamaha NS-10 studio monitors



ARTIST: VON GREY
ALBUM: PANOPHOBIA
LABEL: SELF-RELEASED
PERSONNEL:

Produced by: Dan Hannon
Engineered by: Dan Hannon
Mix Engineer: Dan Hannon
Studios: Eldest Only Productions (Buford, GA)
EQUIPMENT NOTES: API 1608 console; Avid Pro Tools; Barefoot Audio MM27, Yamaha NS-10 studio monitors



ARTIST: DAVE RAWLINGS MACHINE
ALBUM: NASHVILLE OBSOLETE
LABEL: ACONY RECORDS
PERSONNEL:

Produced by: David Rawlings
Engineered by: Matt Andrews

Mix Engineer: Matt Andrews
Studios: Woodland Sound (Nashville, TN)
EQUIPMENT NOTES: Neve Broadcast console; tape machine; Westlake Audio BBSM-10 studio monitors



ARTIST: TODD TERRY
RELEASE: "SINISTER"
LABEL: DIM MAK

PERSONNEL:
Produced by: Todd Terry
Engineered by: Bill Klatt
Mix Engineer: Bill Klatt
Studios: InHouse (Brooklyn, NY)
EQUIPMENT NOTES: Apple Logic Pro 9; ADAM S3A, Genelec 1031 studio monitors; Waves Platinum Bundle, SSL Collection, API Collection; Soundtoys



ARTIST: VIA
ALBUM: SANITIZE THIS
LABEL: PAVEMENT

PERSONNEL:
Produced by: Bryan Mengy
Engineered by: Bryan Mengy
Mix Engineer: Colt Leeb
Studios: Northwood Recording Studio (Minneapolis, MN)
EQUIPMENT NOTES: SSL console; Avid Pro Tools; Yamaha NS-10 studio monitors



ARTIST: JANE ANTONIA CORNISH & DECODA
ALBUM: CONTINUUM
LABEL: INNOVA RECORDINGS

PERSONNEL:
Produced by: Jane Antonia Cornish
Engineered by: Rob Macomber
Mix Engineer: James T Hill
Studios: Varis Leichtman Studio at Jazz at Lincoln Center (New York, NY)
EQUIPMENT NOTES: 48-fader Avid D-Control surface; Millennia Media HV-3R preamps; Avid Pro Tools 10 HDX 96 kHz 24-bit; Antelope Isochrone 10M Clock; Apogee AD converters; Adam S4A Mid Field, S6A MkII studio monitors



ARTIST: EDISUN
ALBUM: COLLISION
LABEL: SRG RECORDS

PERSONNEL:
Produced by: Charley Drayton; Claude Villani; Ethan Isaac; Kenny Cash
Engineered by: Kenny Cash; John Shyloski; Ethan Isaac; Francis De Silvi; Tom Stewart
Mix Engineer: Ron Saint Germain; John Shyloski; Kenny Cash
Studios: Factory Underground Studio (Norwalk, CT)
Mastered by: John Shyloski
EQUIPMENT NOTES: Slate Raven MTI control surface; Apple Logic X; Avid Pro Tools 9; Focal Solo6 Be, Sub6 studio monitors; Avalon, API, Universal Audio, HHB, Chandler preamps; Apogee Symphony I/O; Sound Deluxe 251, Royer 121, Heil, AKG 414, Sennheiser 609, 421, Shure SM81, SM57 mics



ARTIST: MURDER FM
ALBUM: HAPPILY NEVERAFTER
LABEL: FAMOUS/SONY RED

PERSONNEL:
Produced by: Beau Hill; Norman Matthew
Engineered by: Norman Matthew
Mix Engineer: Beau Hill
Remix Engineer: Tommy Lee
Studios: The Sound Foundation (Dallas, TX)
EQUIPMENT NOTES: 3 Stacked Tascam US1800 I/O; Cakewalk V-Studio 700 surface; Cakewalk Platinum; Yamaha NS-10, Tannoy studio monitors



ARTIST: ECSTATIC VISION
ALBUM: SONIC PRAISE
LABEL: RELAPSE RECORDS

PERSONNEL:
Produced by: Douglas Sabolick
Engineered by: Douglas Sabolick, Joe Boldizar, Dino Lionetti
Studios: Retro City Studios, The Fire, Kung Fu Necktie, home studio (Philadelphia, PA)
Mastered by: Brad Boatright
EQUIPMENT NOTES: Steinberg Cubase; Avid Pro Tools; Yamaha NS-10 studio monitors



ARTIST: BOB MOSES
ALBUM: DAYS GONE BY
LABEL: DOMINO

PERSONNEL:
Produced by: Tom Howie, Jimmy Vallance
Engineered by: Tom Howie, Jimmy Vallance
Mix Engineer: Spike Stent, David Wrench
Studios: The Candle Factory (Brooklyn, NY)
EQUIPMENT NOTES: Apogee Ensemble; Ableton Live; KRK Rockit 8 studio monitors

Capitol Calls GC Pro

WESTLAKE VILLAGE, CA—A.T. Kelm, vice president, general manager and chief engineer at Capitol Studios in Hollywood, called on Guitar Center Professional (gcpro.com) for new gear, including a pair of Avid S6 Pro Tools control surfaces for the writers' rooms and a complement of Dante-enabled Focusrite RedNet interfaces.

SongCrafting with Metric Halo

SAFETY HARBOR, FL—Mike Crehore and Al Houghton, two of five partners in SongCraft Presents, which works with an established singer-songwriter to compose and record a song in just three hours, use Metric Halo (mhlabs.com) ULN-8 and ULN-2 interfaces for pre-amplification, conversion and processing when producing on location or at Houghton's Dubway Studios in NYC.

WSDG Builds for Marsalis

NEW ORLEANS, LA—Walters-Storyk Design Group (wsdg.com) has completed a 230-square-foot recording studio control room equipped with JBL M2 monitor speakers and an SSL AW5 948 console for the Ellis Marsalis Center for Music, located in the Musician's Village in New Orleans, that is designed to record and mix live shows from an adjacent 170-seat performance hall.

Katie Lee Debuts with T-funk

SOUTH WINDSOR, CT—Producer and studio owner Matt Amendola used a Telefunken (telefunken-elektroakustik.com) AK-47 tube mic and MSO dynamic mics exclusively for vocals on the debut album by Katie Lee, together with a DD5 drum package on the drum kit and the AK-47 as a room mic for drums and piano, and on acoustic guitars.

Anderton

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The future. Renting content solidifies the appeal of renting for specific projects. For example, if you're remixing a Pro Tools project that uses Slate plug-ins but you use Cubase, you can rent Pro Tools and Slate's plug-ins for a month, or transfer the Pro Tools files to Cubase and rent just the Slate plug-ins. And if you want to add an orchestral arrangement to a song, then take a trip to Composer Cloud for a month.

Before too long, we may start to see rentals by the week or even the day. Studio Instrument Rentals was essential for my session work back in the day, so a software "virtual backline"

DAW Migration

(continued from page 24)

For pro users like Rowe and Long, it seems multiple DAW platforms, varying on client setup and creative needs, is the way of the future. Luckily, our industry's trends in digital I/O will likely support this work philosophy quite well. "It seems like you can use pretty much any I/O box with any DAW these days; it makes life a lot easier than a decade ago," offers Long. "If you're running Pro Tools HD Native or Pro Tools HDX, your I/O needs to be equipped with a card that includes a DigiLink or DigiLink Mini connector, but that's an option readily available on all of the high-end interfaces. My primary I/O is a Lynx Aurora and it connects to my HDX card via the \$395 Lynx LT-HD card; Pro Tools sees it as an Avid HD IO. When running other DAWs on my studio rig, I still use the Avid's core audio manager for connectivity."

But the question is, are competing DAWs today simply more capable of the results needed by most pro users, or has something changed specifically about PT that prompted the migration of these discriminating pros?

"Some DAWs have caught up and, in some ways, surpassed PT," offers Rowe. "I'm sounding really old now, but used to be there was always an advanced feature here or there that PT competitors would tout to entice users to migrate. And it was always one shiny needle in a haystack of obtuse interfaces and crippling slow workflows that made you run back to Pro Tools, just to wait for the implementation of that same feature in a year or two—or nearly a decade, in the case of clip gain. But I've gotta say I'm finding that less the case these days."

Before too long, we may start to see software rentals by the week or even the day.

isn't out of the question. I also think we'll see more "component" rentals. Consider Native Instruments' Kontakt, for which a zillion libraries are available from Native Instruments and other companies. You may rarely need the "Action Strings" library, but when you want it, you really want it...so you

rent it for the session. We also have a precedent with in-app purchases, like buying more amps for a product like IK Multimedia's AmpliTube; why not rent instead of buy, or even rent a collection of genre-specific amps?

I've often opined about the transitory nature of software, and how in-

vestments can turn into nothing due to compatibility conflicts with hosts, operating systems or hardware. Renting solves that problem, offers potentially greater choices and could end up costing you less overall. Just remember to render your audio tracks before the license expires....

Craig Anderton has returned as Editorial Director of Harmony Central. Check out some of his music at www.youtube.com/thecraiganderton.

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Road Recording

(continued from page 20)

system—still only 3RU—comprises a Sonnet Echo Express III-R rack-mount Thunderbolt 2-to-PCIe card expansion chassis together with Sonnet's RackMac, a mini rackmount enclosure for the Mac Mini, which includes a CD-R drive. The Echo Express III-R, which is Avid-qualified,

supports 20 Gbps Thunderbolt 2 technology.

Madix has this particular system out with Rush, configured with a SATA controller card and two Avid HDX cards, and Fleetwood Mac is using a similar system, he says. "The SATA controller card is basically for media; the basic version has three 3.5-inch hard drives, although there are various ways to configure it. That gives us 128 in and out. If we take the two systems—the xMac Mini and the

Echo Express III—we can configure a system that is 196 I/O," he says.

Diablo's earlier system is a three-foot-tall rack with a built-in screen. "They were all based on Pro Tools|HD, so they tend to be 96 in and out. It's a good form factor; sometimes it's nice to have a separate piece instead of something you have to put in a rack." The Rolling Stones just wrapped up a tour with two systems, he says, while the current U2 tour is out with multiples of both the

xMac and Echo Express III systems.

"Aside from really great support, the form factor is what originally drew us to Sonnet," says Madix. "They were the first with a rack-mountable, all-inclusive server built around the Mac platform, which we also chose for its reliability."

The systems have been performing well, he continues. "These things take a beating, as you can imagine. But we feel very confident that they can take the punishment."

Happily, the market for mobile workstations seems to be growing, as evidenced by the fact that Diablo Digital now has more than 30 systems available. "I'd love to see it become ubiquitous, and to see our machine in everybody's hands. And I'd love to see more engineers wake up to the possibilities. I think they're now starting to see how helpful it can be."

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Imagine Dragons

(continued from page 20)

in the immersive field, so our engineer took advantage of that, but he also referenced the original mixes to make sure the intended emotion and integrity remained intact. Maintaining the integrity and intent of the music is always a very important part of the process for us."

Cantor has reportedly been invited by the band to also tag along for the Asian and European legs of the tour, but for those unable to attend an Imagine Dragons concert, DTS has made "Shots," the lead-off track from the album, available online as a Headphone:X presentation. "We're currently working on the next steps in collaboration with the band and their management to potentially deliver the full album experience to fans beyond the tour stop venues," says Miller.

It appears that this was more than a one-off experiment. "As far as collaborating on future projects, that is the expectation from both sides," says Miller. "One of our core objectives is to build a long-term relationship with the artists we work with. We want to support artists with our tools that allow them with the freedom to create, explore new possibilities and continue to progress in their work and how they connect to their fans and audiences."

DTS
www.dts.com

THERE'S MORE ▶ Hear
"Shots" by Imagine Dragons
in DTS Headphone:X at
prosoundnetwork.com/sept2015

briefs

Langsbard Bats 1000 with Genelec

NATICK, MA—Brian Langsbard, an Emmy Award-nominated composer who scored his first opening theme for an MLB broadcast, completed the music for *Rushmore*, a four-part series slated to air in 2016 that profiles four baseball legends, all written, produced and mixed through his Genelec (genelecusa.com) 8260A Smart Active Monitors, purchased from dealer Westlake Pro.

Nimkin Tees Off with Countryman

NEW YORK, NY—Location sound engineer Ben Nimkin added a customized B6 omni lavalier to his stock B3 and B6 Countryman (countryman.com) mics, which he paired with Lectrosonics SMQV and Wisycom MTP40S systems for wireless work to handle run-and-gun miking challenges during production of ESPN's *30 for 30* documentary about pro golfer John Daly's life.

Galaxy Mixes in 3D with PMC

BIGGLESWADE, UK—Belgium-based Galaxy Studios, home of Auro-3D sound technology, employed its PMC (pmc-speakers.com) 9.1 speaker system—PMC IB1S speakers for LCR, two PMC twotwo.6 rear speakers plus PMC twotwo.5 speakers for the height channels—on a film that premiered at Cannes, *Odysseo 3D by Cavalia*, which is based on a live show featuring equestrian arts and acrobatic performances.

TNDV Goes to the Barbershop

NASHVILLE, TN—TNDV (tndv.com) provided on-site broadcast production for in-house projection and web streaming feeds for the 2015 annual International Collegiate Barbershop Quartet Contest in Pittsburgh, PA through its 40-foot Elevation truck, which features a Soundcraft Vi3000 audio console, redundant Pro Tools systems, JoeCo MADI recorders and an 80-port RTS ADAM intercom system

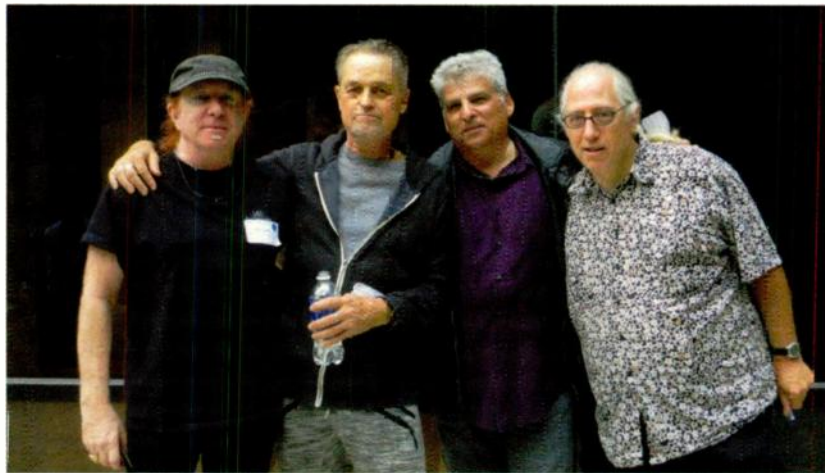
Recording *Ricki and the Flash* Live

BY STEVE HARVEY

LOS ANGELES, CA—Director Jonathan Demme wanted total authenticity on his latest film, *Ricki and the Flash*, which follows an aging rocker, played by Meryl Streep, as she reconnects with her ex-husband and family in the Midwest. Demme insisted the film's band had to perform live on camera rather than mime to playback, so for the team recording it all, that meant hiding the microphones.

Neil Citron, a jack-of-all-trades in the fields of both music and audio who is known for his work with the likes of Steve Vai and Quiet Riot, has also enjoyed a long career in film. In 1996, Citron was hired to teach the young actors to play guitar in Tom Hanks' directorial debut, *That Thing You Do*. The producer of that film, Gary Goetzman, also produced *Ricki*, and initially called him in to help audition Streep's costar. The role went to Rick Springfield, as well-known for playing Dr. Noah Drake in *General Hospital* as he is for his big 1981 hit, "Jessie's Girl."

Citron's involvement soon expanded into teaching Streep to play guitar. Goetzman then put him together with the project's music coordinator, Mark Wolfson, another *That Thing* alum, to find a solution to the live performance challenges. "So I hooked them up with PreSonus," says Citron, "because they needed a P.A. for the shoot."



The music crew from *Ricki And The Flash*, with their titles from the film's credits (L-R): Neil Citron, Music Wrangler; Jonathan Demme, Director; Mark Wolfson, Music Coordinator; and Phil Garfinkel, PreSonus Tech.

dinator, Mark Wolfson, another *That Thing* alum, to find a solution to the live performance challenges. "So I hooked them up with PreSonus," says Citron, "because they needed a P.A. for the shoot."

The production initially set up an intensive band camp at Rodeo Bar, a defunct venue in Manhattan's Murray Hill neighborhood. Streep, Springfield and the band—Bernie Worrell on keyboards, Rick Rosas (who tragically died shortly after production wrapped) on bass and Joe Vitale on drums—worked on the songs

for two weeks before relocating to a sound stage in Brooklyn, where a set stood in for a Los Angeles-area bar.

For the rehearsals and shoot, PreSonus supplied a StudioLive 32.4.2AI mixer; two StudioLive 312 AI speakers for mid-high PA, plus three for vocal monitors; a StudioLive 315AI speaker for drum monitor; and a pair of StudioLive S18AI subs. An ADL 600 tube preamp offered vocal processing. PreSonus also provided special projects liaison Phil Garfinkel, an experienced live sound engineer.

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GOOD NEWS/BAD NEWS
FCC's Latest Rulemaking

BY STEVE HARVEY

WASHINGTON, D.C.—The Federal Communications Committee's August 5 rulemaking helped bring the future into slightly better focus for wireless microphone operators in the United States. The new rules amending unlicensed operations under Part 15 and licensed use under Part 74 in preparation for next year's Incentive Auction of the 600 MHz band signals a loss of spectrum for the pro audio community, yet does attempt to accommodate the longer-term needs of wireless microphone users.

The broadcast television spectrum Incentive Auction is intended to free up bandwidth for the delivery of high-speed internet access over the unused frequencies between TV stations—so-called "white space"—including to new unlicensed consumer devices. Although the FCC began rulemaking in 2008 to prevent interference between the expected new consumer technologies, existing wireless micro-

phones and TV broadcasters, no mobile white space devices have yet been introduced.

The FCC has relaxed the rules and will now allow portable devices into TV channels 14 to 20, comments Mark Brunner, senior director of global brand management at Shure. "Which is unfortunate, because a lot of wireless microphone equipment was purchased there with the foresight that it was not going to be occupied by portable devices."

The auction plan lays out a timetable extending over several years for the new consumer wireless services to be established and for wireless mic operators to vacate the 600 MHz band. If that seems like déjà vu to those forced out of the 700 MHz band during the switchover from analog broadcast to digital television, this time there is an added wrinkle: There will be no compensation available to replace or retune existing wireless audio equipment inventory, some of which undoubtedly has years of use-

ful life remaining.

The auction, which now has a start date of March 29, 2016, introduces a number of variables that will affect the spectrum ultimately accessible to wireless mic users. But as Brunner comments, "If all of the dominoes fall in a certain direction, we will come out of this with some very usable chunks of spectrum for wireless operation, albeit in a reduced overall UHF footprint."

The new rulemaking expands opportunities "for licensed use in the remaining TV bands by allowing greater use of the VHF channels and permitting co-channel operations inside DTV contours without coordination if TV signals fall below specified threshold." It will additionally "expand eligibility for licensed use of the 4-megahertz portion of the 600 MHz duplex gap to include all licensed users in the TV bands (broadcasters, cable programming networks, movie studios, and operators at major sporting/concerts/theater venues)." The duplex gap is an 11 MHz-wide buffer between the uplink and downlink spectrum set aside for the new telco services.

The FCC is also providing licensed operators with alternative spectrum, although less than was pre-

(continued on page 30)



Ricki

(continued from page 29)

Since the StudioLive console is integrated with PreSonus Capture recording software and the Studio One DAW, Citron's role expanded again. "I got hired to record everything live and then mix everything for the editor. They rented us an apartment; we would work all day, then Mark and I would go home and do rough mixes," says Citron. "That turned into us mixing the whole soundtrack" for release on Republic Records.

"I had the foresight to bring some Sceptre S8 reference monitors," Garfinkel adds. "Part of the reason that the recordings sound so good, in my opinion, is because Neil and Mark had really quality speakers to do rough mixes on."

"The first conversation that Gary, Mark and I had, Gary said Jonathan didn't want any mics on stage, but he wanted to record everything live...."

Neil Citron

Recording was challenging, as Citron explains: "The first conversation that Gary, Mark and I had, Gary said Jonathan didn't want any mics on stage, but he wanted to record everything live, with no playback. It's supposed to be a shitty club in Tarzana; maybe there would be three vocal mics, but that's it."

A call went out to Roxanne Ricks, artist relations manager at Audio-Technica, who supplied an ATM450 for the hi-hat, AT4050 for overheads and, for the Leslie, an ATM650 (high) and an ATM250 (low). A-T

also provided 5000 Series wireless vocal mics for the wedding reception scenes and a pair of AT4080 ribbons for capturing room ambience.

Citron recalls, "We were at the Rodeo Bar trying to figure out how to get the overheads above the drums in a lighting bar. We found this old boat oar and tied the mics to it, and put that up. That was the easiest thing for the riggers to tie up with the lights."

As for the drums, Vitale's DW kit had built-in triggers, which the team hooked into the recording set-up using Garfinkel's personal collection of

Radial Engineering DI boxes. "Once we created drum sounds, we had to put them into a reverb to make them sound like they were in a room. Because we had room mics, I could adjust the size to what it was supposed to be," says Citron.

Ricki and the Flash and its original soundtrack album were released August 7.

Neil Citron
neilcitron.com

PreSonus
presonus.com

Audio-Technica
audio-technica.com

THERE'S MORE ▶ Read more about the production and see video from the film at prosoundnetwork.com/sept2015.

FCC Rulemaking

(continued from page 29)

viously available. "It doesn't replace everything we're losing, but it's good news," says Roger Charlesworth, executive director of the DTV Audio Group. "I think this is a direct result of the DTV Audio Group coming in with manufacturers, networks and end users. We successfully lobbied as a group and proposed solutions from a unified position."

Specifically, a new FCC Report and Order offers "access to significantly more spectrum in the 900 MHz band; access to a portion of the 1435-1525 MHz band at specified times and places, subject to coordination requirements that protect critical aeronautical mobile telemetry; and access to portions of the 6875-7125 MHz band." The FCC has also taken action to accommodate unlicensed wireless mic use in the duplex gap, in guard bands between services and the 600 MHz service band, "while at the same time protecting licensed users

from harmful interference."

Proposals included ENG wireless equipment being given some dedicated spectrum in the duplex gap. But the FCC's new rules could place TV stations in the gap in some markets and a portion has also now been opened to unlicensed mobile devices.

The 900 MHz band and 1435-1525 MHz are not suited to ENG use, according to Charlesworth. "Both of those are good for large, planned events where you can work around the incumbents." A band at 2020-2025 MHz with no Federal fre-

quency assignments is an appealing possibility for ENG, he comments.

There are other variables, says Brunner, the outcome of which will not be known until after the auction. For example, the lower guard band between TV and the wireless downlink bands could end up being 7, 9 or 11 MHz wide. "If it's 11 MHz wide, then there's a good chance that wireless mics will be able to utilize the lower 4 MHz of that exclusively," he says.

"If the auction is highly successful, it will take spectrum all the way down below TV37 [a channel reserved for radio astronomy], which means that a lot of spectrum will be removed [from wireless mic use] from the band. But that will also create guard bands around channel 37, which in effect will be available for nationwide wireless mic use," he says.

The additional spectrum in the 900 MHz band and above will require new products with features that prevent interference with incumbents at those frequencies, which includes flight testing and studio-to-transmitter links. "These aren't things that are sitting on the shelf today," says Brunner.

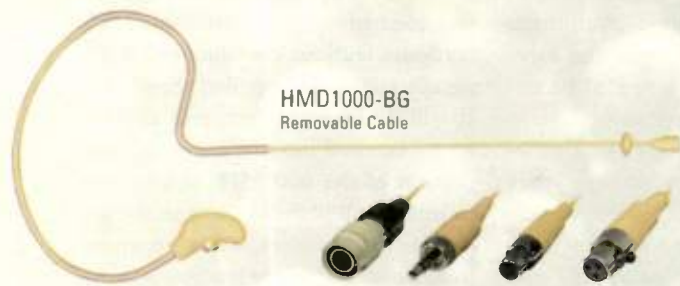
"For unlicensed operators in the TV band, it is definitely going to be more crowded with potentially some higher sources of interference. All we can do as manufacturers is try to make our products more robust to interference and to help educate operators on best practices of antenna placement and other things to make sure that the signal is as strong as it can be."

FCC Adopts Rules for Unlicensed Services in TV and 600 MHz Bands
fcc.gov/document/amendment-part-15

FCC Adopts Wireless Microphone Rules
fcc.gov/document/wireless-mics

HEADWORN MICROPHONES

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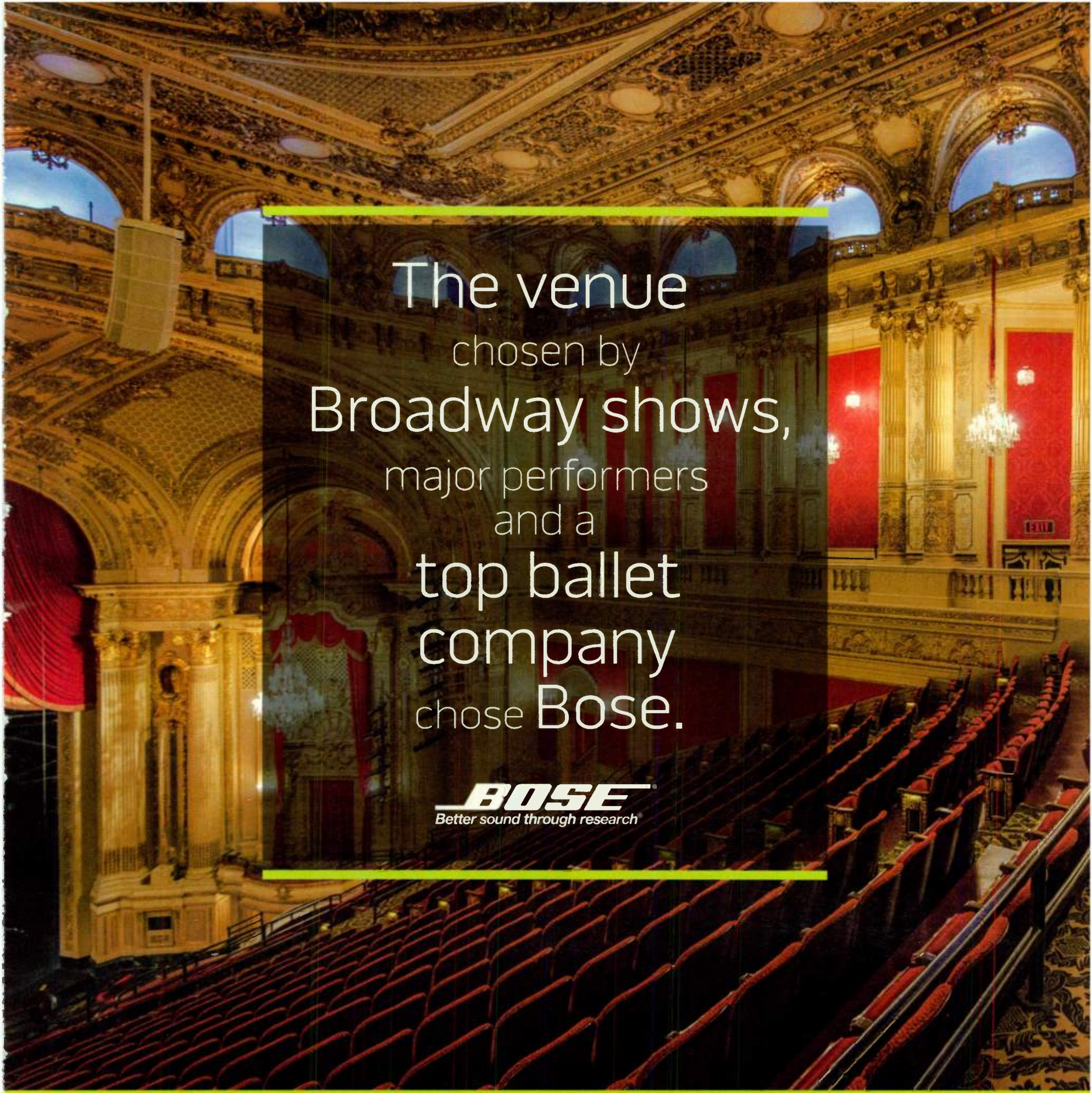
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innovations: the manufacturer's view

Packing Power Into A Portable PA

BOSE F1 FLEXIBLE ARRAY LOUDSPEAKER SYSTEM

BY PAUL FIDLIN

Bose Professional is no stranger to changing the paradigm for portable PA systems. In 2003, we launched the L1 portable line array system, bringing a new way for musicians to connect more intimately with their audiences. The L1 served as PA and monitor combined, allowing performers to place it behind them on stage and mix their own music—a departure from the conventional “speaker-on-a-stick” format. This was possible by exercising a portable line array: fixed vertical coverage to keep sound off the ceiling, and a very wide (nearly 180 degree) horizontal spread to cover the stage and audience. The L1 line has been popular, especially with singer-songwriters and mobile DJs who value a system that sounds good, is easy-to-carry and quick to setup.

While the L1 bucked the system by putting a powered portable line-array in the hands of musicians, there were applications where the form-factor of a conventional PA was still needed. This problem bothered our engineering team, which pondered how enhanced system performance could be paired with coverage control. In looking at large-format concert touring systems that employ line-array shapes to cover different types of venues, the engineering team went to work on how to implement a similar approach into a portable, yet powerful product for the club stage. The F1 Bose Flexible Array Loudspeaker System was the result of that work.

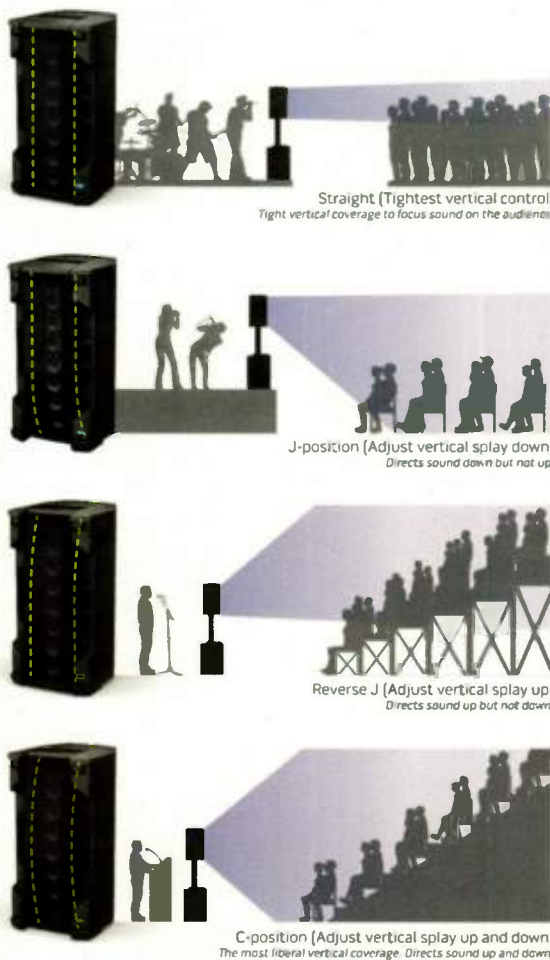
The F1 system consists of two parts: the F1 Model 812 flexible array loudspeaker and the F1 subwoofer. The F1 Model 812 consists of a 12-inch woofer-based, two-way, full-range system with a unique architecture featuring eight high-output Neodymium drivers on a flexible, horn-loaded baffle. The system is completed with the addition of a surprisingly portable companion subwoofer featuring two high excursion woofers that have the performance of a much larger-base box. Both components are powered and offer full-featured I/O panels and status indicators.

The team involved in the development of the F1 created a vision for the product by identifying customers' practical and aesthetic needs. These

included increased flexibility in directivity coverage, greater system portability and a more visually-appealing solution for speaker positioning and mounting. We also specifically wanted to address the tasks of improving usability and reducing set up and transportation challenges, while still ensuring customers can achieve clear, high-output, full-bandwidth audio for their audiences.

The first area of new proprietary IP (intellectual property) that the team deployed is the unique acoustic architecture that provides flexible vertical coverage. We identified some key, real-life coverage scenarios that we believe are not covered well by traditional portable PA product offerings. Raked seating poses challenges for good directivity coverage. Alternately, when an audience is seated below the stage, a stage-mounted system directs mid and high frequencies over the audience's heads. The team utilized extensive acoustic modeling techniques to optimize the potential solutions before any prototypes were built and ultimately selected four vertical pattern coverage options as being the most helpful to users. These were: Straight; J-Array; Reversed-J and C-Array shapes. The new F1 system can be simply and intuitively configured to any of these coverage options by pushing on the top and/or bottom of the speaker front grille. The baffle array tilts and snaps into a place to configure to the desired option. These dispersion patterns have been achieved without employing a multi-cabinet hanging system.

The next key area where new IP was employed ensures that the F1 delivers consistent tonal balance for each array shape. The team created a control system that automatically changes the system EQ for each array shape. A built-in Hall effect sensor detects the selected array position and triggers a DSP to recall the proper compensation curve. Determining the appropriate EQ curve was based



Shape your Sound—The Bose F1 Model 812 Loudspeaker with FLEX Array technology has four modes conceived to provide the coverage needed for different types of venues.

on multiple “in-coverage” measurement positions in a given room, and then repeated in multiple rooms, to generate suitable target curves. The final confirmation involved extensive critical listening, which was also performed in a variety of rooms, until we were comfortable with the results.

The unpleasant chore of hoisting conventional PA speakers on top of tripod stands was an experience that the engineering team was eager to improve upon. Our third area of IP applies to the design of the loudspeaker stand for the F1 system. The team (who are mostly gigging musicians) looked toward other methods for loudspeaker elevation that required less effort. The result was a stand that was stored in the subwoofer (critical to convenience), could be assembled quickly into the top of the subwoofer, and provided a surface area for mounting that is much easier to deploy compared to pole-

mounting. The selection of a high-performance engineering-grade plastic resin was essential for us to achieve the durability requirements of systems that will be used and abused daily. Structural strength modeling was employed so that static and dynamic load requirements across a very wide operating temperature range would be met. To confirm, our test labs performed rigorous testing on the parts. The stand itself had a number of ambitious requirements for ease of use and functionality. We shaped it to achieve the appropriate mounting height as well as to manage and hide interconnecting cables.

Finally, the team set about extracting the optimum performance from the F1 subwoofer. This involved very careful attention to the design of both the system (enclosure, ports and amplifier), and a custom-designed 10-inch, high-excursion woofer. In this challenge, we needed to deliver the same volume velocity (cubic inches) as a subwoofer with a larger 18-inch diameter woofer. This requirement

was achieved in drastically improved form factor that was proved crucial to delivering the “transportability” that the team had articulated in the product vision.

After a long process of identifying the needs of the user group, and setting goals for delivering significant and unique user benefits, the Bose development team is proud to introduce this system as an expansion to our portable products catalog. The result is our Bose F1 Model 812 Flexible Array Loudspeaker and F1 Subwoofer—the first powered portable loudspeaker designed to serve live music, DJ and general P.A. applications that lets users control its vertical coverage pattern.

Paul Fidin serves Bose Professional as Director Of Engineering and Product Development

Bose Professional
bose.com/pro

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EVENTIDE CRUSHSTATION FOR H9 ■ SOUNDTOYS LITTLE PRIMALTAP ■ TEEGARDEN AUDIO FATBOY TUBE DI

EVENTIDE CRUSHSTATION FOR H9



On Rich Tozzoli's desk as he composes for his various TV clients: Eventide's H9 with CrushStation, Soundtoys Little PrimalTap plug-in and Teegarden Audio's FatBoy Tube DI.

I use the Eventide H9 hardware pedal for a variety of tasks, from super lush delays and choruses to epic reverbs and cool rotary and/or tremolo sounds. Add in the fact that I can control the settings via Bluetooth from my iPhone or iPad (which I do!), or via the desktop H9 Control software, and it just completes the package. Now Eventide has taken it a step further, jumping into the world of distortion with its latest release, called CrushStation.

Inspired by a visit by Vernon Reid to Eventide, CrushStation is collection of 10 presets for the H9 with names that match—Fra Diablo (spicy metal), Bisque (smooth

and creamy), Sag Harbor (heavy sag), Bottom Feeder (chunky with low octave), Jumbo Shrimp (little big sound), Scuttle Butter (thick blues), Punk Rock Lobster, Steamed in Beer (wicked saturation), Craw Daddy and Decapods Muff (like a Muff fuzz).

It offers the standard settings that one might expect, such as Drive, Sustain, Sag, Grit, multiband EQs and so on, but also a useful Mix control, so you can have a little or a lot of the distortion goodness. The Octaves control is my personal favorite, as it turns the H9 into a thick, nasty tone monster (start with the Bottom Feeder patch). And don't forget, if you

hook it up as such, you're in stereo.

It's not just all heavy sounds, as you can also dial into a lighter blues/rock tone as well. You actually learn how to 'play' it, meaning the sensitivity (to me) is not like an amp. I feel it responds best to more aggressive playing, and it delivers some really useful sounds. I like a lot of different guitar distortions in my work, and this to me is simply another tool to achieve the end result of distortion. It's not a modeler, or a traditional amp or stomp pedal; its processing based overdrive/distortion/fuzz saturation tool with its own flavor.

Eventide

Eventideaudio.com/tags/crushstation

TEEGARDEN AUDIO FATBOY TUBE DI

I know I mentioned this unit in my article a few months back, where we used it on the St John USVI recording trip, but since then, I purchased one and it sits permanently in my recording chain. The older I get, the more I like things to be simple and get more done with less. What's great about this tool is that basically you turn one knob and things sound better. Yes, that would be my review.

With so much DI-based software recording going on these days, it helps to have a front end that can warm up those guitars, synths and basses. The Fatboy Tube DI sits on

my desktop, and an XLR Line Level out runs into my Creation Audio Labs MW1 Studio Tool, which then feeds Avid's Pro Tools.

In my studio, a quarter-inch cable is permanently run into the Tube DI's Push—which is the input. The Thru feeds a Korg rack tuner (it's important to be in tune!), and as I mentioned above, the XLR Line Level Output (there's also an XLR Mic Level output) feeds the MW1, where I can dial in additional tone shaping options. So whatever instrument I'm recording, I can just quickly plug it in and everything is ready to go at my

fingertips.

However, when I want just a bit more tone, I turn the big Beef knob up, which pushed the tube sound to another level. Going past 12 o'clock produces a nice spongy feel and a pleasant subtle saturation, which sounds great, even plugged into guitar amp plug-ins. To clean the signal up a bit, I just dial it back. This isn't one of those "I think I hear the difference" tools; when you push it, there's no doubt about it. Thanks to the Fatboy Tube DI, I have the Beef.

Teegarden Audio

teegardenaudio.com



BY RICH TOZZOLI

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

SOUNDTOYS LITTLE PRIMALTAP

Inspired by the classic 70's Prime Time digital delay, Soundtoys' Little PrimalTap is not so little when it comes to creative delay sounds.

You've got the Time knob for millisecond-based delay control, as well the Adjust knob, which reduces the Time setting by about one-half. This takes the Little PrimalTap into flanging and chorus territory, so it's not just standard delays. The oddball knob is the Multiply knob. On the original (and the software), this would double the delay time while cutting the sample rate in half—up to eight times, and introduce some unique anti-aliasing filters.

Then there are three sliders: In for input gain (you can drive it hard!), FB for feedback (can get really loud!) and Mix to blend the dry and wet.

You can get really weird and nasty with this little guy. When I first popped it open on a guitar track, I was wondering what it could do. I loaded a preset called Flangify, pushed the Mix up to 100 percent and just started twisting knobs and pushing levers. I had a nice "this is cool" moment, and what was even cooler was to automate the Adjust knob so I could get it to "play" along with your track. I hear from Mitch at Soundtoys that Little PrimalTap's big brother is coming along soon, and I can't wait.

Soundtoys

Soundtoys.com/product/littleprimaltap

RADIAL ENGINEERING FIREFLY TUBE DIRECT BOX ■ SANDHILL 6011A ACTIVE RIBBON MICROPHONE

RADIAL ENGINEERING FIREFLY TUBE DIRECT BOX

It seems like there's a lot of cool DI boxes around these days, often sporting tubes and advanced features. Leave it to British Columbia-based Radial Engineering—makers of some wildly popular direct-injection and inter-connecting boxes—to add its Firefly to the trend. And yes—the Firefly has a tube plus numerous other advanced features, most obviously a sporty, memorable handle that kind of looks like a lightning bug's wing.

The Firefly (\$599 street) starts with Class A electronics and a “zero negative feedback” design feeding a 12AX7 tube that hits a Jensen transformer at output. Please navigate here for Firefly's full feature list: <http://www.radialeng.com/firefly.php>. I will point out the following, though: its two inputs are not only switchable, but mutable; low cut is completely variable; Drag is both defeatable and variable; and Aux Out is not only pre/post, but transformer-isolatable.

The Firefly's external power supply provides ample current for the power-hungry tube circuit and has a locking 5-pin XLR connector and solid build quality—the likes of which many manufacturers neglect.

I like to “double DI” bass guitar—typically with one signal very clean and punchy while the other is anywhere from saturated to downright beastly growly, depending on the song.



The dual-input, Class A Firefly features a “zero negative feedback” design feeding a 12AX7 tube and Jensen output transformer.

With this in mind, I went into a band-tracking session with a Countryman Type 10 and the Firefly on bass guitar DI for some attitude and dirt. Upon connecting a passive bass, I found that the Firefly didn't allow any real dirty distortion or growl, but it did offer a nicely compressed, slightly textured signal that added some gutsy punch to the mix. I ended up using the Firefly for the clean punch and a SansAmp for the dirt.

Active basses brought a little something different to the Firefly table and allowed me to play with the Low Cut filter for some useful results. Both my fretted and fretless active basses provide electronics that allowed me to

push the Firefly a little harder for more “tube tone.” Here are passive and active bass web clips: <https://soundcloud.com/pro-audio-review-magazine>.

The Firefly—featuring two inputs with individual trims, quiet switching, an insert point and a shared tuner output—exhibits the ergonomic usefulness that makes Radial products so clever and road-worthy. I enjoyed adjusting the Drag control, finding it subtly useful; it rolls off a little top and extends the bottom end, although it unexpectedly reduced level with only my active basses. I was also eager to use it with my Taylor acoustic's after-market piezo transducer pickup (which admittedly out-



BY ROB TAVAGLIONE

Rob Tavaglione owns and operates Charlotte's Catalyst Recording and has been a long-time Studio Contributor to *Pro Audio Review*. <https://twitter.com/robtavaglione>

puts mostly honky nasal-ness). Unexpectedly (and at least contrary to the manual), I found the tone with Drag added to be more pleasant and rounded, almost likable.

The Firefly is a winner based on its well-chosen and flexible features, intelligent design and expected Radial durability. It is not a distortion box, a high gain booster or a signal mangler. In fact, paired with my passive bass and Drag utilized, the Firefly kept up with a Manley Force and an Avalon V5 in exacting comparisons.

For a modern bass rig that needs to go anywhere between perfectly pristine and saturated/plump to growling/unruly, I'd put the Firefly up front, hitch it to two basses with footswitch-ability, split out to a tuner and an FX signal path, connect some dirty overdrive and enjoy all the benefits of modern signal routing and schizophrenic bass tone.

Radial Engineering
radialeng.com

SANDHILL 6011A ACTIVE RIBBON MICROPHONE

Active ribbons are all the rage, and for good reason: the inherent bi-directional quality of a figure-eight polar pattern, typically strong mids, and a pleasant top-end tempered with a touch of useful dynamic smoothing plus higher output, lower noise floor and the increased preamp flexibility of active electronics.

The microphone marketplace is increasingly populated with “more affordable” models, yet at the top end (as in \$7,500 per pair), a new king of ribbons should be crowned: the long-motored, heavy-duty and beautifully voiced Sandhill 6011A.

Hand-built in Finland, the 6011A's flat rectangular shape screams “ribbon mic” at first look; check out the manufacturing video at prosoundnetwork.com/sept2015. The large ribbon (measuring 60mm x 4.7mm) is actually a composite material (primarily ceramic-coated aluminum with other

undisclosed, proprietary ingredients) that reportedly retains the sensitivity of corrugated aluminum while increasing strength and durability. As a result, less wind screening is utilized, helping “open up” the sound.

The 6011A's ribbon material is beyond mere academics. Sandhill backs it all up with a three-year warranty and a reported lack of sensitivity to wind blast damage (via forceful vocals, Leslie cabinets, kick drums, etc.) with a maximum SPL rating of 160 dB (with -6 dB pad engaged). Such durability opens the 6011A up to live applications, where active ribbons on guitar cabs is the “transducer du jour.” And a firm, simple and effective shock mount is included, thank goodness.

On piano, Sandhill's 6011A matched pair provided an extremely realistic reproduction of the sound source via an Earthworks 1024 mic

preamp with +55 dB of gain applied and no added EQ or compression. Overall, the pair's sound is marked by a full bottom end absent of rumble or woofi-ness; accurate mids (a preponderance of 350 Hz was from my piano/room combo, not the mics); brighter-than-passive ribbon top end that is crisp but not at all shrill; and only slightly restricted dynamics. For piano, the 6011A pair offered audible, notably linear, imaging even at high levels. Check out the results in this webclip: <https://soundcloud.com/pro-audio-review-magazine/sandhill-6011as-upright-piano-raw-tracks>.

On Hammond organ and Leslie cabinet, I positioned the spaced pair up top, capturing growl and preponderant low-mids quite well, enough top end, a strong but easily usable bottom end, all with no issues from rotating horn wind.

On percussion applications, spe-



Although its active electronics provide stability, the 6011A responds more like a passive ribbon with a little more output—not the condenser-like hot output and crispy top of many post-modern ribbons. Pictured: a 6011A pair and Sterling LDC capture an organ performance via Leslie cabinet.

cifically on conga (utilized sideways, with head and side slap), the 6011A provided excellent balance from

(continued on page 39)

ROYER R-122 MKII ACTIVE RIBBON MICROPHONE ■ RETRO INSTRUMENTS OP-6 TUBE MICROPHONE PREAMPLIFIER ■ USB 3.OPTICAL CABLES BY CORNING

ROYER R-122 MKII ACTIVE RIBBON MIC

While active ribbon microphones are commonplace in the industry today, they were unheard of before Royer released the R-122, the world's first active ribbon mic, back in 2002. I bought a pair then and continue to be a faithful user. Their active design combines impedance-matching circuitry with condenser-like output levels, allowing the mic to be paired with virtually any preamplifier, as the preamp impedance is no longer a major factor. It also allows the mic to be effectively used on extremely quiet sound sources.

The R-122 MKII has a beautiful brushed-nickel finish and like the other mics in the Royer family, it slips into a protective sock and packs in a beautiful wood box for storage. The mkII looks, sounds and performs exactly like the R-122 except for the addition of two recessed switches on the rear of the mic. The first activates a -15 dB pad and the second, a bass-cut. When switched to Off, the switches are completely out of the circuit and the microphone functions as an original R-122.

The pad is positioned before the microphone's electronics, so when it's activated, it eliminates any potential for headroom-related distortion, even on extremely loud sound sources. As a point of reference, when the pad is engaged, the mic's output is 2 dB lower than Royer's R-121. The pad offers no noticeable coloration, so activating the pad and turning up the mic pre 15 dB results in an identical sound.

The bass-cut circuit trims 6 dB per octave beginning at 100 Hz. This extremely musical filter is designed to effectively eliminate the proximity ef-



The R-122 MKII gains two recessed switches— a -15 dB pad and a bass-cut.

fect-induced bass buildup. My initial feeling was that this is a good feature that I would only use a small fraction of the time, but I've found that I actually spend more time recording with the bass-cut activated than not.

The electronics in the R-122 MKII are wired by hand in Royer's Burbank, CA factory. The mic's design incorporates a fully balanced, discrete head amplifier system that utilizes ultra-low noise FETs and a specially wound custom, Royer-designed toroidal transformer that Royer claims will provide a faster transient response time than provided by traditional ribbon mics. The quiet design increases the mic's sensitivity to an impressive 37 dB. This higher sensitivity doesn't result in any additional self-noise as the phantom-powered circuitry is only providing impedance conversion.

On a recent tracking session, I used a pair of R-122 MKIIs as drum

overheads and they worked wonderfully. The pair of ribbons captured the rich tone of the cymbals with all of the top-end sparkle without ever sounding harsh or brittle. On another session, the mic did an exceptional job capturing hi-hat, shaker and tambourine. Royer R Series mics have always been the bomb recording electric guitar and the R-122 MKII is the new staple. Where the R-122 had too much gain to work with some mic pres, the pad makes the R-122 MKII the most versatile Royer ever. I had great results capturing a blazing loud guitar through a Marshall 4x12 cabinet with the R-122 MKII into a Retro OP-6 mic pre. The exact same chain (but this time with the pad turned off) worked to record lightly strummed mandolin.

As with other Royer microphones, I had great results using the R-122 MKII to record acoustic gui-



BY RUSS LONG

Russ Long lives and works in Nashville, engineering and producing a wide variety of music and film projects. ruslong.ws

tar. I used a pair of the mics (one on the neck and one on the body) to record a Taylor 514CE through a pair of Gordon mic pres and it sounded wonderful. I also had respectable results using a R-122 MKII on the body and a Blue Hummingbird on the neck of a Martin guitar (again through the Gordon mic pres). The microphones also did an admirable job recording violin, viola and cello.

It's important to note that due to Royer's offset ribbon transducer, the back of the R-122 MKII (also true of the R-121, R-122 and R-122V) is slightly brighter than the front side at distances of three feet or less. I've found that I have better results using the backside of the mic when recording vocals, acoustic guitars and piano.

While this wasn't true two decades ago, there are a lot of ribbon mic options made by multiple manufacturers out there today and a lot of them are really great, but most of them excel in only one area. Not so with the R-122 MKII. This is possibly the most versatile microphone I've ever encountered. If you can only own one ribbon mic, I say it's got to be the R-122 MKII.

Royer Labs
royerlabs.com

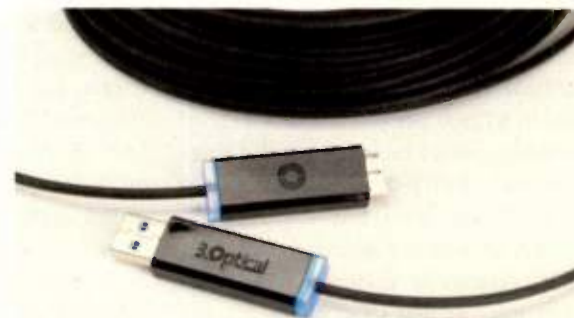
USB 3.OPTICAL CABLES BY CORNING

I've been utilizing Corning's Thunderbolt Optical Cables for nearly 18 months now and they continue to perform flawlessly. I was anxious to put the USB version of the cable to the test and since receiving the 10 m variation for review three months ago, it has performed with the same consistency and reliability as its Thunderbolt counterpart. The USB 3.Optical Cables by Corning are designed to link computers and USB-equipped devices over long distances at astonishing speeds. As with Corning's optical Thunderbolt cables, the USB variation is lightweight, thin and surprisingly durable.

Designed to be compatible with USB 2.0 and USB 3.0 self-powered devices, they are available

in 10 m (33 feet), 15 m (50 feet), 30 m (100 feet) and 50 m (165 feet) lengths priced at \$109.99, \$164.99, \$309.99 and \$499.99, respectively. At the time of this writing, Corning's USB-IF has not yet developed a fiber transmission specification, but I haven't had a single compatibility issue using the cables with a wide variety of hard drives and audio interfaces. Unfortunately, the cables have a hearty price tag, but if you are in a situation where a long USB run is a necessity and performance (these things boast a 5 Gb/s data rate) can't be compromised, the Corning USB cables are undoubtedly the best option.

Corning
corning.com



The USB 3.Optical Cables by Corning is designed to link computers and USB-equipped devices over long distances at astonishing speeds.

RETRO INSTRUMENTS OP-6 TUBE MICROPHONE PREAMPLIFIER

The RCA OP-6 was originally introduced in the 1930s and was primarily used for remote, live radio broadcasts. It quickly became a staple in the recording industry where it remained throughout the 20th century. While it sounds amazing, it can be too noisy for some applications and its feature set is quite limited by today's standards. Retro's \$3,500 OP-6 offers better noise performance as well as the addition of XLR connectors, a quarter-inch high-impedance instrument input, switchable 48 VDC phantom power, switchable polarity, a 25 dB attenuator pad, variable output level control and a VU meter that can also be utilized as a tube checker. Input impedance is switchable between 37 Ω , 150 Ω , or 600 Ω so the pre can be optimized for use with modern-day condensers, classic ribbons, or anything in between. The mic pre provides over 80 dB of gain, making it perfect for quiet sound sources and low-output microphones.

I recorded several bass guitars through the Hi-Z input and in every occurrence, the result was fantastic. In the instance of a 1960 Gibson EBII Bass, an instrument that always sounds huge but can often become muddy and washy in the low-end, the instrument's definition and clarity were maintained while still sounding massive. Electric guitars sound wonderful with the OP-6. I had great results with both dynamics (EV RE-20, Heil PR-40, Shure SM57, Sennheiser 421) and ribbons (Royer R-121, Royer R-122 MKII, AEA N22 Nuvo and Bey-er M160).

I should mention that the OP-6 has independent gain and output controls, allowing the preamp tone to be varied by driving it harder but utilizing the output control to maintain a consistent output. The pre sounds the cleanest when the Output is set at the maximum level, but clean isn't necessarily the desired result as I often found to be the case. Varying the input impedance also provides creative tone control. Driving the mic pre a bit harder when recording vocals lets the vocal pop out of the track even when it's mixed at a slightly lower volume.

Acoustic instruments are captured beautifully through the OP-6. On multiple occasions, I used the pre in conjunction with the Blue Hummingbird, the Earthworks SR77 and the Audio-Technica ATM450 and had wonderful results in each instance. When recording a particularly bright acoustic guitar, I used the OP-6 along with an AEA A440 active ribbon mic and the pre's ultra-smooth sound warmed the top end without the need for equalization.

Vocals shine through the OP-6. I had great results capturing female vocals with the Sony C-800G and male vocals with the ADK Z-67. On a tracking session with Steven Curtis Chapman, I used the pre along with a Shure SM7 on the vocal and it sounded wonderful. The pre has gain to spare, making it easy to capture particularly soft

The RCA OP-6 was originally introduced in the 1930s and was primarily used for remote, live radio broadcasts.

vocalists on lower output microphones like the SM7, EV RE-20 or the Coles 4038.

The large price tag makes the OP-6 beyond the reach of many smaller studios, but the box is simply wonderful and it works well with virtually any microphone on any sound source.

Retro Instruments
retroinstruments.com



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Audio-Technica BP40: Now Shipping



Audio-Technica's BP40 Large-Diaphragm Dynamic Microphone (\$349 street) features a hypercardioid polar pattern and is primarily built for broadcast applications, though it can be used for a variety of sound sources, including kick drum. The BP40 comes standard with the AT8483 mounting clamp, and for additional protection from noise, shock and vibration, the optional AT8484 shock mount is available separately.

Other BP40 characteristics include a 50 Hz to 16 kHz frequency response, 100 Hz low-frequency roll-off (6 dB/octave), and dimensions of 6.45 x 2.2 inches (length x diameter). The mic's design, said to be inspired by the visual representation of a waveform, features an all-metal housing. The BP40's large diaphragm features patented floating-edge construction.

Eventide BD600W with WheatNet IP: Now Shipping

Eventide is now shipping its BD600W

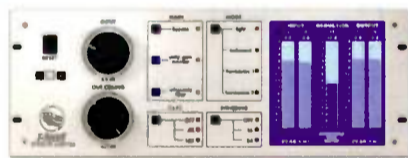


broadcast delay featuring built-in WheatNet-IP connectivity and Extended Remote capability. The BD600W streams 24-bit audio and control data over the WheatNet-IP network for integration with new or existing WheatNet-IP broadcast networks.

The Eventide BD600W in conjunction with the WheatNet-IP network is fully compatible with the AES67 standard for AoIP. The BD600W builds upon Eventide's BD600 platform, which features 80 seconds of profanity protection, or, in MicroPrecision Delay mode, features 10 seconds of delay adjustable in microseconds or thousandths of film/video frames for synchronizing analog with digital for HD Radio or synchronizing audio with video.

IK Multimedia T-RackS Stealth Limiter

IK Multimedia has unveiled T-RackS Stealth Limiter, a new mastering peak limiter available now in the T-RackS Custom Shop, available for \$124.99 direct. T-RackS Stealth Limiter is designed for the final peak



limiting stage of the mastering process. The T-RackS Stealth Limiter's transparent nature is said to be due to its inter-sample peak-limiting algorithm. While other mastering processes suppress spikes above the volume ceiling by employing hard limiters or clippers, according to IK Multimedia, such traditional processes may only be able to ensure a stable digital level, unable to ensure undistorted playback once the music goes through conversion, which in turn can create an analog waveform that exceeds the threshold and introduces unwanted distortion. T-RackS Stealth Limiter's inter-sample peak limiting algorithm reportedly gets around this by predicting the converted analog waveform of the digital source, thus aiming to ensure that the final converted audio will rarely exceed the set ceiling. The result is said to provide expected loudness without a perceptible loss in dynamic range on playback.

Arturia KeyLab 49 and KeyLab 61: Black Edition

Now available, the Black Edition of Arturia's KeyLab Series pairs a MIDI controller keyboard with the company's Analog Lab software solution. Analog Lab offers 6,000-plus presets featuring Prophet-V—Arturia's software reincarnation of the Prophet 5 and Prophet VS Digital Synthesizer, respectively the first (analog) and last (digital) polysynths made by Sequential Circuits—and Solina V—recreations of the '70s era Solina String Ensemble. Available in 49- and 61-key sizes at \$399 and \$499 respectively, the Black Edition also includes Grand Piano Model D from UVI offering the Steinway Model D concert grand piano.



Traktion 6 Music Production Software

After its four-month public beta-test period, the latest major upgrade to Traktion is now available in Version 6 (\$60 per new license, \$30 per upgrade). New

firstlook



Dangerous Convert-2, Convert-8 DACs

Dangerous Music is now shipping its Convert-2 two-channel (\$2,499 street) and Convert-8 eight-channel (\$3,499 street, pictured) reference DACs. Both Convert-2 and Convert-8 (pronounced CON-vert) one-space rack units support all standard sample rates up to 192 kHz with inputs for AES, SPDIF, ADAT, Optical SPDIF (Toslink) and USB. Convert-2 is built for standard 2-channel stereo tasks; Convert-8 is ready for standard stereo plus 2.1, 5.1, and even 7.1 surround formats.

Key Convert Series features include instant input-calibration via a single button press at -14, -16 and -18dBFS reference levels; automatic sample rate detection via 'Auto' on its front panel; on-the-fly input switching from multiple digital inputs; comprehensive metering; remote compatibility with Dangerous Music's popular Monitor ST/SR Remote; among other functionalities.

features to this pro DAW include Z-Plane's Elastic Pro time-stretch technology; Traktion Warp Time time correction toolkit; tape-style start/stop effect handles for audio clips; upgraded plug-in management system; "Super Comp" audio compiling tool; and Marketplace, Traktion's new in-app retail portal to audition, purchase, download and install various plug-ins, sounds and instruments without leaving an opened Traktion project.



beyerdynamic's DT 1770 PRO Headphones

beyerdynamic's new DT 1770 PRO, in what it calls an evolutionary step up from its DT 770 PRO reference headphones, utilizes the company's Tesla 2.0 driver system, featuring a triple-layer compound membrane developed to reduce "unwanted partial vibrations." The closed-back, 250 ohm headphones are said to be suited for studio and live performance applications. The DT 1770



PRO's exchangeable ear cushions are covered with soft velour or high-quality artificial leather, cited as providing comfort during lengthy sessions as well as a high degree of isolation. The adjustable spring-steel headband also features interchangeable padding. The included straight cable, and optional coiled cable, attach to the headphones via a lockable mini XLR connector. The DT 1770s begin shipping this month.

GIK Acoustics Absorbers: Patented Proprietary Designs

GIK's recently issued utility patent for the design and construction of its proprietary acoustic absorber line includes 242 Acoustic Panels, 244 Bass Traps with FlexRange Technology and Monster Bass Traps with FlexRange Technology. GIK Acoustics' patented design begins with a two-frame system that allows low end frequency waves to be absorbed from the sides and back while its constructed frame maintains a rigid edge. The design provides a built-in air gap which reportedly increases low end absorption while allowing the panel to hang flush on the wall using an integrated wire on the back. Further, GIK's FlexRange Technology allows users to dictate the frequency range affected. Without a membrane, the 244 Bass Trap and Monster Bass Trap are broadband; with a membrane, lower frequencies are absorbable while upper frequencies are absorbed less.



Nady U-1100 and U-2100 100-Channel UHF Wireless Systems

Nady Systems' new U-1100 and U-2100 100-channel select UHF wireless systems offer streamlined setup and operation features with either automatic AutoScan or manual open-frequency selection, plus ASC infrared synchronization of a selected channel between transmitter and receiver. The systems are available with a choice of the U-1100 receiver for use with a single transmitter or the U-2100 for use with two transmitters simultaneously. Transmitter options include the U-1100HT handheld mic; U-1100LT bodypack, lavalier or Headmic; or U1100GT instrument pack. Other features include a 120 dB dynamic range, operation up to 500 feet (line-of-sight), DigiTRU Diversity for maximum range and dropout protection; IF filtering, front panel-touch control buttons, dual rear-panel removable swivel BNC antennas, full front-panel LCD display, balanced XLR fixed mic level and adjustable unbalanced quarter-inch jack audio Line Level Sum outputs, and more.



SoundTube SB335 3-Channel Mini Amplifier

SoundTube's Class D SB335 is from the company's Small Amp series and is intended for a variety of installation applications. Providing three channels at 35 W or two channels at 50 W in a compact package (8 x 4 x 1.125 inches), the SB335 includes both optical and analog inputs, accepts Bluetooth signal input, and is controllable via RS232 with IR learning capabilities. Line level subwoofer output and Dolby Digital decoding are also included.



Midas Pro1, Pro2 Digital Console: New Features

Version G3.2.1 firmware has been released for Midas Pro1 and Pro2 digital consoles, replacing G2.5.3; new features include: within VCA/POP group user mode, users can now reorder channels within a group, and there is now a Spectrum Analyzer and Loudspeaker Processor built-in. The DL231 MIDI



firstlook

Roland M-5000C Live Console

The M-5000C is the latest O.H.R.C.A.-based console from Roland, a line Roland describes as providing "powerful features at an affordable price point." Measuring under 30 inches wide and weighing 70 pounds, the compact M-5000C retains the core signal path and many other features of the flagship M-5000 for small footprint applications.

The 96 kHz M-5000C has a 72-bit summing bus, analog circuitry and redundant power supplies. With 16 inputs and 8 outputs on the console, the M-5000C offers two expansion interface slots that can accommodate Roland's own REAC, Dante, MADI, Waves SoundGrid and other XI-Series expansion cards. The M-5000C's user-configurable workflow includes a 12-inch color touchscreen; 20 channel faders in three groups; anchor points; DCA spills; multifunction knobs and buttons; and a user-assignable section. Remote control software (Mac/Windows) that extends the user interface beyond the built-in GUI will be available soon.



There's more information on all the products featured at prosoundnetwork.com/sept2015.



ports are now active and a new effects automation 'safe button' is in place (in GUI). Users can now connect second ports to DL151/DL153 devices, and turn off bulkhead fans with auto on for temperature-sensitive diagnostic purposes.

Cymatic Audio uRemote App for Android OS

Cymatic Audio's Android OS uRemote control app for the uTrack 24 multitrack recorder/player is now available; iOS, Mac OS and Windows are also supported. This app allows all control aspects of the uTrack 24 to be utilized via a tablet, laptop or desktop computer within range of any standard network Wi-Fi signal.



Key features of uRemote software include full remote control and viewing of most common uTrack 24 operations; playback bar for instant navigation to any time or marker; one-touch markers list; one-button loop control; playlist home screen; analog-style mixer screen; dedicated full-screen metering page for all 24 input/output levels; multiple uRemote control of a single uTrack 24, allowing different simultaneous screens; and more. Meanwhile, uRemote for iOS has been updated to version 1.1.

Stay tuned for our full review of the Cymatic Audio uTrack 24 multitrack recorder.

Community R Series: Gains EASE Focus 2 GLL Data Files

Community has added its R SERIES to a growing library of manufacturer-authorized EASE Focus 2 GLL data files, allowing system designers to create 3D models of complex R SERIES arrays using the EASE Focus 2 software application from AFMG.

EASE Focus 2 is a free application available directly from AFMG. Manufacturer-authorized EASE and EASE Focus 2 GLL files for Community loudspeakers may be downloaded from Community's website.



MXL DRUM PA-5K Mic Kit, MM-131 Mic Mate Mobile

MXL Microphones' new three-piece DRUM PA-5K drum mic kit (pictured, at \$199) includes two of the company's new A-5t Tom Microphones and the MXL A-55 Kicker bass drum mic.

The A-5t is a high-SPL cardioid dynamic mic featuring an all-metal body and an adjustable, pivoting rim mount. The A-55 Kicker, according to MXL, is intended for bass cabinets, congas and "all other low-frequency instruments," too. The A-55 Kicker has a clean pickup for fast attacks. It includes a built-in mic clip. All mics in the DRUM PA-5K are made of metal to withstand touring and demanding use.



Yamaha DXS18 Subwoofer

Yamaha's DXS18 builds on the design ethic of its predecessors, the DXS12 and DXS15, by offering improved cabinet construction, DSP processing, protection functions and crossover control. The new model adds features and higher power output suitable for larger or more professional applications.

Powered by a 1020 W Class-D amplifier, the DXS18 houses an 18-inch woofer with a 4-inch voice coil in a band-pass type plywood enclosure, which is said to provide 136 dB maximum SPL (and an extended LF response down to 32 Hz). The DXS18 features Yamaha DSP technology with original D-XSUB processing for additional control of the low frequency range via Boost and Xtended LF modes, and a selectable crossover with three different options (80/100/120 Hz). The DXS18 also features a Cardioid Mode setting for sound systems with two or more DXS18 speakers.



Papal Production for 1.2 Million

BY SAM MCLEAN

GUAYAQUIL, ECUADOR—Hundreds of thousands of people traveled to Guayaquil, Ecuador to witness Pope Francis celebrate an outdoor mass at Samanes Park, located on the northern edge of the port city. Sound production company C. Vilar, headquartered in Bogota, Colombia, was responsible for all audio and video systems deployed during the event.

“This is a very particular job where you get hired to provide amazing clarity and intelligibility on one voice,” said Mauricio Vilar, owner of C. Vilar. “When people are expecting perfection from one microphone, there’s no room for mistakes.”

Samanes Park is an on-going project that will ultimately provide the Guayaquil community with more than 2,102 acres of recreational space. The area set aside for the Papal mass utilized 118 acres, of which a large portion was an undeveloped open field that could accommodate



Using an audio system centered around a Yamaha PM5D console and a sizable Adamson Engineering Systems PA, sound production company C. Vilar provided audio of the Pope celebrating mass to an estimated 1.2 million people across 118 acres in Ecuador.

the anticipated 1.2 million Catholics onsite for the mass.

In preparation for the event, a large pavilion (80x80 meters) was constructed at the front of the field with a seating capacity of 600. Be-

yond the pavilion, the field was divided into 28 100x100-meter sections, each providing space and amenities for up to 30,000 people.

Vilar notes that one of the chal-

(continued on page 48)

CMA Music Fest Breaks Records

NASHVILLE, TN—It’s no exaggeration to say that the CMA Music Festival, held every June in Nashville, is a big deal. The 2015 edition saw a daily attendance of more than 87,000, and generated a record \$46.8 million in direct visitor spending, easily making it the city’s biggest annual event. While it’s become a top tourism draw for Nashville, however, the festival has also become a key artist devel-

opment tool for the country music industry. Performances at the festival can provide a substantial career boost, so a lot is riding on them. Unsurprisingly, that means a lot is riding on the sound as well.

Morris Light & Sound (Nashville, TN) supplied production support on four of the CMA stages, choosing the Nexo STM at the festival’s premier location. The Chevrolet Riverfront Stage,

which housed the STM rig, also used four Yamaha CL5 digital audio consoles—two at front of house and two at monitors with four Rio 3224-D input/output boxes. On the majority of the four-day festival, the Riverfront Stage saw a capacity crowd of more than 22,000 concertgoers, with performances including the Swon Brothers, Diamond Rio, Phil Vassar, Jack Ingram

(continued on page 48)



Morris Light & Sound provided a Nexo PA and Yamaha consoles for the Riverfront Stage at Nashville’s CMA Music Festival.

briefs

Miking A Wonderland

CHICAGO, IL—*Wonderland*, a rock and roll take on *Alice In Wonderland*, was recently staged by the Chicago Children’s Theatre. To capture the 11 actors who all play instruments in the show, sound designer Lindsay Jones put everyone on Point Source Audio (point-sourceaudio.com) CR-85 Cardioid Earworn and CR-8L cardioid lavalier mics.

CenterStaging Nabs Roland M-5000

BURBANK, CA—A rehearsal and back-line facility specializing in production and technical support for TV and live performances, Burbank’s CenterStaging recently took delivery of a Roland (proav.roland.com) M-5000 OHRCA live mixing console, adding it to the company’s rental arsenal and using it in the facility, including during rehearsals for the BET Awards.

Soundcraft Feels The Folk

LONDON, UK—The annual London FolkFest was held once again this year at The Bedford, South London, which used two Soundcraft (Harman.com) Si Performer 3 mixing consoles for the FOH positions of the Theatre Main Stage and the Ballroom Band Stage. A third and smaller stage, known as the Tavistock Stage, featured smaller acoustic acts. For this 80-capacity room, a Soundcraft Ui 16 was used for remote mixing via a tablet.

Hot Dogs Covered With KV2

CONEY ISLAND, NY—This year’s Annual Nathan’s Famous July 4th Hot Dog Eating Contest attracted a crowd of more than 30,000 people who heard it all via a KV2 (italianspeakers.us) ES1.0 PA, comprised of an ES1.8 and ES2.6 on each side. Two front speakers were used, each an EX26, as well as an ESR215 on each side. The delay system included two ES1s on top of two ES1.8s and an ES2.5.

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Foo Fighters' Tour Puts Grohl On Pedestal

BY CLIVE YOUNG

QUEENS, NY—The Foo Fighters' summer tour put the "leg" in "legendary" this year—and that was before it even started. During a June 12 concert in Gothenburg, Sweden, band leader Dave Grohl fell off the stage, and though he finished out the show in a chair while being attended to by a medic, it turned out he'd broken his leg, requiring a half-dozen metal pins to be surgically inserted. Despite this, the band's 43-date North American tour kicked off on schedule July 4 and is currently blazing a trail through stadiums and arenas with Grohl seated atop a giant, track-mounted throne at centerstage that props up the singer's leg and keeps him off his feet.

While the mobile throne undoubtedly presents a challenge to Grohl, who has to rock a crowd while sitting down, it actually makes life easier for the tour's audio crew, in part because it has less to look after. "When Dave broke his leg, we had to do away with the B-stage stuff, so this is only half the system," said monitor engineer Ian Beverage, standing stageside at New York's CitiField Stadium. "When it's the full A-stage/B-stage show, it's almost hard to fit on my Midas Pro9."

Bryan Worthen, the band's FOH engineer of 13 years, likewise has no problems with the theatrical throne, as its back is perforated so that the roar of the audience doesn't reflect into Grohl's vocal mic. "If anything," he added wryly, "it keeps Dave on the microphone instead of running around."

Even without a B-stage, the tour is still carrying a massive sound system provided by Delicate Productions (Camarillo, CA), the band's longtime audio provider. Helping cover entire stadiums with an earful of audio is a sizable L-Acoustics system comprised of K2 and K1 boxes,



ROB GRANGER

Foo Fighters' Dave Grohl, seen here belting into a Sennheiser MD 431, has spent the summer touring North America having to perform onstage from a mobile throne, after breaking his leg during a June concert.

with the latter provided in partnership with Winston-Salem, NC's Special Event Services. Crew chief Steve Walsh explained, "We're carrying a K1/K2 PA, so in stadiums, the main hangs are 16 boxes of K1 with 4 boxes of K2 on downfill. Then we've got 20 boxes of K2 from side hangs, and 20 boxes of K2 for our delay towers. SB 28s go across the front of the stage, plus some KARAs and ARCs for front fill, so it's a pretty big, rockin' system actually."

All of that is connected by a Dante network designed and overseen by system engineer Philip Reynolds, that includes a DiGiCo MOD-SD-Dante I/O card on the DiGiCo SD5 console at FOH, a quartet of Lake LM44 units for processing and EQ, and a selection of Focusrite RedNet D16 I/Os routing to the various clusters. "I was one of the first people to build a rig out of the Focusrite RedNet series and since then, I've loved the products," said Reynolds. "I've never had an issue, whatsoever; it was awesome to be able to build a network so robust

and so easy to maneuver channels around."

While the system is intended to provide a hi-fi touch to every show, when Worthen is behind his DiGiCo desk at FOH, he's not concerned with giving a song that 'in the studio' sound: "The new ones, they play them great, so it's pretty easy

like people have interpreted them in their own brains."

Given Grohl's penchant for analog consoles in the studio—a position thoroughly put forth a few years ago in his documentary *Sound City*—it might almost be a surprise to find a DiGiCo desk at FOH, but aside from the Dante aspects, the digital features are largely an afterthought. "I use that console like an analog console; I don't use it like a digital," said Worthen. "I don't do snapshots, presets or any of that stuff—I like to mix."

With the band supporting its 2014 *Sonic Highways* album, Worthen gets that opportunity to dig into the mix with an album track, "Outside," which was recorded during the Los Angeles episode of the HBO documentary series that accompanied the album's release. "It has a lot of space," he said. "It's a super driving song, very dynamic and it's got a lot of weird sounds that I can toy with coming from the keyboard player and Dave's guitar."

"If you can maximize the ratio of music-to-noise, you're doing pretty good, and that's what we're trying to do."

Ian Beverage

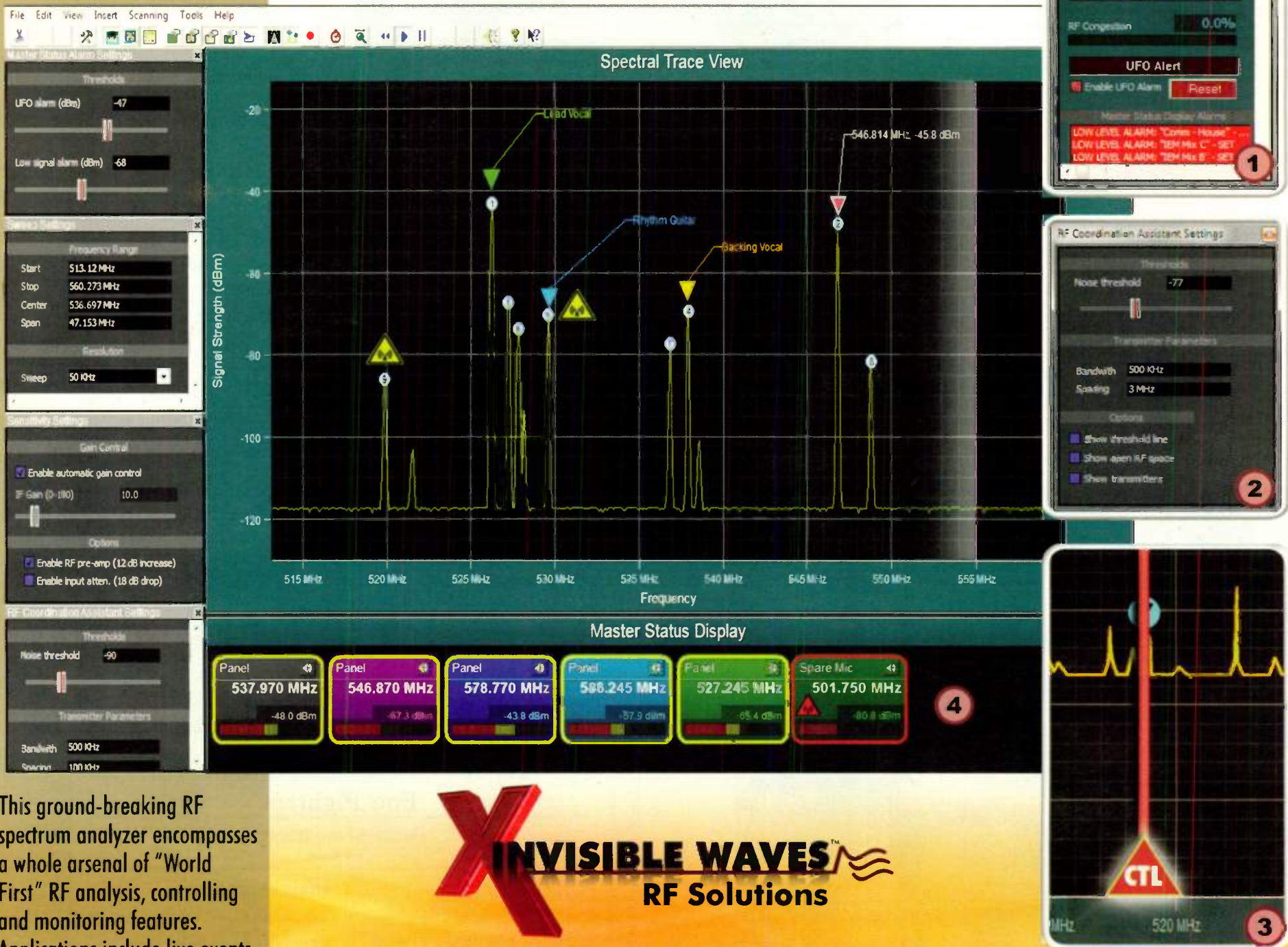
to make it sound as good and bigger than the record—but the old songs, you have to make them sound

(continued on page 46)

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Foo Fighters

(continued from page 44)

As the band has endorsed Sennheiser for a number of years, most of the stage is captured with the German manufacturer's mics, which is fine with Worthen; as he pointed out, it allows him to use his favorite snare-miking arrangement: "My top is an e 905 and my snare bottom is a condenser e 614. I use that combination on Foos, Godsmack and Limp Bizkit—every band I do. A lot of people think 'a condenser on a snare bottom?' But it's rad; I love it."

Another mic of note on stage is the Sennheiser MD 431 that captures Grohl's vocals. "That mic does really well for him," said Worthen, "because it's a 421 capsule within a handheld body. Dave puts enough volume out of his mouth that it could really be any mic for me, but



FOH engineer Bryan Worthen treats his DiGiCo SD5 console like an analog desk, eschewing snapshots and so forth, as he sends his mix to the massive L-Acoustics K1/K2 PA, seen here in New York's CitiField Stadium.

Ian can get that one extremely loud in the monitors with little effect."

Those monitors are everywhere on stage, too. Only one bandmember opts for in-ears (JH Audio ear

pieces on a Sennheiser EM 2050 transmitter/receiver system), so Beverage sends a dozen mixes through d&b audiotechnik M2 wedges and Martin Audio sidefills, along with 10 in-ear mixes for techs.

In Beverage's monitorworld, the name of the game is "simple." The Scottish engineer, who's mixed Grohl since Nirvana's 1990 UK tour, keeps all the processing inside his Midas Pro9: "You can bring a whole bunch of outboard stuff and drag it around with you, but...I'd rather have a simple set-up and rely on an inherently good-sounding console. There's a lot of EQ and processing, but it's all done with the

tools available on-board. That's how I personally like to do it."

Even if the set-up is simplified, Beverage still faces a considerable task every night, providing a sense of spatial separation between instruments: "The hard thing about the Foo Fighters is you have three guitars on stage that are distorted a lot of the time. If you have a mono box sitting on the floor and you put two really distorted guitars in it, you're never going to tell which one's which unless they're dramatically different in tone—and these are not. The only way I can give them any distinction is to have a directional factor, so everybody hears other people's stuff coming from different places. That's planned out across the stage in the mixes so that if a guy's on stage left, he'll hear Dave's guitar from the stage left sidefill but his own guitar from his own wedge, giving it that spatial difference.

"I always say, if you can maximize the ratio of music-to-noise, you're doing pretty good," he laugh, "and that's what we're trying to do."

Delicate Productions
Delicate.com

L-Acoustics
l-acoustics.com

DiGiCo
Digico.biz

Focusrite
Focusrite.com

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Foo Fighters

Delicate Productions
(Camarillo, CA)

FOH Engineer:

Bryan Worthen

Monitor Engineer:

Ian Beverage

Crew Chief:

Steve Walsh

Systems Engineer:

Philip Reynolds

Monitor Tech:

Phil Boutle

Stage Tech:

Tony Luna

PA Tech/Stage Audio Tech:

Will Whitaker

Stadium PA Techs:

Russ Cunningham, John Kaylor

FOH Console:

DiGiCo SD5

Monitor Console:

Midas Pro9

House Speakers:

L-Acoustics K1, K2, KARA, ARC, SB28

Monitor Speakers:

d&b audiotechnik M2; Martin Audio WT3, WS218X, WS18X

Personal Monitors:

Sennheiser SR 2050 IEM; JH Audio ear pieces

House Amplifiers:

L-Acoustics LA8

Monitor Amplifiers:

d&b audiotechnik D80; Martin Audio MA5.2K

FOH Equipment/Plug-Ins:

(5) Avalon VT-737sp Preamplifier

Microphones:

Sennheiser e series 901, 602, 904, 905 614 and MD 431, MD 42; Shure 57



PreSonus Peppers Maroon 5 Mix

LOS ANGELES, CA—Having spent years mixing the likes of Aerosmith and Annie Lennox, veteran front-of-house and studio engineer Jim Ebdon knows a bit about working with distinctive vocals. On Maroon 5's current tour, he's using the PreSonus ADL 600 two-channel tube preamp and ADL 700 tube channel strip in order to capture Adam Levine's pipes.

"My friend Andy Meyer suggested I try them out," Ebdon said. "So I

tried the ADL 700 on his vocals, and it worked very well, bringing his voice out of the digital domain with power and intelligibility. I like the ADL 700's semi-parametric EQ for taking out a consistent tone inherent in the microphone; I usually don't touch the EQ after the initial setup of the unit. And the ADL 700's compressor has

that tube tone that is so endearing to live sound. It's warm, smooth, and fast."

Ultimately, he moved to the ADL 600 for vocals, but didn't get rid of the first unit. "I then mixed it up a bit and put the ADL 600 on Adam's vocal. I reset my original vocal chain and put one side of the ADL 600 on

at the end, strapped across the master bus. Again, the vocal popped and became bigger. I tried the main guitar through the ADL 700 with phenomenal results. I got the biggest guitar sound imaginable, and it was warm, smooth, and clear."

PreSonus
presonus.com

Meeting The Challenge Of Red Rocks

DENVER, CO—If you're talking Americana, the Avett Brothers are always one of the first acts to get mentioned. Touring the country this summer, the band has carried a scalable audio rig from Winston-Salem, NC-based Special Event Services.

Key to the audio system are a pair of Midas Pro6 consoles with DL371 DSP racks and a DL431 24-channel 5-way mic splitter, along with a massive Martin Audio MLA system that was able to handle the steep inclines of Red Rocks.

SES System Engineer Andrew Steelman cited the proximity of the PA to FOH, high altitude (thinner air) and wind as challenges.

For the three sold-out shows at Red Rocks, SES deployed 16 MLA and two MLD (Downfill) enclosures with a half-dozen ground-stacked MLX subs per side. "MLA covered every seat in the venue and helped us accomplish what we needed to in that environment."

Martin Audio
martin-audio.com



Special Event Services supplied the consoles and PA for this summer's Avett Brothers tour, which included three sold-out shows at Red Rocks Amphitheatre.

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d&b
audiotechnik



Papal Production

(continued from page 42)

Challenges of designing sound reinforcement for the mass was not only the area that needed to be covered, but also the venue—which was changed a number of times and not finalized until very close to the event.

“I am fortunate to have a team that is very experienced and capable of achieving the best-possible coverage of any space,” Vilar said. “Even as the

“To ensure that the thousands of people on site could listen to Pope Francis say mass was a privilege.”

Mauricio Vilar

event approached, we were confident that we could handle the audio in any number of the venues under discussion.”

Once Samanes Park was chosen, Vilar worked with his system design team to create a large main PA as well as several delay lines to ensure the entire 118 acres were covered. Because the main PA as well as the first line of delays were made up of Adamson line array enclosures, he used Adamson’s Blueprint AV software in conjunction with AutoCad to build the listening area, using the software to decide where to hang multiple arrays, simulate response with a variety of acoustic measurement tools and provide a detailed rigging plot for the primary systems. Because of the tremendous listening area, and the number of Adamson loudspeakers already in use, C. Vilar utilized a combination of d&b audiotechnik and Nexo loudspeakers for the third and fourth delay lines.

“Blueprint AV is a tool that we can rely on to create a system design that will deliver what the client requires,” he remarked. “This was a particularly important event without much room for error. Using Blueprint AV helped ensure a flawless event.”

Ultimately, the system consisted of a main PA with two sets of outfill arrays to cover the pavilion and first 125 meters of the field. From there, three more lines of delay towers—each made up of six line arrays—covered the rest of the field. The C. Vilar team hung a total of 24 line arrays to blanket the listening area.

The main PA was hung under the eaves of the

pavilion in the far left and right corners. Each array was made up of a dozen Adamson S10 line array enclosures. The first pair of outfill towers were placed roughly 80 meters from left and right of the pavilion, and each consisted of nine E15 enclosures and nine E12 enclosures. A total of 20 Adamson Y10 enclosures—10 per side—were hung 180 meters to the left and right of the pavilion to cover the far-front seating areas. Meanwhile, eight Adamson SpekTrix, stacked four high to the left and right of the stage, offered sidefill coverage.

The first delay line was placed 125 meters out from the main PA. The primary rig consisted of left-right line arrays made up of nine E15s per side, located 60 meters apart. The first pair of outfill towers—placed 80 meters out from the center system—were equipped with 12 Adamson Y18 enclosures each. Additional outfill was provided by another set of towers, this time located another

100 meters out, with eight Adamson SpekTrix enclosures hung from each. “The throw and consistency of Adamson loudspeakers in the vertical and horizontal plane is amazing,” Vilar says. “When you walk 200 meters away from a system and can still hear it clearly? To me that says a lot. And it’s not because the system is being driven too hard; it is because the design is exceptional; even at a low volume, you could still hear it.”

In order to continue coverage for the second half of the field, Vilar set up the third delay line approximately 120 meters from the first and placed another six line arrays—this time made up of d&b audiotechnik J and V series boxes—spread equally across 300 meters. The fourth delay was placed another 100 meters out and consisted of Nexo Geo series boxes. The entire system was powered by Lab.gruppen amplifiers. Amplifier racks as well as Adamson’s E-Racks were positioned throughout the listening area in close proximity to the arrays they powered.

Front-of-house, located front and center 80 meters from the stage, was home to a Yamaha PM5D digital console. An Avid Profile, located stage left, mixed the choir seated in a grandstand next to the pavilion. C. Vilar provided a DiGiCo SD10 to mix the bandstand. Engineers used a Midas Pro1 for the first delay line, with Midas Pro2 consoles for the second and third.

“We were honored to represent Colombia in what was one of the most important events in recent Latin American history,” Vilar concludes. “To ensure that the thousands of people on site could listen to Pope Francis say mass was a privilege. Everyone was very happy with the end result.”

Adamson Systems Engineering
Adamsonsystems.com

CMA Music Festival

(continued from page 42)

and Tanya Tucker, among others.

The STM system layout consisted of 42 M46s, 42 STM B112 sub bass for the main and side

hang, four STM M28s for downfill with 32 STM S118 subs, and six PS10s for front fill. “The beautiful thing about the Nexo STM is that when it is out of the box, it is already nearly up and running,” said Mark Bollenberg, system tech and front of house engineer. “We confirmed the whole set up with Smaart staying coherent and in magnitude and then phase-aligned the S118 subs to the main hang, which was very nice because you can actually see where your phase is going.”

There were A and B Yamaha console systems at the Riverfront Stage, so while one act was performing, the other was open for the next act’s engineer to work on drums and bass sounds. During the 15-minute changeover, either Trey Smith—system tech/engineer at the A console—or Bollenberg at the B console would assign the necessary channels to a custom fader layer and off they’d go.

“What I love about the Yamaha CL5 is the ability to do the custom fader banks, and as the patch is called, to be able to assign what faders we need on the customs by quickly clicking through and selecting the faders I want to be in,” said Smith. “And, all of a sudden, we’ve got everything we need; it’s all there for the guest engineer to come up and start mixing his show, which is amazing because of the quick 15 minutes for set changes between each act.”

The BMI and Close Up stages each used Yamaha CL5s, and the Durango Stage used two Yamaha QL5 digital audio consoles. The Close Up Stage featured Little Big Town, Hunter

Hayes, Kellie Pickler, Jo Dee Messina, and others. Lee Roy Parnell, Bellamy Brothers, and Mickey Gilley were some of the Durango Stage headliners, and the BMI Tail Gate Party stage featured Kane Brown, Chris Lane, DJ DU, and more.

“There are several things I really love about the Yamaha CL5 console,” said guest engineer Jason McLaren, front of house engineer for Jack Ingram, who performed on the Riverfront Stage mixing the CL5. “The head amps and the console sounds

“When a workflow is intuitive, it means you can think about the music and about how you’re trying to mix instead of thinking about your tools.”

Jason McLaren, FOH, for Jack Ingram

fantastic. But what I love the most about the console is how good the workflow is; when a workflow is intuitive, it means you can think about the music and about how you’re trying to mix instead of thinking about your tools. This makes a big difference to me and the quality of the work I’m able to do.”

Nexo/Yamaha
yamahaca.com

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Yorkville Rides Jersey Surf

MT. HOLLY, NJ—Founded in 1990, Jersey Surf has become an institution in New Jersey, drawing marching band members from numerous high schools around the region together to create a serious, competitive drum corps. While the unit has a big sound, some of the venues it plays—often including NFL stadiums—are even bigger, so the group recently opted to build a system based around Yorkville Sound’s Paraline Series cabinets, aiming to find ways to tailor the expandable system to its highly specialized application.

tion. In order to keep things simple for a quick set up time, powered boxes with built-in processing are required, again, offered by the Paraline series.”
Yorkville Sound Ltd
yorkville.com

Jersey Surf
jerseysurf.org



Yorkville Paraline series cabinets help bring the roar of Jersey Surf to the crowds in a variety of venues.

“In order to keep things simple for a quick set up time, powered boxes with built-in processing are required.”

Joe Costable, System Designer/
Engineer, Jersey Surf

Jersey Surf’s system had to be reliable, but it also had to be scalable to be adapted to a wide variety of venues. The system needed to be highly mobile, with time from set up to performance often less than five minutes, including soundcheck. System designer and engineer Joe Costable ultimately chose Yorkville Sound’s Paraline Series PSA1 and PSA1S cabinets.

“The design of the Paraline system is a great fit for the marching audio world for its compact design, minimal power requirements and built-in audio processing features such as level control and crossover frequencies,” said Costable. “Even coverage of the stadium seating front to back in both level and frequency response was achieved, as expected from a line array. Only an adjustment of the level control on each box was needed to calibrate the output to each venue.”

The greatest challenge faced in the system design was remotely powering the system, which was solved using a custom-designed, self-contained, battery-powered AC solution that allows the system to be rolled on to the field already running, eliminating the need for AC feeds to the stacks.

“While typical line array systems require more power than our self-contained system can provide, the Yorkville Paraline series at its core offered us a remarkably power-conscious solu-

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ACT / STATISTICS	CREW	EQUIPMENT
1 GRATEFUL DEAD PROMEDIA/ULTRASOUND	Derek Featherstone (be/se); Ian Dubois, Elijah Topazio (me); Richard Koharik (mse); Matt Haasch (cc); Chad Fuller (se); Jason Mills (ae/se); Andrew May, Nicolas Stover, Morgan Russel, Carter Haasbroek, Codey Scott (techs)	HC: Gamble EX56; Avid Venue Profile (96 Ch.—drums) with Pro Tools 10; MC: Avid Venue D-Show (96 Ch.), Venue Profile (96 Ch.), Venue SC48; HS: (72) Meyer Sound Leo, (32) 1100-LFC, (26) 700-HP, (52) Lyon, (88) Milo, (34) Mica, (8) UPJ; MS: Meyer Sound MJF-212, MJF-210, 1100-LFC; IEM: Sensaphonics; HARDWIRED MICS: Milab LC-28, LSR3000; Shure KSM9, Beta91, Beta 2, SM57; Sennheiser 421, 409, 904; 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; Waves Live plug-ins; Eventide Anthology plug-ins; Rane Serato Series plug-ins; MONITOR EQUIPMENT: Sennheiser EW300G3
2 THE ROLLING STONES CLAIR GLOBAL	Dale Skjereth (pd); George Reeves (pm); Dave Natale (he); Robert Bull (me); Thomas Huntington (cc); Kirk Shreiner (se); Steve Carter (mtech); Matt Van Hook, Jeremy Bolton, Ernest Woodard, Kevin Leas, Taylor Holden, Nichole Wakefield, Chris Daniels (pa techs)	HC: Yamaha PM4000; Avid Venue Profile; MC: Midas XL-4000; Avid Venue Profile; HS: Clair i-5, i-5b, P-2; MS: Clair 12am, i-5b, R-4 III; IEM: Shure PSM-1000; HA: Crown; MA: Lab.gruppen; WIRELESS MICS: Shure UR Series; EQUIPMENT: Aphex 612; Lexicon PCM 80, dbx 903, Alesis ML-9600 CDR; Clair iO processor; Radial JX44, J48, JDI Stereo, Twin Iso; MONITOR EQUIPMENT: TC Electronic 1128; dbx 160a; SPL Transient Designer 4
3 TAYLOR SWIFT EIGHTH DAY SOUND	David Payne (he/be); Scott Wasilk (me); Jordan Kolenc (me/cc); Edgardo Vertanessian (se); Casey Stewart (ae); Bill Flugan (rf); Andy Dudash, Bill Fegley, Turner Pollari (tech)	HC: DiGiCo SD7; MC: (2) DiGiCo SD7; HS: d&b audiotechnik J and V series with array processing; IEM: Ultimate Ears; Sensaphonics; Shure PSM 1000; Albatross Audio PH9B; HA: d&b audiotechnik D80; HARDWIRED MICS: Shure Beta 91/52; Telefunken M80SH; Audio-Technica ATM450; DPA 4099; AKG 414; Sennheiser 935; WIRELESS MICS: Sennheiser 9000 Series with 9235 capsules, 5000 Series with 5235 capsules; FOH EQUIPMENT: Waves SD7 Pro Show Bundle; Rupert Neve Designs MBP and Portico II Channel; SPL TD4; Bricasti M7; Lexicon PCM 92; Elysia Nvelope; TK Audio BC1; MONITOR EQUIPMENT: Waves SD7 Pro Show Bundle; Rupert Neve Designs Portico II Channel; SPL TD4; Lexicon PCM 70, PCM 92; Eventide Eclipse; Bricasti M7; TC Electronic M-One XL; dbx 160x; UBK Fatso Jr.
4 THE DAVE MATTHEWS BAND PROMEDIA/ULTRASOUND	Jeff Thomas (be); Ian Kuhn (me); Lonnie Quinn (ame); Joe Lawlor (re); Tom Lyon (s tech); Greg Botimer (m tech); Sean McAdam (tech)	HC: Avid Venue Profile; MC: Avid Venue Profile, SC-48; HS: Meyer Sound Leo, Mica, LFC-1100, HP-700, CQ-2; MS: Meyer Sound MJF-212a, Clark Synthesis TST; MA: Lab.gruppen fp-2400 IEM: Sensaphonics 3D, 2X; Shure PSM 1000, PSM 900; MICS: Neumann; Sennheiser; AKG; Shure; B&K; DPA; Crown; Electro-Voice; Audio-Technica; Earthworks; Radial JDI, JD7, Duplex; FOH EQUIPMENT: Meyer Sound Galileo; Metric Halo Mobile i/o 2882; Avid Pro Tools 10 HD; Tascam CD Player; Apple Mac Pro; Rational Acoustics Smaart 7.5; Lectrosonics TM400; MONITOR EQUIPMENT: Apple Mac Pro; Avid Pro Tools 10 HD; PWS GX-8
5 SHANIA TWAIN VER TOUR SOUND	Nigel Green (be); Connie Fernstrom (me); Kenny Sellars (cc/se); Ike Zimbel (rf tech); Carter Hassebrock (m tech); Joey Armada, Justin Keasling (techs)	HC: Avid D-Show, sidecar; MC: DiGiCo SD5; HS: Meyer Leo, Lyon, 1100 LFC, Mica, Mina; MS: d&b audiotechnik M4; IEM: Sennheiser SR 2050; MA: d&b audiotechnik D12; HARDWIRED MICS: Shure; Sennheiser; Royer; Earthworks; Radial Firefly, SW8; WIRELESS MICS: Sennheiser SKMS200; DPA 4088 Headsets; FOH EQUIPMENT: Venue Pack 4; Waves Mercury; Crane Song Phoenix
6 U2 CLAIR GLOBAL	Joe O'Herlihy (be); Alastair McMillan, Richard Rainey; CJ Eiriksson (me); Jo Ravitch (cc/se); Joel Merrill (ase); Niall Slevin (stage eng/cc, RF); Brandon Schuette (a stage eng); Chris Fulton, Mike LaCroix, Jen Smola, Pascal Harlaut (techs)	HC: (2) DiGiCo SD7; MC: (3) DiGiCo SD7; HS: Clair Cohesion 12; Cohesion 8; i-3; Cohesion CP-218 Sub-lows; MS: Clair Cohesion CP-118 Sub-lows; IEM: Sennheiser 2000 Series; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: Shure Beta91, Beta52, SM57, SM 98; AKG 414; Audio-Technica AT4071, AT4050; Sennheiser MD-421; DPA 4099; Radial ProD8, Duplex, SW8; WIRELESS MICS: Shure Axient; FOH EQUIPMENT: TC Electronic 2290; Lexicon PCM70, 480L; Summit DCL-200; Manley VoxBox; Yamaha SPX-1000; Avalon VT-737SP; Eventide H3500; Klark-Teknik DN6000; MONITOR EQUIPMENT: Bricasti M7; Yamaha SPX-990, SPX-1000; AMS RMX16; TC Electronic M5000; Lexicon PCM80
7 KENNY CHESNEY MORRIS LIGHT AND SOUND INC.	Chris Rabold (he); Bryan Baxley (be); Phill Robinson (me-Chesney); Tanner Freese (foh tech); Rich Rossey (patch); Justin Meeks (cc); John Mills (se); Phil Spina, Ryan Lewis, Annie Hallquist (techs)	HC: SSL Live L500; MC: (2) Midas Pro9; HS: (184) Nexo STM; IEM: Shure PSM 1000; HA: Nexo NUAR Universal Amp Rack; HARDWIRED MICS: Shure SM57, Beta 52, SM58; Earthworks; Audio-Technica; Radial JD6, JDI; Sonic Farm 2di4; WIRELESS MICS: Shure Axient with KSM9HS caps
8 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 i-5, i-5b, i-3, P-2, 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 DI, SW8, Firefly; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Waves
9 FLORIDA-GEORGIA LINE CLAIR GLOBAL	Jared Blumenburg (be); Juan Gomez-Marin (me); Phil Kriz (se); Elliott Wiley (ae); Brandon Allison (tech)	HC: Avid Venue Profile; MC: DiGiCo SD10; HS: Clair i5, Clair i-5B, i-3, CP-218, FF-2; IEM: Shure PSM 1000; Clair Fractal antennas; HA: Lab.gruppen PLM 20000; MA: Crown; HARDWIRED MICS: Shure; Sennheiser; Radial Firefly Tube DI, TwinCity, SW8, Texas Bones, PZ Pre, SGI, Pro RMP, Pro DI, J48; WIRELESS MICS: Shure; FOH EQUIPMENT: Waves; Antares
10 ED SHEERAN MAJOR TOM	Chris Marsh (he/me); Charlie Albon (cc); Tristan Nelson Hauer (se); Josh Schmitz (ae); Kasper Brogaard (tech)	HC/MC: DiGiCo SD7; HS: Meyer Sound Leo; MS: Meyer Sound MJF-212a; IEM: Sennheiser 2000; WIRELESS MICS: Sennheiser 9000 Series Digital mics/instrument packs; EQUIPMENT: Avalon 737; Bricasti M7; Eventide Eclipse; Waves Max BCL; Radial SW8

LEGEND: (he) house engineer. (ah) 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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Joe Perry

With more than 30 years of experience in recording, sound contracting, broadcast and video post, **Joe Perry** has formally announced his new sales agency—Joe Perry Sales & Consulting, based in Atlanta. Perry's first announced client, Wave Distro, has retained his services as North American Sales and Brand Manager for several of its distributed brands.

Starting with New England Digital in 1988, Perry established an expertise in solving production issues for the top production houses and studios of the day. He also aided the success of the Roland recording product lines. Most recently as publisher of the *Guitar Player*, *Bass Player*, *Keyboard*, and *Electronic Musician* brands, Perry helped companies develop sales and media brand strategies, including the latest in social media campaigns.

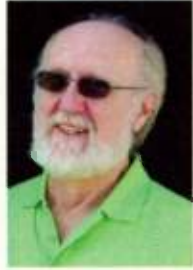


Lynn Fuston

Sweetwater Sound has announced that recording industry veteran **Lynn Fuston** has joined its ranks in the newly-created position of Manager of Written Content. Fuston is now responsible for overseeing the writing team that creates web and catalog content. "My goal," says Fuston, "is to continue and elevate Sweetwater's trend of being the most valued and trusted voice on the internet for information about music and recording gear."

After spending more than three decades behind recording consoles in studios all over Nashville plus two decades as a contributing writer/editor for magazines such as *EQ*, *Pro Sound News*, *Audio Media* and *Pro Audio Review*, Fuston is uniquely equipped to oversee technical and writing details concerning pro audio. Fuston's studio work with iconic Christian artists such as Amy Grant, Michael W. Smith, DC Talk, Russ Taff, Twila Paris, Kathy Troccoli—along with producing the 3D Audio CDs, comparing mics, preamps, analog-to-digital converters and DAWs—give him an authoritative perspective on the artistic and technical aspects of the recording industry. He has also hosted recording forums for the past 17 years, both on the internet (3dB) and on Facebook (3D/FB).

Mike Wolf, a veteran sound engineer who helped Clair Brothers build a



Mike "Wolfie" Wolf

worldwide reputation among bands from Bon Jovi to Elton John, and staged events for popes and presidents, has joined the staff of Sound Advantage, an audio, video and lighting company based in Annville, PA.

Wolf will help Sound Advantage bridge a gap between global sound companies and smaller sound companies by catering to the needs of young acts that may be touring for the first time, or working bus-and-trailer tours on a tight budget.

Additionally, Wolf will work on development of an education program for students interested in careers in sound engineering, and will play a role in the company's plans to develop a state-of-the-art multipurpose performance venue and demonstration space in Lebanon County, PA.



Larry Pendergrass

LOUD Technologies has announced the appointment of **Larry Pendergrass** to the position of senior vice president of Engineering of the Music Gear Group, which includes the brands Mackie and Ampeg.

Pendergrass brings more than 30 years of experience in the high-tech industry, holding engineering, R&D,



Matt Redmon

and management and positions in prominent technology companies, including Hewlett-Packard and Tektronix. His expertise includes work in electronics, optics, acoustics, and magnetics.

LOUD also announced the appointment of longstanding senior product manager **Matt Redmon** to the newly created position of director of Channel Marketing for MG Brands.

Redmon will be responsible for designing and implementing strategic, integrated channel marketing plans and programs for the Mackie and Ampeg brands, and overseeing engagement programs targeting independent sales force partners, dealers, distributors and artists.

Redmon comes to the position after more than 15 years as Mackie senior product manager and more than



BRAD JOHNSON

Guitar Center Professional

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

A: My new position is director of Guitar Center Professional and it is really all about refining the strategy for the division, expanding what has been working well for us, focusing the division on its core strategy, and leveraging the nationally recognized brand

of Guitar Center. It also entails empowering the individual talents of each of our account managers and logistics coordinators. My team and I are here to support them and are working towards improving the tools and processes to optimize our relationships with our clients.

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

A: Since my background has primarily been in retail store and district management, I feel I have a unique perspective in regards to creating a more unified approach to our retail stores and the GC Professional division. Working for years within our support center, I have developed many strong relationships within the company, which makes it easier for me rally different divisions within GC around GC Pro to make improvements towards efficiencies in sales processing, accounts receivable, accounts payable, gear procurement and logistics.

Also having a background as an owner of a boutique manufacturer has given me insight as to how I can strengthen the relationship between Guitar Center and the many smaller, but very important vendors that GC Pro deals with on a day-to-day basis. I understand the perception that dealing with a company the size of GC might be difficult, and my attitude is that I am here to assist and make things even more efficient.

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

A: The biggest venture is the launch of the new Guitar Center Professional Ecommerce platform, which will be integrated into our new micro site on GC.com. This includes expanded product selection with four times the amount of viewable product, user-friendly experience with easy navigation, expanded product descriptions, product specifications and a feature to chat live with a GC Professional Account manager. You will also see much more collaborating with industry professionals to create awareness in the marketplace of the personalized services GC Pro offers. While we have been doing a good job of this, I really want to expand upon it.

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

A: Expansion. There are a handful of markets around the country where our customers and potential customers would benefit by having GC Pro in closer vicinity. We have already added 16 Account Managers over the past few months and are hiring more. Growing our installations business, and our Affiliate Program, is a short-term goal, but also long-term. This area is very important to us, as being able to partner with our installation and integration affiliates allows us to design and deliver a totally complete package to our clients.

Q: What is the greatest challenge that you face?

A: Some of the biggest challenges are to provide really great training to the Account Managers that we are hiring for our expansion. Hiring people, giving them tools but not giving them proper training and support does not benefit anyone. Working closely with my associate Derek Snyder and our vast network of vendor partners, we are able to train our Account Managers and support team on the latest professional audio & video equipment, best practices and industry trends. I am excited about my new position, and with this strategy in place, I look forward to growing GC Pro and offering our customers the most knowledgeable sales staff and comprehensive product selection to provide them the audio and video solutions they need.

25 years of experience on all sides of the microphone as a bassist, guitarist, singer/songwriter, and recording and live sound engineer.

Greg Helm has been appointed as eastern regional sales manager by Martin Audio in a move said to be part of an ongoing reorganization of the company's U.S. sales effort. Helm, a 25-year sales veteran of the music, pro audio and commercial AV markets, will be responsible for all sales east of the Mississippi, working closely with sales reps, integrators



Greg Helm

and consultants. Prior to joining Martin Audio, Helm held key positions in sales and product management with Community and Peavey. He will report to Lee Stein, vice president North America, Martin Audio, who lauded Helm's technical sales experience and knowledge of the installation market.



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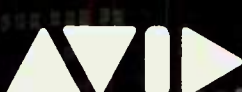
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A Career Spent Creating Solutions

MARK KALTMAN, CEO/CFO, KALTMAN CREATIONS

BY FRANK WELLS

CHICAGO, IL—Mark Kaltman grew up in the heart of Chicago, with his early exposure coming on the artist side of the equation as a rock guitarist (“Wasn’t everyone a guitarist at some time in their life?” he quips). “I had the opportunity to record at Gary Lowizo’s Pumpkin Recording Studio in a suburb of Chicago,” he recalls (where clients included Styx and Liza). “I view that as the point in my life where I fell in love with the pro-audio environment.

“In the mid-70’s, I moved to Portland, Oregon, and opened a commercial recording studio that I managed and engineered for almost 10 years.” While in Portland, Kaltman landed the monitor engineering position for the then-breakout band, Quarterflash. “They had a few top-ten hits—remember ‘Harden My Heart’ in the early 80s? I fell in love with the touring experience,” he says, so he “turned the management of the studio over to my second engineer, and continued touring with national acts for several years.” When his last touring gig with Barbara Mandrell was cut short by the artist’s involvement in a car accident, Kaltman went back to school to get an EE degree with a focus in communications. Degree in hand, Kaltman went to work for Wheatstone/Audioarts Engineering as a National Sales Manager, selling large-format audio consoles to major radio and television broadcast networks. His career continued on with executive-level positions with Denon Electronics, Sabine, AETA Audio and Klotz Digital.

“Fast forward to 2006,” he says, “when I started Kaltman Creations LLC. As the ‘Creations’ part of the name implies, the original company concept was based on developing and creating products for the pro-audio community—not the manufacturing and marketing of goods, but the creation and selling of the product rights through licensing agreements.” The business model, “somewhat popular in the DJ equipment market heyday of the ’90’s,” was one where one a developer/manufacturer offered the same product electronics, packaged under different brand names, usually with minor cosmetic and feature changes. “When I identified the potential need and opportunity for solutions for pro-audio wireless,” says Kaltman, “and the ability to use my electronics communications skills, our business model took a turn back to traditional product development, manufacturing, sales and marketing.”

His “early touring and studio experiences laid the groundwork for the all-important skills and fundamentals of pro-audio,” Kaltman relates.

“Nothing beats the in-the-trenches, first-hand experiences.” Further, he says his later positions in sales, marketing and management “expanded my general managerial, product development, and marketing skills. I was also a principle in several business start-ups and early-stage companies, which honed my business acumen and fine-tuned my ability to launch products and identify market needs.” Kaltman put some of that experience to paper in a book published in 2009 called *Start-up Tactics for the Small Business*, which is still in print

and readily available through major bookstores and online. “garage start-up, I must say I really like the small business environment best.” With telecommuting RF and software engineers providing “hardcore engineering,” the company headquarters (final assembly, quality control, in-house sales and marketing, tech support, warranty service, product development and R&D) is located in Suwanee, GA, about 20 minutes north of Atlanta (often rated in *Money Magazine’s* top ten cities to live in). The company uses US-based contract manufacturing, so it can state “proudly” that its products are “Made

“We find great gratification in offering solutions for the challenging and ever-changing RF landscape.”

Mark Kaltman, Kaltman Creations

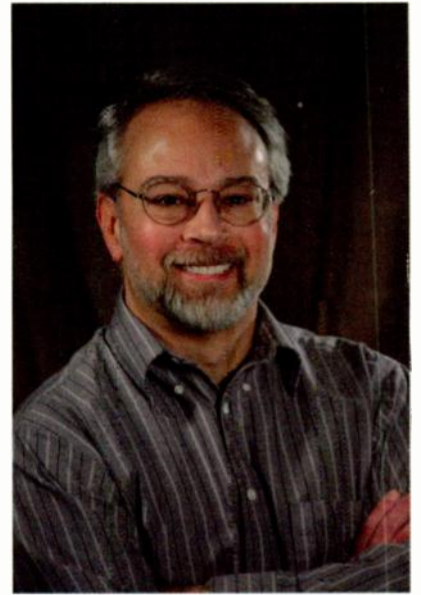
and readily available through major bookstores and online.

In the early 2000s, Kaltman was employed by Sabine (now owned by ClearOne), “hired specifically to help launch their 2.4 GHz wireless microphone systems.” Due to FCC spectrum plans in conjunction with the original 2006 Digital Television mandatory migration target, Sabine identified a potential need for wireless mics in a band other than UHF. “Because of the FCC mandate extension delay to 2009 and difficult early-market acceptance of 2.4 GHz for wireless microphones,” Kaltman opines, “I would say Sabine was ‘ahead of its time.’ Even with that said, we had some success with the product line, which included what was then the world’s largest wireless mic system sale—over 700 Sabine transmitters—to Brigham Young University. Equally important, the position at Sabine put me in front of many actual wireless users and at the forefront of the wireless debate.”

Kaltman Creations, committed to providing “clear solutions to the exponential growth of wireless and RF spectrum squeeze,” is a “small, yet very profitable company, and we like it that way,” Kaltman states. “Having worked everywhere from billion-dollar corporate cultures down to the small

in the USA.” A secondary product division called Aaronia USA (www.aaroniausa.com) focuses on offering high-end RF and EMI spectrum analyzers, precision-calibrated antennas and RF shielding materials for test and measurement applications. Aaronia USA customers include advanced research facilities, federal law-enforcement agencies, the military, utility companies and the like. The “challenging” RF disciplines for these market segments “sharpens our RF knowledge base, says Kaltman. “Plus, the daily variety of talking to a scientist at NASA or an engineer at MIT Plasma & Fusion Center during one telephone call, immediately followed by a call from the touring monitor engineer for Neil Diamond or head of audio with Cirque De Soleil, makes for a fun and interesting day.”

Kaltman himself oversees general management and direction of Kaltman Creations, as both CEO and CFO. His daily activities can find him “on the phone offering sales or tech support, or in the lab testing recent improvements or new products.” The company has “a casual yet productive environment. We practice Just-in-Time delivery and inventory concepts, and revel in being very responsive to our customers’ needs... We find great gratification in offer-



Mark Kaltman

ing solutions for the challenging and ever-changing RF landscape.” The company’s products find application in “just about every aspect of wireless RF,” says Kaltman, with customers mostly involved in live sound production, including both touring and fixed installation.

At InfoComm 2015, Kaltman was showing off the latest Invisible Waves product, RF-ResQ—a product that he calls “truly a world first!” RF-ResQ, he explains, “uses military-grade, incredibly narrow bandpass filters along with trendsetting features. The primary function of the product is to allow more RF channels within a given RF spectrum and to actually eliminate interference, along with the ability to selectively increase the gain of each individual frequency. As of now, our new product development outlook is based around this technology, interfacing it with our existing products, and possibly licensing.”

As an innovation leader, Kaltman Creations is poised for continued success. Additional RF solution-based products are on the Kaltman Creations wish list, with a few on the drawing board, he says. “Aside from new product development, our immediate goals include increasing international awareness of the Invisible Waves brand and a few new internal hires.”

Mark Kaltman cites “providing an excellent customer experience” as the company’s number-one goal, and offers one recent experience as a heartening validation of that commitment: “At this last InfoComm show, and after my many years of exhibiting at trade shows, I experienced something I had never experienced before... a customer coming by the booth to shake my hand and thanking me for what we were doing for the industry—a rewarding moment that only motivates me more to continue revolutionizing wireless interference solutions.”

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Post Trends

(continued from page 1)

those correct, you're going to have a favorable outcome."

Bowler, who is quick to give production manager Mary Valentino her due credit on financial matters, is obviously doing things right. "Over the last three years, we've been growing between 25 and 40 percent; we've been very lucky. So far this year, we're up 35 percent or more. All sorts of issues emerge as you try to grow, including cash flow, but we're managing quite well. Mary has been exceptional at monitoring that and making sure everything is going smoothly."

Mitch Davis, composer and co-founder, along with executive producer Scott Brittingham, of commercial music company Pull, has been evolving both as a business

"We live in a visual world, so anytime our music can be seen with visuals, it helps sell the music."

Stephen Arnold, Stephen Arnold Music

owner and personally as a musician, since the pair set up shop in a 5,000-square-foot space in New York's SoHo neighborhood in 2001. "My control room is a small proportion of the space—maybe twenty-by-twenty [feet]," reports Davis, noting that the remainder of the space was furnished like a big apartment, complete with bar. "It's really a private studio for my projects; you can't typically rent time. I built the place in a non-traditional way for the way I want to work."

Nevertheless, several years ago there was a call from U2, who had heard about Pull over the grapevine. The band spent over two years working on its *Songs of Innocence* album at the studio. Damon Albarn, Bobby Womack, Stephen Malkmus and other artists have also worked at Pull, he reports. "U2 took over the whole place. I think the reason they liked it was that it's private; it's a more comfortable way to work," says Davis.

"Where do you go from there?" asks Davis, noting that he'd had to put his regular projects on hold while U2 were working at the studio. The answer was a collaboration with another company in the building, Harbor Pictures. Together, they built out

a couple of Dolby-certified film mix stages in Pull's former lounge areas to create Harbor Sound, providing a home for many of the staff from the recently closed Sound One facility uptown.

"We don't have the same open space we did, but we do have these large, world-class mix rooms," he says. "And after it just being the two of us, it's nice to have other people around now. There's a lot more activity."

Plus, he notes, "The proximity to these films creates opportunities. I've gotten a whole bunch of songs into films that I would not have otherwise."

Stephen Arnold, president of Stephen Arnold Music (SAM), a sonic branding and music production company that focuses on the broadcast market, observes, "We're finding that you continually have to be creative in how you relate to your clients. Once a year, we'll come up with a couple of different campaigns that are bundled with video. We live in a visual world, so anytime our music can be seen with visuals, it helps sell the music. But in this case, we saw a real need for a 'good morning' campaign."

The new "Waking Up My Day" morning show package includes video content that each station can tailor to its specific market. "It helps set us apart and it's cost-effective for them because they don't have to go out and shoot a bunch of high-definition video; they can insert stuff that they have around these images," says Arnold.

The venture is a response to shrinking budgets and reduced staffing, adds Chad Cook, SAM's creative director. "With this, you've already set a creative roadmap. A station can easily whip this thing out in three or four weeks. They're hitting the air with a premium product with great, catchy music and videos that go along with the lyrics, with plenty of places to drop their local talent and market shots in. It's already in over 50 of the 211 television markets. That speaks to how well-received it has been."

Hobo Audio's work typically comes from a variety of areas, says Bowler. "We have three sources of revenue, all audio post-driven. We get it from ad agencies, production companies doing long-form television, and from long-form features. A subset of that is promos; we do a ton of them and we have a guy here that specializes in that."

Despite his success, Bowler doesn't rest on his laurels. "Every day, I have something to prove; I treat every day like it's my first day on the job. I think that attitude is helpful in keeping the relationships fresh and

"We don't have the same open space we did, but we do have these large, world-class mix rooms."

Mitch Davis, Pull

engaged, and interest in the creative work. Once you fall into routines and patterns, there's a predictability that's anathema to this industry," he says.

This past year, Hobo has evolved into a mini agency, spurred by Bowler's advocacy to correct what he sees as an injustice. "Our specialty is audio post-production, but we're also writing, producing and creative directing radio, TV and internet spots to end the prohibition of marijuana. We are the first legitimate agency to do this; no one else has touched it," he elaborates.

"The reason I got into this was personal—I got tired of seeing the arrests of people for marijuana. I came at it from a human rights standpoint. I started to research it and uncovered a wealth of information that first got me angry, then got me determined to do something about it."

Generic versions of the "End Prohibition Now" ads are available free of charge through an online inventory. The spots can be localized for regional markets through customization.

The initiative has revealed some hidden talents, he continues. "I'm not the only one writing these spots—several other people at my company have multiple creative skills that I didn't know about. Chris Stangroom, our head engineer, has written and produced a couple of the spots, and they're exceptional. I really had no idea he had this skill. He's brought some passion to this issue."

Although Hobo's focus is audio post, virtually everyone is also musician, he says. "Every single spot that we're doing for marijuana, we are writing the music for."

Bowler adds, "People are approaching us because they're attracted to the creative work. Opportunities may unfold as a result of this. We've rolled out our first internet spot; it got 5,000 views in about three days. The next step is to get one on-air."

Over at Pull, Davis produces advertising music for the likes of Mercedes, ESPN, UPS and others, and is also a signed artist. His personal evolution from underground electronic music to organic, all-acoustic songs—under the moniker Orba Squara—

caught the ear of Steve Jobs for a 2007 iPhone commercial and started a revolution in advertising music that can be heard to this day.

"It wasn't planned, just a reaction to what was happening with music and what I had been doing," he says, noting that every song on the album has been licensed, some multiple times. "I shift what I do based on when I get bored. I felt the way to go further was to go backwards, to toy pianos, bells and stuff that was the opposite of what I was doing. At the time, people weren't using that instrumentation, so it was new and different. Now it's not new and different, and I don't do it anymore."

SAM's Cook has observed musical tastes evolve on TV: "What I'm seeing is that everyone is moving towards being more genuine, and maybe a little softer. They want the music to feel more singer-songwriter based, artist-driven; more like an album track than a production piece that has too many layers and is over the top. Now it's more about lyrics they can put their own imagery to, that generates a pride of place to the viewer and an emotional connection."

But coming up with a melody is

"Every day, I have something to prove; I treat every day like it's my first day on the job."

Howard Bowler, Hobo Audio

only half the battle. With the proliferation of delivery platforms, including broadcast TV, OTT outlets such as Hulu and Amazon, the internet and cinema means that "you have to really think through how these melodies are going to work," says Cook. "It might need to work in a :30, :15 or :10 spot or a :02 'snipe,'" he says.

For Davis, cinema and internet delivery has allowed him to become more creative. For a recent campaign for Nike, for example, he set up his studio with a variety of mics positioned around the space and essentially performed to the picture, jumping between instruments.

"I didn't want to have to break the flow. As I was playing one line I was thinking, I know what would be good next," he says.

Not being limited to 30 seconds can be creatively liberating, he continues. "You can do things that are a little more artistic. I don't think the Nike stuff would exist without the internet; I don't know if I could picture it on television. It's a little too cool."

Studio Showcase

(continued from page 22)

home to a range of incredible microphones. “Those were essentially scattered to the world over the years,” offers Croft, explaining that many of those classic mics disappeared into the mic lockers of various engineers while it became less of a commercial facility. “Still, though, we have a couple of RCA BK-5 vintage ribbons, a Sony Model C-500 [cardioid condenser], and a few others. The Neumanns you see in the old photos are all gone, which they really loved using here. Though those RCA mics are seen in pictures, of course, there were even more Neumann U 47s and M 50s, sometimes Sonys and EVs, too. We still have great compressors—two LA-2As, both of which are low-serial number, and an Altec 438C often used as a preamp, which was modified a bit over the years to be used mic- or line-level.”

Of key interest, shares Croft, are a few nameless boxes made by RCA that remained rarities. “They’re military-grade line-level amplifiers.

Since they didn’t have a name, we started to call them the “mojo makers,” all-tube gigantic transformer pieces. We recently made an output section for them so they’re more useful for us.”

Acoustically, Historic RCA Studio B is, for lack of a better term,

a unique room. Croft feels that its sonic characteristics give them an educational opportunity to show the ingenuity and creative natures of those responsible for the room’s moniker, “studio of 1,000 hits.”

“Honestly, this room is kind of a shoebox,” quips Croft with a laugh. “So we cover how people like Porter [Wagoner] compensated in positioning, by hanging things from the ceiling, creating baffling, etc. Through this, we provide visitors a bit of the evolution of the recording studio.

the drums were, and the true sweet spot on the floor where vocals were cut. We ask students and visitors to step into the spot to hear it, which is always fun.”

In our modern recording world, where most everyone can easily have a “studio” in their laptops, API’s The Box helps visitors understand how Music City’s most popular exports were captured out of the box. Croft confesses that the appearance, the look, of a console is part of “the reason to have a console to begin with. We could make it with a rack of preamps and a patch bay. But having The Box here, we can have students into the control room and give them a basic idea of signal flow, making it something easy to understand.”

“Through this, we provide visitors a bit of the evolution of the recording studio.”

Justin Croft, Country Music Hall of Fame

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There’s more ▶ For a brief look at the history of Historic RCA Studio B, visit prosoundnetwork.com/sept2015

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≡ The Big Picture

BY JACQUES SONYIEUX

In 2006, Casey Crescenzo set out on an ambitious project, especially for a 23-year-old: to create a multiple-act concept album in six parts that would take well over decade to complete. The epic journey, which at first glance is something one might expect from Anton Chekov rather than a rock band, is set at the beginning of the 20th century and tells the fictitious story of “The Dear Hunter.” This month sees the release of *Act IV: Rebirth in Reprise*, a complex and delicately produced 15-song collection that sees Crescenzo at the pinnacle of his writing, arranging and producing capacities. *Pro Sound News* spoke with Crescenzo about how he executed the project: from rough demos to lush orchestration.

ON CREATING AN EPIC:

When I was younger, I was smart enough to know the things that I didn’t know. What has been beneficial to me is that the framework of this story follows this one reactionary character who is completely ignorant from the beginning, right through all of the things that he experiences in his life. So for this project, I had to leave myself open to new experiences I would go through and draw from—which are now so much more than I could have drawn from at age 23.

ON DEMOING THE PROJECT:

While I was writing it, I had about half of the record already demoed pretty much to a T. Then we got to-

gether and came up with some other ideas, played them through and demoed them as a band. Every single note was written out, but since we are all such gearheads and tone junkies, once we were recording, we wanted it to be much more about discovering proper texture, tone and dynamics. When you are navigating your way through your library of pedals, amps, snare drums and kick drums, there is always something new to unlock, allowing you to play something different than you would have done before.

ON THE BASS OF “REBIRTH”:

Once we finished putting down the orchestral parts, I still felt like the track was missing something, so



The Dear Hunter (L to R): Max Tousseau, Rob Parr, Casey Crescenzo, Nick Crescenzo, Nick Sollecito.

I added a bass. It is the only track I played bass on. I love the dueling bass approach of those old Beach Boys songs where there is an octave line shared between those two muted instruments and I wanted to have something like that: a percussive line on bass and guitar plunking its way through. For me, that was the cherry on top. There was already so much going on, but this helped add the low, percussive urgency on the opening part of the track.

ON THE BIG PICTURE:

Once we recorded everybody else’s stuff, after we were done with the two other guitar players’ guitars, I was alone for the rest of the process. There were many moments where I didn’t have other people to bounce ideas off of, so I had to throw my ego away and ask myself “Is this right for this?” There were plenty of songs that I had tracked entirely, where the vocals were done, comped and ready to go. But then I would listen and say, “this isn’t right” and go back to the drawing board. This kind of thing happened all the time. But the big picture was always there, and the big picture was the thing that I had to keep on referencing in my heart while I was working. When I would find myself obsessing about the smallest details, I had to remember the big picture and remember how important that perspective actually was.

ON OVERCOMING CHALLENGES:

Within every step of the production process, there was a much higher standard in the quality I wanted to achieve across the board. That meant a more meticulous approach to things like mic position, using the correct amount of compression and preparing the tracks properly before I handed them over to Mike Watts—who is a very good friend and who has mixed a lot of the stuff we’ve done. I didn’t want a single pop or click, or any wavering in microphone etiquette where I didn’t adjust some-

thing properly. Pulling off the orchestration parts was also extremely challenging, because I had to look at everything—drums, bass, guitar, pianos and vocals—and then consider the orchestra as one large ensemble in relation to this. I’d never done anything close to this on another Dear Hunter record, so this was a very challenging and required a lot of learning on my part.

ON DRAWING ON INFLUENCES:

This may sound cliché, but the thing that really made sense of everything for me was Gershwin’s *Rhapsody in Blue*. It just unlocked something for me. After that, I fell in love with the technical side of preparing staff music, and everything became cyclical. I got more and more enjoyment out of relaying my ideas through this preexisting language of staff music and sheet music, and then handing this over to musicians who knew how to properly emote it. After that, I became more and more interested in what each of the instruments could do, and fell in love with certain tonalities that I never thought I would: for instance, the bassoon, the oboe and the woodwinds section.

ON STAYING BUSY:

I am so grateful for the opportunity to be in a studio making music and I love that privilege of being able to devote myself entirely to the process. I never take it for granted and I have never been interested in dead time or taking a break, because none of this is a chore. In fact, taking a break from it is not very fulfilling. I think I have an affinity for projects that are really ambitious, especially those that require a lot of care and immersion into detail. When I get the opportunity to sit down and really write, it is like a flood of ideas every time. 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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