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PACKING THEM IN—The sponsor and exhibition count for the 137th AES Convention in Los Angeles topped the numbers and floor space occupied at the 135th AES Convention in NYC in 2013—marking the first time the exhibition at a West Coast show has bested the preceding NYC convention. More details on AES' triumphant return to LA can be found on page 4.

FCC Wireless Changes On Horizon

BY STEVE HARVEY

WASHINGTON, DC—On September 30, the Federal Communications Commission (FCC) released a Notice of Proposed Rulemaking (NPRM) putting forward amendments to Part 15 of its rules, affecting unlicensed wireless operations in the 600 MHz band. The FCC

simultaneously released a second NPRM intended to promote wireless mic spectrum access at other frequencies as operators are transitioned out of the 600 MHz band to free up bandwidth for consumer broadband services.

The NPRMs relate to the FCC's Incentive Auction, *(continued on page 33)*

Bringing A Latin Flair

Argentinian Andres Mayo, who has assumed the AES Presidency for the coming year, has a unique perspective that will impact the Society's direction, as he discussed with Pro Sound News. Mayo is shown here (in suit and tie) in discussions with panelists and attendees of the first-ever Spanish language session at an AES Convention.



Dissecting Mac Tracks

Storied producer and engineer Ken Caillat (shown here, right, with host and fellow engineer Jonathan Pines) addressed a packed house at the 137th AES Convention, reliving his work with Fleetwood Mac and playing raw tracks while dissecting the production of various Mac tunes.



Networking/Immersion Abound At 137th AES

BY STEVE HARVEY

If there were any overriding themes at this year's AES Convention, they

were immersive audio and audio networking. On the exhibit floor, and especially in the workshops, tutorials and panel sessions, the top-

ics seemed to be the talk of the show.

For a while referred to as "3D Audio," multi-speaker presentation formats have been around for years, but while visual 3D TV failed to catch on, with the commercial success of the newer immersive cinematic audio formats such as Auro-3D, Dolby Atmos and DTS MDA, soundtracks incorporating height information have taken on a new lease on life. The first Blu-ray Disc with a Dolby Atmos

soundtrack was released at the end of September and more than one presenter at the convention hinted that the broadcast and streaming industry could begin delivering immersive audio to consumers soon.

"Is it marketing, so that hardware manufacturers can sell a lot more stuff? Maybe," said Tom Ammermann, general manager of New Audio Technology in Germany, who presented tutorials on producing 3D audio for mu- *(continued on page 21)*

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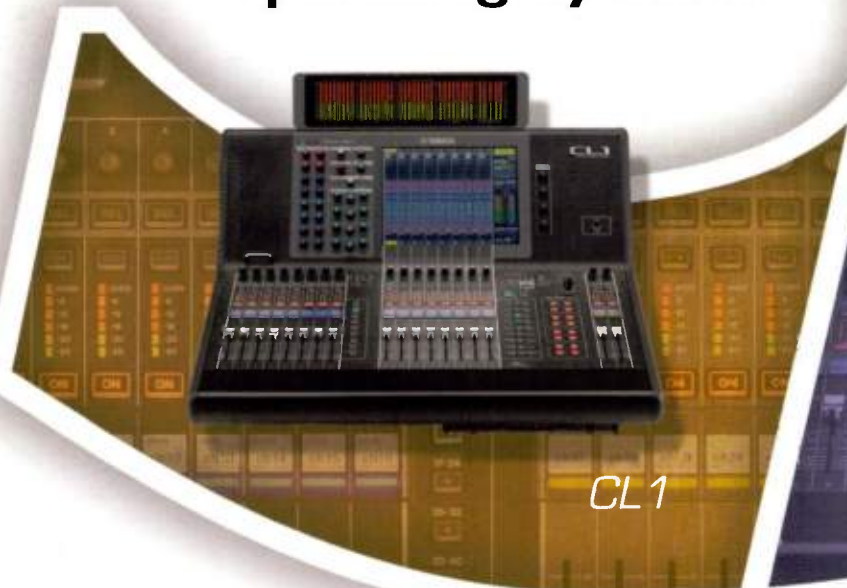
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We caught up to David Haskell – Owner of Morris Light and Sound, to get his thoughts on the STM system.

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137th AES Convention Returns to LA

BY PRO SOUND NEWS STAFF

LOS ANGELES, CA—It's been 12 years since the Audio Engineering Society Convention last was held at the Los Angeles Convention Center, and much as the surrounding area has changed with the development of the Downtown area, so has pro audio itself. From October 9 to 12, the 137th AES Convention celebrated its return to LA, opening its doors to new generations of engineers, students and exhibitors from all over the world, many of whom had never experienced the excitement of visiting the one convention that focuses solely on sound.

The highly anticipated event drew a total of 15,403 registered attendees and 307 exhibitors/ sponsors (more of the latter than in New York City in 2013). At show close, AES reported a 28 percent increase in registration since the last time the convention was on the West Coast (the 133rd AES Convention in San Francisco in 2012).

In short, it was a tidal wave of pros converging in one place to discover the latest and greatest gear on the show floor; learn cutting-edge approaches to their work in workshops, papers and seminars; and connect in the real-world with their peers—something that our increas-

ingly Internet-focused industry doesn't often offer the opportunity to do.

"I cannot put into words how thrilled I am with the 137th AES Convention," stated Bob Moses, executive director of the AES. "Our organizing committee really outdid themselves, with over 350 presentations from an astounding 731 lead-

ing researchers and practitioners in the field; many of the sessions were standing-room-only. We have some serious momentum built from recent conventions in New York and Berlin, and we are going to keep it going for the coming conventions in Warsaw in May and then back to New York next October. You could say that our conventions and the AES organization have a renewed energy, and we couldn't be happier."

"I cannot put into words how thrilled I am with the 137th AES Convention. Our organizing committee really outdid themselves, with over 350 presentations from an astounding 731 leading researchers and practitioners in the field, many of them standing-room-only."

Bob Moses

where most of the recording happens," commented Brad Lunde, owner of TransAudio Group. "It's about time."

The timeliness synched well with some recent advancements within audio production fields—for example, new immersive audio technology, the epicenter of which is most certainly Southern California. "We're really pleased that the AES Convention is back in LA," said Peter Chaikin, director of Recording and Broadcast at JBL Professional. "There's a thriving post production community here; everyone knows that Hollywood is

post production. Now we can reach some of those people because this is a home game for them. Whether they slip out on a lunch break or come down on the weekend to see us, we can spend more time with the post production community along with the music community."

The Society's conscious effort to place a larger spotlight on broadcast issues was complimentary to the client outreach of those like Karl Kussmaul, product support manager for

Lawo Group USA Inc. "Southern California is such a large market for us. Having the show centered here makes a lot of sense; we'll connect with more customers and often those we won't see if we exhibit in another city. So this year's AES is a big opportunity for us in that way."

Admittedly, explained Kussmaul, the modern realities of audio production budgets also impact convention attendance, thus location is more important than ever. "A lot of customers these days may not be able to travel to another city for both sched-

(continued on page 33)



Mayo Spreads Fresh Perspective At AES

BY STROTHER BULLINS

LOS ANGELES, CA—Shortly after the last month's AES Convention, Andres Mayo assumed the office of AES president for the coming year. Speaking at the recent 137th Convention in LA, he noted that such an audio production-rich environment is the best way to educate and communicate with audio professionals, feeding "a hungry audience" over four full days of "amazing presentations. This audience needs the content," he said.

"I've worked in audio my whole life," Mayo commented. "I'm not just an administrator, or even someone who has been sitting in an office doing something related to music—I've made records every day." Mayo is a multi-award-winning mastering engineer and owner of his own mastering and audio post facility—Andres Mayo Mastering & Audio Post—in Argentina. Coupled with his two decades of pro engineering work, two Grammy awards and more than 1,800 commercial audio titles in the

marketplace, Mayo has contributed much of his time and talents to the AES over the past decade as well.

Mayo makes a special point that the idea of "hiding your knowledge," or perpetuating the idea that a "bag of tricks" is key to retaining clients, is old-school thought and doesn't hold water in today's open, fast-paced multimedia production environments. "Such a way to preserve your business is no longer acceptable," he stated.

"Ten or more years ago, that may have been the case in too many instances. Today, we know you can get any bit of information about anything, anywhere. So it's not just about having the information; it's about what you do with it. Our new paradigm is about creating a network of knowledgeable peers through social networks—but more importantly, physical social networks, like the AES. We need to promote the concepts of building your professional network. Not so much in LA, but new markets—Brazil, Russia, India,

China—are emerging: ones that need to know it's not about hidden magic, because anyone can do anything, anywhere. If you take the opportunity to build a network from the AES, you are taking advantage of a truly unique resource."

Mayo noted that the recent AES67 standard represents the other half of the Society's strengths—its role as a guide in directing product developers to build gear for comprehensive audio production systems. "AES67 is proof of the need for standardization and the manufacturers' understanding of that," he explained. "When we are able to stay in the center of product development and the manufacturers have a high level of respect for us, then the only other key component is that our audience—the end users—understands our function and purpose."

Mayo noted that his AES presi-



Andres Mayo

dency marks the first time that a Latin American has led the Society. He hopes that his unique experiences in dealing with rapid change—what some could describe as "crisis" for some geoeconomic settings—will ultimately broaden the scope of AES in positive ways. "This is an incredible honor for me," he said earnestly of the appointment. "And, looking through the eyes of the AES, it's a mind-opening decision. The way we generally solve problems in Latin America, I would say, is more agile. We are used to crisis because we've been in crisis many times over. Meanwhile the music business today is in crisis, yet it's a very good moment for many. I come from a background of working against difficult situations. Considering these experiences, I may have a chance to do something different."

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Firing At A Moving Target

As regular readers of *Pro Sound News* surely have noted, the digital migration of television broadcast has created a scenario in which large swaths of the radio frequency spectrum long reserved for television have been repurposed by the Federal Communications Commission for non-broadcast use. The 700 MHz band is now in private hands, auctioned off for a one-time infusion of cash into the federal coffers. Radio frequency spectrum is a limited resource, with sections of bandwidth better suited for specific applications as bound by the laws of physics. Our mobile society has developed a voracious appetite for bandwidth, and the television spectrum is a particularly tasty piece of the RF pie.

Broadcasters have not suffered much throughout the process in terms of their ability to transmit programming. While some have had to adjust to new frequency assignments, that migration was largely concurrent with the overall digital migration. New proposed spectrum reallocations include compensation for affected broadcasters who shift away from additional bandwidth that will become part of the next round of spectrum auctioning.

Where our industry is most affected is in the used of wireless microphones, comms and monitoring gear. Legacy television broadcasting relied on regional frequency assignments that left unused bandwidth in

place to protect broadcasters from interference from overlapping signals. Professional audio has long taken advantage of these open spaces to slip in low-powered operation of wireless audio devices. As digital technology allows greater density of operation, the reallocations have shifted television broadcast into condensed blocks of frequencies, making the auction of space possible, but reducing the available "white spaces" (unused television band spectrum) between broadcasters, to the detriment of wireless audio users (Steve Harvey's excellent ongoing coverage of wireless audio issues continues on this month's cover, with more online).

For large-scale productions, the current state of affairs is challenging but manageable. With the pending auctions, that may no longer be true. For smaller end-users, one migration, frequently requiring reinvestment, has already occurred (assuming these users even know anything about the changes—I know from personal experience that there are non-technical operators using older systems purchased prior to the digital television revolution that are operating in forbidden space).

From one perspective, wireless audio use has been that of a squatter, taking advantage of resources not allocated for their use. As long as wireless audio usage didn't interfere with licensed users, it was largely ignored.

This predominantly unlicensed use of the spectrum limited our industry's voice when the changes began.

There has been laudable cooperation among competing microphone manufacturers, vigorously championing wireless audio use with the FCC.

Sennheiser, for example, submitted a recent Petition for Reconsideration with the FCC, lobbying that two protected blocks of clean spectrum be reserved for wireless audio use. Further, Sennheiser is advocating for compensation from the auction revenues for end-users who have to replace systems no longer allowed after the next round of auctions. The original deadline for comments on the current proposed rulemaking has passed, but with the delay of the next auction until next year, that may be extended. If so, the more voices heard from, the better (various manufacturers have online resources to keep you informed, such as this November update from Sennheiser: <http://x.co/5lpBI>).

I write this admittedly simplified overview of extremely complicated issues primarily for those who have not been closely following the changes in spectrum allocation and usage. Power users of more than 50 systems in regular use can and should apply for now available licenses and register their events. If you use, own or sell wireless microphones at all, it is imperative that you stay informed and that you get involved.

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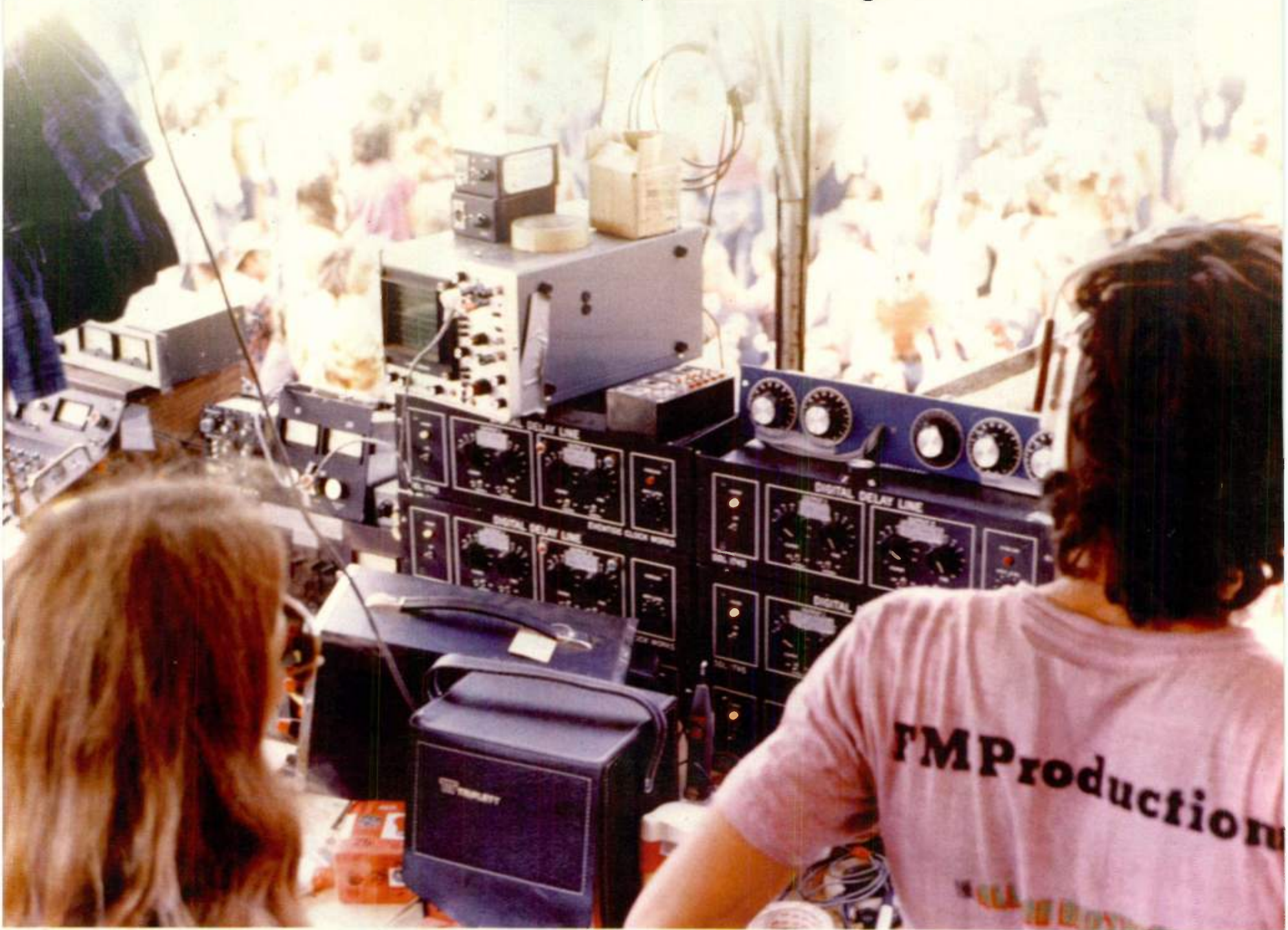
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Merging, Auro Ready 3D Sound Prep Engine

LOS ANGELES, CA—Merging Technologies' upcoming 3D panning and mixing engine will work with Auro-3D creative tools and be incorporated into the next Pyramix and Ovation software releases. The engine will allow direct import of Pyramix files to the Auro-3D encoder, and the plug-in decoder will be able to be used with Pyramix to monitor the Auro-encoded stream.

Since many 3D productions are being mixed and mastered with Merging's Pyramix, the partnered companies are intent on integrating an immersive panning tool with the Auro-Codec technology. Auro-3D is already a part of D-Cinema, with a theatre install base worldwide and numerous post-production studios equipped with the Auro-3D studio system. Auro-3D-recorded and remixed music releases on Pure Audio Blu-Ray have come out, such as classical releases by 17-time Grammy nominated audio engineer Morten Lindberg, Mando Diao's new rock album and an immersive audio-visual album from the German band, Lichtmond. More releases are on

the way, now being mixed at studios such as Wisseloord and Galaxy.

The 3D panner is reportedly suitable to work with any format of object or channel-based audio, and in parallel, Merging is involved with a number of national broadcasters that are evaluating technologies to bring immersive audio into the home. Standards bodies such as the EBU and SMPTE are also looking at ways to bring some more order and clarity to the situation, and Merging is following them to ensure that its technology can be used in any circumstance.

Merging's head of Software Development, Dominique Brulhart opined, "We looked at the various panning solutions available and the way the different formats were evolving. Having our own specific needs for film post-production, TV post-production, live shows and high resolution immersive recording, it was pretty clear that we had to do more than just design a 3D panning tool. We decided to implement our own

pretty revolutionary 3D panning and mixing engine. In parallel, knowing that Auro-3D addresses post production, recording and live sound already, that logically led us to integrate with this technology at the earliest stage of our development so that the complete Auro-3D Creative Tool Suite will be available immediately upon the release of Pyramix 10. Opening up creative possibilities and addressing the high-end audio market perfectly matches our philosophy."

Wilfried Van Baelen, CEO of Auro Technologies and inventor of the

Auro-3D format commented, "As I have always been a fan of Merging's expertise and quality, we are delighted that Merging has been able to align its new panning and mixing engine with the Auro-3D Creative Tool Suite. Being able to work seamlessly across Pyramix and Auro-3D will allow more creativity and a smoother workflow. Creating amazing sound in 3D has never been easier!"

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ESA Sets Event Safety Summit for December

LITITZ, PA—The Event Safety Alliance today will host its first Event Safety Summit from December 2-4, 2014 at the Tait Towers' campus in Lititz, Pennsylvania.

The three-day symposium and hands-on workshop, which is funded in part by Fireman's Fund and its managing agent, Take1 Insurance, is designed to increase awareness of event safety risks present at live events and teach event producers to address those risks more effectively. It will also focus on making sure that every live event has the right insurance coverage supporting it.

According to Event Safety Alliance executive director Jim Digby, "Everyone has a role to play in putting on a safe event. However, the ultimate responsibility for ensuring that both workers and guests make it home at the end of the night lies squarely on the shoulders of an event's leadership, both legally and dutifully. Despite this awesome obligation, the event industry has, until now, lacked a comprehensive safety

awareness program tailored to the specific needs of those working in leadership positions."

Digby noted the three-day seminar is designed for anyone with significant authority for making reasonable safety decisions at live events, and those who could be held responsible if something goes wrong, including production managers, tour managers, stage managers, event producers, and vendor crew chiefs. "In creating the Event Safety Summit, we hope to bring together a wide array of thought leaders who are dedicated to driving cultural change in the live event industry."

Classroom instruction will be led by subject matter experts who will engage participants in discussions tailored specifically to the live event industry. Topics will include: planning for severe weather events, creating a unified incident command system, the elements of an event safety plan and procedure, event safety access training, legal issues and the "standard of care," partnering with public safety officials, and working effectively with your insurer.



BREAKFAST ON THE WING—The Recording Academy Producers & Engineers Wing held its Manufacturer Council Breakfast during the 137th AES Convention in Los Angeles, CA, with the goal of raising awareness about the importance of high-quality audio, legislative wireless white space and broadband issues, music streaming bit rates and other related topics. Manufacturers, organizations and publications invited to participate included AKG, API, Apple, Audio Engineering Society (AES), Audio-Technica, Avid, Electronic Musician, Euphonix, Fraunhofer, Focusrite Novation, Genelec, GC Pro, iZotope, JBL, Lexicon, Manley, M-Audio, Melodyne, Mix Magazine/NewBay Media, Music Producers Guild (MPG), PMC, Prism Audio, Pro Sound News, Radial Engineering, Royer, SADiE, Shure, Sonnox Ltd. and Waves Audio.

for lodging and airport transportation costs. ESA will provide registrants with preferred hotel and transportation options. A complete Event Summit 2014 schedule can be found at ESA's website. [Event Safety Alliance eventsafetyalliance.org](http://eventsafetyalliance.org)
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Caillat Rocks Raw Fleetwood Mac Tracks at AES

BY CLIVE YOUNG

LOS ANGELES, CA—When Ken Caillat began working as an engineer for Fleetwood Mac in 1976, the band was in the process of falling apart, even as it was beginning to track a new record. By the time the album

came out the following year, Caillat had become the group's co-producer, and *Rumours* would go on to sell more than 40 million copies. At the AES Convention, Caillat and host Jonathan Pine took a packed house back in time to those storied recording dates as they dissected various tracks from the legendary album at

the inaugural Raw Tracks event.

Raw Tracks is a new series of talks at AES, where noted producers and engineers discuss, analyze and deconstruct some of their most popular works. During the 90-minute program, Caillat recalled that the band entered the studio determined to win a Grammy Award with the



BRAD GLAZIER

Jonathan Pine (foreground) and Ken Caillat discussed the creation of Fleetwood Mac's *Rumours* album, dissecting its key songs and performances at the AES Convention.

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next album, and that attitude set the tone for the rest of the extended time spent recording it. In fact, the band was so exacting that the master tapes wore out and began shedding ("We had 3,000 hours on them"), necessitating that Caillat go back to safety first takes recorded months earlier, and then copy later overdubs on to the safetys, synching by hand since there was no time code involved.

Between playing and soloing up specific parts of "You Make Loving Fun" and "Dreams" for the AES audience, Caillat recalled developing his relationship with the band over time

"Control? There's no controlling those guys—I had to be deceitful and lie."

Ken Caillat

until eventually leader Mick Fleetwood informed him and Richard Dashut that they were fired—because they were now co-producers. Other times, he recounted Fleetwood manipulating a Jet Phaser pedal placed on Christine McVie's electric harpsichord on "Gold Dust Woman," placing a Sony ECM-50 lav mic on Lindsey Buckingham's Stratocaster guitar to capture the strings' sound on the B-side "Silver Springs," and getting what he needed on various tracks from the group.

All the while, he encouraged engineers and producers to talk to their artists during technical pauses, an act that he felt helped not only develop trust, but also simply distracted musicians from doubting themselves: "Otherwise they self-destruct." Asked how he controlled the famously fractious sessions behind *Rumours*, however, Caillat cracked, "Control? There's no controlling those guys—I had to be deceitful and lie my ass off."

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Capitol Studios Picks PMC

LOS ANGELES, CA—PMC has sold its first QB1-A reference monitors. Two pairs are becoming part of Capitol Studios' ongoing refurbishment program, with one pair destined for Studio A, the other for Studio B.

Launched at the AES Convention, the QB1-A is PMC's new high-end monitor (See *Best of Show*

Awards, page 39, for more information). Capitol's engineers and management were part of a network of international industry professionals who provided feedback on the design of the QB1-A as it evolved. Prototype versions of the speakers have been installed in Capitol Studios for some months, with regular upgrades



The new QB1-A monitors in Studio A at Capitol Studios.

as the product was honed in the final stages. These early versions will shortly be replaced by the first production QB1-As from the PMC factory in the U.K.

PMC
pmc-speakers.com



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Killer Tracks Marks 25 Years

SANTA MONICA, CA—Production music house Killer Tracks is celebrating turning 25 years old. Now a wholly-owned subsidiary of Universal Music Publishing, the company launched in 1989 with a collection of 30 original music CDs. Today, its catalog encompasses a collection equivalent to more than 2,300 CDs, with more than 100 new releases added each year. Artists and producers whose work is featured in the catalog range from Chuck D, Rev Theory, Lamont Dozier, Jim Brickman and Ennio Morricone, to up-and-comers like Shiny Toy Guns, Rare Monk and Misun.

According to Anna Maria Hall, VP/head of music licensing for Killer Tracks, "People today are absorbing content through a lot of new channels; they're no longer limited to big broadcasters. It's an era of narrow-casting, and that is creating new opportunities and niche markets. Satisfying the needs of the market requires diverse music and the ability to support it on a global basis."

Killer Tracks
killertracks.com



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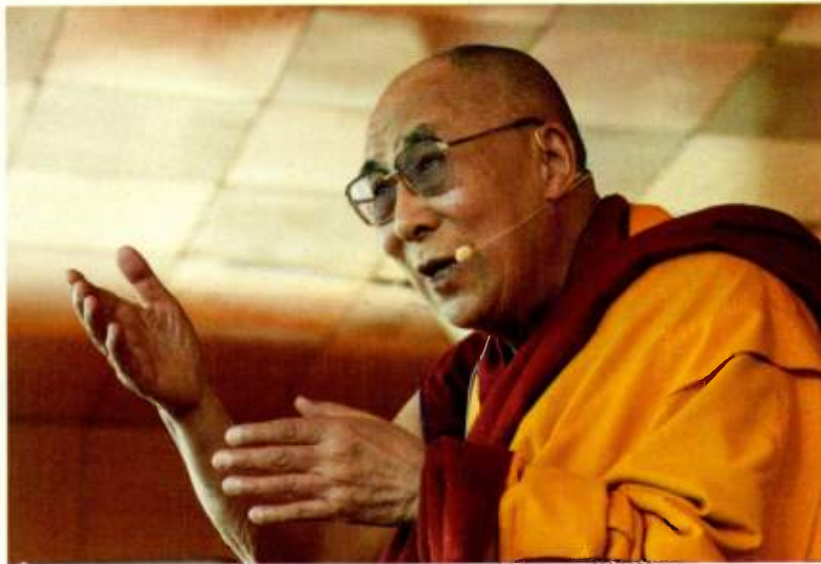


DPA Delivers Dalai Lama To 150,000

KASHMIR—For decades, the Dalai Lama has hosted Kalachakra, a 12-day religious event, in various locations around the world from New York to India. This year's prayer meeting, however, took place in the tiny town of Shey, deep in the Himalayas, drawing more than 150,000 followers.

In order to ensure everyone could hear the now 79-year-old religious figure as he spoke for roughly five hours each day, Bangalore, India-based Reynolds Sound & Lighting miked the Buddhist leader with DPA Microphones' d:fine dual-ear cardioid headset microphone.

The DPA d:fine was at the center of a larger audio equipment package that had to cover the sizable audience and also provide stage monitoring for the surrounding Monks. In addition to the DPA mic, the audio system included 44 Meyer Sound Milo array loudspeakers, 32 Mica compact array speakers, 24 MSL-4 loudspeakers, 20 CQ speakers, 12 UPA speakers,



The Dalai Lama wore a DPA d:fine headset microphone during Kalachakra, a 12-day religious event held recently in Kashmir.

two-dozen MJF-212A stage monitors, six UPJ-1P compact VariO loudspeakers, four UPJunior-XP ultra-compact VariO loudspeakers and four UPM-1P loudspeakers. The event

was mixed on an Avid Venue SC48 digital console.

Once they traveled up into the Himalayas, Reynolds' audio team was able to try the DPA mics for the first

time, having never used them before. It was mandatory that the source element of the mic provide a flat response with substantial rear rejection; according to the team, there was no coloration in the signal, so His Holiness' voice sounded natural and transparent, and they were able to get the gain levels they wanted from the cardioid microphones.

Aside from the remote location of the prayer meeting, the overall setup of the stage and personal preferences of His Holiness created other challenges. The Dalai Lama sits on a high throne, surrounded by several senior monks both in front of and to each side of him. The microphone must always be placed beside him on stage so he or a member of his team can put it on him—a process that went smoothly so that even an untrained person could affix the mic. The Dalai Lama's media team was reportedly so pleased with the quality of the microphone that they asked to keep it for his smaller prayer meetings.

DPA
dpamicrophones.com

Sound for a Shrine

KALWARIA ZEBRZYDOWSKA, POLAND—Located 35 km southwest of Krakow, Poland, the Roman Catholic shrine at Kalwaria Zebrzydowska is visited by more than a million people each year. Founded by Franciscan (OFM) monks in 1602, it covers an area of six square kilometres, includes "Our Lady of the Angels" (a baroque Basilica), a Franciscan monastery, 42 churches and chapels and features a 7 km path through its grounds with chapels designed to resemble holy places in Jerusalem.

The shrine's audio systems face significant challenges in their support of the various public events and in celebration of Catholic masses in the Basilica. Most public events take place outdoors and attract large crowds. Sound for these events must cover large areas and some of the equipment must be designed to survive the harsh Polish winters. Many of the shrine's existing audio systems were installed in the Cold War era, but in 2013, Tony Belo of Blue M Audio, a San Francisco-based audio systems design and project management firm, visited the shrine and discussed the audio systems with the head priest. Belo, who had designed systems for a Catholic church in Krakow and several other churches in the area, proposed new systems for the Basilica itself, for the outdoor celebrations area immediately surrounding the Basilica and for the 7 km path

used for processions. To meet the budget limitations of the shrine, he proposed systems that could be installed over a period of time.

The first system that was installed covers the outdoor areas near the Basilica entrance at Crucifixion Mount, a site used for outdoor celebrations and the beginning point for the Passion of Christ Processional. This system consists of a dozen Community Entasys ENT212 columns to cover the platform area near the entrance and 21 Community RMG-200AT long-throw horns to cover the crowds at a distance from the platform. The system is powered by QSC CX602V amplifiers installed in a rack inside the entrance. A pair of Biamp Nexia DSP systems in portable racks provide event mixing and DSP control, and a variety of wired and wireless microphones are available for Holy Masses, announcements, music and dramatic performances. Belo used EASE computer software for system design and commissioned the system using a Gold Line DSP30A Audio Spectrum Analyser with a Gold Line TEF04 microphone. Technical support was provided by Marcin Zimny from the Wrocław branch of Tommex & Browscy Sp. J., Community's distributor for Poland.

Sound for the Basilica interior will be completed before the Advent season in 2014. The Basilica system will use Community Entasys FR and



An outdoor mass at Kalwaria Zebrzydowska Shrine in Poland, using Community ENT212 loudspeakers to cover the crowd.

Entasys LF column line-array loudspeakers. Belo chose Entasys to avoid exciting the reverberant field and provide intelligible voice throughout the Basilica interior. The Entasys loudspeakers, which are relatively small, will be painted to blend with the church's interior. Following the design of the exterior system, the Basilica system will use QSC amplifiers and a Biamp Nexia DSP for automatic mixing and DSP control. Priests will use wireless lapel microphones and wired microphones at the various altars and sanctuary locations.

According to Belo, sound for the chapels along the 7 km path used for processions is especially challenging because of the signal cabling and power requirements. However, con-

struction is underway to repair or replace the existing cabling and provide loudspeakers and amplifiers to support the processions and provide information for visitors and tourists.

The shrine's new audio systems were used for 2014's Holy Week celebrations and Our Lady's Assumption celebration. Belo says the systems provided even sound coverage and clear voice announcements and helped convey the emotional impact of the dramatic presentations and processions to a crowd of over 100,000 visitors.

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Kalwaria Zebrzydowska Shrine
kalwaria.eu/english.html

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From The Pro Sound News Blog:



Alan Parsons on George Martin

PSN sat down with legendary producer/engineer/musician Alan Parsons recently to discuss his new book, *The Art and Science of Sound Recording*, and some defining career moments. In this excerpt from the PSN Blog, Parsons discusses working with producer George Martin on the Beatles' *Abbey Road* at age 19:

"Every moment was an influence, I would say. I think possibly I try to model myself on George Martin. He was a great, great mentor—the Beatles had total respect for him and he was musical enough to be able to translate what they couldn't themselves translate into dots and rests and bar lines and stuff; he would fill in that gap for them. He's great [and the experience was] a great asset to me.

"If you asked Geoff Emerick the same question, he would feel differently; he's much more the sharp end of what the Beatles wanted and what George Martin wanted. Just watching them [all] together, I thought they were magic. Magically compatible with each other. And [George Martin] was rightly called the Fifth Beatle, I think. The Beatles, of course, were the greatest songwriters, greatest rock band that ever lived—so how could it not have been an experience?"

For the full post, visit prosoundnetwork.com/nov2014.



sweet tweet links

Pro Sound News brings you breaking professional audio news every weekday on prosoundnetwork.com—you can find links to those stories on our Twitter feed (@prosoundnews) and Facebook page (facebook.com/ProSoundNews)—but we also use social media to share links to interesting mainstream audio news. Make sure to follow us on social media to keep up to date on the latest audio info, and in the meantime, here's just a few of the stories we linked to recently. Get their links at prosoundnetwork.com/nov2014.

- ▶ St. Louis' @shockcitymusic studios tries out \$1.500 Kickstarter Live business plans for bands.
- ▶ Great history of the Rolling Stones Mobile Studio, which recorded the Stones, Led Zep, Deep Purple, Queen, etc.
- ▶ For the last six years, whenever the @AESorg Convention is held in California, a California team wins the World Series...Coincidence?
- ▶ A short video tour inside Nashville's famed RCA Studio B.



BLOGGINGS

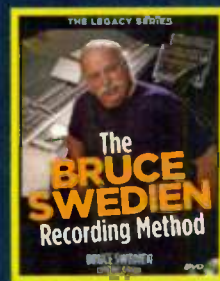
'CHICKS IN THE MIX' CLICKS

While the audio industry continues to remain a male-dominated profession, there's no denying that women have established their own legacy within the audio world. New to AES this year, "Chicks In The Mix," a panel of five leading women in the industry, shared a candid discussion about staying creative and accomplishing what needs to get done in a 'man's world.'



BRUCE SWEDIEN ON COMPRESSION, MENTORING AND HIS NEW BOOK

Legendary recording engineer Bruce Swedien might be best known for his work with Michael Jackson—he recorded all of the late singer's prime solo work, including the best-selling album of all-time, *Thriller*—but to stop there would sell him short. Having recorded literally dozens of other household names, won five Grammy wins and received 13 nominations, the man has a heck of a lot of knowledge, and that in turn led him to write three books to date—including his latest book/DVD set, *The Bruce Swedien Recording Method*, which we chatted about in this interview during the recent AES Convention.



See these blog posts and more at prosoundnetwork.com/nov2014

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How To Mic A Zombie

Recognizing that "knowledge is power," the folks at A-T have released *How To Mic A Zombie*, an 8-minute instructional video on, well, how to mic a zombie. There's nothing like quality pro audio education, and believe us, this is nothing like quality pro audio education. Of course, not every microphone is right for every reanimated corpse, so the video follows a crack team of A-T scientists—and the token person talking common sense—as they experiment with different models and mic techniques. How does it end? Not well—but it sounds great. Catch the clip at prosoundnetwork.com/nov2014.

Roland Reveals Live Console, Platform

LOS ANGELES, CA—Roland Systems Group has introduced its M-5000 Live Mixing Console, based around a new system architecture dubbed O.H.R.C.A (Open, High Resolution, and Configurable Architecture). The manufacturer boasts that the system delivers freely definable audio paths, multiple audio format protocol support and 96 kHz sampling resolution.

The Roland M-5000's internal mix architecture is user- and application definable for mixing channels, Auxs, Matrices, subgroup buses and Mix-Minus buses within a range of up to 128 audio paths.

The M-5000 has two built-in Roland REAC interface ports, plus two expansion card slots for Dante, MADI, Waves SoundGrid, or more REAC ports, as well as for future support of additional formats. The back

panel includes 16x16 analog I/O, 4x4 AES/EBU, a 16x16 USB audio interface, connection for control via an iPad connected or wireless, and control ports including footswitches, GP I/O, RS-232C and MIDI. Roland says that the sum of these capabilities enables the console to see up to 300 inputs and 296 outputs, all at 96 kHz, and even more at 48 kHz.

The M-5000's O.H.R.C.A control includes a 12-inch color touch screen, 28 channel faders in four groups, anchor points, DCA spills, multifunction knobs and buttons, plus a user-assignable section. Full-function remote control software for Mac or Windows computers can extend the user interface beyond the built-in GUI, allowing users to organize pages appropriately for their work flow, including metering and

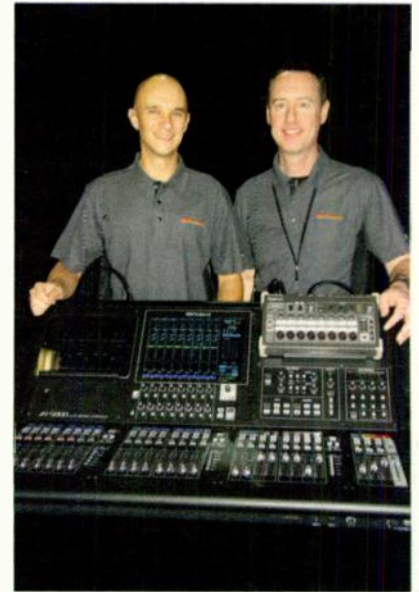
configuration/control windows.

Roland calls the built-in mic pres "world class." The M-5000 is compatible with Roland's family of digital snakes, as well as with the M-48 personal mixing system and the R-1000 recording playback system.

Built-in effects include 4-band PEQs, 8 stereo multi-effect processors of Roland algorithms and "classic vintage and famous" Boss compact pedals plus 32, 31-band Graphic EQs. Mains can be configured for 5.1, LCR, LR (including surround panning) and stereo downmix.

As might be expected, Roland reports that the new M-5000 Live Mixing Console is but the first product based on O.H.R.C.A, with more to follow.

Roland Systems Group
rolandssystemsgroup.com
proAV.roland.com/OHRCA



THE BIG REVEAL—Nashville's Sound Check facility was one of many stops Roland Systems Group made on a tour of dealers and reps. Shown here after the private Nashville launch of the M-5000 are Christian Delfino, VP of Sales (left) and Rob Read, marketing communications manager.



AES

(continued from page 1)

sic, film and games, and for 3D headphones. "But the reason [for embracing immersive audio] for those of us who make content is that it makes it more emotional; we have more fun with it."

Ammermann believes the new immersive formats produce a compelling experience when applied not only to film but also games and music. Indeed, the music industry "missed a real chance" to provide consumers with the 5.1 experience, he believes, but with the emerging immersive audio tools, "We have another chance now to do new mixes."

Headphone virtualization of the immersive formats could be the key to wider consumer acceptance, es-

pecially with so many people listening on handheld devices. MPEG-H 3D Audio, the newest MPEG standard, includes data compression and rendering that allows the delivery of immersive sound formats—channel- and object-based, as well as Higher Order Ambisonics—into the home and to mobile platforms.

"You produce once and it permits you to consume in many formats—different loudspeaker loca-

tioning to Quackenbush, the metadata that is associated with the audio objects could support a level of audience interaction. For example, a user could select alternate languages, commentary for the visually impaired, alter the balance between commentators and the stadium crowd, swap perspective from one end of the stadium to the other, or create a personal mix based on the available audio objects.

ESPN, the panel reported, was to have a single production infrastructure for all of the company's media outlets. It needed to be a dedicated solution, easily expandable and 4k-capable.

Interoperability was also a big concern, according to Christian Diehl from Riedel, enabling flexible vendor choice for the AVB-enabled equipment on the network. Scalability is also important; DC1 handles 700 audio streams, but the new DC2 must eventually be capable of managing up to 16,000 sources.

AVB, a layer 2 protocol, is implemented as a Class A network at ESPN, which means that latency is only 2 ms across seven hops. AVnu Alliance, the consortium of 80—and growing—manufacturers and users behind the protocol, is currently working on creating a layer 3 version, according to Warren Belkin from network switch supplier Arista.

The show also saw the launch of the Media Networking Alliance, a group of 20 pro audio and broadcast companies advocating the adoption of AES67, which is designed to enable interoperability between audio networking standards, such as Ravena, Livewire, Q-LAN and Dante. The inaugural membership meeting at the convention was hosted by steering committee members Bill Scott, Bosch Communications Systems; Terry Holton, Yamaha; Stefan Ledergerber, Lawo Group; Marty Sacks, Axia Audio; and Rich Zwiebel, QSC Audio. The same panel presented a session detailing how the alliance intends to support AES67 adopters.

AES
aes.org

"The reason [for embracing immersive audio] for those of us who make content is that it makes it more emotional; we have more fun with it."
Tom Ammermann, general manager of New Audio Technology

tions, headphones, sound bars—all decoded in the same bitstream," according to Schuyler Quackenbush of Audio Research Labs. MPEG-H can virtualize a surround speaker environment from a sound bar or a loudspeaker configuration with fewer speakers than are accommodated in the content, for example.

The flexible rendering engine within MPEG-H can also deliver a spatialized immersive surround experience to a headphone listener using head-related transfer function (HRTF) or binaural room impulse response methods. An interface that allows the measurement and input of personal HRTF data has been incorporated into MPEG-H.

Object-based immersive formats could potentially bring new audio services to streaming and broadcast in the not-too-distant future. Ac-

The network audio program at the AES Convention doubled in size this year over previous years, and included several presentations promoting AVB, Dante, Ravenna and the relatively new AES67 Audio-over-IP interoperability standard. Chaired by Tim Shuttleworth, the network audio track investigated the growing LAN and WAN applications in the audio industry.

Shuttleworth moderated a panel detailing the implementation of the large-scale Ethernet AVB audio network unveiled at ESPN's new Digital Center 2 (DC2) production and distribution facility in Bristol, CT earlier this year. DC2 was built initially to take over from the sports broadcaster's 10-year-old DC1, which will now be refreshed with similar technology to DC2.

The main goals of John Pannaman, senior director, technology, for

briefs

CAS to Honor Macmillan

LOS ANGELES, CA—The Cinema Audio Society (cinemaaudiosociety.org) will honor production mixer David Macmillan, CAS, with its highest accolade, the CAS Career Achievement Award, to be presented at the 51st CAS Awards in the Crystal Ballroom of the Millennium-Biltmore Hotel, Los Angeles on February 14, 2015. Macmillan has mixed more than 80 feature films and won Oscars for *The Right Stuff*, *Speed* and *Apollo 13*.

Nashville's Studio A Avoids Demolition

BY KELLEIGH WELCH

NASHVILLE, TN—Nashville's historic RCA Studio A, a 49-year old studio in the heart of the city's Music Row that has hosted recording sessions with music greats Dolly Parton, Loretta Lynn and B.B. King, has es-

caped demolition thanks to a local non-profit that purchased the property for \$5.6 million.

In September, Tim Reynolds, owner of the Nashville-based Bravo Development, announced the location at 30 Music Square West would be demolished to make way for a five-

story, high-end condominium complex. However, this statement was met with strong backlash from musicians and historic preservationists, including singer, songwriter and producer Ben Folds, who has leased the studio for the past 12 years.

On October 3, Reynolds an-

nounced a sale agreement with AMT Trust, a non-profit founded by preservationist and real estate developer Aubrey Preston. *The New York Times* reported the deal is expected to close by the end of the year, giving Preston time to create a preservation plan for the studio.

"In light of public concern, we ultimately decided to select the buyer that plans to preserve the building and hopefully open it to the public," said Reynolds in his statement.

One of Preston's ongoing projects, called Americana Music Triangle, promotes music tourism in the Nashville, New Orleans, and Memphis areas, emphasizing on how music emerged from those regions. One of his areas of focus is along Nashville's fabled Music Row, a mile-long strip of two roads in Nashville's midtown that played a key role in the growth of country music, and in recent years, has faced trouble with the growing real estate market.

Folds and other tenants in the building had received eviction notices last month, leading Folds to start the Save Studio A movement with the support of other musicians, including Elton John and Amanda Palmer.

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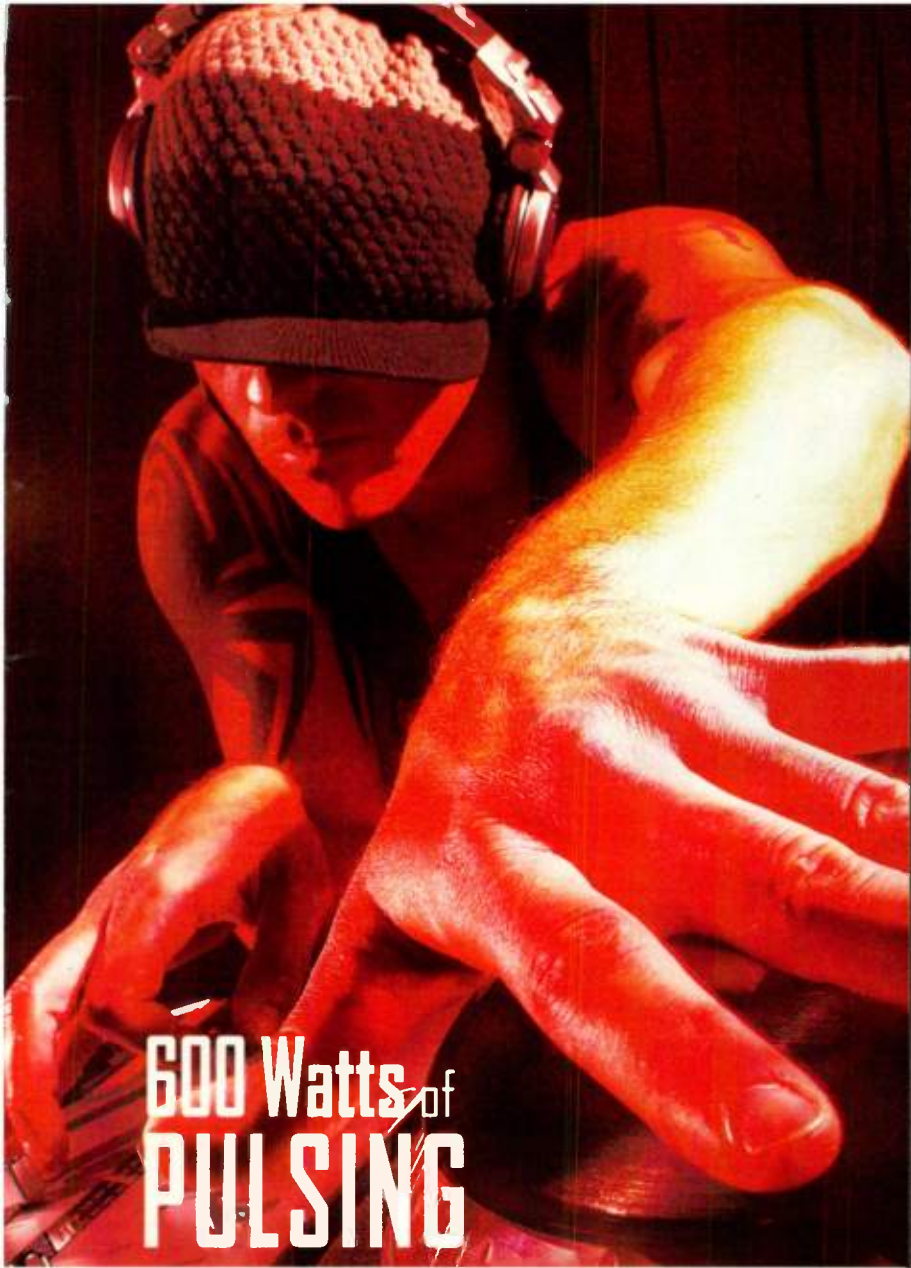
briefs

Audio Rents Nabs JoeCo BBR1MPs

HOLLYWOOD, CA—Audio Rents Inc. is the first US company to purchase new JoeCo (joeco.co.uk) BlackBox BBR1MP Recorders. A pair of systems were delivered to the Hollywood-based pro audio rental company in October and went out the next day to provide a 48-channel recording system with integrated microphone preamps for live recording at Hollywood's Whisky A Go-Go club.

METAlliance Set For Nashville

NASHVILLE, TN—The METAlliance Academy is visiting Nashville's Sound Stage Studios on December 6 and 7 for an immersive recording event entitled "Tracking in Session with the Guys." METAlliance (Music Engineering and Technical Alliance) participants will get a close-up look at basic tracking and mic techniques with some of today's top talent, participating and interacting with METAlliance founders Chuck Ainlay, Ed Cherney, Frank Filippetti, George Massenburg, Elliot Scheiner and Al Schmitt during live recording sessions at Sound Stage Studios.



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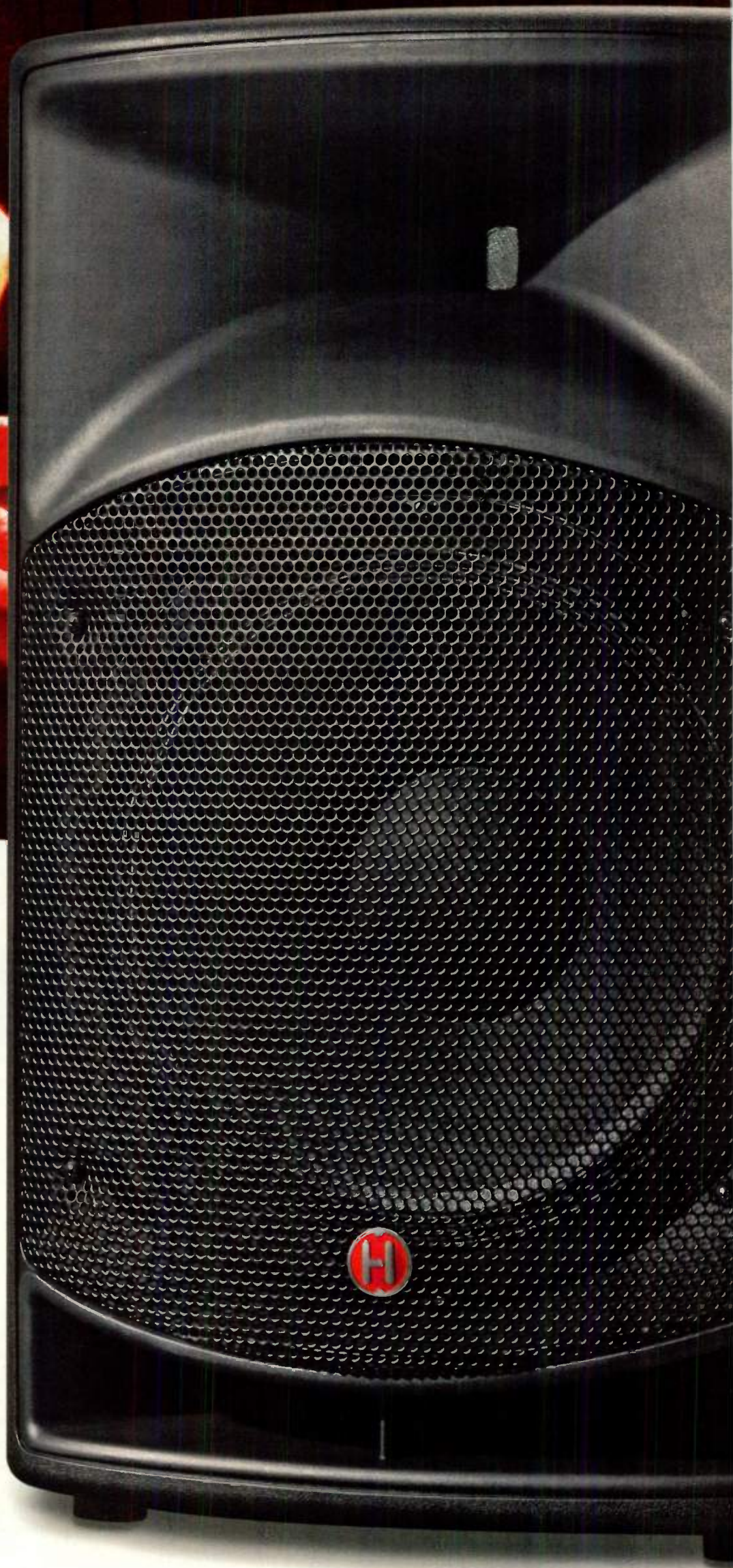
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ReAmp It Up

BY STEVE HARVEY

TUSTIN, CA—ReAmp Studios opened a second Southern California location in mid-October: a new flagship facility, dubbed Studio G, situated in Tustin, CA. The new space has been positioned to offer music production and post production services at affordable rates, complementing ReAmp's smaller, more D.I.Y. Studio X in nearby Anaheim.

Located within a business park complex, the facility was constructed almost single-handedly by Steve Perkins, who diligently documented the build-out and equipment commissioning on the GearsLutz web site starting in November 2005. The centerpiece of the large control room of what was then named Creation Recording



The ReAmp Studio G team (l-r): Daniel Martin, Stefani Rose, Joshua Brooks

Studios was an 80-input, GML-automated Amek APC 1000 digitally-controlled analog console, one of only seven produced in the late 1980s by the now defunct U.K. manufacturer.

The studio was subsequently taken over by Krayzie Bone of Grammy Award and American Music Award-winning rap group Bone Thugs-N-Harmony and was run as a private

production facility until recently. "Everything was pretty much here when we bought it," says Daniel Martin, co-founder of StartBeat Entertainment, the parent company of ReAmp Studios. A music and film producer, screenwriter and composer, Martin opened his first studio in 2009.

Affordability is the watchword at ReAmp. "Most of these younger musicians have no idea what being in a real recording studio is like," says Martin. "They see the people they look up to going to really nice studios. Why should you have less, just because you don't have a couple of million dollars to work on a record?"

The initial plan was to take the gear over to Studio X, he says. "But then we decided to run both, because we can do two different price points. This place is more for people doing full productions. People who are on

(continued on page 32)

In The Groove: Vinyl In The 21st Century

BY STEVE HARVEY

LOS ANGELES, CA—Jonathan Wyner of M Works Mastering in Boston, moderating the "21st Century Vinyl" workshop at the recent AES Convention, noted that vinyl sales this year are on track to eclipse 2013's sales figures. "Are any of you brave enough to say whether this is going to go on for a while?" he asked the panel.

"I don't think it's going to be over



Speaking at the "21st Century Vinyl" panel at AES were (l-r): Pete Lyman, JJ Golden, Scott Hull, Jonathan Wyner.

for a while," said Pete Lyman of Infrasonic in Los Angeles. "I always say that vinyl is the last viable physical format; there's no need for anything else. Vinyl is more than just a listening experience, it's a piece of art."

The resurgence in vinyl sales certainly shows no signs of slowing. According to Nielsen Soundscan, U.S. vinyl sales were up for the sixth consecutive year in 2013, increasing 33 percent over 2012's figures. Yet the numbers are relatively insignificant, representing only two percent of all physical album sales in the U.S. The best-selling LP title in the U.S. for 2013, *Random Access Memories* by Daft Punk, sold only 49,000 copies (but an impressive 19,000 in its first week). Worldwide, last year's vinyl sales totaled \$171 million, a tiny fraction of the industry's \$16.4 billion global revenue stream.

Even with the convenience and portability of CDs and MP3s, and a younger generation that grew up without analog audio formats, said JJ Golden, Golden Mastering, Ventura,

CA, "A lot of the bands that we all talk to sell a lot of [vinyl] as merchandise when they're on tour. The fans are asking for it; that's what justifies making the investment into vinyl."

"It's kind of universal that they're selling vinyl at the merch table more aggressively than any other physical [format]. And it can be bundled with the digital download," observed Scott Hull, Masterdisk, New York.

Wyner noted that vinyl's RIAA curve results in "something that's as close as possible to an accurate phase representation"—much more so than CD, MP3 or tape. "I feel like when vinyl is done right, it's a truer representation of analog music," agreed Lyman. "I think people, even though they don't physically know why it sounds better, are drawn to that. I think it's just more musical."

But as Golden commented, "It can sound better—it doesn't always sound better." There are many variables, he noted, including production choices, decisions made during the cut and

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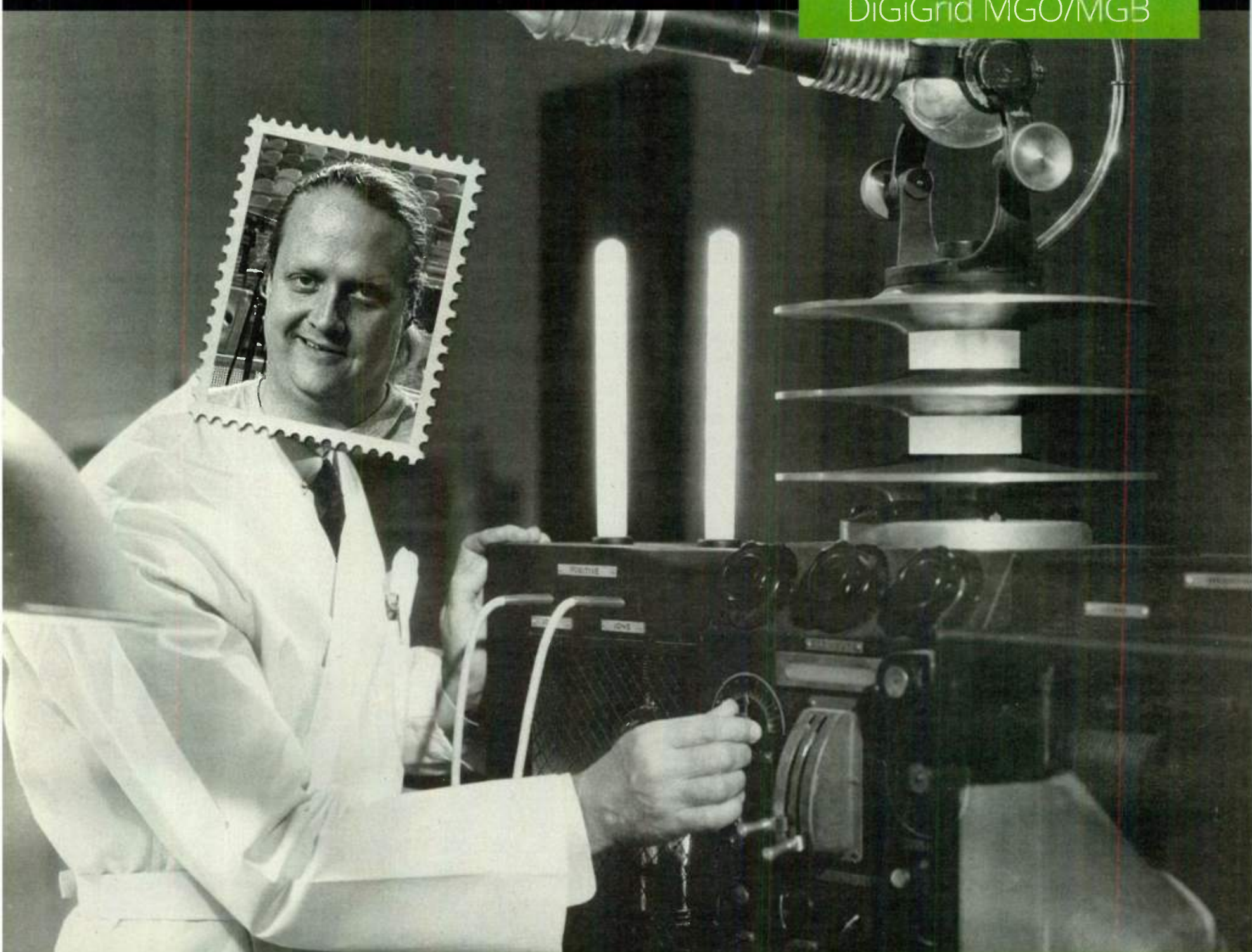
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From Missouri to Ohio, via California

BY STROTHER BULLINS

The talents of Jim Wirt give him perspective on nearly every angle of the music recording business—musician, artist, writer, performer, engineer, producer and record company owner—and his career path translates his unique vibe of rock and roll authenticity with a solid academic base.

With Bachelor degrees in both Music Theory and Music Education from Drury University, Jim began as a focused rock-bassist and achiever transplanted from Springfield, MI to Santa Monica, CA, soon to find solid footing in the 1990s LA recording scene. Today, Wirt resides in Cleveland, working out of his own analog-centric recording facility, Crushtone Studios (crushtonestudios.com), featuring a Neve 8108 tracking console and 72-channel Solid Stage Logic with “Brown-knob” EQs and Ultimotion.

“I got into the recording business because I was really concerned with making my band sound good,” recalls Wirt. “Of course, I hunkered down and learned [audio engineering], then eventually quit the band because I was too busy recording. I backed into it all without really knowing what I was getting myself into and have done it ever since.”

The key component of Wirt’s production acumen has always been his musicality. As a college string major with a solid music theory base, Wirt “could basically play everything” necessary in rock production, and more. “I could always sing and play, and I was always in bands,” Wirt explains. “Though I [mainly] played bass, I could play violin and cello, guitar, piano, even drums.”

Today, Wirt is known for his writing and musicianship, having added performances, collaborative writing and some deep string arrangements to his 11 Gold- and Platinum-certified album discography. It’s no wonder, considering his artistic approach to engineering and produc-

tion, that he started this way: “In Springfield, my hometown, there was a studio with a 2-inch analog recorder,” he explains. “The owner was technically minded and not so much musically minded. It was frustrating working with him. So I and another guy in the band really tried to learn how to record ourselves. Eventually I landed a good summer job to amass some money, bought into the 8-track stuff, and recorded other bands at my house.”

How important is it to be musical when you’re an engineer/producer? “I think it’s important, but I don’t think it’s completely necessary,” proves Wirt as he responds with a list of his favorite non-musician super-mixers. “But when you’re working with younger bands or those that aren’t as good, you’ll probably play on the records. I believe in bands. They have a sound. If [the bands] come to me and ask me to play keyboard parts, I’ll definitely do that, but I try to avoid as much as possible playing people’s parts.”

With modern digital recording technology offering essentially limitless options, Wirt lives as an artistic professional conflicted by the universal access of such tools. As such, he tends to emphasize traditional production techniques—careful microphone placement and applica-

tion of effects, for example. “When we started out, you filled up that 24-track tape and you were done, one way or another,” Wirt explains. “If you were going to do extensive background vocals, you had to plan for that; you’d do drums then bounce them down to two tracks so you could do the BGVs. Nowadays, you don’t have to plan things. But having worked with tape, making sure that essentials were done in order of priority, was good practice. Now we can layer for days and days and eventually it doesn’t sound like anything.”

Wirt argues that in many cases, it’s technology influencing the music. “Musically, there is a finite set of options, really. After that, you’re just covering it with technology. I think limitations can be good.”

Wirt began coming to Cleveland to record his “East Coast bands” at the now-shuttered Closer Look Studios, eventually moving entirely from Santa Monica to merge Closer Look’s equipment with a new loft-style recording space with raw wood floors. “We just did it,” he says enthusiastically of the beautiful, open Crushtone space. “For one thing, the rent for 10,000 square feet is about the same as we spent for 200 square feet in Santa Monica. So you can’t do a studio like this in some areas, obviously. It’s a different space, too. For the drum room, the walls don’t go all the way up [to the ceiling]. That allowed for a ‘dead’ space to do drums while putting mics on the outside of the wall, keeping the cymbal sound tight while keeping the overhead sound out of the room mics, for example.”

Most importantly, Wirt emphasizes that the key components of music producers reside in their social abilities and the skill of coaxing performances from artists. “It’s about dealing with people,” he offers. “I think a lot of technical people become technical because they don’t like dealing with people. But having good people skills, being sensitive to people and knowing whether they need nurturing or an ass-kicking are skills that I have, and that ultimately makes a great record.”

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Jim Wirt at his Neve 8108 in Crushtone Studios, Cleveland

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Something Old Becomes Something New

On his Continuing Adventures In Software, Rich Tozzoli follows the Abbey Road.

The Waves EMI TG12345 Plug-In was developed with Abbey Road Studios and was meticulously modeled on the actual console used by the Beatles for *Abbey Road*. This was the first solid-state console from EMI, and the plug-in is a complete TG12345 channel strip. Wow, was I looking forward to putting this thing to work!

With how the world actually operates now, I began by reading the 'Behind Abbey Road Studios' EMI TG12345 Consoles' fact sheet and watching the cool EMI TG12345 in-depth tutorial on YouTube (scary but true). I found out a handful of in-



Waves' EMI TG12345 Plug-In

teresting facts, like the console was originally commissioned in 1968, where it was used by the likes of the

(continued on page 57)



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The 2014 Anderton Awards

It was a cliffhanger: With the founder of the audio industry's only virtual awards show absent due to pressing family concerns, the Anderton Awards seemed in as much peril as Lindsay Lohan's career. But like a Phoenix rising from its Arizona, a distinguished panel of judges was immediately granted Power of Attorney to submit nominations for products worthy of recognition in this prestigious audio magazine—whose reputation miraculously remains unsullied, despite hosting the Anderton Awards for over a decade.

So welcome to the awards! Now that you've enjoyed the food-like substances rated "potentially ed-

have them talk over Wi-Fi and integrate with other AI components, and control them with a nifty touch screen controller. Meanwhile, Slate integrated batch processing into the Raven 2.0 touch controller, and iPads continue to act as interpreters for various hardware pet brains.

The **Best of AES 2013 Award** goes to Apogee for its Ensemble 30x34. Thanks to Thunderbolt 2 technology, the unit is so fast it went backwards in time—and ended up at the 2013 show, where it picked up an Anderton Award that's now being awarded retroactively.

Waves picked up the **Hey Look, There's a Musical In-**

Please give a warm AES welcome to Kim Jong Un, the Supreme Leader of North Korea and a huge fan of 6V6 vacuum tubes!

ible" by the cream of the Hollywood elite, let's welcome our celebrity presenter. We couldn't afford Kim Kardashian, but one Kim is as good as another—so please give a warm AES welcome to Kim Jong Un, the Supreme Leader of North Korea and a huge fan of 6V6 vacuum tubes! The envelopes, please...

Honoring Los Angeles' Sister City in Sin, the **Las Vegas Playing the Slots Award** goes to SSL for its XL-Desk midsize console that accepts 500 series modules. But some things never change... the odds are stacked in favor of the house. House mix, that is.

The **I Won't Take that Lying Down...or Maybe I Will Award** goes to Genelec's 8251, a three-way speaker you can place horizontally or vertically with unchanged imaging. Attendees drunk enough to pass out on the floor confirmed that the speakers sounded just fine standing up or lying down. I guess they didn't understand Genelec meant the speaker, not the listener.

Touch screens weren't touching themselves, but they still earn the **Jim Morrison "Touch Me" Award**. PreSonus's RM Series mixers were cool—stick the hardware brains and I/O in a corner,

strument! Award for the Codex Wavetable synth. It basically celebrates computers now being fast enough to do seamless wavetable morphs. And if you don't know why that's cool, you don't deserve one.

The **Netflix Hulu HBO "No More Cable" Award** goes to TASCAM for its DR-44WL (4-track) and DR-22WL (2-track) wireless handheld recorders—the built-in Wi-Fi server provides download access to recorded files, and interfaces with an iOS/Android remote control app that can play files directly from the recorder.

The **Blue Ribbon Award** goes to...ribbon mics. From AEA's new phantom-powered N8, to the rugged ribbon in Sandhill Audio's 6011, to the RM1 active ribbon from Cliff Microphones, ribbons took a bow.

The AES Mobile app wins the coveted **Beam Me Up, Scotty! Award**. In addition to providing a stay of execution for lots of trees, it gave the location for a booth you wanted to find based on where you were. There's even a rumor that extra-terrestrial software company Zynaptiq will be designing a tele-transportation function for next year's version.

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ARTIST: PRIME MINISTERS
ALBUM: NOW
LABEL: INDEPENDENT
PERSONNEL:
Produced and Engineered by: Martin Max Heyes
Assistant Engineer: Mario "El Chino" Delgado
Studios: Dungeon Studio (Miami, FL), Lynch Mob Studios (London, UK)
Mastered by: Greg Calbi (Sterling Sound, New York, NY)
EQUIPMENT NOTES: SSL 4048E, Neve A246 consoles; Neve 1081, Amek PM01, Focusrite ISA 216, Summit EQP200B equalizers; Urei 1178, dbx 160x compressors



ARTIST: ANAWAN
ALBUM: ANAWAN
LABEL: NEW AMSTERDAM RECORDS
PERSONNEL:
Produced by: The Mothers
Engineered by: Jason Beck
Assistant Engineer: Michael Chinworth
Studios: Akin Studios (Hoosick Falls, NY)
Mastered by: Paul Gold
EQUIPMENT NOTES: Avid Pro Tools 9; ART MPA Gold, Electro-Harmonix 12AY7 tube mic pre; dbx 166 compressor; Telefunken AK47 MKII, Audio-Technica AT4033, AT2021 microphones



ARTIST: FORT LEAN
ALBUM: QUIET DAY
LABEL: OOH LA LA
PERSONNEL:
Produced by: Chris Maxwell, Phil Hernandez, Fort Lean
Engineered by: Jake Aron, Adam Armstrong, Chris Bittner, Sean O'Brien, Yale Yng-Wong
Mixed by: Daniel Schlett, Jake Aron, Jonathan

Schenke
Assistant Engineer: Mickey Alexander, Ed McEntee
Studios: Doctor Wu (Brooklyn, NY), Dreamland Recording (Hurley, NY), Applehead Recording (Woodstock, NY), One East (New York, NY), Man Made Music (New York, NY), Strange Weather Recording Studio (Brooklyn, NY)
Mastered by: Chris Gehringer
EQUIPMENT NOTES: Neve 5088, API 1608 consoles; Avid Pro Tools; AMS DMX, Altec limiters; Inovonics compressor; Eventide H3000, AKG BX-10 reverb, Tascam; Dynaudio, ATC studio monitors



ARTIST: COOL GHOULS
ALBUM: A SWIRLING FIRE BURNING THROUGH THE RYE
LABEL: EMPTY CELLAR RECORDS
PERSONNEL:
Produced by: Sonny Smith
Engineered by: Sonny Smith
Studios: Sonny Smith Home Studio (San Rafael, CA)
Mastered by: Mikey Young
EQUIPMENT NOTES: Tascam 388 console; Avid Pro Tools; Ampex Tube Preamp; Shure SM57 microphone



ARTIST: TEAM SPIRIT
ALBUM: KILLING TIME
LABEL: VICE/WARNER BROS.
PERSONNEL:
Produced by: Ayad Al Adhamy
Engineered by: Jimmy Romano
Mixed by: Alex Newport
Studios: Little Room Studios (Glens Falls, NY)
Mastered by: Joe LaPorta (Sterling Sound, New York, NY)
EQUIPMENT NOTES: Shadow Hills Equinox; Trident Series 65; Thermionic Culture; Radial;

SSL converters; UAD Plug-Ins; API, Neve, Avedis Lunchbox mic pres



ARTIST: JACK + ELIZA
ALBUM: NO WONDERS
LABEL: YEBO MUSIC
PERSONNEL:
Produced by: Chris Zane
Engineered by: Billy Pavone
Studios: Gigantic Studios (Tribeca, New York, NY)
Mastered by: Jo Laporta (Sterling Sound)
EQUIPMENT NOTES: Neve VR60 console; Avid Pro Tools; Genelec 8050 studio monitors



ARTIST: YELLOW CLAW & CESQEAUX
ALBUM: LEGENDS
LABEL: DIM MAK RECORDS
PERSONNEL:
Produced and Engineered by: Yellow Claw & Cesqaux
Assistant Engineer: Thom Bruggen, Max Oude Weernink
Studios: Skcon 6B (Oostzaan, The Netherlands), Earforce Studio (Amsterdam, The Netherlands)
Mastered by: Earforce Studio
EQUIPMENT NOTES: FL Studio 11; Avid Pro Tools 11



ARTIST: KID WAVE
ALBUM: GLOOM
LABEL: HEAVENLY RECORDINGS
PERSONNEL:
Produced and Engineered by: Rory Attwell
Mixed by: Dan Austin, Rory Attwell, Kristian Karlsson
Studios: Lightship95 (London, UK)
Mastered by: Noel Summerville (3345

Mastering)
EQUIPMENT NOTES: API 1608 console; Avid Pro Tools 10; Quedsted VS3208, Yamaha NS-10M studio monitors



ARTIST: THE HARPOONIST & THE AXE MURDERER
ALBUM: A REAL FINE MESS
LABEL: TONIC RECORDS
PERSONNEL:
Produced and Engineered by: Matthew Rogers, Shawn Hall, John Raham
Assistant Engineer: Erik Neilsen
Studios: Afterlife Studios (Vancouver, Canada), Neighbourhood Studios (Vancouver, Canada)
Mastered by: Harris Newman
EQUIPMENT NOTES: Ampex 24 track recorder; Scully 4-Track recorder; Neve True Tape; Avid Pro Tools; Summit mic preamp; Retro 176 compressor; Neumann U67 microphone; Focal CMS 65 studio monitors



ARTIST: JUKEBOX THE GHOST
ALBUM: JUKEBOX THE GHOST
LABEL: YEP ROC RECORDS
PERSONNEL:
Produced by: Dan Romer, Andrew Dawson
Engineered by: Dan Romer, Andrew Dawson, Justin Glasco
Assistant Engineer: Mike Malchicoff
Studios: The Orphanage (Los Angeles, CA), Bay 7 Studios (Valley Village, CA)
Mastered by: Joe LaPorta (Sterling Sound, New York, NY)
EQUIPMENT NOTES: Neve 5058 console; Avid Pro Tools HD; BAE 1073, Neve Portico 5012, API 3124 mic preamps; Focal CMS 65 studio monitors

Panoramic Celebrates with API

WEST MARIN, CA—Panoramic House, co-owned by John Baccigaluppi and Bobby Lurie, is celebrating its first year of operation with equipment relocated from Baccigaluppi's former recording studio, The Hangar, including his API (apiaudio.com) 1608, newly expanded to 32 channels to accommodate the studio's 16- and 24-track analog tape decks.

SSL Helps Berklee Build

BOSTON, MA—Berklee College of Music's new 16-story residence, rehearsal, performance and educational tower features a 10-studio complex designed by Walters-Stork Design Group that includes a new SSL (solidstatellogic.com) Duality—the school's second—for tracking and mixing in Studio 3, also known as The Bridge.

DSO Refits with Merging

DALLAS, TX—The Dallas Symphony Orchestra recently installed new Merging Technologies (merging.com) Horus and Hapi Networked Audio interfaces, two Merging silent PC chassis and Pyramid 9 MassCore, plus four Avid/Euphonix Artist Series controllers in a custom Argosy desk for recording at the Meyerson Symphony Center.

DPA Grabs Guardians

LONDON, UK—Award-winning production sound mixer Simon Hayes, who has used DPA's (dpamicrophones.com) discreet 4061 and 4071 omnidirectional miniature mics since 2008's *Mamma Mia!*, deployed them on-set for Marvel's recent movie blockbuster *Guardians of the Galaxy*, including close-miking leading man Chris Pratt.

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Teaching Vocal Microphone Technique

BY ERIC ELWELL

Mixing amateur vocalists with a technology-laden worship sound system can be a recipe for disaster, but even a vocalist inexperienced with mic handling can be taught a few basic skills that can avoid technical distractions during worship.



With the explosion of contemporary worship over the last decade or so, it could be easy to assume that everyone involved in leading worship has experience in the fundamentals of sound reinforcement and the technologies involved. To assume that would be unfair, and the assumption can lead to misunderstandings and a compromise in the worship experience.

For affirmation of the issues that seem to be most common, I turned to a group of church audio folks who inhabit a social media group called "Church Sound Media Techs" on Facebook—nearly 5,700 members that share information, problems, solutions and encouragement. I also reached out to a few seasoned professional engineers for training tips for less-seasoned vocalists. The three biggest issues that emerged are the "psychology" of amplified singing, monitoring issues and microphone technique.

WHERE DID THEY LEARN TO SING?

The psychology of singing is challenging. As an engineer and producer, I've found that I serve my role most effectively when I place myself in the performers' spot for a moment. Most vocalists in the church are non-professionals, and their typical background is ensemble vocal training learned in school; they are trained to "blend" by listening in a non-amplified setting. The individual microphone, sound reinforcement and amplified monitors are completely foreign to their previous experience, so it's easy to understand how they feel like "fish out of water." Also, it's worth remembering that many of the solo vocalists have been promoted out of the church choir, so their most recent vocal experience has been focused on acoustic blend.

On the cover: The historic St. John the Evangelist Catholic Church in Frederick, Maryland improved intelligibility, coverage and tackled a recurring feedback issue with Community's ENTASYS column line-source loudspeaker system, powered by Lab.gruppen amplifiers with auto mixing and processing by Biamp.

"I CAN'T HEAR MYSELF"

Here's another challenging situation that has to be addressed with great discernment and gentle spirit. Often, a difficult cycle begins with the request for more monitor level from a vocalist with sometimes-counterproductive results, as the vocalist sings softer to try to "mix" their voice into what they are hearing. This can lead to a variety of technical challenges, most often in the form of feedback. As sound technicians, we can help our teams be more consistent by discussing this natural inclination, and encouraging them with the fact that strong, consistent level is what is needed; the engineer will handle the vocal and instrumental "balance."

THE FLASHLIGHT TECHNIQUE

Microphone technique is often a huge challenge, and sometimes we take it for granted that our vocalists understand the problem they unintentionally create. My good friend Curtis Flatt is a veteran engineer with an enviable resume. He shared a tip he's used in training vocal teams that I thought was very ingenious. "I have found that so many talented vocalists have learned their technique from TV, where you keep the mic low for camera shots. At a couple of churches, I have trained with a flashlight. Hold it like your mic, and if the light isn't in your mouth completely (or mostly), then the tool being used (the microphone) isn't being used to its full potential. The visual actually helped." Several other church sound techs quickly confirmed that this was also a huge issue. Scott in Minnesota said, "Your lips should be touching the grill. I disinfect them before/after every performance, and sanitize the grills in 180-degree water once a week—there are no germs. If you're too loud, we WILL turn you down, trust me." Greg in Indiana said, "I want to see lipstick on the grill". (Unless it's a guy's mic, right Greg?)

It takes continual encouragement and coaching to help train worship vocalists to be consistently aware of microphone position. Nothing is worse than a vocalist "dumping" their mic straight into the monitor at their feet in the midst of a powerful worship moment.

Harold Rubens knows a thing or two about church audio. Prior to his current role as FOH Engineer for Steven Curtis

Chapman, Rubens was the head of the Audio Department at Houston's Second Baptist Church, a mega-church by anyone's measure, with a high-evolved technical audio and video production environment and staff. With HOW vocalists, he said, "Despite all the experience and tools that I have, the one thing that will destroy any chance a vocal has to have authority, power, clarity and character is improper microphone technique. If you are a professional singer/artist, and you give me a good signal to work with, I can enhance that vocal signal with effects and compression and EQ to sound great in relation to everything else in the mix. Even if you are an amateur or a "weekend warrior" type

"ULTIMATELY, THE QUALITY OF YOUR SOUND DEPENDS FIRST AND FOREMOST ON ONE THING—A GREAT SOURCE."

ERIC ELWELL

singer and you give me a good signal, I can do wonders with it. However, no matter your experience level as a singer, if you don't give me a good signal to work with, I will [need an arsenal of tools] to fix problems rather than enhance a vocal."

He goes on to say, "To define good microphone technique (for most live stage microphones situations), I would say this: 1. Sing into the top of the microphone, not across the top of it or into the side of the mic (don't listen to video directors who say that the microphone covers your face.) 2. Sing with good volume and project past the microphone (pretend you are singing to the room without a mic). 3. The closer to the microphone your mouth is, the better (If you have to deal with "hygiene" issues, pull back no more than two fingers away from the top of the mic). The farther your mic is from your mouth, the less of your voice I get and more of the stage noise bleeds into the microphone, which introduces all sorts of problems with clarity, monitors and feedback."

TURN TO THE EXPERTS

For tips and resources on proper mic technique, I decided to turn to the experts. And who better than the people who make them?

Audio-Technica has been kind enough to create a section on its website dedicated to microphone selection and use for Houses of Worship (<http://x.co/5jyH>). The information might seem a bit obvious or fundamental to more experienced church sound techs, but can provide a great primer for your worship team or new tech volunteers.

Shure also has some very valuable teaching materials on both its website and the Shure blog (www.blog.shure.com). There are a good number of articles to be found in the Education section. I find it's helpful to read as many as possible, because while not every technique works in every instance, a broad group of views will give me several perspectives on approaching any given challenge.

One of the best resources I've found is from Audix, another top-quality microphone manufacturer. Its website has several instructional videos on vocal technique (<http://x.co/5jyD>) that would be extremely useful to educating your worship team vocalists. With three videos and 15 minutes, everyone will have the fundamentals of good mic technique, and a great starter for a team conversation that will lead to more unity and understanding between the entire team. I recommend that you get your team together before the start of your next worship rehearsal and watch these together.

Ultimately, the quality of your sound depends first and foremost on one thing—a great source. By working with your worship vocalists to give you great "source"—singing with confidence and with consistent technique—they will have a more comfortable environment and you should have an easier time creating a satisfying musical experience for your congregation.

Eric Elwell, a 25-year veteran engineer with studio, broadcast and live-concert mixing experience, is now a project developer for A/V integrator Technical Innovation.



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HOW LOUDSPEAKER SYSTEMS Narrow-Profile Steerable Solutions

BY STEVE HARVEY

Digitally beam-steerable loudspeaker arrays offer a number of unique capabilities in house of worship applications, where the architecture can present significant challenges to the delivery of intelligible speech.

Highly reverberant spaces, in particular, such as Old World-style stone churches or structures with large expanses of glass, can especially benefit from beam-steered arrays, which can offer greater speech intelligibility compared to more traditional large line arrays or distributed systems.

As Duran Audio—the company that manufactured and installed the first digitally-controlled beam steering speakers in 1994 at Amsterdam's Schipol Airport—has noted in technical literature for the company's Intellivox product, each speaker, or group of speakers, in a beam-steered array can have its own set of filters. This enables the vertical dispersion to be very tightly controlled using DSP (Digital Signal Processing), allowing each beam to be steered away from reflective surfaces and thus reduce unwanted reverberation. The result is a high ratio of direct-to-reverberant sound, greatly improving speech intelligibility.

"Beam steering allows us to create very, very tight beams of sound—in our case, as tight as five degrees," reports Rik Kirby, vice president of sales and marketing, Renkus-Heinz. "Certainly in our product—which is one of the things that



Digitally beam-steerable loudspeaker arrays, such as Meyer Sound's CAL system, installed at Trinity Lutheran Church in Spring, TX, can provide greater speech intelligibility than alternative speaker solutions in acoustically challenging house of worship environments.

differentiates us from the others—we can create many beams from a single column. So we can have a separate beam for the back of the room, middle of the room, front of the room, middle balcony and top balcony. It allows us to maintain very consistent frequency response and, in many ways, more importantly, level in the intended listening area."

Beam steering products can offer very fine coverage control. "In a three-meter column, we can get up to 12 beams. In our two-meter column, eight beams," says Kirby. "The additional granularity we have with multiple beams really allows you to fine-tune to the environment."

Renkus-Heinz offers a range of beam-steerable products, from the Iconyx, which is best suited to speech and light music, to IC Live, featuring higher power 6.5-inch neodymium subwoofers and 1-inch exit, 2.5-inch diaphragm compres-

sion drivers, to IC², "which is for all intents and purposes a medium format line array," according to Kirby. "IC² is used for churches that have a more full-on, rock 'n' roll-type service."

Early beam-steering products were more concerned with speech intelligibility than full-bandwidth content, observes Graham Hendry, VP, application engineering and technology (AET) group, TC Group International. "It's the length of the column that dictates the low frequency control, and it's the dense spacing of the high-frequency elements that allows you high-frequency control," he explains, adding, "If you look at the advantages over standard distributed systems, there are fewer maintenance points, and they cover areas with even SPL from front to back with just a single column."

Tannoy's beam steering system, QFlex, is a modular system, says Hendry. It



Beam-steerable loudspeaker arrays are especially suited to Old World-style houses of worship, where their relatively small size and custom finish options minimally impact the architecture of the building.

ranges from QFlex 16, encompassing eight 3-inch and eight 1-inch drivers in a column measuring 29 inches high, to QFlex 64, which is 18 feet tall, housing 16 each of the 3-inch and 1-inch drivers, plus 32 four-inch drivers. “Where in the past maybe people were happy to have control up to 4 kHz, we decided that we wanted it to be full bandwidth. When someone says, ‘It’s just speech, it can be band-limited,’ it’s not entirely true, because you’re still dealing with consonants. It’s definitely an advantage to have full-frequency steering,” says Hendry.

However, speech reproduction can often be an afterthought, he says. “When you’re designing these systems, probably music reproduction has too much influence over the design. The perception is that if the music sounds good, then so will the speech.”

Some people believe Duran Audio (now part of JBL), as the first to market with a steerable speaker, is old fashioned, says Nick Screen, sales director, Duran Audio. “The physical look of the product has never changed, but a lot has happened under the hood. We’ve moved way

beyond beam steering to beam shaping now. We have both nearfield and farfield control for the array, which means we can really shape the dispersion to fit any room geometry and get the best direct-to-room ratio, while at the same time covering the audience properly.”

The Intellivox system, with models offering beam steering or beam shaping, are available in five lengths, from a little under four feet to over 16 feet. Most models feature 4-inch drivers, but there are some models available with 6.5-inch drivers instead, and several models with horn arrays that extend response to 18 kHz. “We can have up to eight different presets within Intellivox,” adds Screen. “If you have a room which, for whatever reason, is flexible in its usage, you can change the beam shape or the EQ, or the volume control to fit those scenarios.”

Meyer Sound’s CAL (Column Array Loudspeaker) comes in three sizes, offering a total of 32, 64 or 96 4-inch woofers and 1-inch tweeters in various combinations. The columns are respectively 54, 88 and 121 inches in height. “With the CAL speaker, you have an individual channel of DSP

for every single speaker, and also an individual amplifier for every single speaker,” says Joe Villaveces, design services coordinator, Meyer Sound. “That ends up being an important distinction, because you get a lot more control over what you’re doing.”

A column of 4-inch drivers might be able to reproduce 20 kHz, says Villaveces, “but because of the wavelength and the relatively wide spacing of 4-inch drivers, you just can’t steer up there—it’s physically impossible. But CAL gives you a good spacing so you can steer really well up to about 8k, 10k or so.”

The beam can be split and steered independently, he continues. “We just did a demo in a place where they had some side balconies and ended up taking a CAL 64 and shooting it at the upper and lower balconies. It split very well.”

As with other steerable solutions, CAL is controlled through software—in this case, Meyer Sound’s Compass package. “If you’re doing beam splits, you can change level, delay and equalization—it has a five-band EQ built into it,” says Villaveces. Since steerable products are self-contained, with all DSP and amplification on-board, requiring just one or two cables to a cabinet, installation can be very simple, offering cost savings compared to other solutions.

Hendry offers some words of caution. “Some people think putting any old beam steering speaker in there is going to cure all ills. If you consider reverberation time, if it’s four seconds, it’s important to look at where it’s four seconds. The midband or the low end? I’ve seen people put in a QFlex 16 that has control down to 700 Hz where the RT is peaking at 100, 120 Hz. It’s not making any difference at all.”

Speech intelligibility—usually the goal behind installing a steerable solution—can be specified in advance, designed for and objectively measured, continues Hendry. “But not everyone is capable of doing that. There’s no substitute for a good grounding in acoustic measurement and computer-based modeling when designing these systems.

“If you’re a contractor or a consultant who has invested significant resources into learning audio acoustics, you should go one step further and market speech intelligibility as a product. It’s better for business.”

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SOUND ISOLATION ON HOW STAGES

A Joyful (But Quieter) Noise

BY STROTHER BULLINS

Providing balanced and pleasing sound in church settings can be a challenge. After all, one person's "perfect" is someone else's "too loud." Since exorbitant stage levels are frequently the culprit in house-of-worship (HOW)-based SPL offenses—often resonating from typical backline instrumentation such as drums, amplified guitars and synths—fixing the problem on stage, at the source, is a most logical solution.

ISOLATING DRUMS/PERCUSSION

Acoustic drums still dominate the market, and most drummers still prefer to play the real deal. Yet in a HOW setting, excessive acoustic drum SPL will usually be a part of the problem, if not the problem entirely. In a HOW volunteer environment, performers are often accomplished amateurs at best, and a subset of such drummers will play too loud (and really can't help it); accurate volume control while keeping the groove is generally an advanced skill. Drum isolation tools are a must in most HOWs hosting a drum kit, especially when playing to a demographically-broad congregation.

The most prominent brand in drum kit isolation tools is ClearSonic Manufacturing, Inc. of Hudson, OH. This company has been providing clear acrylic isolation gobos to pro drummers for decades. The company's portable, hinged barriers are heavy but are the best solution for live drum isolation in the marketplace.

The standard ClearSonic Panel (CSP) is a quarter-inch thick crystal-clear panel in heights of 2, 3, 4 and 5.5 feet tall; 12- and 18-inch extenders are available, which can be configured into acrylic/absorptive fiberglass panel-comprised full enclosures.

A drummer myself, I bought a 5.5 ft., 5-panel CSP kit years ago and plan on using it forever. With it, I can play comfortably while better controlling overall stage volume. It's also the least visually restrictive of any acoustic drum SPL control solution. It's not cheap, though; it currently retails for well over \$500.



ClearSonic's standard Panel (CSP) features 1/4-inch thick panel in heights of 2, 3, 4 and 5.5 feet.

Careful drum kit positioning will play a big part in controlling overall SPL, too. Avoid bass buildup by keeping the kit away from corners and solid rear walls. If placed near a wall or corner, absorptive wall-mounted products could be a worthwhile post-construction investment. I've had great success using Primacoustic's Broadway absorptive fiberglass panels as well as MaxTrap (corner) and FullTrap (wall) bass traps combined with my CSP.

Of course, if an electronic drum kit is artistically and aesthetically acceptable, that's a great solution. Before buying, any HOW should poll participating musicians on drum kit preferences, though. Tastes often lean toward a more overall "human"

aural experience—hardly surprising in such a spiritual environment.

ISOLATING STRINGED INSTRUMENTS

Acoustic stringed instruments will generally have the opposite problem of acoustic drums when behind the pulpit: They're hard to hear if not miked, aloft in a wash of reverberation in the rafters, or both. It's best to discourage the use of acoustic guitar amps on a hot HOW stage. Instead, encourage the use of acoustic guitar pickups or provide acoustic instrument microphones, either mixed accordingly for both front-of-house and musician monitoring.

DPA's divote 4099 Instrument Microphones are ideal premium microphone solutions for acoustic guitars and so on, and have proven quite effective in HOW applications. At \$599 street with goose-neck and mounting clip, the VO4099-G supercardioid is a solid, versatile and great-sounding investment for such needs.

When featuring multiple acoustic instruments together, or any proper ensemble onstage, choosing a minimum-microphone setup; often the best option is an omnidirectional condenser (for mono reinforcement) or a stereo microphone carefully placed in the sweet spot amongst the performers.

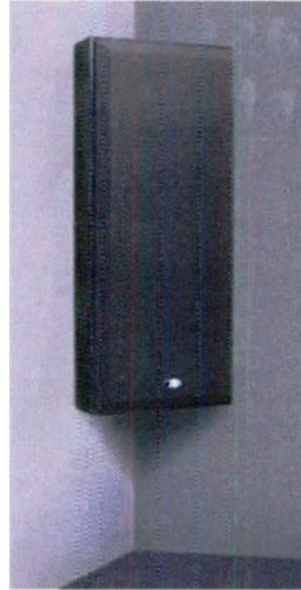
With electric guitar amps, ClearSonic offers a variety of AmpPacs, varying from simple small shields to fully-enclosed acrylic/fiberglass kits. These are useful to a certain extent, but mainly in affecting high and midrange frequencies, as

such a solution often seems to “blanket” the sound, emphasizing woofy mid-low frequencies. Add to the equation other amps and a hollow, boxy resonant stage, and acoustic issues will multiply. In such instances, decoupling tools such as Auralix’s GRAMMA (Gig and Recording Amp and Monitor Modulation Attenuator) can be useful. GRAMMA models are built to float combo amps, big 4X12 cabinets, stage monitors, and more. At \$69 street for the classic GRAMMA, it’s an affordable and effective sound accessory. For a bit more money, IsoAcoustics’ Modular Series isolation products are available as custom configurable aluminum units for a range of amp and cabinet sizes. Such decoupling tools can be effectively applied in the same manner to keyboard/synth speaker cabinets, too.

Like an electronic drum kit, an amplifier emulation system reduces stage volume in an incredibly helpful way—it eliminates an audible sound source altogether. More specifically, with mid-frequency dominant

electric guitar, removing an open amp from the stage allows overall SPL to come down dramatically, allowing vocals and lyrics to be better heard and understood, too.

Line 6—of legendary POD fame—offers a variety of great-sounding amp modulation/effects units, with most featuring modern and user-friendly GUIs, dedicated knobs and foot pedals. Other great options are available from Roland, TC Electronic/TC-Helicon, Tech 21 and Vox, among others. Reasonable and readily-available choices range from the Vox StompLab IG pedal at \$69 street to the world-class, roadworthy TC Electronic G-System at well over \$1,200 street.



Primacoustic’s absorptive wall-mounted products, such as the bass-scattering MaxTrap, can aid in controlling sound spill.

ELIMINATING STAGE MONITORS

Of course, the best isolation tools are ideas that spring from an understanding of large room acoustics. With some solid reductionist thinking—such as choosing in-ear monitoring solutions over open wedges on stage—multiple acoustic improvements can be made in one fell swoop. As a result, performers will hear and blend

more musically and the congregation will receive a clearer, cleaner and more deliberate sound.

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Encompass AV Gets Inspirational with Martin Audio Installation

CHICAGO, IL—Inspirational Deliverance Center Church of God in Christ recently underwent a major technical upgrade for its 500-seat worship center, aided by Encompass AV (Des Plaines, IL). Tim Pickett, president of Encompass AV, offered "the church liked the fact that we could deliver a turnkey system with sound, lighting and a video network, the whole package.

"The church has a very energetic Gospel choir and two Leslie cabinets hooked up to the Hammond organ that really push the audio system to the limits. Plus the worship center has highly reflective surfaces so they needed a system with exceptional output control. We specified several systems for them and they chose a Martin Audio MLA Mini loudspeaker



A Martin Audio MLA Mini loudspeaker system hangs above the parishioners at Inspirational Deliverance Center Church of God in Christ in Chicago.

system.... The coverage had a nice tight pattern to it, and that was a huge selling point for MLA."

The installed audio system includes

two four-block MLA Mini arrays driven by MSX mini sub power plants. A pair of Martin Audio AQ8s provide additional fill with four C6.8T ceiling speakers installed in the low ceiling above the choir as monitors. Two Behringer S16 digital snakes supplement a Behringer x32 digital console with programmable Midas preamps.

Asked about the MLA Mini's performance, Tim enthuses, "I love it. The sound quality is amazing. Everybody that's heard it comments on how crystal clear it is and the Church is ecstatic about the system."

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WRB

Community I SERIES Modular Loudspeakers

The new I SERIES “high-power/high-output” modular loudspeakers were “designed to provide exceptional musical quality and vocal clarity,” says Community. The I SERIES family includes point-source, high-directivity, compact and floor-monitor models in multiple performance levels, with a suite of matching height subwoofers, for modular scalability. Two-way models have large-format compression drivers, a choice of six rotatable horns and individually-voiced, beamwidth-matched crossovers with single or biamp operation. Three-way models offer a choice of three rotatable horn patterns and biamp or triamp operation and use a combination of large-format HF compression driver and Community’s M200HP midrange compression driver—both with ketone polymer diaphragms for exceptionally smooth and uniform sound quality.



Audix M3 Tri-Element Ceiling Microphone

The compact Audix M3 Tri-element Ceiling Microphone offers performance comparable to Audix’ M70, M40 and M55 ceiling mics, says Audix. Cited features include three gold diaphragm capsules, fully balanced circuitry, low-impedance output to allow long cable runs, full RF shielding and immunity, a plenum rated junction box with RJ45 connector, TAA compliance and simple installation and adjustment.



Audio-Technica’s BP894 MicroSet Cardioid Headworn Microphone

The BP894 MicroSet Subminiature Cardioid Condenser Headworn Microphone from A-T features a rotating capsule housing with talk-side indicator for use on either ear and for optimizing polar pattern placement. The MicroSet BP894 is designed so the cardioid capsule can be aimed directly at the sound source (the microphone faces the mouth, rather than facing forward). A-T says the BP894’s “uniform pick-up pattern provides excellent rejection of outside noise, with exceptional gain-before-feedback.” The BP894 MicroSet is available in black and theater beige. And comes with the AT8464 Dual-Ear Microphone Mount which can be attached “to provide maximum stability.” The specs include high-SPL capability (135 dB SPL) and a frequency response is 20 Hz to 20 kHz.



RCF Media Series Loudspeakers

RCF’s Media Series The new Media Series features nine models. The seven two-way cabinets all feature 1-inch compression drivers feeding a 90° x 90° horn. Various single and dual LF driver combinations are available; the smallest of the two-way enclosures features a 5.5-inch LF element and the largest a single 12-inch woofer (the M801 with a single 8-inch woofer is shown). The LF drivers in the three subwoofers in the series include a single 12-inch loaded cabinet and dual 10-inch and 12-inch models. RCF says the Media Series was designed to complement its Compact or H Series Models.



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OC Recording Co. Robbed, Producer Attacked

BY KELLEIGH WELCH

ORANGE COUNTY, CA—An Orange County recording studio was victim to an armed robbery in October, when three men invaded the studio, stealing \$40,000 worth of cash and gear.

Days after the crime, a still shook-up producer Asaf Fulks, who was at OC Recording Company at the time of the robbery, spoke to *Pro Sound News* to retell his story, to warn other studios to be cautious

when working late, and to reassure his clients that the studio will not shut down because of the incident.

"It could have been a lot worse," Fulks said. He described the scene—while he was cleaning up the night of October 7th, the three men came to the door claiming they had a session scheduled at the studio. He thought the men might be lost and let them in to make a few phone calls. Fulks continued to clean, and when he went back to the main entrance, he noticed the front door was closed

and the men were putting gloves on.

"That's when I knew something wasn't right," Fulks said. "One man tackled me and tied me up, and they stole basically all of Studio B and C."

Most of the gear stolen from the studio was high-end microphones, guitars, computers, and some rack gear, Fulks said. A security camera caught an image of the getaway car, described as a white Chevrolet Up-lander.

While the robbers have not been caught, Fulks remains optimistic. In

the meantime, OC Recording Studio will work with its insurance company to replace the stolen gear, and Fulks assured his clients that the studio will be up and functioning again soon.

"We really appreciate everyone's support, and this isn't going to set us back. We've been in business for nine years and never had a problem, and we plan to continue being here. This robbery won't discourage us," Fulks said.

OC Recording Company
www.ocrecording.com

Ocean Way Renamed as United Recording



DAVID GOGGIN

Ocean Way Recording has returned to its original name, United Recording

HOLLYWOOD, CA—Ocean Way Recording in Hollywood has been renamed United Recording, returning to its original name when it first opened its doors in 1957. Founded by recording engineer and electronics inventor Bill Putnam with the backing of Bing Crosby and Frank Sinatra, United Recording is reportedly responsible for more than one billion units in record sales.

"This is a pivotal time in the studio's history," stated United Recording Manager, Rob Goodchild. "We look to the future while holding ourselves to the standards of our past."

"United Recording is a legendary studio in the heart of Hollywood. It is not only a piece of entertainment industry history but remains a highly sought-after production space for top artists," said Bill Humphrey, General Manager, Sunset Gower and Sunset Bronson Studios. The recording studios have remained untouched, with the original equipment in place run by technical staff, while the lounges and common spaces have undergone upgrades.

Hudson Pacific Properties acquired the studio in 2013; Victor Coleman, CEO of Hudson Pacific Properties, added, "The rebranding back to the original name, United Recording, is one component of a continued investment in strategic media and entertainment properties and reinforces our goal of providing exceptional multimedia production facilities and services to global media and entertainment clients."

United Recording
unitedrecordingstudios.com

Philadelphia International Records to be Demolished

BY KELLEIGH WELCH

PHILADELPHIA, PA—Since 1971, the iconic blue neon sign flashing "Philadelphia International Records" over the studio at 309 S. Broad St. has welcomed some of Philadelphia's greatest soul artists for recording sessions at the city's famed studio. Founded by Rock and Roll Hall of Fame producer/songwriters Kenneth Gamble and Leon Huff, the studio/record label headquarters became known as the birthplace of the "Sound of Philadelphia," with singles including "Love Train" by the O'Jays, "TOSP (The Sound Of Philadelphia)" by MFSB, and "Ain't No Stoppin' Us Now" by McFadden & Whitehead, produced on site.

Originally the facility was two studios, built by Cameo Parkway in 1963; a few years later, it was renovated and renamed as Regent Sound Studios, where it hosted acts such as Hall & Oates and Stevie Wonder. In the early 1970s, Gamble and Huff purchased the facility, turning one studio into offices and leasing the other studio to Sigma Sound, which named the site Sigma Sound South, recording the production team's work there until Gamble and Huff ended the lease in 1988 and took over the facility, using it mainly for archiving and creating compilations.

After suffering a devastating arson fire back in 2010, when an inebriated man broke into the studio's offices and set fire to it, destroying much of the facility's priceless memorabilia, the studio was unable to repair the building. On October 15, CBS Philadelphia reported the property was sold to Dranoff Properties, which will demolish the building to make room for a condo and hotel.

"It's bittersweet," Chuck Gamble, executive vice president of Gamble-Huff Music, told CBS. "Here's an entity that my uncle and his partner created some 50 years ago.... The Jacksons recorded here, Elton John, and many others."

The blue neon sign was removed in mid-October in preparation for the demolition, marking the end of an era in the city's musical history. The 2010 fire destroyed most of the office space at Philadelphia International Records, while much of the studio space, including the original orange shag carpet, was saved. However, at the time, most of the company's revenue came through licensing and marketing, rather than recording.

The sign and all surviving memorabilia will be put in storage, with the eventual plan to create a museum to permanently house the historic items.

Kenneth Gamble and Leon Huff
www.gamble-huffmusic.com



ReAmp

(continued from page 24)

tight budgets can still get an awesome recording at the other studio, which is more like a project studio. There's not a big console, but it has nice mics, a couple of Neve pres and some nice compressors."

If Studio X's rates are out of

reach, he adds, "We have payment plans; they're interest-free—just pay as you go. We tell people, don't let money be the reason why you don't do this."

Unfortunately the Tustin facility was not well-maintained, according to owner Stefani Rose, co-founder of StartBeat Entertainment, head of artist development and client relations, and a creative producer, actress and singer/songwriter. "They had a differ-

ent way of running things than we do. When we took over, we had to invest quite a bit of money into bringing all this stuff back to life."

The team called in mastering engineer and technician Charlie Watts of TechnoVoice to work on the Amek console, along with the third member of the ReAmp team, studio manager and head engineer Joshua Brooks, a producer and songwriter who runs Studio X. "Josh spent every day with

Charlie, helping him piece things together. Now he knows every channel strip like the back of his hand," says Martin.

The console "sounds amazing," he says. "I love the EQs. I'm able to dial in the sound that I want. It's not close—it's exactly what I'm looking for, every time. When we pair it with our outboard gear and mics, it makes for a really good sound."

Apart from adding some items of outboard to supplement what was already in the racks, the only equipment upgrade necessary was the purchase of a new Avid Pro Tools 10 HD2 rig, which is integrated with the studio's Apogee AD/DA-16X and Rosetta 800 converters. "Our biggest issue was not the board or the outboard gear, but sync," reports Martin, who solved the problem with an Apogee firmware update. "We're using awesome plugs," he continues. "It's funny to see some of the hardware here, like the Purple Audio [MC77 limiter]—we have the plug-in as well."

The team had Studio G up and running a month ahead of the official launch date. "We opened our doors to our previous clients. That way, they could come in and we could dial-in our sound," explains Rose.

The soft opening gave Martin an opportunity to try out the gear and evaluate the tracking space. "We have some really cool microphones that I wasn't familiar with before: these Pearlman TM-2 tube mics. I really like those a lot. And the Earthworks QTC1 condensers are amazing for acoustic guitars."

The mic locker also includes models from AKG, Audio-Technica, Audix, Cascade, Electro-Voice, MXL, Neumann, Rode, Sennheiser and Shure. "We've been having a lot of fun over the past month just experimenting. The drums ended up where they are because that's where they sound best in that room. We ended up miking it 30 different ways; every time we had a drum session, we'd use different mics in different places."

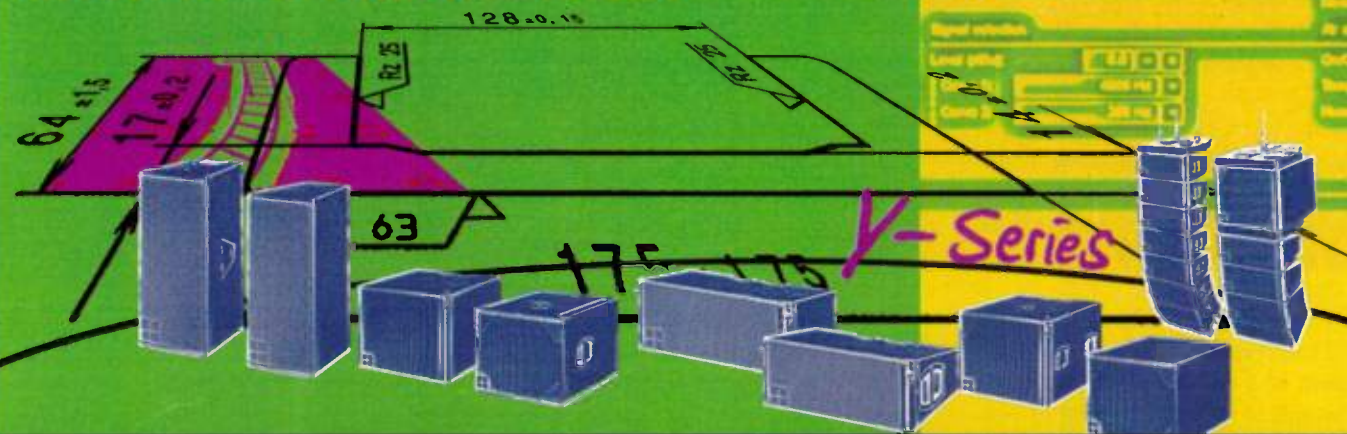
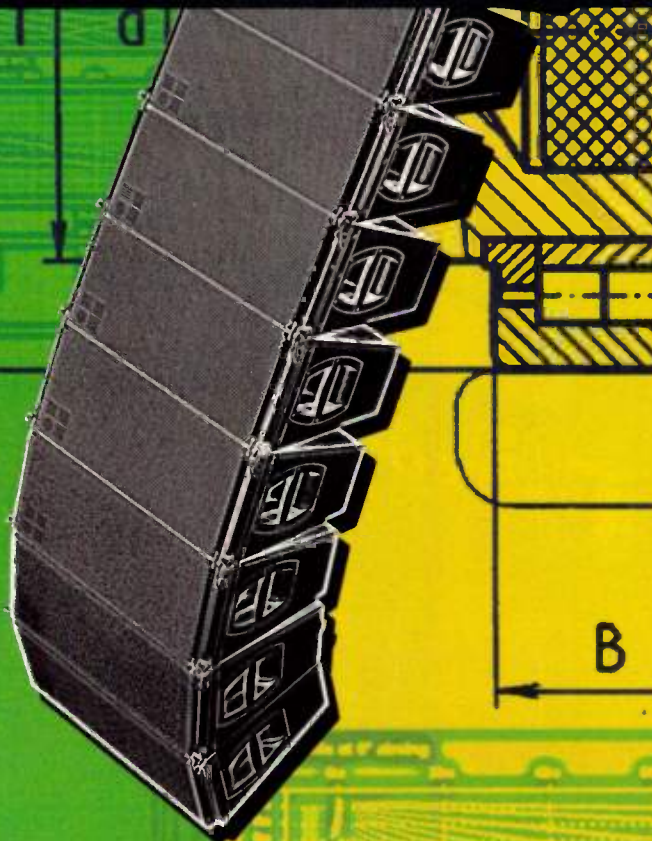
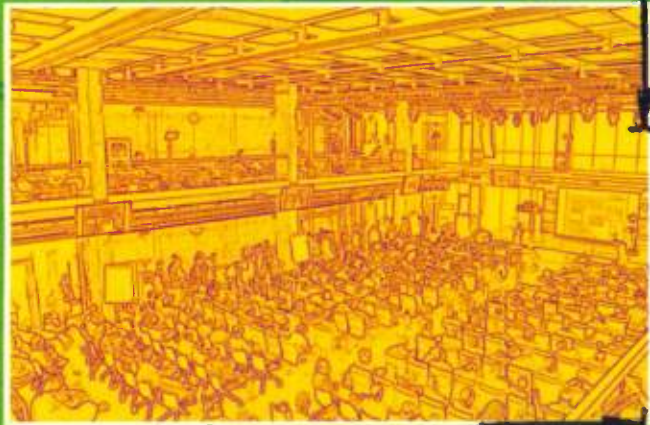
The team are keen to instill a sense of community among local musicians, hosting a variety of songwriting and production courses and offering monthly membership options that provide access to networking mixers, studio time and mentoring. "We're well aware, being artists, that you're not always going to be able to afford this kind of a place. But you can still be part of this community, part of what we're doing," says Rose.

"You don't have to be a paying customer. You can't do it by yourself these days; there's strength in numbers," says Martin, adding, "This is more than just a recording studio."

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FCC

(continued from page 1)

which encourages TV broadcasters to voluntarily give up some or all of their spectrum in exchange for incentive payments. According to the plan, those broadcasters will have three months to vacate their current spectrum. The repacked spectrum will be auctioned off to wireless providers. Broadcasters remaining on the air must transition to their reassigned channels within 39 months.

What this means is that wireless microphone (and in-ear and comms system) operators may be able to use the 600 MHz band for up to four more years. But a blog post on October 24 by Gary Epstein, the FCC's incentive auction task force chairman, indicated that legal challenges to the plan by the NAB plus other complexities will now delay the auction (this is the second delay) until "early 2016," extending that deadline slightly.

The NPRMs offer some clarity to the expected timeframe, acknowledges Jackie Green, Audio-Technica's VP of R&D/engineering, but 39

AES in LA

(continued from page 5)

uling and budgetary reasons," he notes. "Having the show near where they work will help everyone considerably."

The convention was a hit for attendees as well, attending seminars, panels and workshops, eyeballing gear and catching up with the rest of the industry. Ken "Pooch" Van Druten, FOH engineer for Linkin Park, made a point of visiting the convention, even though he was in the middle of rehearsals for the Brazilian leg of the band's world tour: "Mainly I'm here to say hi to a bunch of friends and manufacturers that I work with—Waves, Rupert Neve Designs, some of those guys that I don't get to see all the time. And keep my head in what's new and what's going on—you're always wondering what's going on in Avid Land; always something new and crazy over there."

If you missed out, keep an eye towards next year when the 139th AES Convention will be held at the Jacob Javits Convention Center in New York City, October 29–November 1, 2015.

Audio Engineering Society
www.aes.org

months is the maximum time allowed for the transition. "There are shorter timeframes listed in there," she says.

Mic manufacturers are particularly concerned about the FCC's proposal regarding which wireless microphones may be legally operated after the transition. The Part 15 NPRM states, "[I]f a wireless microphone is certified to operate in any portion of the repurposed 600 MHz Band, we propose that it may no longer be mar-

keted or operated after the specified cutoff dates, even if it could be tuned to operate outside the repurposed 600 MHz Band."

"They're saying, when this stuff goes live—when the 600 band is auctioned off and the new services get ready to fire up—your products and your users can't use those new frequencies," says Karl Winkler, director of business development at Lectrosonics. "But they also are proposing that we won't be able to use any devices that are capable of tuning to these old frequencies." However, he says, "They're not guaranteeing that it's going to be the same in every metro [area], although they're saying that's the idea."

In lower tier markets, the spectrum might not be auctioned off, creating a situation where different bandwidth might be legally accessed in different areas. "So are we supposed to make products that are only for use in Cleveland? That's completely nuts," says Winkler.

That uncertainty also applies to the exact frequency spectrum that will be affected, says Mark Brunner, Shure's senior director of global

brand management. "This auction could run from 620 to 698; it could run below 600 if there are enough broadcasters willing to participate. That creates a little bit of a challenge not only for operators but manufacturers designing equipment. We need to know what the future TV band is going to look like before we can produce new SKUs that tune properly to the frequencies that will be legal."

"The unfortunate truth is, they're likely to do another auction after

vices aren't really testing it; there are no portable whitespace devices out there," notes Green. "Truthfully, not that many wireless microphone people are entering their use, either. So there's not currently an accurate view of what the database is really going to have to handle."

"[The NPRM] bumps up the frequency with which whitespace devices are supposed to check in to the database," adds Winkler. The devices will be expected to check in and

"It's going to change how people set wireless up, it's going to change the equipment they have to use to accomplish the same results and the frequency bands of operation may change."

Jackie Green, Audio-Technica

this," says Joe Ciaudelli, spectrum affairs, Sennheiser USA. "If you look at the Incentive Auction Report and Order, they have all these different repacking scenarios, and the twelfth basically repurposes 144 MHz of spectrum. It's my speculation that is their eventual long-term goal."

The FCC proposes to eliminate the two channels currently reserved for wireless mic use, designating one channel—where possible—in each market where they can share bandwidth with whitespace devices. Licensed RF mic users will be able to use a 4 MHz sliver of the "duplex gap" and can share another 6 MHz of the guard bands with whitespace devices.

But as Ciaudelli points out, the duplex gap is "a buffer to protect two blocks so they don't interfere with each other. So just by definition, it's not clean, reliable spectrum."

Licensed users—the FCC has extended eligibility to include anyone regularly using 50 RF mics—must register their events in the existing independent databases to receive protection from interference from whitespace devices. "Whitespace de-

avoid using the wireless mic's registered channel within 30 minutes.

The FCC's notice on alternative spectrum for wireless microphones offers more questions—a couple of pages of them, in fact—than answers. But that NPRM is something of a win, according to Brunner. "It reflects a lot of input that the wireless mic part of our community provided to the commission with regards to alternative bands. That's a reflection of months and years of dialog on alternatives, all in one place, and that's nice to see."

Inevitably, says Green, "It's going to change how people set wireless up, it's going to change the equipment they have to use to accomplish the same results and the frequency bands of operation may change. All of us are trying to stick to UHF as much as we can, but there's going to be a lot of innovation—technical solutions and product solutions."

THERE'S MORE ▶ The discussion continues online at prosoundnetwork.com/nov2014.

Anderton

(continued from page 28)

The **If Trent Reznor Likes Their Stuff, that's Good Enough for Me Award** goes to Soundtoys 5—which folds 12 way-cool effects into a single "soft rack." Customize the order of effects, add global feedback, and with sufficient programming skill, create sounds that can cause unwanted houseguests to flee in horror.

Focusrite garners the **Dante's Internal Award**, presented by none other than esteemed industry

veteran Mike Rivers, for continuing to develop audio over Ethernet by making their interfaces more live sound- and broadcast-friendly—smaller size, more channels, and more redundancy.

The **Be Fruitful and Multiply Award** goes to the Project Studio Expo not just for continuing to be an ultra-cool reason to attend AES, but inspiring the creation of the Live Sound Expo. Plans are already in place for next year's What Were We Thinking Expo, featuring workshops on how to undo excessive compression from masters and remove gated reverb from 80s

recordings.

And as the curtain closes on another Anderton Awards, we'd like to thank the City of Los Angeles for being beautiful, baby...don't ever change! But the only constant is change, so assuming that poodle-shark zombie mutants don't take over the world, we'll see you next year in New York!

Author/musician Craig Anderton has presented seminars on technology and the arts in 38 states, 10 countries, and in three languages. Check out his music at youtube.com/thecraiganderton

Vinyl Mastering

(continued from page 24)

whether the artist is trying to fit 25 minutes on a side or maximizing fidelity at 18 to 20 minutes in length. Then, on the reproduction side, he said, "You've got different cartridges, different needles, different needle shapes, different players, different pre-

amps, different speakers—there's a lot of things that influence whether a record sounds good or not."

The length of an album side has

"Vinyl is more than just a listening experience, it's a piece of art."

Pete Lyman, Infrasonic

an effect on the level and the noise floor, of course, but there are many other variables at play. "It's not a fixed thing; it's all very program-

dependent," said Hull.

There is one way to reduce the impact of those variables: "Always get a reference disk," said Lyman. "Everyone's in such a rush to get their record out; I can't believe people skip this. You wouldn't send your mixes to a mastering engineer and have them send it directly to the duplication plant—that would be insane. But that's routinely what people do for vinyl."

Hull reported, "I have added a new service. I will cut the references and give you my personal evaluation. We try it on several turntables, and with a few different cartridges."

The vinyl resurgence is putting pressure on the relatively few remaining pressing plants. Lyman conjectured that a plant might be pressing 10,000 records a day. "Back in the '80s, all 10,000 of those records might be Michael Jackson's *Thriller*. Now you've got 10,000 records being pressed for 15,000 artists. The plants aren't managing one project, they're managing thousands, at the same capacity. I feel bad for the plants. All of that affects quality."

Hull noted, "The cheapest [pressing plant] at the moment is usually the one that's not booked up that heavily and not producing the most amazing results. Which means that you really have to think in advance of your release."

Engineers mastering for vinyl currently face other challenges, according to Lyman. "There's only one lacquer supplier now in North America, and only two in the world, and there really aren't that many options for styli." Further, under pressure from the medical industry, plastics manufacturers have removed the lead from PVC, which is what helped keep records quiet. "Plants are going to have to figure out a way to get the records quiet now," said Lyman.

"If you do have a dynamic record, maybe some orchestral stuff, the noise floor can be a real issue," said Golden. "If quality is a concern, investigating different plants that have the ability to press a quiet record to suit that particular project would be important."

As the panel noted, there are mastering engineers advertising vinyl pre-mastering services. "It doesn't make any sense to just slap an elliptical filter on it because someone told you that's what you should do," said Lyman.

Hull stressed, "Unless you're sitting there at the lathe, looking at the way the lathe and the groove is responding to the material you're cutting, you don't know whether you're mastering properly for vinyl. Leave as much of it to us as possible."

AES
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Setting standards



briefs

Bing Bang Boom Brings on Nuage

BUENA PARK, CA—Music and sound design company Bing Bang Boom! in Spokane, WA recently added a new Yamaha (yamahacom) Nuage advanced production DAW system, supplied by RSPE, selecting it for its integration with Cubase, which enables access to and customization of the facility's large library of legacy tracks.

Titanfall Scores with ATC

HOLLYWOOD, CA—The recently released *Titanfall* video game original soundtrack album used ATC (atc.gb.net) reference monitors from start to finish, from composer Stephen Barton's SCM50ASL Pro three-way active monitors to Lurssen Mastering's SCM150ASL Pro and smaller SCM25A Pro three-way active monitors.

Deluxe Monitors with Harman

TORONTO, CANADA—Deluxe Toronto Ltd. recently completed relocation to a new facility that incorporates three LCR behind-the-screen JBL (harman.com) M2 master reference monitors powered by Crown Macro-Tech 9000i amplifiers and tuned using BSS Soundweb London processing, plus JBL 3 Series studio monitors in a pre-mix room.

TNDV Launches Elevation Truck

NASHVILLE, TN—Nashville-based mobile production company TNDV (tndv.com) has launched the 40-ft. Elevation truck, the sixth in its fleet, which features redundant Avid Pro Tools systems, JoeCo MADI recorders, an 80-port RTS ADAM intercom system and a 96-input Soundcraft Vi3000 audio console.

Avid Welcomed to the Jungle

LOS ANGELES, CA—Digital Jungle (digijungle.com), a 24,000-square-foot post facility in the heart of Hollywood, has completed upgrades, adding an Avid S6 mixing console equipped with Pro Tools 11 to its 7.1-capable mixing/ADR room, which also includes six JBL LSR6328P nearfield active studio monitors plus a subwoofer.

When 2 = 11.1: Virtually Surrounded

BY STEVE HARVEY

CALABASAS, CA—Not every household has a surround sound system installed, but with multiple reports predicting that there will be more mobile devices than people on Earth by the end of this year, headphone virtualization could deliver immersive audio to a massive audience. Headphone playback replicating immersive sound formats is still relatively new (notwithstanding binaural, which has been available for many years, of course), but DTS has already seen its 11.1-channel Headphone:X adopted for use by a number of content creators.

In late July, Lions Gate Films, Comcast and DTS collaborated to make available an immersive experience for digital consumers via an iPad app for *Divergent*, the first film based on a trilogy of young adult novels set in a dystopian future Chicago, which has grossed \$300 million at the box office worldwide. Subscribers to Comcast's Xfinity On Demand platform (there are reportedly 20 million-plus

who purchase the film can reportedly unlock more than 6 1/2 hours of interactive value-added material via the app, which utilizes Headphone:X technology to present content in DTS' 11.1 playback configuration, which includes front and rear height channels.



Lionsgate's *Divergent* App features numerous scenes presented with Headphone:X.

According to DTS, this is the first time Headphone:X technology has been made available for users to experience content from a major feature film. But this is not the first time that DTS headphone virtualization technology has been used in conjunction with premium content. In mid-June 2013, the technology was used to deliver Hans Zimmer's original soundtrack from the Super-

man film *Man of Steel* via a special app and code included in the deluxe CD package. In that instance, the downloadable tracks were presented via Headphone:X using Zimmer's own head-related transfer function (HRTF) as measured at the listening position in his personal studio.

More recently, country music duo Florida Georgia Line released an iOS and Android app enabling playback on mobile devices of the pair's new album, *Anything Goes*, mixed for DTS Headphone:X. A clip of the 11.1 mix for the single "Dirt," which topped the *Billboard* Hot Country Songs chart a few months ago, features prominently on the band's web site, together with a video segment featuring Florida Georgia Line's Brian Kelley and Tyler Hubbard doing the channel call-out.

The *Divergent* app provided the film's producers with an alternative platform through which to deliver premium content, according to Molly Kronberg, vice president, corporate strategy and development for DTS.

(continued on page 36)



Decades Of Dialog Discussed

BY STEVE HARVEY

LOS ANGELES, CA—Introducing one of the final panels at the recent AES Convention, Brian McCarty, chair of the AES technical committee for sound for digital cinema and television, commented that the largest group of working audio engineers in the world is doing sound for picture. "Superstars of Production Sound Recording" focused on two members of that group, Jim Tanenbaum and Mark Ulano.

Tanenbaum has been in the business nearly 50 years, Ulano for 40 years—together with advice on everything from building relationships with other filmmaking crafts to what hardware can best capture on-set and location audio. "I would describe it as laying the bed; we capture those original performances," said Ulano of his work. "Our primary function is dealing with the talent in close quarters every day."

Tanenbaum, whose lengthy credits include *Avatar*, *Live from Baghdad* (for which he won an Emmy) and *From the Earth to the Moon*, reported, "When I started, you actually had to wind up the recorder. The crank on the side wound up a spring motor that drove the tape."

He quickly moved from the Nagra III to the Nagra IV recorder, he said, "which is what I did most of my re-

ording with when it was on tape. I could mix three mics down to one—

(continued on page 36)

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-Paul Vines Jr, Recording Magazine

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-George Shilling, Revolution Magazine

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Dialog

(continued from page 35)

because you only had one track on this machine.”

He continued, “Eventually I got a sound cart—a Sears & Roebuck folding teacart. I had two Nagra, so now I could mix six mics down to one track. Eventually I got a four-channel mixer,” and four channels of RF microphones.

“DAT came out; it had a lot of shortcomings, but it had 90 dB of usable dynamic range instead of the 60 on the Nagra. I immediately took to it,” he said, pairing it with an eight-channel Cooper mixer.

Zaxcom’s Deva 5 replaced the DAT. “This was a hard drive recorder that burned DVD-RAMs to be turned in. The machine I’m cur-

rently using is the Deva Fusion 12. It records on CF cards,” he said.

The pace of technological change is increasing: “The Nagra lasted 30 years, the DAT lasted 10, the hard drive machine five, the optical disc machine three. Now we’re recording on flash cards. I have no idea what we’ll be recording on next year.”

“I think our tools are beyond adequate to do the work,” said Ulano, who won Academy and CAS Awards for *Titanic* and worked on numerous Quentin Tarantino and Robert Rodriguez productions. “I think the work is less about the tools than about understanding. If the director doesn’t understand that he takes 10 days to put a porch scene of intimate quiet dialog at the core of his movie under the flight path of an airport, all the conversations that you’re having about the

rest of that stuff becomes irrelevant, because you’re not in a reality-based conversation.”

“Ninety percent of good sound is the right mic in the right place, nine percent is controlling extraneous noises, one percent is me twiddling the sliders,” offered Tanenbaum. “I happen to like Sennheiser condenser mics, mainly because they don’t pop in high humidity like Schoeps do. I use the older Sennheisers, the 406 [cardioid].” He added, “Neumann makes really great mics.”

As for lavalier mics, “The Countryman B6 is currently the smallest microphone; it’s not the best sounding. The Sanken COS-11D, which is more resistant to noise from digital stuff, is bigger and sounds better. I think DPAs have even got the edge on that,” said Tanenbaum.

“However, one of the things that experience teaches you is what you

can get away with. If I’m recording dialog, I know it’s going to go through a dialog EQ, it’s going to get buried by the music and sound effects, so now the subtle differences between, say, the Sanken and the DPA may be completely covered up.”

“I’ve been on a lifelong journey, from Schoeps to Neumanns,” said Ulano. “I use Sanken shotguns heavily now, CS-3e’s. Have a broad palette available while you’re working so that you’re not trying to compromise. You want to play to the strengths of the microphone.”

Asked for advice for anyone starting in the craft, Ulano said, “Go to the mix. Learn what your stuff sounds like in the mix facility. Know how it survives through the chain of custody.”

AES
aes.org

DTS

(continued from page 35)

“Lionsgate is really on the cutting edge, a really innovative company. They think long-term, and strategically, they think about what’s coming next. If you have a Blu-ray [Disc], the challenge is how you deliver all the added-value content. The answer, in their minds, is an app that’s available to anyone.”

Divergent is what is known as a “life cycle” app, designed to keep fans

engaged throughout the run of the franchise, the next episode of which, *Insurgent*, is due for release March 20, 2015. The app is free to download for anyone, and while the user must be an Xfinity subscriber to access much of the additional content, there are some scenes from the film presented with a Headphone:X mix, together with an explanation of the technology and a spoken call-out of the 11 virtual speaker channels, that are available to all.

“In the free app, there eventually will be a total of four segments that have to do with Headphone:X,”

explains Kronberg. “The first is a consumer-oriented description of Headphone:X. Then every two weeks, they’re loading additional clips of the movie that were remixed for and delivered in Headphone:X. They’re two-to four-minutes long. I think there will be three or four in total.”

Among the exclusive content is a special feature of about nine minutes in length, says Kronberg. “Six minutes of it are an experience as if you were blindfolded, so it’s all about Headphone:X.” The “Dauntless Fear Simulator” was created using audio elements from the film soundtrack.

“Lionsgate brought Tim Hoogenakker, a great mixer, in for these clips and the special feature,” reports Kronberg. “Ben Ling was the guy who executive directed the piece, including the design and look of the app, not just the feature.”

The DTS technology is headphone-brand agnostic but offers presets that optimize playback for type. “You pick your headphones,” she says. “All of the content has been EQ’ed and you have a choice to listen to it with over-the-ear or on-the-ear headphones or earbuds.”

Kronberg comments, “The thing that’s really neat is that Lionsgate saw that Headphone:X was enough of a value to use it as a special feature for one of their premier customer’s consumers.”

“The long-term strategy is to have content decoding and virtualizing on the device or via an app, as in this case. In this particular case, the content was pre-mixed for it, but that’s not always going to be the case. We’ve got solutions that obviously work in mobile devices.”

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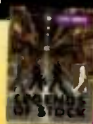
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innovations: the manufacturer's view

Entering The Atomic Age

ATOMIC INSTRUMENT S SERIES RETROFIT CONSOLE POWER SUPPLIES



Atomic Instrument S Series retrofit console power supply for older SSL consoles.

BY F. REID SHIPPEN

The tale of Atomic Instrument is one of necessity and innovation, built on the stories of a pair of partners: Norman Druce and myself.

Norman began building racing transmissions and loudspeakers with his dad, a former Navy technician turned automobile electronics expert, in a small-town TV repair shop north of Detroit, MI. The inspiration was Fleetwood Mac, Bob Seger, the Stones... The teenage Norman used tube reel-to-reel and cassette decks to make "multitrack recordings." As a teen, he formed a band with his buddy (and future Black Keys engineer) Collin Dupuis and started more serious recording.

You can't drop an MCI JH24 off at any old TV repair shop, so Norman began teaching himself electronics. He became the go-to Detroit tech for tape machines and consoles, and ended up owning a building with a recording studio on the third floor. The onset of home studios killed that particular dream, so Norman moved to Florida to work and learn with a notable tube audio guru, who schooled him in analog design. He helped move Mushroom Studios from Vancouver to Toronto and began designing custom gear, sidecars, speakers and more for many notable studios and bands.

As for myself, it all begins with Bob Clearmountain. At 10 years old, living in the epicenter of Bruce Springsteen's New Jersey when *Born*

In The USA shook speakers worldwide, I remember asking Mom to crank the station wagon's radio when the song came on, and then rolling down the windows and hearing it simulcasted from cars and backyard radios as we drove. The entire state was enraptured by that song. I was blown away by that sound—majestic, cinematic, epic. I was hooked; I wanted to create such sounds.

Fast-forward to my work as a mix engineer. Like it or not, we were (and are) all following Bob's work. I mean, c'mon... That Robbie Robert-

son album? Roxy Music's *Avalon*?! Bowie's *Let's Dance*. INXS. Tears for Fears. Bryan Adams. Seriously. So, of course, I ended up mixing on SSL desks, and after many years, finally built my own mix room.

Owning a studio is different than renting one. All of a sudden, you're responsible for this big, expensive SSL desk. Every power dip, every thunderstorm makes you paranoid. Nashville is big on epic thunderstorms and this was not doing my psyche any favors. And the original SSL supplies weren't doing the electric bill any favors either. After a year

or two—and several power supply rebuilds—I started thinking that there must be a better way to do this. Norman knew there was a better way to power a recording console but nobody else believed him. In fact, people told him that his concept was impossible (telling him he can't do something just motivates Norman, thankfully). By that time, I had met Norman's friend Collin, who introduced me to Norman. We began talking about remaking the way consoles are powered. Technology has come a long way since my SSL was born

in 1984. Norman's genius designs centered around the newest medical-grade switching power technology inside a walled garden of proprietary filtering and power protection that no one had ever attempted to deploy in a recording console supply. My concerns were reliability, cost to operate and absolute protection for the desk. We did two years of back and forth testing, listening, changing and tweaking until we arrived at the Atomic S1.

We're both recording engineers, so this supply is designed for the actual user. We concentrated on making it bulletproof. The fact that it sounded

better was, honestly, an unexpected bonus. Norman designed a fantastic protection scheme that shields the console and all its electronics from any type of harm. The supply ramps power up and down like a variac—no inrush, no circuit shock—which allows you to turn a desk on and off as often as you care to. This "die-as-a-team" circuit ensures that if anything goes wrong in any stage of the power to the desk, the entire supply shuts down and stays down until you manually restart it. It will take voltages from 85 to 255 volts and provide the desk with absolutely clean and steady power, and in over/under voltage situations, the supply will shut the entire system off and keep it off. We designed this to be the Gandalf-on-the-bridge in the face of AC power anomalies: *None shall pass*.

As I was first testing the supply, I told Norman that it sounded better. He didn't believe me (thanks, Norman!). We took an Atomic to a friend's SSL room where he was working on a new Michael McDonald album. The sonic improvement was obvious, even to Norman's wife Misty, sitting on the couch. Then Norman believed me (I think).

The Atomic supplies run on about half as much electricity and produce about half as much heat compared to the original designs. They are also quieter and much easier to align. We put digital metering and adjustments on the front panel, and one Atomic replaces multiple supplies and changeover units. It looks cool—and it sounds better. But don't take my word for it, ask Bob Clearmountain. He now has Atomics on all his desks—SSL 4000 and Neve 8068.

My anxiety level—and my electric bill—are significantly lower now. I'm calling that a win. Norman likes to say that if your console is the heart of your studio, then the power supply is the heart of the console. I'm happy to have transplanted this into my mix room, and after 2-plus years of no worries, we're bringing it to our fellow SSL, Neve, API, Harrison and other analog console owners. And this is just the beginning; we're dedicated to making solutions—gear we actually need to make music better—and we have a few new things we're working on that we think everyone who makes music is going to really love. Plus, Bob F**king Clearmountain!

F. Reid Shippen is a co-founder of, and partner in, Atomic Instrument

Atomic Instrument
atomicinstrument.com

Best of Show Awards: 137th AES Convention Edition

The editorial staffs of *Pro Sound News* and *Pro Audio Review* magazines present the fourth-annual ProSoundNetwork Best of Show Awards for the 137th AES Convention in Los Angeles. The editors of *PSN*, *PAR* and the *AES Daily*, with assistance from the editors of sister titles *Mix* and *Audio Media*, combed the exhibit halls for new and noteworthy products—and there were lots of them. Those that follow garnered the most attention.

AEA N8 PHANTOM-POWERED RIBBON MICROPHONE

A new addition to the NUVO Series, the N8 microphone is the result of the company aiming to create “the most open and natural sounding ribbon microphone ever made.” The aluminum ribbon in the N8 is identical to the flagship R44 model in its dimensions and tuning, and the microphone is intended for drum overheads and rooms, strings, classical ensembles and orchestras. The N8 has a small size and matte black finish, and its interior includes phantom-powered electronics and a custom German transformer. Like all other AEA products, the N8 is manufactured in Pasadena, CA.



ANTELOPE AUDIO SATORI ANALOG MONITORING AND SUMMING SYSTEM

The all-analog Satori expands upon the design architecture of Eclipse 384, Antelope’s AD/DA and monitoring controller. A relay-controlled stepped attenuator, numerous connectivity options and a selection of stereo effects like mute, mono, dim and mid-side are provided for this unit. Four independent headphone outputs allow individual source selection and volume control, enabling separate feeds for musicians or vocalists. With eight stereo inputs, four stereo outputs, a range of connectivity options including XLR, ¼-inch TRS and D-Sub 25, the 1U unit also features a dedicated subwoofer output and D-Sub 25 connectivity, solving the issue of connecting to multi-channel converters such as Orion32.



APOGEE ELECTRONICS ENSEMBLE 30X34 THUNDERBOLT 2 AUDIO INTERFACE

Apogee Electronics has announced Ensemble, a 30x34 Thunderbolt 2 audio interface aimed for the next generation of home, project and professional Mac-based studios. Using the design of Apogee’s products like Symphony I/O, Duet, Quartet and JAM, with new features and Intel’s Thunderbolt technology, Ensemble provides users with the ability to record, edit, mix and master professional quality audio on a Mac using Logic Pro, Pro Tools or any Core Audio-based DAW. Ensemble reportedly offers 1.1 ms round-trip latency performance, as well as eight mic preamps featuring Apogee’s Advanced Stepped Gain circuitry, front panel Guitar I/O, and built-in talkback functionality. Ensemble also sports a proprietary Thunderbolt audio driver and full 32-bit playback path.



AUDIO-TECHNICA AT5045 CARDIOID CONDENSER MICROPHONE

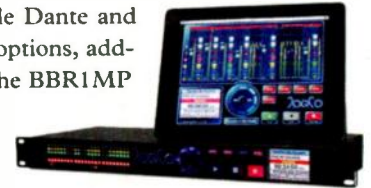
The hand-built AT5045 is a “stick-design,” large-diaphragm electret side-address condenser instrument microphone with a cardioid polar pattern. Available separately or as stereo pairs (AT5045P), the mics feature a large diaphragm, fast transient response, low noise, the ability to handle high sound pressure levels (149 dB SPL), and a 141 dB dynamic range. The mic employs a large, rectangular element, created with intent to improve transient response and increase response bandwidth. The two-micron-thick, vapor-deposited gold diaphragm has been aged, aiming to achieve optimum sonic characteristics.



JOECO BLACKBOX BBR1MP RECORDER

JoeCo’s flagship BlackBox BBR1MP Recorder, a 24-channel, stand-alone, live audio acquisition solution, delivers all the standard BlackBox functionality, while featuring 24 high-quality in-house developed microphone preamps, operating at up to 24-bit/96 kHz, which are integrated into the recorder’s 1U housing. The BBR1MP Recorder offers a range of connection options including individually switchable mic/line inputs, balanced outputs, video sync, time-

code and word clock inputs. User installable Dante and MADI interface cards are also available as options, adding 24 channels of Dante or MADI I/O to the BBR1MP unit. Microphones can either be connected to the unit via tails from the rear D-Sub connectors, or via an optional 2U breakout panel with XLR connectors. System components are available individually or as part of a bundle.



CYMATIC AUDIO UTRACK 24 1U HARDWARE RECORDER/PLAYER/INTERFACE

Cymatic Audio is introducing the uTrack 24 universal hardware recorder/player/interface in 19-inch format. The uTrack 24 records directly onto USB media plugged into the front panel, while a three-color LED displays the level of all channels. The LEDs can also be used as a 24-segment level meter for individual channels. A big LCD shows all other important information and allows editing of parameters with an endless push encoder. The unit features big illuminated transport controls directly on the front panel, and can record 24 channels with a sampling rate of 48 kHz and up to 24 bits. It also can record up to eight channels with a sampling rate of 96 kHz at 24 bits.



GENELEC 8351 ACOUSTICALLY COAXIAL COMPACT THREE-WAY STUDIO LOUSPEAKER

Developed for near-field recording and mix environments, the 8351 has a compact footprint and is capable of delivering 110 dB at 1 meter through Class D amplifiers for the bass (150 W) and midrange (120 W) drivers, while a discrete (90 W) Genelec-designed Class A/B amplifier applies power to the tweeter. The 8351 has a system frequency response of 35 Hz to 40 kHz +/-3 dB, (38 Hz to 21 kHz +/-1 dB) with low distortion. The center of the 8351’s enclosure features the Minimum Diffraction Co-axial midrange/tweeter driver evolved from the 8260. Aesthetically unusual is the absence of any visible woofers which are concealed beneath the Directivity Controlled Waveguide (DCW). The areas on the perimeter of the DCW are the acoustic openings for the proprietary Genelec-designed Acoustically Concealed Woofers (ACW).



NEUMANN COLLECTORS EDITION U 47 FET MICROPHONE

Following the same design as the original mic from the 1970s, the U 47 fet is a condenser microphone with a cardioid directional characteristic and fet preamp. The K 47 is a double large-diaphragm capsule with a slight boost in the range above 2 kHz. A switchable low-cut filter raises the lower cutoff frequency electronically from 40 Hz to 140 Hz, and switchable attenuation can reduce transmission levels by 10 dB. In addition, to prevent overloading of the connected preamp, the output signal can be reduced by 6 dB via a switch on the bottom of the microphone. This Collectors Edition is supplied with a high-quality wooden case with special packaging, and an individual certificate with the serial number of the microphone.



NEVE GENESYS BLACK DIGITALLY-CONTROLLED ANALOG RECORDING CONSOLE

Genesys Black offers 8 channels of 1073 mic/line preamps; 16-channels DAW/Tape monitoring; hands-on DAW control; eight channels of analog 4-band EQ; eight channels of analog VCA dynamics and channel A/D/D/A conversion via MADI, AES and FireWire formats; a central touch screen, eight auxiliary buses, eight group buses, two main outputs, four effects returns, comprehensive metering, 5.1 monitoring, two cue mixes, talkback services and an integrated footprint with internal power supply. In its basic 8-channel configuration, users get eight channels of mic/line preamps plus 16 channels of DAW control and

16-channel analog summing at mixdown. The desk is expandable up to a 32-fader, 64-input configuration; other options include upgrading to digitally controlled, analog Neve 1084 Classic EQ, VCA-style digital control of analog dynamics and Neve A/D/D/A converters for the monitoring section.



PMC QB1-ACTIVE LARGE-SCALE ACTIVE REFERENCE MONITOR

A large-scale, ultra-high-resolution main studio monitor with analog and digital (up to 192 kHz) inputs, each QB1-A incorporates the latest generation of PMC's driver designs, Class-D amplification, Advanced Transmission Line (ATL) bass-loading technology, DSP control, and a quartet of 10-inch carbon fiber/Nomex piston bass drivers. Each channel has 4825 W of Class-D amplification at its disposal (275 W on the HF driver, 550 W on the mid-range, and 4000 W on the four bass drivers), and the latest iteration of ATL technology for low-frequency response down to 20 Hz. The onboard DSP provides driver unit optimization, EQ and crossover networks, while the wired RJ45 desktop control provides access to user EQ settings via its backlit display and jog wheel, with the ability to store up to four user setup presets.



PRESONUS STUDIO LIVE RM SERIES RACK-MOUNT DIGITAL MIXERS

PreSonus has introduced its StudioLive RM16AI and RM32AI 32x16x3 rack-mount Active Integration digital mixers. The 3U rack-mount RM16AI provides 16 locking XLR inputs with recallable XMAX Class A preamps, eight XLR line outs, and three main outs (left, right, and mono/center); 32 internal channels and 25 buses; a 52x34 FireWire 800 recording interface; 96 kHz operation; and extensive signal processing. The 4U rack-mount RM32AI offers 32 inputs with recallable XMAX preamps and 16 line outputs but otherwise has the same features as the 16-input version. Both mixers offer individual +48 VDC phantom power on all inputs; a +48 V Meters button displays phantom-power assignment on the input meter grid.



RADIAL J48 STEREO ACTIVE TWO-CHANNEL DIRECT BOX

The J48 Stereo is a stereo update of the long-running J48 DI. According to Radial, an internal switching power supply elevates the internal rail voltage for more headroom and less distortion, resulting in a wider frequency response, a higher output level over a passive DI and the elimination of having to deal with batteries going dead in the middle of a show. The J48 Stereo sports 14 gauge steel construction and a book-end design that protects switches and connectors from damage. The internal I-beam ensures the internal PCB board will not torque. The J48 Stereo is intended for stereo instruments but may be used with two different instruments at the same time.



SHURE PSM 300 STEREO PERSONAL MONITOR SYSTEM

This system has two offerings—one system designed for entry-level users (P3TR112GR), and a professional system (P3TRA215CL) with advanced features and performance. The P3TR112GR system delivers wireless coverage that extends up to 300 feet. Aimed at entry-level users, the system comes equipped with one-touch frequency scan and IR sync to find and assign a clean wireless channel. Additionally, MixMode technology enables users of all levels to create their own personal mix. The P3TRA215CL system offers advanced features and a rugged, all-metal bodypack for more experienced users, including rental companies, touring musicians and houses of worship. The included P3RA Professional Bodypack Receiver has a high-contrast LCD screen with menu-based navigation, and provides an adjustable volume limiter and EQ to further customize the sound.



SOLID STATE LOGIC XL-DESK MID-SIZED ANALOG STUDIO CONSOLE

A mid-sized analog studio console intended for tracking or mixing within a DAW-oriented workspace that doesn't require integrated DAW control, the

XL-Desk, arranged as a traditional 24 into eight analogue console, features 40-plus inputs of SSL SuperAnalogue summing; a built-in 18-slot 500 series format rack (with an SSL Stereo Bus Compressor pre-loaded); eight SSL VHD mic pres on board; four stereo mix buses; a monitoring and talkback section with an SSL Listen Mic Compressor; and various connectivity and routing options. XL-Desk offers 20 channel strips: 16 dual input mono (switchable between main input or DAW return) and four stereo channels. The first eight mono channels have SSL's VHD mic pres.



SOLID STATE LOGIC LIVE.L300 DIGITAL LIVE SOUND CONSOLE

A more compact version of the original L500 live desk, the L300 delivers power and connectivity to handle large scale productions with up to 568 input/outputs, 128 mix paths (96 fully processed, 32 dry), a 32x36 matrix, 36 VCAs, and 48 FX slots. It is intended for use in Touring, Installation, Houses Of Worship and Theatre. A single super bright, high-resolution 19-inch central touch screen is the hub of the console, giving constant visual feedback and access to system configuration menus and the effects rack. The Console Overview menu provides a view of all signal paths including channels, VCAs, stem groups, auxes and more.



SOUNDTOYS 5 EFFECTS PLUG-IN COLLECTION

Soundtoys 5 includes all Soundtoys effects plug-ins in one package and adds the new Soundtoys Effect Rack, PrimalTap retro delay plug-in, and a new "dongle-free" licensing option. Effect Rack integrates all 12 Soundtoys effects into a single plug-in—a full modular effects system that simplifies the processes to create, audition, save, and recall combinations of Soundtoys effects. The aim is to improve workflow by visually displaying an entire effect processing chain, eliminating the need to navigate multiple plug-in windows to adjust parameters, add new effects, or change the order of effects. It also includes overall input and output level controls, a wet/dry mix control, and additional controls.



TELEFUNKEN M60 FET SMALL DIAPHRAGM CONDENSER MICROPHONE

The company's first non-vacuum tube, FET-based condenser mic, the M60 sports a proprietary circuit topology; components hand-plugged into gold-plated circuit board traces; a frequency response of +/- 2 dB from 20 Hz to 50 kHz; and a custom American-made transformer that reportedly offers low self-noise and a typical THD+N of 0.0015 percent or better.



Designed to utilize the same interchangeable TK6X capsule systems as the ELA M 260 small diaphragm tube microphone, the M60 FET can be used on both acoustic and percussive sources. The TK60 cardioid, TK61 omnidirectional and the TK62 hypercardioid capsules are offered individually or in complete sets, as well as matched pairs of M60 FET amplifiers and capsule sets for stereo recording capabilities.

UNIVERSAL AUDIO UAD-2 SATELLITE THUNDERBOLT DSP ACCELERATORS

UA reports the units will let users "supercharge" systems and run larger mixes filled with DSP-intensive plug-ins. Available in QUAD or OCTO models with a choice of four or eight SHARC processors, the Accelerators can also be integrated alongside UAD-2 PCIe cards and Thunderbolt-enabled Apollo interfaces, including Apollo Twin, Apollo, and Apollo 16. UAD-2 Satellite Thunderbolt DSP Accelerators are available in Core, Custom, and Ultimate software packages. The Core package includes the Analog Classics Plus plug-in bundle, while Custom adds a choice of any three individual UAD plug-ins at registration. The Satellite Thunderbolt OCTO Ultimate has more than 79 UA-developed plug-ins—up to and including UAD software v7.8.



Maxing Out Mixes For Against Me

BY LOWELL GREENBLATT

AMITYVILLE, NY—Known for a potent mix of punk and folk that sounds equally at home in intimate venues and stadium festivals, Against Me spent the summer on a headlining club tour, playing a variety of spaces including Long Island's Club Revolution in Amityville, NY. Manning the desk at every stop was the band's longtime audio engineer, Marc Hudson.

The group's new album, *Transgender Dysphoria Blues*, is one of Against Me's angriest to date. While that aggression translates to the live stage, Hudson doesn't feel a burden to maintain the sound of the band's albums to such a methodical degree. "I'm not trying to match those particular records the way they were captured, because that was just one moment of capturing those songs," he said. "That is not the only way those songs exist. The sound live is how the songs sound now; each of those records was a different sort of view on trying to capture that song at the time. That, to me, is different than what's happening at a show. Some bands, that's part of their sound,



Against Me's longtime live engineer, Marc Hudson, tackles the house mix, monitor fold-back and recording 32 channels nightly.

[but] Against Me has always been a very stark punk rock band."

If bringing across a song's current sound is second-nature to Hudson, that might be because he has a lot of practice, as he has been pulling triple duty as FOH engineer, monitor engineer, as well as recording songs nightly for an upcoming live album, tackling all three simultaneously on an Avid S3L supplied by Clair (Lititz, PA). "We doing FOH and monitors

off of that and also recording a live album, because it can do up to 64 tracks off an Ethernet cable to a laptop. It's simple, very all-in-one and it's working great, been super-solid. We have two stage boxes; each one has 16 I/Os so we have 32 inputs total. I'm using just about every input and output that it has. I split the inputs to add another layer for the monitors, just to keep them separate,

(continued on page 52)

Updating Axis To Bring In Britney

LAS VEGAS, NV—When it was announced that dance diva Britney Spears would take up residence for three years at Las Vegas' Planet Hollywood with her *Piece of Me* extravaganza, Caesars Entertainment chose to gut the old Aladdin Theatre right down to the shell to create a new

venue: The Axis, a facility ready for modern-day productions.

Michael Cusick of audio consultants Specialized Audio Visual Inc. (SAVI) noted that show creator and director "Baz Halpin's immaculate design for Britney had some very reasonable requirements for the audio

system, but Caesars Entertainment quite rightly had us to look into the future to ensure the system we designed would be capable of accommodating any production, be that a touring act, Broadway show, or TV broadcast event."

SAVI proposed a hybrid fiber optic backbone, implementing a full digital network of fiber optic cable that would transport digital audio at 48 and 96 kHz, HD-SDI digital video, Ethernet control networks for AMX and DMX lighting control, dark fiber (SMOF and MMOF) for future video use and intercom. The fiber optic backbone interconnects seven nodes throughout the theater. Digital audio is transported via redundant Dante Gigabit networks from the DiGiCo SD5 console at FOH to d&b amplifiers, utilizing Lake LM-44s as a gateway device at each amp location to provide an automatic, three-level fail-over should the Dante primary and secondary networks fail for any reason.

The Dante network also interfaces with the lobby and backstage systems via a direct Dante port connection

(continued on page 46)



To house Britney Spears' three-year residency in Las Vegas, the old Aladdin Theater was gutted down to the walls, getting a new digital backbone, extensive acoustical treatments and a d&b audiotechnik PA system.

briefs

FBT Slips Into Folsom Ice Rink

FOLSOM, CA—Studio 33 recently installed a sound system for an outdoor ice skating rink, opting to install a custom-fabricated covered-metal shell painted to look like a nutcracker, with FBT (Italianspeakers.us) PromaxX10a 10-inch, two way active loudspeakers inside it to cover the entire rink and surrounding area.

RH Welcomed at Ward Church

NORTHVILLE, MI—Ward Church recently added a service with rock music, so Sound Planning Communications in Redford, MI placed Renkus-Heinz (renkus-heinz.com) STX8s at front right and left positions in the church and kept an existing STX8 in the rear for back fill. An Iconyx IC Live ICL-FR-DUAL Digitally Steerable Line Array was added on each side of the stage, along with additional subs.

RoomMatch Comes To Roost

AUSTIN, TX—The 3,400-square-foot live music venue The Roost, recently installed a Bose (pro.bose.com) RoomMatch system to cover the venue's oval layout with two RM9040 modules, two RM9060 modules, two RM12060 modules and a pair of RMS218 dual 18-inch subs, powered by four PowerMatch PM8500N 8-channel networked amplifiers.

Mackie Moves Massive Monkees

SEATTLE, WA—Breakdance crew Massive Monkees celebrated its 15th Anniversary with a street party, followed by the inevitable after party at Seattle's Gallery 2312, which had recently replaced its sound system with new Mackie (Mackie.com) SRM650 loudspeakers.

Sensaphonics Lands On Chance

CHICAGO, IL—Aaron Patkin, FOH engineer for Chance the Rapper, worked with Sensaphonics (sensaphonics.com) sound engineering consultant Joe "Sound Guy" Tesson recently to help the rising hip-hop star switch to 2MAX IEMs for monitoring. While the artist had never worn in-ears before, he reportedly adapted to them quickly.

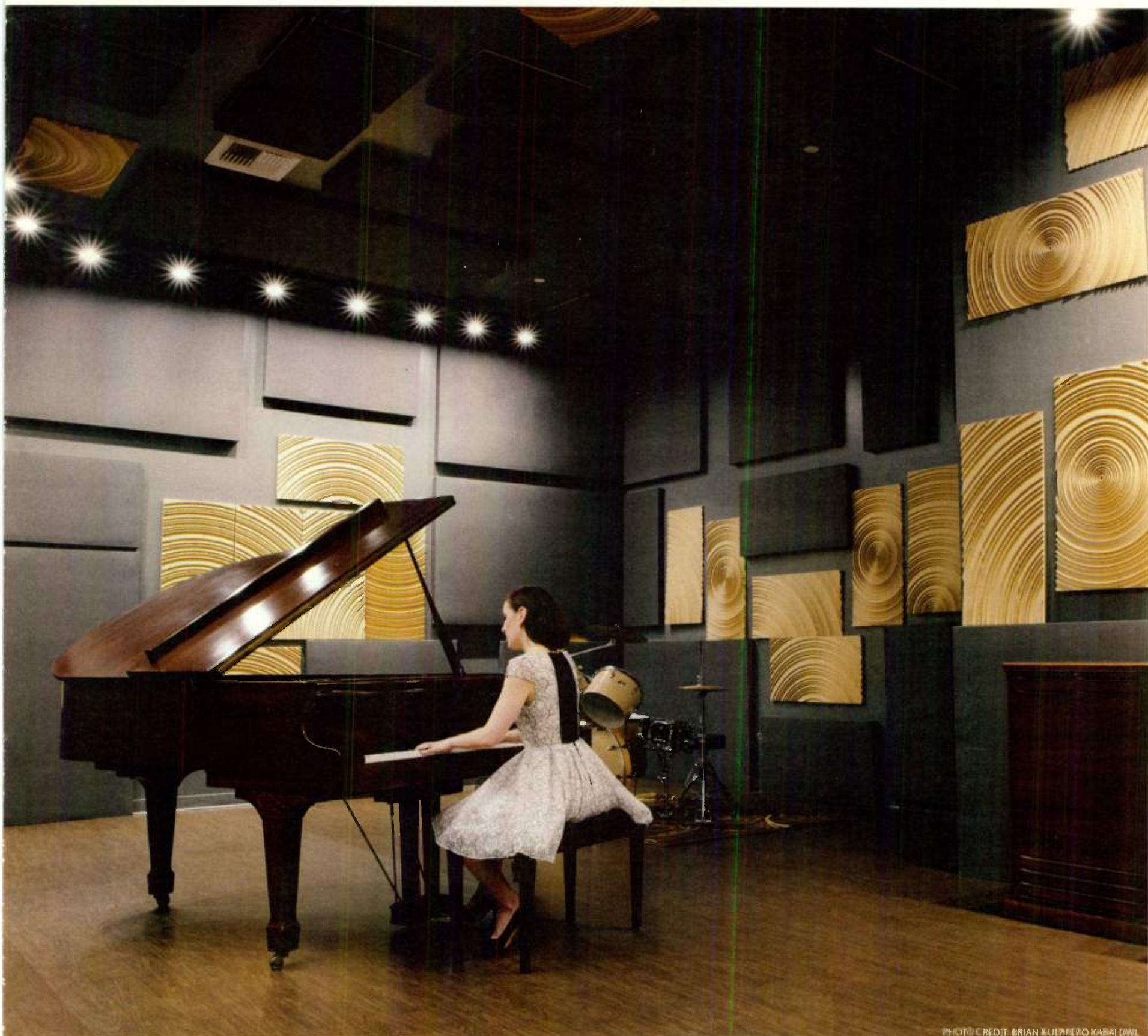


PHOTO CREDIT: BRIAN GUERRERO IGABRI DUAL

Quantum Acoustics™

technology by DHDl offers performance and beauty in the industry's slimmest acoustical devices. Lifelike Aural Imaging + Wall to Wall sweet spot with musical, natural frequency response are all exclusive characteristics of ZR Acoustics®. Genetically engineered with fractal-differentiability mathematics, extreme acoustic resolution and quantum acoustics, ZR outperforms traditional solutions without bass traps, room equalization or electronics of any kind. Experience the new dimension of unparalleled acoustical solutions.

ZR Acoustics® | The Ultimate Listening Experience

Client: Hybrid Studios, Santa Ana, CA

Product: ZR Micro Smart Panels. Textile: Nifty Pumice

ZR Sample Rate 8 Bit Smart Panels. Finish: Natural

Awards: 2014 AIA Orange County Design Award for Interior Design

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Return of the Radio-Friendly Rockers

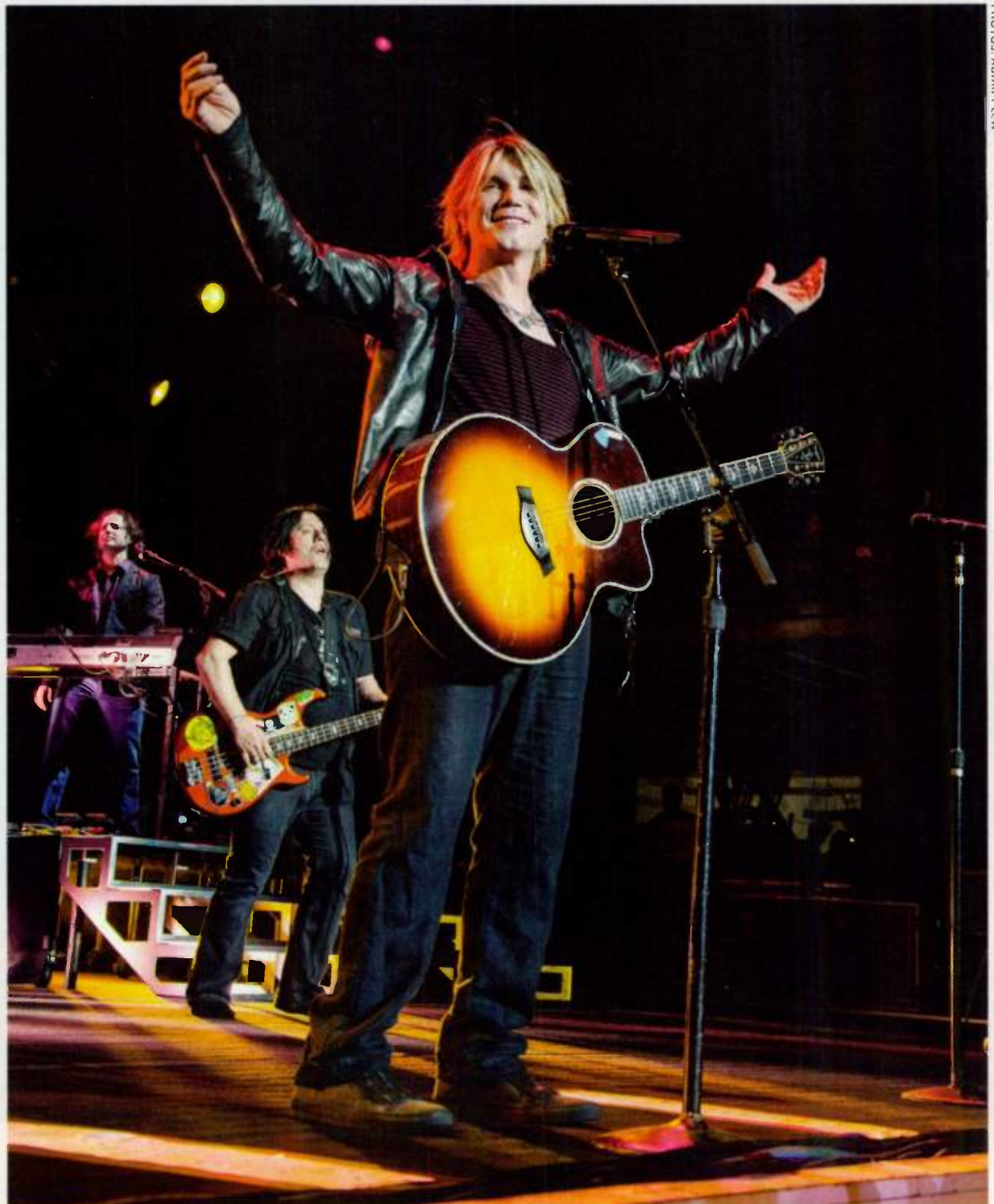
BY CLIVE YOUNG

Twenty-plus years since they first broke through with hits like "Name," the Goo Goo Dolls have become a staple of AC radio. If Generation X finds the band's music to be a comfortable fit, the Dolls themselves are at ease with the songs, too, as evidenced by the fact that the second concert on their recent three-month co-headlining tour with Daughtry was the proverbial "New York show."

"It went pretty well," confirmed Michelle Sabolchick Pettinatu, the band's FOH engineer. Overseeing an audio system supplied by Clair (Lititz, PA), Sabolchick mixed the Dolls' nightly 90-minute, 24-song set on a Midas Pro9 console. "Anybody who knows me would be shocked by what I've done at FOH," she reported, "because I'm an old analog girl and I stay away from digital as much as possible, but for this tour, yeah, I'm on the Pro9 and I've got a fleet of laptops! One's running the Waves MultiRack; there's a Pro Tools laptop for multi-track recording and virtual soundcheck; another one is running Smaart, which I don't really use but it's there; and then I've got the fourth laptop for the Lake System Controller. So it's not my typical FOH at all, but it's a lot of fun."

Going digital was an opportunity for Sabolchick to explore Waves MultiRack in-depth, it turned out: "Waves came mostly as a request from John Rzeznik, the lead singer. He's a huge fan—he's got his own Pro Tools recording rig and loves plug-ins, so we're using a Kramer Master Tape saturation plug-in and the Maserati Acoustic Guitar plug-in on his acoustic guitars. As the tour goes on, I'm going to dive into it more and see what else I can play with."

The five multi-instrumentalists on stage created a total of 47 inputs for Sabolchick's Pro9, all of which were captured by a variety of microphones, most notably the pairing of a Royer R-122 live ribbon mic and a typical Shure 57 on each guitar cabinet. "It's a great combination



PHOTOS: AUDREY LEW

Seen here at the Nikon at Jones Beach Theater in Wantagh, NY, John Rzeznik, lead singer for Goo Goo Dolls, has FOH engineer Michelle Sabolchick use the Waves Maserati Acoustic Guitar plug-in on his acoustic guitars.

for a nice, big fat guitar sound," she said. "Everything else is pretty much standard—I'm not a big fan of using all the same mic, but I like to use the right one for the right instrument. For instance, my drum kit is a combination of a Beyer M 88 on the kick along with an SM91. I've got an AKG 414s for overheads, Opus 88s and then your standard 57 on there."

Bringing all that to the audience was a typical Clair PA system. "It's the i-5 with the flown i-5B subs and also the BT-218s for ground subs," said Sabolchick. The system also included a selection of Clair i-dls and

P-2s, and was all powered by Lab. gruppen PLM 20000 amplifiers in Clair's StakRak format.

Acoustic instruments always have a prominent place in the band's sound (in fact, the group was on a short acoustic tour earlier this year when Sabolchick first moved to the Pro9 desk), but rock is the main course at their shows. "Goo Goo Dolls is a raw, organic rock sound," said Sabolchick. "They're punkish at some points and kind of rock/pop at other points, so it's a rock-sounding show. They have a few ballads that are a lot of fun to mix. Actually, we did one that was my favorite for the

first show and it's a big, epic ballad about a soldier, but the audience didn't know how to react because it's really sad, so they took it out. I was so bummed because it was a blast to mix, but they have a few other ballads that are big hits like 'Black Balloon' and 'Better Days' where the song builds and you get to get a little creative."

Co-headlining was Daughtry, the perennially touring group led by singer Chris Daughtry, whose fourth-place finish on the fifth season of *American Idol* became a launch pad for his band, which has

(continued on page 44)

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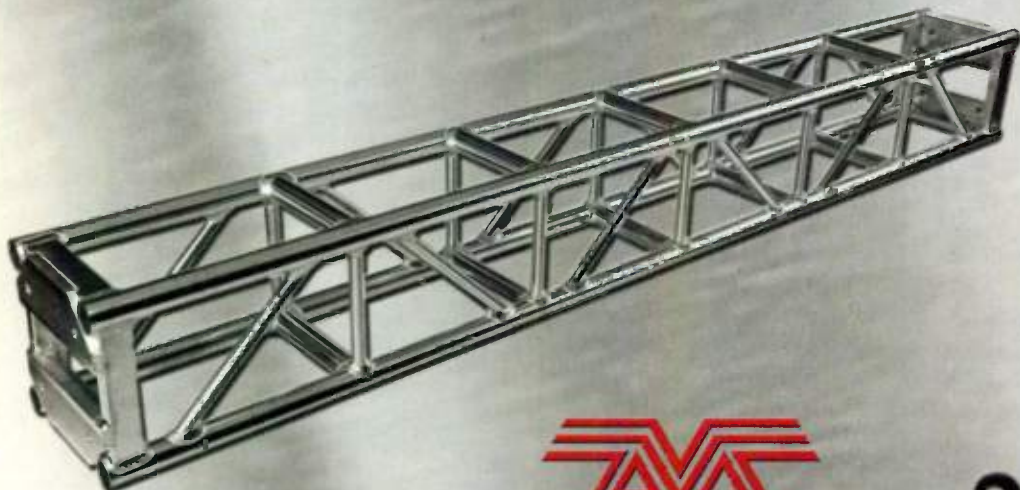


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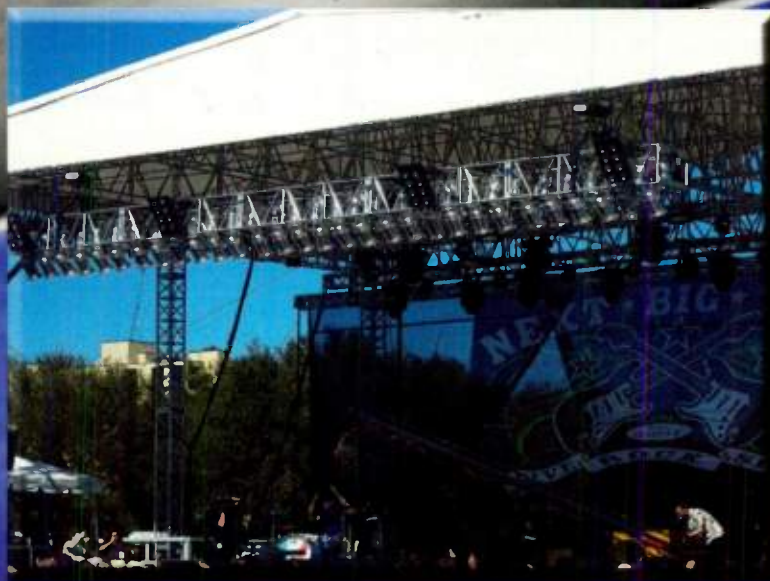
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Live Sound Showcase

(continued from page 42)

since sold more than 23 million albums worldwide. Mixing the act was Reggie Griffith, manning an Avid Venue Profile console to handle 42 inputs coming from the six musicians onstage. The desk housed a number of plug-ins used nightly, including Waves' SSL G-Master Buss Compressor, MaxxVolume and MaxxBass, as well as TC Electronic's VSS3 reverb.

Mic-wise, all vocals were captured on Telefunken M80s, although Chris Daughtry used a Shure UR wireless system as well. Palmer DIs captured the guitar amps and drums were grabbed by Sennheiser e604s on toms, and the pairing of a Sennheiser MD421 on the kick with a Shure SM91 to "create a tight, punchy sound with a lot of snap to it—it doesn't waffle around at all."

Mixing the band's pop rock for the first time on the tour provided Griffith with the perfect pallet for his constantly evolving mix style: "About two years ago, I decided to refine my goal in mixing, and that

goal became 'Every mix has to be clear and present.' A couple of guys I admire—Pete Keppler, who mixes Katy Perry, and Tony Blanc, who was mixing Rihanna—I heard their shows and the clarity was fantastic, but they also had presence: a defined low end that when introduced to the audience wasn't perceived as bassy, but rather as present. And that's what I'm doing with this mix; it's still the music that's the blueprint—whatever the music is giving me, it's still full bandwidth with an extreme amount of clarity—but I'm refining it by taking out a lot of low-mid range that muddies up the mix. In both pop and rock, a lot of instruments have that 250 Hz presence that can build up pretty fast, so it becomes an editing thing; I'm taking 250 out in different locations so that the voice winds up right in front but nothing gets lost."

Applying that depth of analysis is one of Griffith's strengths; another example was his approach to joining the Daughtry production team. "It's interesting walking into a job that's already been established—they've been on tour for seven years," he said. Before talking to the band, he met with monitor engineer Rob Smuder and listened to the sing-



Chris Daughtry of the band Daughtry sports Sennheiser IEMs while belting into a Shure UR wireless mic.

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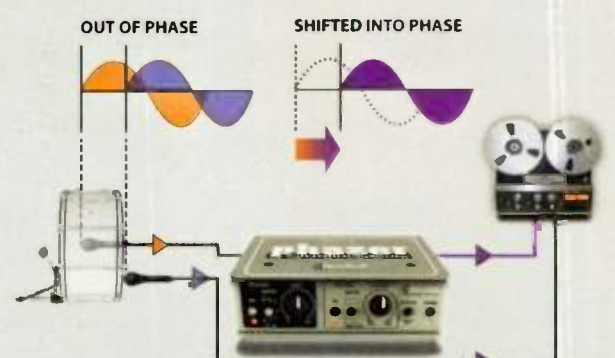


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VITALstats

Goo Goo Dolls / Daughtry

Clair (Lutz, PA)

GOO GOO DOLLS

FOH Engineer:

Michelle Sabolchick

Monitor Engineer: Raza Sufi

FOH Console: Midas Pro9

Monitor Console:

Avid Venue Profile

Monitor Speakers: Clair BT-118

Personal Monitors:

Shure PSM-1000, PSM-600 hardware

Monitor Amplifiers:

Crown MA3600

FOH Equipment/Plug-Ins:

Waves Mercury bundle

Microphones: Royer R-122;

Shure 57, SM91; Beyer M 88, Opus 88; AKG 414

DAUGHTRY

FOH Engineer: Reggie Griffith

Monitor Engineer: Rob Smuder

FOH Console: Avid Venue Profile

Monitor Console:

Avid Venue Profile

Personal Monitors:

Sennheiser EM 2050 series

FOH Equipment/Plug-Ins:

Waves Live Bundle; TC VSS3

Monitor Equipment/Plug-Ins:

Waves Live Bundle; Eventide

Anthology II Bundle

Microphones:

Telefunken M80; Shure UR wireless, SM91; Palmer DIs; Sennheiser e604, MD421

Clair Audio Team

Crew Chief:

Cliff Downey

System Engineer:

Justin Hoffman

Techs:

David Wiseman, Bryan Darling

House Speakers:

Clair i-5/i-5b, i-dl, P-2, BT-218

House Amplifiers:

Clair StakRak with Lab.gruppen PLM 20000

my goals. So then, I come back into rehearsals and I feel comfortable enough to speak my truth, to say "This is what I'm going for, this is my intention—is that something we can do together or should I change it somehow?"

The approach seems to have worked; months later, the summer tour is only a memory, but Griffith is still mixing the band, having just returned from a USO tour in Japan to run through a string of dates down South this month. December will find Daughtry playing numerous radio station holiday shows, which seems only fitting: "This band, it's radio-friendly," said Griffith. "How does that happen today? People know the songs. It's interesting to see and to be honest, I feel pretty lucky to be mixing a radio-friendly band."

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Clairglobal.com

Midas
Midasconsoles.com

Avid
Avid.com

Waves
Waves.com

er's in-ear mix. "Rob was mixing a vocal-heavy, upfront mix that was very clear, and I got a chance to hear Chris's voice. Then I introduced myself to all the techs and went through their whole show—'What's

your musician playing on this? Why is he using this one? What's the gain structure of it?' It's not about judgment or how I perceive the person to be; I'm listening, communicating, gaining understanding of how

they work and how they relate to the artist long before I get to talk to the artist. I want to know what they're going after and how I can help them get what they need to get done, and in turn, how they can help me fulfill

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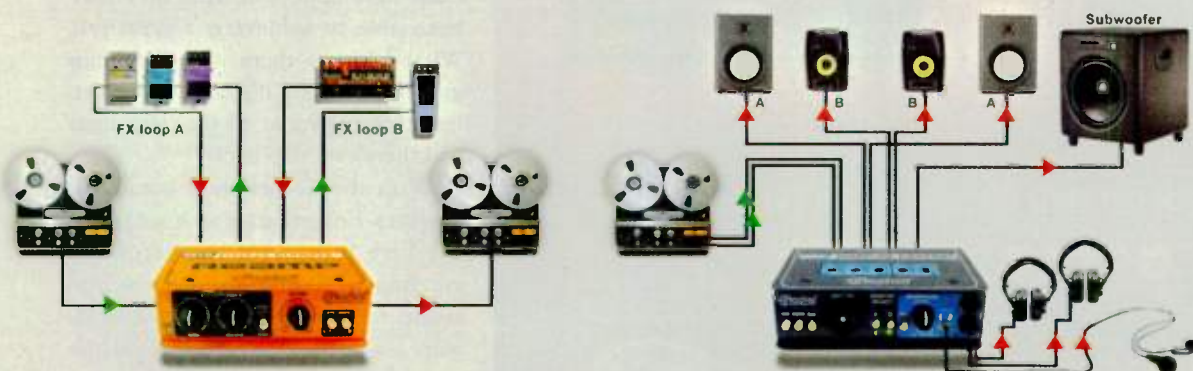


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Axis

(continued from page 40)

on the BSS 826 London processor which is used to manage the audio needs of the backstage paging system, the lobby program and page system, and the lobby rotunda local PA system. An AMX system allows local operation over lobby audio and video functions. The Dante network trans-

ports digital audio at 96 kHz from the DiGiCo console to the d&b amplifiers; it also transports 48 kHz audio between Auvitrans ToolBox units at each node, enabling a variety of audio signals (analog, AES, MADI)

to be transported around the theater.

The final step of transporting audio—to the audience's ears—meant finding the right PA. Said Cusick, "Baz had very definitive ideas [and] oversize line arrays hanging down in

"SAVI and 3G did a great job, their intentions were clear and they used their time well. I'm really reaping the benefits of all the technology these guys put together."

Robert "Cubby" Colby, FOH engineer, Britney Spears

the stage picture were not going to be accepted." With Halpin using huge panels around the stage opening for large-scale projections (64 projectors in all), SAVI managed to hide four flown arrays of d&b J-Series SUBs and a center cluster of d&b V-Series behind the acoustically transparent projection panels. The mains and side systems are J-Series and V-Series respectively, rigged high and well to the sides of Halpin's lavish projection areas. The center cluster uses V8s to cover the VIP area and the general admission pit in front of the stage. The hidden arrays of flown subs (four hangs in total) cover the balcony, while down on the floor, hidden in the apron, are more J-SUBs and J-INFRAs, as well as some d&b Q10s concealed there for frontfill. The floor subs and frontfills are nested in custom-built frames that are also home to d&b M4 and M2 wedge monitors that project audio up through stage floor grills.

The original Aladdin was, by reputation, not the most friendly environment for sound reinforcement, as Spears' house engineer, Robert 'Cubby' Colby, confirmed: "We all played the old Aladdin and know what that presented—not least that low-end boom from the domed ceiling right down onto the mix position."

Cusick summarized, "In short, this is a large space and the reverb time was intolerable; there were also some troublesome flutter echoes from the sides, so we approached David Kotch of Criterion Acoustics to advise some acoustical modifications before the interior reconstruction work was begun. In the initial analysis, the reverberation time was disproportionately high in the low mid bands, which David identified as lack of broadband absorption in the theater."

After Criterion designed new treatments for the facility, Colby remarked, "The dome ceiling is still there and the mix position is in the same place, but the work the acousticians have done and what they have been able to achieve is a great job. What I like is there is just enough gain in the room; it's not dry as dust, but it's forgiving in all the right areas and there's no slap back."

With the design stage complete, Caesars Entertainment brought in 3G Live to provide the hardware, electing to use a long-term rental model rather than buy into the hardware—a decision that impacted the

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installation process. “We turned our design scope into a rental specification that the client could use to bid the project,” confirmed Cusick. “3G Live is a d&b production partner with offices in LA and Las Vegas. They really stepped up to the plate and, with guidance from us, used their rental expertise to provide exactly what was designed, with welcomed suggestions to further enhance the overall performance. Another great advantage is service; 3G has its main base in Las Vegas so it’s on hand for support; Julio Valdez of 3G steered a steady course through the implementation of the project.”

But what of the audio system itself? Baz Halpin was effusive: “It really is one of the best-sounding rooms I have experienced. This is a miracle considering the pains that SAVI went through to conceal all of the PA for me.” Cusick added, “The combination of the acoustic treatment, and may I say, the beautiful system tuning by Jason Waggoner from d&b Application Support in North Carolina, gives the equivalent listening sensation of the highest-quality hi-fi in your living room that you’ve ever heard. Jason is probably the most talented d&b tuner I’ve encountered. His techniques with tuning capture and his command of the combination of d&b’s ArrayCalc and R1 remote control software, are unsurpassed.”

Day One of a tight commissioning period gave Waggoner only four hours to set up measurement mics and gather data from the main hangs. “Working offline back at his hotel using the tuning capture measurements from that morning, and the original AutoCAD and ArrayCalc models, he voiced and aligned the PA virtually. The next evening at 10 pm, he had access with complete quiet, fed in his virtual settings and we listened. He had achieved 95 percent of target tuning offline, and only required a couple of fine adjustments here and there to complete the job.”

Now, with the theater completed and Spears’ show up and running, giving the production its best-possible sound falls on the shoulders of Colby. “Fortunately, Britney is a strong singer and she sings every song

live,” said the engineer. “It’s pretty full on, with just two numbers where the choreography takes a back seat. The center cluster above stage is fantastic—it targets those lounge-style VIP seats you can’t ignore, yet I’m able to get plenty of gain off her mic, though as I said, that’s a lot to do with her vocal power.

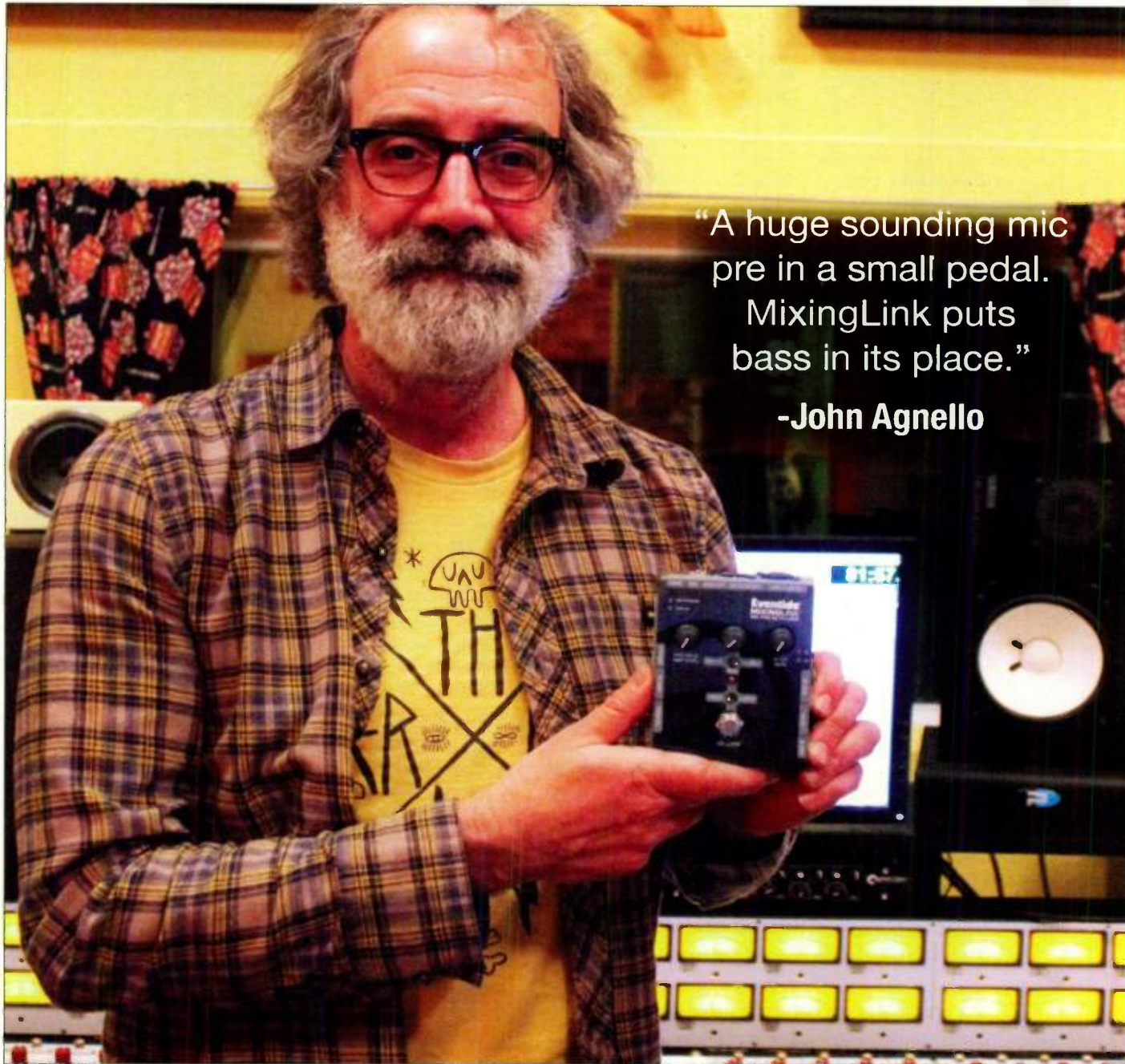
“Her monitoring comes from wedges, all d&b M4s and M2s below grills,” he added. “When she steps out to the further edge of the oval,

she gets enough from the room to pitch. That center cluster is extremely helpful in all the vocal elements. The SUBs, in that respect, are of no concern—a high pass filter takes care of that—but from the perspective of the music and levels of excitement into the crowd, they are critical. The combination of flown and floor subs—the J-INFRAs especially—fills the room with the kind of musicality I wanted, and fills it really evenly; it’s a well-defined sub array. The impact of the

live band coupled to her voice has a real impact; it’s also a lot of fun to mix. I’m just happy to be a part of this; SAVI and 3G did a great job, their intentions were clear and they used their time well. I’m really reaping the benefits of all the technology these guys put together.”

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ACT / STATISTICS	CREW	EQUIPMENT
1 ONE DIRECTION WIGWAM / EIGHTH DAY SOUND	Mark Littlewood (be); Ant Carr (me); Nick Mooney (cc); Edgardo "Verta" Vertanessian (se); Ali Viles (rf tech), Ralph Smart (patch); Vince Buller, Peter Mesaros, Chris DeLucien (techs)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b audiotechnik J Series, V Series; MS: d&b audiotechnik M2; IEM: Sennheiser 2000 Series; HA: d&b audiotechnik D80; MA: d&b audiotechnik D12; INTERCONNECTS: Radial JPC, Twin Isolators, Phazer; WIRELESS MICS: Shure UR Series
2 LUKE BRYAN CLAIR	Pete Healey (be/pm); Ed Janiszewski, Chris Holland (me); Kevin "Kap" Kapler (se); Tyson Clark (ase); JP Howell (tech)	HC: Midas XL-4; Avid Venue Profile; MC: DiGiCo SD7; HS: Clair i-5D, i-5, BT-218, CO-8; IEM: Shure PSM 1000 IEM; Sensaphonics, Westone, Ultimate Ears ear buds; HA: Clair StakRak; Lab.gruppen PLM 20000; HARDWIRED MICS: Shure 91, 98, 57, SM27, Beta98, Beta52; Radial DI; WIRELESS MICS: Shure; FOH EQUIPMENT: Focusrite ISA 430; Aphex 622; URIE LA-4; dbx 160x; Summit DCL-200; TC Electronic 2290, M5000, M3000; Eventide H3000; Yamaha SPX 90; MONITOR EQUIPMENT: Yamaha SPX-1000; Eventide Eclipse; TC Electronic M3000
3 JUSTIN TIMBERLAKE SOLOTECH	Andy Meyer (he); Dan Horton (me); Colin St-Jacques (cc); Etienne Lapr� (se); Francois Hall� (ae); Alexandre Bibeau, Eric Marchand, Matt Holden (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: L-Acoustic K1, Kara, SB28, V-Dosc, SB18, K1-SB, 108XT; IEM: Shure PSM 1000; HA: L-Acoustics LA8; HARDWIRED MICS: Shure SM57; Audio-Technica AE5400, ATM25; Rode; WIRELESS MICS: Shure Axient; Audio-Technica 5000 series, AEW-T6100; FOH EQUIPMENT: Waves; Bricasti M7; MONITOR EQUIPMENT: Bricasti M7; Eventide Eclipse; Radial SW8
4 BRUNO MARS CLAIR	Derek Brener (be); Lawrence "Filet" Mignogna (bme); Erik Rodstol (me/mtech); Randen Weinholtz (cc/se)	HC: DiGiCo SD7 with SD Racks; MC: DiGiCo SD7 with SD and Mini Racks; HS: Clair i-5, BT 218, i-micro; MS: Clair BT 218, BT 118; IEM: Sennheiser SK 2000, AC 3200 combiner; Clair antenna combiner, Helicals; HA: Lab.gruppen PLM 20000Q; MA: Lab.gruppen PLM 20000Q; HARDWIRED MICS: Earthworks KP1, SR30, SR 40, DP30/C; Beyers M88, Opus 88; Shure SM 57, Beta 57a, Beta 91, Sennheiser e 945, e 602, MKH 416; Heil PR 30; Radial JDI; Audio-Technica ATM25; WIRELESS MICS: Sennheiser SK 2000; FOH EQUIPMENT: Waves Mercury; MONITOR EQUIPMENT: Waves Mercury
5 JUAN GABRIEL 3GLP	Rodrigo (be); Julio Valdez (cc/se); Manny Perez (ae); Robert Valdez (pa tech); Jonathan Daly (m/af tech); Stephan Gauthier (stage tech)	HC: SSL Live; MC: DiGiCo SD10; HS: d&b audiotechnik J8, J 12, V8, V12, Q10, J Sub; MS: d&b audiotechnik M4, Q1; IEM: Shure PSM 900; HA: d&b audiotechnik D80; MA: d&b audiotechnik D80; HARDWIRED MICS: Shure; DPA; WIRELESS MICS: Shure UHF-R Handhelds, beltpacks; Professional Wireless DB-24 Distro; FOH EQUIPMENT: Dolby Lake; MONITOR EQUIPMENT: TC Electronic 6000; Shure E5
6 ROD STEWART / CARLOS SANTANA MAJOR TOM / SOUND IMAGE	Lars Brogaard (he-RS); Rob Mailman (be-CS); Sven Jorgensen, Mark Willett (me-RS); Brian Montgomery (me-CS); Michael Smeaton (se); Brian Thorene, Kasper Brogaard, Tristan Nilson-Hauer (ae-RS), Mark Leeper, Matt Anderson (techs-CS)	STEWART: HC: DiGiCo SD7; MC: DiGiCo SD7, SD5; HS: Meyer LEO, Lyon, UPA-1A, LFC-1100; MS: Meyer NJF-212; IEM: AKG; Sennheiser; HA: Meyer; MA: Meyer; HARDWIRED MICS: AKG; Neumann; Radial J48, PZ-DI; WIRELESS MICS: AKG SANTANA: HC: DiGiCo SD5; MC: SSL Live; MS: Sound Image MA212; IEM: Shure PSM 1000; MA: Crown I-T12000 HD; HARDWIRED MICS: Shure; Sennheiser; Audio-Technica; Radial J48; WIRELESS MICS: Shure KSM9; FOH EQUIPMENT: Waves SSL G Channel Strip Plug-In; dbx 160; Smart Research C2; Langevin ELOP; TC Electronic M5000
7 ELTON JOHN CLAIR	Matthew Herr (he); Alan Richardson (me); Cliff Downey (cc/se); Scott Megrath (tech); Simon Matthews (m tech)	HC: Yamaha PM5000; MC: Yamaha PM1D; HS: Clair i-5, i-5b, i-3, P-2, SLP; MS: Clair 12AM, 212AM; IEM: Sennheiser EK 2000; Shure P6HW; HA: Lab.gruppen; MA: Lab.gruppen; HARDWIRED MICS: AKG 460, C480B, 414/XLS; Audio-Technica AE6100, AE5400; Sennheiser MD-409, E-609; Shure SM57, Beta 58A, Beta 56A; WIRELESS MICS: Shure U4S; FOH EQUIPMENT: Clair iO; dbx 160; Bricasti M7; TC Electronic 2290; Lexicon 80L; Eventide Eclipse; Aphex 612; Sony D12; Tascam DA-40 MKII; Alesis ML-9600
8 PAUL MCCARTNEY CLAIR	Paul "Pab" Boothroyd (be); John "Grubby" Callis (me); Chris Nichols (se); Paul "Swanny" Swan (mse); Sean B... Nicole Wakefield, Brandon Allison (tech)	HC: Avid Venue Profile; Midas Pro9; MC: (2) Midas Heritage 3000; HS: Clair i-5D, i-5, i-5b, BT-218 subs, i-3, i-dl; MS: Clair SRM, ML-18, R-4 III; IEM: Shure PSM 600; HA: Lab.gruppen; MA: Crown; MICS: Shure UR series with Beta58a capsule; Radial J48; FOH EQUIPMENT: dbx 160SL; TC Electronic 6000; MONITOR EQUIPMENT: XTA GQ600b; Drawmer DS201; Yamaha SPX990
9 LADY GAGA EIGHTH DAY SOUND	Mike Hackman (he); Chris Rabold (be); Ramon Morales (me); Jim Allen (cc); Wayne Bacon (se); Dan Bluhm, Andy Dudash, Matt Strakis (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b Audiotechnik J8, J12, J Sub, B2, Q7, Q10, V8, V12; MS: d&b Audiotechnik V8, Q Sub, V Sub; IEM: Sennheiser; Shure; HA: d&b Audiotechnik D80; MA: d&b Audiotechnik D80; HARDWIRED MICS: Shure; Telefunken; Heil; Beyers; AKG; Earthworks; Radial ProD8; WIRELESS MICS: Sennheiser; Shure; FOH EQUIPMENT: Bricasti M7; Empirical Labs EL8, Lil Freq; Sonic Farm Creamliner; Radial SW8; TC Electronic System 6000
10 THE DAVE MATTHEWS BAND PROMEDIA/ULTRASOUND	Jeff Thomas (be); Ian Kuhn (me); Lonnie Quinn (ame); Joe Lawler (re); Tom Lyon (s tech); Greg Botimer (m tech); Ryan Cornelius (tech)	HC: Avid Venue Profile; MC: Avid Venue Profile, SC-48; HS: Meyer Sound Leo, Milo, Mica, LFC-1100, HP-700, MSL-4, CQ-2, UPJ-1P; MS: Meyer Sound MJF-212A, Fonz Foot Wedge, Clark Synthesis TST; IEM: Sensaphonics 3D, 2XS; Shure PSM 1000; MA: Crest 7001; Lab.gruppen fP2400; MICS: Neumann; Sennheiser; AKG; Shure; B&K; DPA; Crown; Electro-Voice; Audio-Technica; Earthworks; Radial JD-7, JD-I, JD-I 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 7.3 MONITOR EQUIPMENT: Apple Mac Pro; Avid Pro Tools 10 HD; PWS GX-8, Helical RHCP; X-keys XK-16; WinRadio WR-G305e

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

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

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ACT	SOUND CO	VENUE	CREW	EQUIPMENT
Joe	IRONMAN SOUND INDUSTRIES St. Louis, MO	CHAIFETZ ARENA St. Louis, MO	Bob Horner (he), Rusty Shaw (me), Nate Golomski (se)	HC: Yamaha CL5; MC: Yamaha CL5; HS: Martin Audio W8LC, W8LM, WSX, X12; MS: Martin Audio LE1500, WS218X, WS18X; HA: Lab.gruppen PLM; MA: Crown
Brea Jazz Fest 2014	TSC Brea, CA	BREA DOWNTOWN Brea, CA	Devin DeVore (he), Jeremy Griffin (he), Chris Monk (tech), Peter Engel (tech), Sean Burns (tech), Brandon West (tech)	HC: Yamaha QL5, QL1; MC: Yamaha QL5, QL1; HS: Nexo GeoS12; MS: JBL SRX712m; HA: Nexo, QSC; MA: QSC
Taste of Madison	INTELLASOUND PRODUCTIONS Madison, WI	CAPITOL SQUARE Madison, WI	Tim Woodworth (he), Bryan Schalburg (he), Aaron Kippley (he), Dec Dwyer (me), Caleb Reinert (me), Martin Potter (me), David Maier (se), Al Rominsky (tech), Matt Naselli (tech)	HC: Avid Venue Profile, SC48; MC: Midas Pro2, Avid Venue SC48, Yamaha M7CL; HS: Electro-Voice X-Line; MS: Electro-Voice Xw15A, Turbosound TFM300, Shure PSM 900; HA: Electro-Voice TG7; MA: Electro-Voice TG7, QSC PowerLight 2
Jim Weider's Project Percolator, The Main Squeeze, Quimby Mt. Band and more	SKYLANDS PROFESSIONAL AUDIO LLC Blairstown, NJ	HIGHLANDS FESTIVAL AT WATERLOO VILLAGE Stanhope, NJ	Mark Clifford (he), Alison Goessling (me), Marc McCarthy (se), Ian McCarthy (ae), James Bellando (tech), Nick Baughman (tech), Tony Baccola (tech)	HC: Allen & Heath iLive T112; MC: Allen & Heath iLive R72; HS: EAW KF730, LA400; MS: EAW LA212; HA: QSC PL380; MA: QSC PLD4.5
El Dorado MusicFest	SOLID ROCK AUDIO Conway, AR	UNION SQUARE El Dorado, AR	Mark Malone (he), John Petty (me), Lance Gipson (se)	HC: Midas Pro2; MC: Midas Pro2; HS: JBL VerTec VT4888; MS: Sennheiser G3 IEM; HA: Crown; MA: Crown
The Script, Daughtry, Colbie Caillat, American Authors, O.A.R., Others	AV VEGAS Las Vegas, NV	DESERT BREEZE PARK Las Vegas, NV	John Hansen (cc), Eric Christian (he, se), Richard O'Holleran (me), Chad Froberg (ae), Charles Brooks (pm), Wally Parris (backline), Alex Segura (tech), Sol Englehardt (tech)	HC: Yamaha CL5; MC: Avid Venue Profile; HS: JBL VTX S28, G28; MS: Radian MicroWedges, Electro-Voice QRx, JBL; HA: Crown iTech 12000HD; MA: Crown I-Tech 12000HD
Southside Johnny; The Irish Rovers	BOULEVARD PRO Ridgefield Park, NJ	PGA THE BARCLAYS RIDGEWOOD COUNTRY CLUB Paramus, NJ	Anthony Cloffi (he), Joe Prinzo (bhe), Bill Girdwood (bhe), Larry Sharkey (me), Vernon Perrone (me), Tom King (se), Ethan Wood (se), Daryl Moore (se)	HC: Yamaha CL5; MC: Yamaha CL5; HS: L-Acoustics Kara, SB18, BXT; MS: L-Acoustics 112P, Arcs, Shure PSM 1000 IEM; HA: L-Acoustics LA-RAK; MA: L-Acoustics LA-RAK
Defiance County Fair	SIGNATURE SOUND Napoleon, OH	DEFINACE COUNTY FAIRGROUNDS Hicksville, OH	Randy Mueller (he), John Pugsley (me, se), Jim Mears (pm), Pete Mendez (crew), Rod Biederstedt (crew)	HC: Allen & Heath ML4000; MC: Soundcraft Spirit Monitor 2; HS: dB Technologies DVA-T8, DVA-T12, DVA-S30N; MS: Yorkville E152
Rock Werchter Festival	PRG EML PRODUCTIONS Tildonk, Belgium	WERCHTER FESTIVAL SITE Werchter, Belgium	Patrick Demoustier (he), Maarten Mees (me), Jan Derijcke (se), Kristof Desodt (ae)	HC: Midas XL-4; MC: Midas Heritage 3000; HS: Adamson Energia E-15; MS: EML EMW, Sennheiser 2000 IEM; HA: Lab.gruppen; MA: Crest
Fair St. Louis	LOGIC SYSTEMS St. Louis, MO	FOREST PARK St. Louis, MO	Joe Shambro (he), Brian Bird (he), Michael McCuddy (me), Andrew Hardee (me), Ziggy Stull (se), Mike "Chef" Stewart (tech), Alan "Odie" Bonk (tech)	HC: Avid Venue Profile; MC: Yamaha PM5D; HS: Nexo GeoT, CD18, RS18; MS: Logic LS152, Shure PSM 900; HA: Camco; MA: QSC PL236a
Richie Palooza	MASTERMIND PRODUCTION GROUP INC. Orange, CA	THE GARDENS AT LOS ROBELS Thousand Oaks, CA	Chad Griswold (he), Mark Montgomery (me), Randy Sinner (tech)	HC: Yamaha CL5; MC: Yamaha CL5; HS: JBL VT4886, VT4883, SRX728S; MS: JBL SRX712M, Shure PSM 900; HA: Crown I-Tech 4x3500HD; MA: Crown I-Tech 4x3500HD
Latin American Festival/ Bomba Estereo	DB SOUND OF CHARLOTTE Charlotte, NC	SYMPHONY PARK Charlotte, NC	Kenny Shouse (he), Rodrigo Ramirez (me), Dave Barker (se), Matt Barker (tech)	HC: Avid Venue SC48; MC: Yamaha M7CL-48; HS: VTC EL210, Danley TH115; MS: JBL SRX712, Sennheiser G3; HA: QSC; MA: QSC
NC State Fair	RMB AUDIO Raleigh, NC	DORTON ARENA Raleigh, NC	Robert Weddings (me), Roger Dennis (se), Matt Johnson (tech), Rick Null (tech), Cooper Cannady (tech), Cam Cannady (tech), Thomas Dameron (tech)	HC: Avid Venue Profile; MC: Avid Venue Profile; HS: Martin Audio MLA Compact, DSX, W8LMD; MS: Martin Audio LE1200, WT3, WS218X, WS18X, Sennheiser EW300 G3, Shure P6HW600; HA: Martin Audio, Lab.gruppen; MA: Lab.gruppen
Nathan Dean and That Damn Band	PAT HOFFMAN AV Mesa, AZ	ST. FRANCIS XAVIAR SCHOOL Mesa, AZ	Patrick Hoffman (he)	HC: Allen & Heath GL 2400; HS: JBL, Cerwin-Vega; MS: JBL; HA: QSC RMX; MA: QSC RMX
Chipotle Cultivate Dallas Festival 2014	CROSSROADS AUDIO Dallas, TX	LAKE CAROLYN Las Colinas, TX	Chris Williams (he), Alan Stiebing (he), "Moose" Vanlerberghe (me), James Magruder (me), Ed Spoto (se), Derek Williams (be), Michael Larcey (be), Logan Hughes (tech)	HC: Avid Venue MixRack, Profile, Yamaha LS9; MC: Avid Venue MixRack, Profile; HS: Meyer Mica, M'elodie, Mina, UPQ-1P, UPJ-1P, 700-HP, 600-HP; MS: JBL VP7212MDP, VRX915M, SRX712M, Sennheiser G3; MA: QSC, Crown

LEGEND: (he) house engineer. (be) band's house engineer. (me) monitor engineer. (bme) band's monitor engineer. (se) systems engineer. (ae) asst. engineer. (tech) technician. HC: house console. MC: monitor console. HS: house speakers. MS: monitor speakers. HA: house amplifiers. MA: monitor amplifiers.

To be included in Soundcheck, fax, mail or email a current, typed list of acts, venues, personnel and equipment each following the above format. E-mail is strongly preferred. E-mail to kwelch@nbmedia.com, fax: (212) 378-0470, or send to: Soundcheck, Pro Sound News, 28 E 28th Street, 12th Floor, New York, NY 10016.

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 UNIVERSAL AUDIO

Against Me

(continued from page 40)

so I'm doing everything the console can do and so far, it hasn't flinched." Clair not only supplied him with the Avid; it built him a special case for it as well: "Everything's kind of done—I lift it up and it's pretty much ready to go. I saves me a lot of time, which is great since I'm tour manager as well."

Handling three desks' worth of mixing on the S3L was a tidy arrangement, as the band was mostly playing clubs, using venue-supplied wedges; in Club Revolution's case, that meant JBL 15-inch two-ways and double 15-inch sidefills, along with a power 18-inch sub and powered 12-inch two-way for the drum monitors. All that led to Hudson creating that second monitor layer on the S3L and driving the house wedges with the resultant mixes.

Club Revolution uses Sennheiser and Shure as its house microphones, which fit well with Hudson's penchant for Sennheisers, such as the e935s used for all the band's vocals. "They seem a little more hi-fidelity and they're relatively controllable on the monitors," he said. Hudson tends to get crafty with his mic setup, especially with the Beyer M-260 Ribbon that he uses for the drums. Initially using it just for recording, Hudson began adding it into the band's live sound to bring more heft to the drums, placing it strategically between all four drum shells. "It's a hypercardioid," Hudson explains, "which is nice because it doesn't get a lot of the cymbals above it; it zeroes right in on the shells."

Grabbing the band's guitar sound live, he pairs a mic with a Palmer DI off the cabinet: "I do one guitar player's DI left and his mic to the right, and the other guitar player is the opposite. The way that works out is that if someone in the crowd is standing toward the left side, they're hearing the DI from one guitar player and mic from the other guitar player. Since it's a DI, the sensation is that it's a little closer to you, so the other guitar player is a little bit more back, and the levels are separated sonically, and if you're in the center, you get a nice little spread because of that time delay."

Hudson's overhead miking prac-



The Avid S3L system at the heart of the Against Me mix position.

tices have been known to turn a few heads, too. "House guys always end up asking about the way I run my overheads, which is actually as underheads. That started years ago when Against Me was doing smaller shows in Europe and they would allow the crowd to get up on stage; my overhead stands would get knocked over a lot by rowdy crowds," he recalled. "I had to start clamping down everything I could—basically I did everything except for vocals. I did a few recordings that way to hear the results and see how well it worked to have the mics clamped on. The distance from the cymbals is the same as it would be with the overhead, so the sound is almost exactly the same, it has a clean look on stage, and during festivals, if you have to do a quick change, the mics are already on stands so you just have to slide them over. It saves some time and doesn't sound any different—still sounds great."

That careful miking resulted in a great punk rock show at Revolution. Against Me sounded solid

coming from the club's Crown and QSC-powered house system, a mix of Smith Audio 1230 three-ways and JBL 18-inch subs. While audience members jumped on- and off-stage throughout the show, the band maintained its sonic force—all in all, a far cry from a night in Eastern Europe on a tour years ago where Hudson wound up literally holding everything together: "The sound system is a little 4-channel mixer and one, maybe two speakers," he reminisced. "The FOH position is on the side of the stage, and the second the first song starts, the whole crowd's on the stage. The band crowds around the drummer, mic stands crowded against the drum kit, so they're held up. The whole show is like that and I've got one arm wrapped around the vocal cabinet, just trying to keep vocals running. And it was awesome! I had no problem with that—those shows were amazing, but it was definitely a different end of the spectrum."

Against Me
Againstme.net

Culture Console

NEW YORK, NY—New Wave staple Culture Club is reuniting for a series of shows throughout the U.S. this month, to be followed by a multi-arena tour in the United Kingdom. At the FOH position is the band's longtime engineer, Jimmy Sarikas, who recently purchased a Soundcraft Vi3000 console from Harman.

For the Culture Club shows, Sarikas is running 53 channels to accommodate the multiple vocals and diverse instrumentation on stage, which includes two piano players,



Jimmy Sarikas recently used his Soundcraft Vi3000 console for a private Culture Club performance at the Heaven nightclub in London.

several guitars, a brass section and a variety of percussion. He's also utilizing the Soundcraft Realtime Rack, a 1RU box that features a library of Universal Audio plug-ins.

"I'm loving the Dante connectiv-

ity because I record 64 channels in and 64 channels out for virtual sound checks as well as my multi-track recordings," he noted. "I'm working with two machines for that [Mac Minis with SSD hard drives]. Both computers fit in a 1RU rack located in the flight case of the Vi3000: one is my recording device and the other is the Realtime Rack." The computer with the Realtime Rack software also records a redundant 64 channels of multi-track audio via the secondary Dante output. The two screens also slide into compartments in the case."

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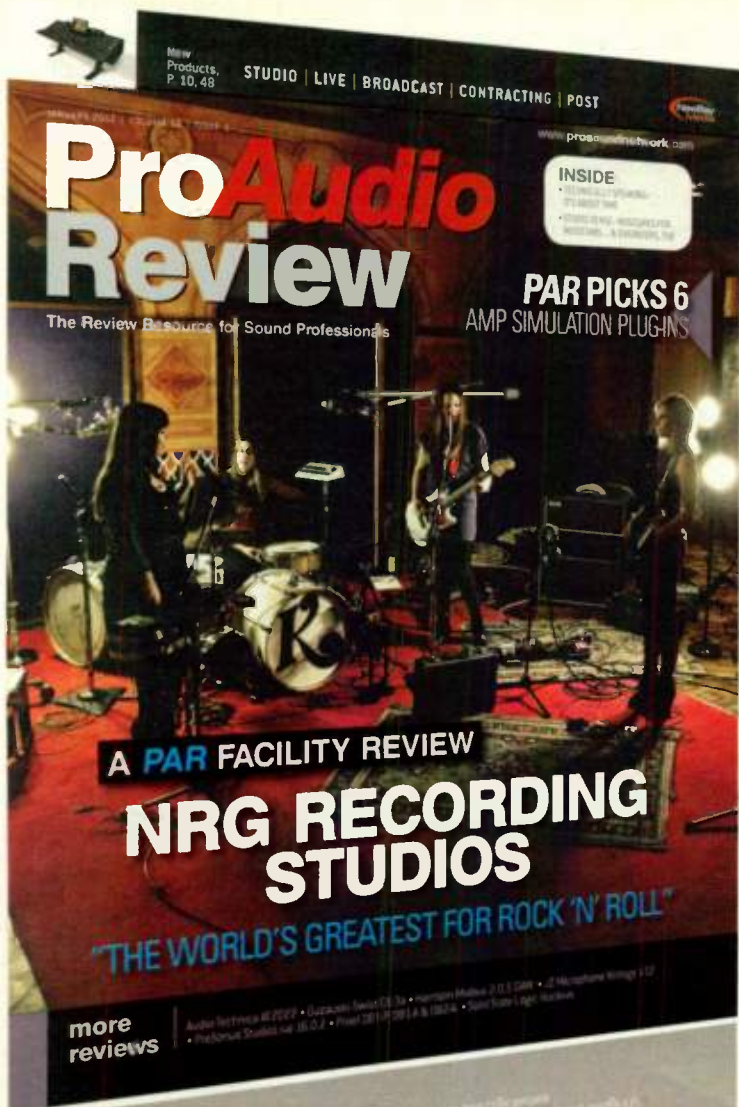
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Pierpaolo Marziali

Eighteen Sound SRI of Reggio Emilia, Italy has named **Pierpaolo Marziali** CEO. Marziali brings with him extensive experience in corporate business development as well as finance, gained when he worked at Landi Renzo S.p.A., the corporate headquarters. Throughout the past 12 months, Marziali has been working closely with Antonia Fiaccadori, the previous CEO, and Eighteen Sound management, on growth strategies and a five-year business plan.

“At Eighteen Sound, I found a challenging environment, with very skilled and passionate colleagues. Antonia did a great job preparing all of the elements that a company in this high-end sector needs to innovate, develop and market professional audio transducers with exceptional performance.”

“I am extremely pleased that Pierpaolo has joined Eighteen Sound to take over the CEO leadership role at this important growth point of the company,” said Fiaccadori, who will remain in Eighteen Sound Board of Directors as president. “His work through the past 12 months in the company, coupled with his broad base of experience and understanding, will be essential to our forward momentum and accelerated expansion.”

Marziali holds a Masters degree in Finance from Alma Graduate School in Bologna, Italy, and has been a member of the Landi Renzo Group since 2008.



Kiley Henner

Biamp Systems has promoted **Kiley Henner** to director of Customer Experience, where he will oversee the company’s applications engineering, training/education and customer service departments as Biamp expands its focus on providing a strong customer experience and satisfaction.

“The customer experience has always been paramount to Biamp as we work to support our clients’ success in their ongoing endeavors,” said executive vice president of operations for Biamp, Matt Czyzewski. “One of Kiley’s many strengths is his commitment to clients, as well as to the applications engineering and training departments he leads. This expanded responsibility is a natural fit as he works to make us an even stronger partner for our customers.”



Wally Cain

Middle Atlantic Products has named **Wally Cain** director of Sales Support, where he will oversee and manage the Customer Support, Technical Support, Inside Sales, Residential Support and Design Services departments. Prior to joining Middle Atlantic, Cain spent nearly 10 years at Lastar’s Cables to Go (C2G), which became part of Legrand North America earlier this year. At C2G, Cain most recently served as manager of Customer and Technical Support and Product Manager, Inside Sales Manager and Account Manager prior to that. His educational background includes a BS in Organizational Leadership from Wright State University.

“Wally brings a wealth of experience in Customer and Tech Support, Inside Sales and Product Management in the A/V industry. He’s had a highly positive influence as a key member of the management team at C2G,” said Dan Tarkoff, Middle Atlantic vice president of Sales. “We are excited at the prospect of having Wally guide our Customer Support and Inside Sales teams to a new period of significant and sustained growth as we continue our promise of providing the highest level of support to our customers.”



Tarik Solangi

RCF USA has named **Tarik Solangi** manager, Live Sound and Product Tech Support, joining the company full-time after providing live sound technical support on a contract service basis. Solangi has owned a production company and recording studio for more than 21 years, and has worked with a variety of national acts and regional touring bands. With his work in the studio, he has over 500 album credits as a recording engineer. His role with RCF USA will be to assist partners with design and implementation of touring sound, club systems and performing arts installations. In addition, he will be available to RCF USA partners for product support and system troubleshooting.

Balanced Audio Technology (BAT) has appointed **Steve Shade** to director of International Sales, where he will be responsible for all aspects of sales and business activities with international distributors and dealers outside the U.S. and Canada. Shade brings varied



Steve Shade

international sales and retail experience to Balanced Audio Technology. He most recently held positions as vice president of International Sales and vice president of Asia Pacific Sales for AudioQuest, where he lived in Hong Kong and Singapore. Shade was instrumental in developing an Asia office and warehouse to support distributors in the region, creating a direct sales force and overseeing year-on-year sales growth. He previously worked in specialty audio retail sales and as a golf teaching professional in Singapore. He is a graduate of the University of Kansas and has residences in Aliso Viejo, California and Singapore.

“Steve has first-hand knowledge of the entire sales chain from manufacturer to distributor and from the retailer to the customer, and will be a key component of our long-term global business plan as we enter our 20th anniversary in 2015,” said Jim Davis, owner of Balanced Audio Technology.



Paul Dolynchuk

Middle Atlantic Products has appointed **Paul Dolynchuk** to senior product manager, Infrastructure, where he will be responsible for the category’s long-term sales strategy and optimization of profitability and growth. Prior to joining Middle Atlantic, Dolynchuk served as a marketing director at Pitney Bowes and has held marketing, sales and finance positions at OfficeMax and Boise Cascade. He has a BBA in Management/Pre-Law from Ohio University and an MBA in Marketing/Finance from the Kelley School of Business at Indiana University.

“Paul is an innovative business leader who has demonstrated his ability to deliver multimillion-dollar growth strategies for respected brands through the introduction of innovative products and strategic marketing campaigns. His leadership, business analysis and passion for the customer make him a natural fit for the Middle Atlantic team.”

Middle Atlantic Products has also appointed **Marco Colindres** as Regional Sales Manager for the Western Region. Colindres’ territory includes the Pacific Northwest, Northern California, Northern Nevada, and the Rocky Mountains (Wyoming,

Montana, Colorado, Utah and New Mexico) for all market segments. With extensive sales and marketing experience in the CE, Colindres held several key positions at CORE Brands, including ecommerce sales manager, national sales training manager and special products marketing manager prior to joining Middle Atlantic. Colindres also served as national sales manager and product area manager-Cable for Monster Products and headed up his own sales rep firm, Pride of Hawaii Sales Group in Honolulu. His educational background includes an MBA in Business Administration from San Francisco State and a BS in Business Administration Marketing from the University of San Francisco.



John McMahon

Meyer Sound has appointed **John McMahon** to the newly created position of vice president of Solutions and Strategy. Working closely with CEO John Meyer and executive vice president Helen Meyer, McMahon will oversee the broad-based strategic planning for new products, product management and multi-product solutions across various vertical markets. McMahon’s new Solutions and Strategy Division aligns product management, design services, technical support and education under one umbrella with a goal of creating a common understanding of strategic initiatives amongst Meyer Sound’s technical and customer support teams. In addition, McMahon will continue to spearhead the digital product concept group in accelerating new digital solutions into the market.

McMahon has been part of Meyer Sound’s executive team since 2008. A Canadian citizen, McMahon joined Meyer Sound in 2005 during the acquisition of Level Control Systems (LCS Audio), where he served as CEO.

Music Group has named **Karan Kathuria** to the post of senior manager, Professional Division for Asia Pacific, a territory that includes the business segments of China and India. Kathuria will report to Graham Rowlands, who heads Global Sales for the Professional Division. In his new role, Kathuria will be responsible for growing Music Group’s Professional Division brands Midas, Klark Teknik and Turbosound, as well as taking an active role in managing the distribution networks across multiple countries in the APAC region.

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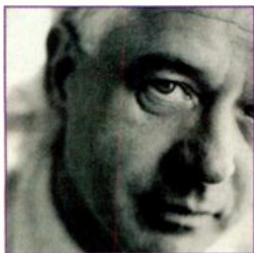
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GABRIELA KÖNIG

BY KELLEIGH WELCH

Since its establishment in 1949, the German company König & Meyer has been a key player in pro audio's accessory market, producing microphone and loudspeaker stands for a variety of products. Following in her family's footsteps is the granddaughter of company founder Karl König, CEO Gabriela König, who since 2005 has brought the company into new markets, introducing multimedia items for iPads and tablets, as well as maintaining standards for the more traditional products that have long been staples of K&M's offerings.

"I started working in the company in 1996 in Marketing and Sales," explained Gabriela König. "As a member of the König family, I am committed to continue the work my grandfather had started and which my father expanded."

König studied economics and engineering, which she said helps with her decision making as CEO: "I can better evaluate and judge certain issues or find solutions to various questions. One of my passions is marketing, and in the past few years, we have worked on new corporate designs and a new image campaign, updated website, advertising, trade shows, new innovative products, direct marketing activities, POS and more," König said.

K&M has an extensive catalogue of products, from mic stands to speaker stands to racks and accessories for 19-inch rack-mounted gear, which creates a challenge when it comes to educating dealers about

said. "An enjoyable and rewarding challenge continues to be capitalizing on the different skill sets within the company, formulating the best teams accordingly, and subsequently implementing the best strategies. My favorite aspect of the job is meeting customers face-to-face at trade shows or in their own environments, which enables me to get a good picture of the complete industry."

In more recent years, as use of iPads and tablets has increased, K&M has developed a series of accessories for this market. "Our iPad stands deliver seriously durable options with which our evolving industry can rely upon. I'm proud we can offer a five-year warranty (although our stands tend to last much longer), along with a 10-year parts replacement program to support our customers."

Based in Wertheim, Germany, the company still remains a family-run organization, and every product is



Gabriela König

K&M's overall mission is to "produce high quality, innovative, environmentally friendly products so that all musicians can concentrate on the essentials—their music," König explained. The philosophy of König & Meyer is simple, aiming to keep a consistent focus on employees to make sure customers are assured quality products and customer service. "We also have had a decades-long commitment to the environment, both as it relates to the outer world as well as our personal business environment," König explained.

K&M's biggest market lies with touring, sound and corporate events,

their jobs easier," König said.

König said her long-term goal as CEO is to keep K&M a "Made in Germany" production. "The big advantages of our production facilities in Wertheim are the infrastructure and our skilled and dedicated workers here," she said. "To keep costs down in the manufacturing process, we will continue to invest in new state-of-the-art technologies. The more that customers demand quality, the better match our products are, but we do understand the need to expand our message to a younger audience who may not be familiar with our 65-year-old brand, as well as continuing to focus on product innovations."

The company's commitment to manufacturing in Germany also illustrates how it deals with competition, since many companies have moved production to China, said König, which she felt in turn affected the quality of those competitors' products. "Quality and design are paramount to the company culture; K&M is top shelf in lasting quality," she said.

Looking to the future, König said she is always taking the suggestions of customers and tries to apply them to the design of new products: "Every year, there are new products coming to the market. We also look at how we can improve current models when we find new manufacturing techniques that enable us to elevate the quality of the manufacturing process."

König & Meyer
www.k-m.de

"An enjoyable and rewarding challenge continues to be capitalizing on the different skill sets within the company, formulating the best teams accordingly and subsequently implementing the best strategies. My favorite aspect of the job is meeting customers face-to-face at trade shows or in their own environments, which enables me to get a good picture of the complete industry."

Gabriela König

everything the company offers. While K&M is known for creating the standard 21090 microphone stand and the self-expanding mandrel, its entire catalog expands into other areas, including tablet technology.

"Many people still don't know the full inventory we offer since it covers so many different categories," König

produced in house. Currently, K&M employs 270 people, with König running the company as CEO and Martin König as President. K&M's U.S. distributor is East Northport, NY-based Connolly Music Company, which oversees 16 sales territories of Pro Audio Reps throughout the United States.

while the installation market is growing. "K&M has expanded this segment with new wall mounts and other audio/visual products. The install/integration segment continues to grow nicely as well, and even though fewer stands are used in these jobs, we have many 'problem solvers' that the integrators like because it makes

Tozzoli

(continued from page 28)

Beatles and on Pink Floyd's *Dark Side Of The Moon* and *Wish You Were Here*. The plug-in itself covers all the options through each incarnation of the desk, MK 1 up to the MI IV. The video tutorial (which is over 41 minutes long!) then takes you through the entire signal path and individual sections of the plug-in.

The layout is quite straightforward, depending if you are running mono or stereo. The Input section is on the left, followed by the Dynamics. In the middle is the Routing, then the EQ. On the right is the Output section along with the meters. The Input features -24 dB to 24 dB of gain, and the Dynamics Mode allows you to choose between Out, Compressor (2:1) and Limiter (7:1). The Hold knob is interesting in that it sets a constant DC voltage for the sidechain that feeds the VCA, Recovery sets the release time (six options from 100 ms to 5 s), and SC-HP applies a high pass filter on the sidechain at around 90 Hz. Mix is a blend control between compressed and uncompressed.

Routing allows you to change

the order of the signal flow, with EQ first, then Dynamics, then Presence; Dynamics first, then EQ, then Presence; or EQ first, then Presence, then Dynamics. EQ features a fixed bell Boost at 5 kHz, a Cut fixed at 10 kHz, and Presence—a bell filter controlling the center frequency of the presence filter, which has a range from 500 Hz to 10 kHz. The Presence knob boost or cuts the presence filter 10 dB. Bass is a low shelf filter fixed at 50 Hz and EQ Bypass bypasses the entire EQ section.

The (Stereo) Master section features Phase On/Off and a Channel Selector for Mono, Stereo or L/R (choose between the two different modeled channels), Drive, Noise, Spread which controls the balance between the mid and sides by changing only the sides, Monitor which selects the source of the monitor output from Left, Mono, Stereo and Right, and Output which features gain after processing (-48 dB to 24 dB). The VU Meter displays input, output or gain reduction levels and the Peak Meter displays signal peak output level.

I put it right to use on distorted electric guitars, on a Sennheiser MD 421 track. Turning first to the EQ, I set the Presence to 4.2 kHz and

pushed up the Presence knob. Hello! I then turned the Treble up a bit and cut the Bass, and had me one nasty-ass guitar sound. Pushing it farther, I put the Comp in, and experimented with the Hold. As you push it up higher, it seems to "find" the compression, and thicken the overall sound a bit—while reducing the gain. I pushed up the fader a few dB, and set the Recovery to 4, which acted quick enough to make the compression actually work on the track. I then pulled the Mix back a bit to around 60 percent, and it was worthy of a preset save.

Experimenting further with the Routing, I found—for this sound—the EQ>Dyn>Pres to work best, giving the sound the most air while retaining the thickness. On further testing, it's a case-by-case basis as to what works for each situation, but it's a great sonic option to have.

Next, I put the plug-in on a kick drum, and went into the useful presets folder. I loaded Big Kick; it was just that—big, thick and nasty, but a bit overcompressed, which was easily rectified with the Mix knob. In the mix itself, which was quite dense, I was even more impressed. It had tick enough to punch it through, and thump enough to push the bass. The

preset features compression with the Limiter and Dyn>EQ>Presence routing. The 10 kHz Treble was up to +6, but the 0.5 kHz Presence was cut -10 dB, with the Bass up at +6. It was a great place to start, and showed once again how presets can teach. On bass, I had to work harder to get a good sound, trying different combinations of Hold, Mix, Presence and Drive. I tried Drive on a variety of sources, and it's a little crunchy for my taste, so I didn't use it much. But hey, if this thing helped make that McCartney bass sound, what do I know?

I also tried it on the master bus, testing the Spread feature. You can actually hear it sound like it's getting wider by pushing it up, but what it's doing—to my ears—is pulling some of the thickness out between the sides and the middle. But what I really liked on the stereo mix was adding a tiny bit of 10 kHz Presence, which gave it the air I was looking for.

The Abbey Road TG12345 can give deliver a slice of the old school, but in a cool modern way. My personal favorite use was on guitars and it's a piece I've already worked into my production routine.

Waves
waves.com

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Reemergence of the Violin

BY JACQUES SONYIEUX

Grammy-winning violinist, composer and educator Mark O'Connor released his new album *MOC4* in June, part of his lifelong mission of bringing the violin and other stringed instruments back to the prominence in our culture they once enjoyed. O'Connor has been a huge influence on string players of all ages both in the U.S. and abroad.

MOC4 showcases O'Connor playing an incredibly diverse collection of music alongside many of the people he has mentored over the years, including Bela Fleck and My Morning Jacket-collaborator Jeremy Kittel, Ahn Trio member Angella Ahn and 2013 *Downbeat* magazine's "Rising Star," Sara Caswell. Over the 40 years he has been a recording artist, O'Connor has learned a thing or two about recording the violin. *Pro Sound News* took a moment to speak to O'Connor amidst his busy touring schedule.

ON 'BRINGING BACK THE VIOLIN':

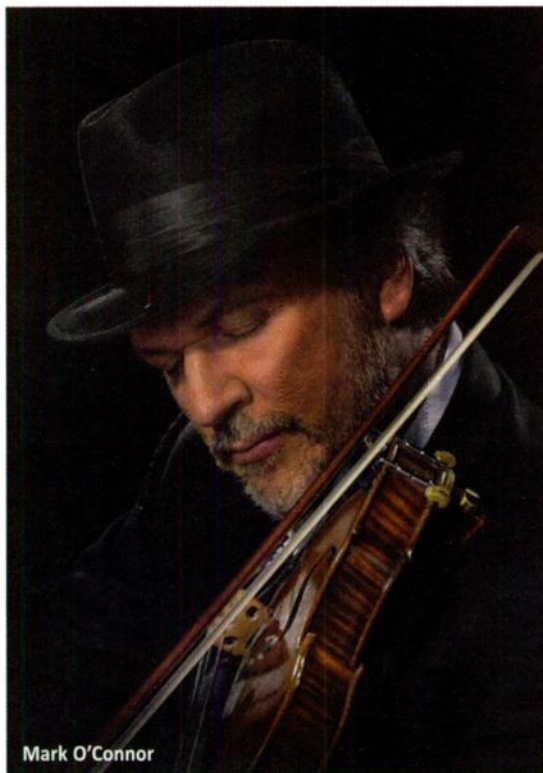
Historically, the violin has been a great instrument and very important in both European and Early American music culture from the beginning. It was the first instrument that the blues was played on—from the voice to the instrument. Also, it was an everyday instrument that both the

elite and the masses played and enjoyed.

I want the violin to be in the center of music again. I am of the strong belief that the single reason the violin has dropped in popularity in our culture over the last 50 years is because of the way it has been taught. It has been taught in a way that is very limiting to musicianship, creativity and improvisation. Other instruments being taught in our culture, such as guitar, keyboards, percussion and voice, all create a 'musician pool' that is able to contribute to our culture.

ON CHOOSING MATERIAL:

The album is a direct result of my new book, *O'Connor Method Book IV*, which was created as a lesson plan for the advanced student. My belief is that people should learn how to play the blues, a spiritual or a hoe-



Mark O'Connor

PHOTO CREDIT: MITCH WEISS

the performance of others.

ON MICROPHONES:

I chose the studio right near 54th in Manhattan, Sean Swinney Recording. What you are hearing on *MOC4* from the violin perspective is an old 1953 Neumann M 49. I also used my original *Heroes* album 20 years ago where I played alongside my mentors. That is one of the things that is so neat about *MOC 4* is that I am turning the tables and playing with people that I mentored.

I usually place the M 49s about three feet out. When I do solos, I place them in a stereo configuration. We usually mic up the room as well, and for this we will use the AKG C12s or C24s. The AKGs are also used on accompany instruments, such as the piano or the

guitars. In both of these applications, we used the C12s. I've been using this set of mics for a long time, and anytime I deviate away from this and hear an album where I've tried something else, I'll always grit my teeth and wonder why I switched.

ON REVERBS AND HALLS:

If I had the budget of a lifetime every time I recorded, I wouldn't record in a studio—I would record in a concert hall. But of course you have to balance studio quality versus convenience, timing and all of that. The reverb unit I use is called a Bricasti Design N7 Stereo Reverb Processor. This reverb captures samples of various concert halls that I've played in. For example, it has the very best concert hall I have recorded in, called Mechanics Hall, in Worcester, MA. I recorded three major albums there—including the *Appalachian Journey*, which won a Grammy, and it is by far the best sound I have ever gotten on my violin.

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: jacquesso-nyieux@gmail.com.

ON 'SOLO PRODUCING':

I produced *MC04*, and have been producing my own albums for a long time. For some projects, I will bring in another set of ears and co-produce; for example when I am working with orchestras where we are on the clock or when we may not have much time in the studio. As for myself, I am confident producing something straight from the studio floor while I am playing, and am able to concentrate on the performance while hearing every single mistake of my other players. I'm able to consider my performance and at the very same time consider



THERE'S MORE ▶ Hear Mark O'Connor rip through his rendition of "La Bamba" at prosoundnetwork.com/nov2014.

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