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Review

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November 2015

STATE OF THE INDUSTRY

RECORDING

BY STROTHER BULLINS

The business of choosing a DAW today is really akin to the old Nike slogan, "Just do it." Pro Tools, the standard, currently ranges from free to affordable subscription-based pro-grade plans. No longer does a working engineer's DAW rig need to cost more than a working engineer's car (and it's only debatable whether its plug-ins should).

Not everyone, and likely not even a majority of pros in the near future, would move from industry-standard PT to a competitor, though more competitors than ever thrive with products bearing striking, comfortable resemblances to PT if not employing outright simpler methods of producing recorded

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SOUND REINFORCEMENT

BY CLIVE YOUNG

Last year was a winner for the concert industry, raking in an all-time high of \$6.2 billion in North America, according to Pollstar, and at the time, all signs pointed towards 2015 following in those lofty footsteps. As we head into the home stretch of the year, that prediction likely remains true. In fact, it might even be modest, because 2014 didn't have the likes of The Rolling Stones, Kenny Chesney, Foo Fighters, AC/DC and the omnipres-

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POST/BROADCAST

BY STEVE HARVEY

We're occasionally shocked when a major audio post house or recording studio goes out of business, especially one that has been around for many years. But the fact is, of course, that facilities fail, are acquired or merge with other companies with some regularity.

The permanent shuttering of audio post production powerhouse Todd-

(continued on page 54)

NOLA Museum Mints Music

The U.S. Mint Museum in New Orleans sports its own studio which both records live events in the facility's live space, and digitally transfers archive recordings from the region, too.



Audio Team Conquers Everest

The sound pros behind the new hit movie discuss re-creating one of the deadliest blizzards ever on the famed mountain—and why they had to ADR 95 percent of their film.



TOWER RECKONING—The glory days of Tower Records were back for one night only at the Los Angeles premiere party for *All Things Must Pass*, actor Colin Hanks' feature documentary about the now-defunct music chain. Tower's former Sunset Strip location—saved from demolition by Gibson Brands, which is renovating the site to create its own flagship store—hosted the shindig, complete with a concert by Eagles of Death Metal, which performed through a PA from Gibson's Cerwin-Vega brand. For more on the event, visit prosoundnetwork.com/nov2015.



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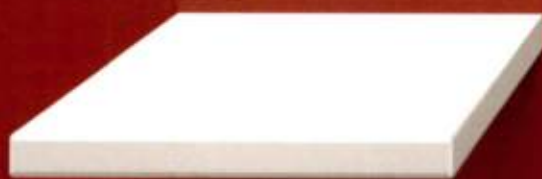


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Community Sells Majority Stake

BY CLIVE YOUNG

CHESTER, PA—Belgium-based Audioprof Group has purchased a majority stake in Community Professional Loudspeakers. Long a fixture of the U.S. pro audio market, Community manufactures speaker systems for indoor and outdoor installations, ranging from stadiums to houses of worship and more.

Audioprof's other major holding is Apart Audio, but the two manufacturers will remain separate. Community CEO Steve Johnson told *Pro Sound News*, "We'll talk and certainly try to increase the knowledge base of both sides, but at the end of the day, especially from the channel perspective and our customers' perspective, we'll continue to be very independent companies. Our brands will continue to respect the DNA of what got us here in the first place."

Community was founded in 1968 by Bruce Howze, and moved to its

present 100,000-square-foot location in Chester, Pennsylvania, in 1981. No changes to that arrangement are expected—Bruce Howze will continue with the company as a shareholder, president and R&D director, and likewise, Christine Howze will continue as vice president and general manager. Johnson explained, "That's the beauty of it. It really doesn't change the situation for our employees; we'll stay in Chester for the foreseeable future, we'll continue to manufacture here and also we have a contract manufacturer in China that we'll continue to work with. I don't think that there'll be a change felt by anyone outside of the company, other than the knowledge that there's continuity in this brand that they've known and trusted for many years—but inside the company, we get to know there's a path to the future that's assured."

Audioprof Group International is a holding company that has owned a majority stake in Apart Audio since 2009. Apart, founded in 1992, is a European-based loudspeaker and au-

dio electronics manufacturer which deals in the small- and medium-sized commercial fixed installation marketplace. While Community picks up where Apart leaves off, mostly dealing with mid-sized to large-scale installations, Johnson noted specifically, "This is not going to be a merger or integration of two brands. We're two separate brands and two separate companies, but being under the same brand portfolio is really exciting. It strengthens both of us and now we'll have an opportunity to address even more installed sound applications across the globe."

Community will continue to chart its own course as it edges towards its 50th anniversary in three years, but meanwhile, selling the stake to Audioprof fulfills a major goal—to map out the manufacturer's future. "Most of us have worked at companies where it wasn't really clear what would happen when certain people were no longer there for whatever reason," said Johnson, "and we don't have to worry about that now. We

have a solid foundation—the Audioprof people are genuinely good people, they're smart, they've been successful with the Apart brand—and I'm trusting that we'll be successful in the same way with the Community brand. This is the opportunity, bringing on a partner, to know that everything we do is going to have the financial backing and the strength that comes with that."

The move could be seen as part of laying the foundation for the company's next stage; Johnson noted that "impressive new engineering talent" had joined Community in recent times as well. Johnson reported that the new presence of Audioprof was greeted with excitement within the company, too: "We made our announcement today to staff, and you could see the enthusiasm. The people who really think about these things, this gave them a feeling that this is good—we're going to good places and we're all along for the same ride." Community Professional Loudspeakers www.communitypro.com

Audioprof Group International NV
www.audioprofgroupinternational.com

briefs

Yamaha, Harrison, Steinberg Team

NEW YORK, NY—Yamaha (yamaha.com), its wholly owned subsidiary Steinberg Media Technologies (steinberg.net) and Harrison Audio (harrisonconsoles.com) have announced a strategic alliance aiming to provide fully integrated solutions for improving immersive film sound workflow productivity.

Tracktion Acquires 2JW

SEATTLE, WA—DAW developer Tracktion (tracktion.com) has acquired Seattle-based, audio hardware manufacturer, 2JW Design, which will focus on the design and manufacture of limited-run recording products that will be built in the U.S. The first of these products, a high-end computer interface called Copper Reference, is due in 2016.

Spectra Sonics Returns

FERNDAL, MI—M1 Distribution has announced that pro audio manufacturer Spectra Sonics, best known for its creation of the 610 Complimenter in 1969, is back in business. The two companies have given a one-year period of U.S. exclusivity for the 610 and V610 to Vintage King Audio (vintageking.com).

Avatar Up For Sale

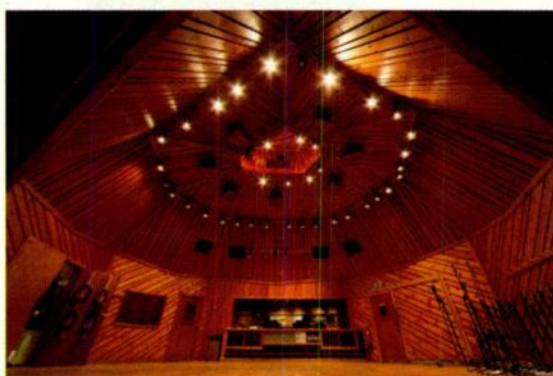
BY CLIVE YOUNG

NEW YORK, NY—A legendary studio by any measure, New York's Avatar Studios has gone up for sale. One of the last surviving big recording facilities in Manhattan, the studio was founded in 1977 when industry legend Tony Bongiovi bought a failed TV soundstage—its former ConEd power plant—and converted it into a recording facility, christening it The Power Station. Since then, more than 400 Gold and Platinum records have been recorded at the site.

A brief run-down of artists who have made the trek to 53rd Street between Ninth and 10th Avenues to record includes Bruce Springsteen, Paul McCartney, Madonna, Duran Duran, Lady Gaga, The Rolling Stones, Eric Clapton, Bon Jovi, Nile Rodgers, David Bowie, Tony Bennett, Bob Dylan, Diana Krall, John Mayer, Donald Fagen, Sheryl Crow, Herbie Hancock, Muse, Trey Anastasio, The Strokes, Kings of Leon, Norah Jones, My Morning Jacket, Paul Simon, Roxy Music, Dream Theater and Cyndi Lauper, among countless others. Numerous Grammy-winning albums were recorded at the studio, and it has won 10 TEC awards over the

years—five as The Power Station, and five as Avatar.

The current owner, Chieko Imamura, purchased and renamed the facility with her mother in 1996 after the original Power Station went bankrupt; her husband, Kirk Imamura, is the studio's manager. The pair told the *New York Times*—which estimated the site to be worth a minimum of \$27 million—that they would strong-



Studio A at Avatar Studios has delivered thousands of priceless recordings, but the site itself may be worth \$27 million in New York City's red-hot real estate market.

this past June, has long been a supporter of the city's recording scene. When nearby Sony Music Studios was sold in 2007 to make way for condominiums, Imamura told *Pro Sound News*, "I want to make sure that people from other parts of the country and internationally know that there is still enough activity in New York. There's a lot going on, and there's a very rich music scene. There are tons of indie bands here, and it's still vibrant, so people shouldn't write off New York."

The jewel of the facility's offerings is Studio A, which was specially created for orchestral recordings, and is able to accommodate 70 or more musicians at a time. As a result, Avatar remains a popular place for recording Broadway cast albums—recent efforts include *Finding Neverland*—but it also has become known for recording advertising jingles as well, including music for a recent popular Snickers ad based on the 1970s TV comedy, *The Brady Bunch*. That's not to say that album production has vanished from inside Avatar's walls—last year's Tony Bennett/Lady Gaga album, *Cheek To Cheek*, was recorded there, and the studio also hosted a High Res Audio listening event that debuted the album as well.

Avatar Studios
avatarstudios.net



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CLIVE YOUNG

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An Experiment in Colorado

You've probably seen the attitude before—clueless people who say "It's a big facility that's a relic from another age. Who needs it? I can do it all at home on my computer." They're not talking about a recording studio, though; they're talking about your local library.

If you follow us online, then you know we've blogged and posted many times about libraries—specifically, the growing trend of public libraries with their own recording studios.

Faced with changing demographics, Google and yes, ignorant attitudes like the one above, many libraries have begun reinventing themselves for the Digital Age by adding Maker Spaces: tech-savvy facilities that provide everything from graphic-arts software to 3D printers to simple recording spaces.

The question is, at what point does one of these library studios start affecting other facilities in the region? One community in Colorado may start finding out this month—but I'll get to that in a minute.

There's a lot of library studios out there; typically, they don't have a lot of space or money, so often the room is a repurposed area (The Studio Formerly Known As Storage Closet), sporting typical musician-level recording equipment. Take the Central Library's studio in St. Louis, MO. The fledgling facility, started in

May, 2014, is decked out with an Apple laptop, MIDI keyboard, mid-price KRK monitors, an Allen & Heath ZED-14 mixer and a Blue Microphones Yeti USB mic. That level of investment makes sense for a library—it's equipment that is both easily understood and easily replaced if necessary, given that the public will have its hands all over it.

But what if a library aimed a bit higher? That's what's happening in Grand Junction, Colo., this month, as the main branch of the Mesa County Library opens 970West Studio—a \$1.35 million, specially built facility that broke ground in late June. Key to the 3,000-square-foot building will be a 654-square-foot main room and a 436-square-foot control room, as well as a 245-square-foot space for an artist in residence, storage space for equipment and materials, and parking for 10 vehicles.

While some studios in the region and the local chamber of commerce have said they're all for it, not everyone is excited about a free facility of that magnitude. Gary Smith, owner of Gary Smith Productions, told local paper *The Daily Sentinel*, "It just bothers me that a governmental agency would be getting into the business of competing with a local business," adding, "...when you open it up to bands and young musicians that want to record, those people normally

would go into a studio to do that and pay for that service. You cross a line when you go from being a public operation to a commercial operation."

Whether it crosses the line remains to be seen, but library director Joseph Sanchez noted on the library's website that "This studio gives the library an opportunity to create unique, valuable content of local importance..." Much of it will be for 970West Digital, an online multimedia collection akin to public-access TV; offerings include interviews with local veterans and videos on how to tie fishing lures.

While anyone will be able to record in the studio, the library will retain the right to catalog everything created there and make it available to its 75,000 patrons. That alone will surely give commerce-minded musicians pause—perhaps enough to make them head to a local pro facility instead.

Broadly speaking, the pro audio industry can only benefit from library studios, whether spurring business for local pro facilities or equipment sales to library patrons inspired to create their own home recording spaces. Whether 970West—hands down, the most ambitious library studio we've ever heard of—can coexist with its local recording community is anyone's guess, but it'll be interesting to find out.

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editorial

TOM KENNY, editorial director
650-238-0345, tkenny@nbmedia.com

CLIVE YOUNG, senior editor
212-378-0424, cyoung@nbmedia.com

LORI KENNEDY, managing editor
lkennedy@nbmedia.com

STROTHER BULLINS, technology editor
336-703-9932, sbullins@nbmedia.com

STEVE HARVEY, editor-at-large
818-909-9790, sharvey.prosound@gmail.com

MATT GALLAGHER, associate editor, digital media
mgallagher@nbmedia.com

CRAIG ANDERTON, JACQUES SONYIEUX, ROB TAVAGLIONE, RICH TOZZOLI, contributors

RUSS LONG, senior contributor

advertising

TARA PRESTON, associate publisher
917-331-8904, tpreston@nbmedia.com

JANIS CROWLEY, west coast sales
415-505-1985, jcrowley@nbmedia.com

ZAHRA MAJMA, specialty sales
212-378-0400 x517, zmajma@nbmedia.com

art & production

NICOLE COBBAN, senior art director

WALTER MAKARUCHA, JR.,
associate art director

FRED VEGA, production manager
212-378-0445, fvega@nbmedia.com

circulation

MEG ESTEVEZ, group director,
audience development

MICHELE FONVILLE, circulation coordinator

SUBSCRIPTIONS: PRO SOUND NEWS,
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E-MAIL: newbay@computerfulfillment.com

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LIST RENTAL: 914-925-2449,
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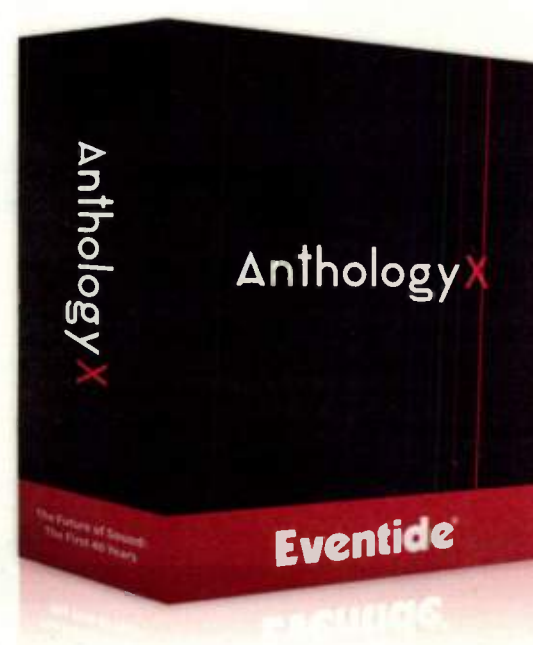
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Bankrupt Studio Faces Auction

BY MEL LAMBERT

N. HOLLYWOOD, CA—A major recording/production facility in North Hollywood, Calif., that formerly housed LA Sound Gallery and most recently Legends Studios, is being auctioned after Chapter 11 bankruptcy transitioned into a Chapter 7 foreclosure. With an estimated value of between \$3 million and \$4 million, the venue will be sold at auction during the coming weeks by Tranzon, in association with Tiger Group/Asset Intelligent, as a turnkey property with real estate and recording equipment, or separately.

Built in 1940 as a 740-seat movie house named The Magnolia Theatre, the venue was reportedly purchased by Barbra Streisand in 1979 and refitted as a two-room recording studio, renamed Evergreen Studios.



The vintage 72-channel Neve 8078 analog console with Flying Faders automation in Legends Studios' scoring stage control room.

Changing hands numerous times over the years since then, the facility was renovated and re-equipped until most recently the 15,000 square foot footprint included a Mixing Stage, a Scoring Stage with 30-foot ceilings, two Edit Suites, two Video Editing Suites and two ADR Recording Stages, plus kitchen and offices. More

recent projects at the studio have included music for *Hannah Montana*, *Fringe*, *The Simpsons*, *Family Guy* and *King of the Hill*, plus sessions with composer Mark Isham and producer Mutt Lange.

Renamed Legends Studios, the Scoring Stage's control room currently houses a vintage 72-channel Neve 8078 analog console with Flying Faders automation, linked to a machine room that contains two Studer A827 24-tracks and a two-track A80. Outboards include several Tube-Tech, Pultec and Fairchild dynamics/EQ units, plus a vintage EMT Model 250 digital reverb. There is adjacent parking for 70 vehicles, as well as gated VIP parking and a rear patio.

Tranzon Auctions
tranzon.com/TAS150000



Production Resource Group provided live sound for the second GOP Debate, using Yamaha consoles and a VUE Audiotechnik PA.

Delivering The GOP Debate

SIMI VALLEY, CA—The recent second GOP debate, broadcast on CNN, had Production Resource Group on-site at the Ronald Reagan Presidential Library and Center for Public Affairs in Simi Valley, Calif.

The audio design featured 24 isolated under-the-seat zones and 11 fold back circuits with 142 distributed VUE Audiotechnik i-2x4.5 speakers with 70-degree dispersion placed under seats.

The console of choice for this event was a Yamaha CL5. The stage boxes were connected using Audinate's Dante network routed over Cat 5e from the stage boxes (Rio 1608) to the console.

The speakers, console, and microphones were connected to the set via cabling that was dropped down to the second floor technical compound. For the speaker systems, Neutrik NL8 multi-line speaker cable was used to route four zones of the PA through each cable. The zoning and fold back requirements were all controlled using four Meyer Galileo 616 loudspeaker management processors. The amplification was entirely provided by Lab.Gruppen FP2400Qs. These were chosen based on their ability to run eight VUE i2x4.5 speakers on each amplifier channel. PRGs VUE i-Class loudspeaker inventory is made up of a custom-built model of the i2x4.5 that operates at 16-ohms, allowing larger quantities to run in parallel on each amplifier channel. VUE Audiotechnik
www.vueaudio.com

Production Resource Group
www.prg.com

Localizing Turkey's Parliament

ANKARA, TURKEY—The Turkish Parliament building in Ankara can hold 500 Parliamentarians. In order to localize sound to ensure everyone could tell who was speaking, regional audio provider Atempo installed a mix of d&b audiotechnik loudspeaker systems. In essence, this is a two-system solution: There is a front-facing system of left/right d&b Ti10Ls so that the platform can address the whole house. The second system is distributed, a set of ceiling clusters, using individually amplified d&b 10S loudspeakers arranged to face downward and in a cross formation. The key to this system is the Salzbreitner Stag-otec Nexus matrix system management that can localize sound to the region of any Parliament member who is talking.

d&b audiotechnik
dbaudio.com



A mix of d&b audiotechnik loudspeaker systems were installed in the Turkish Parliament's debating chamber.



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Krivit Aims For Connection As New AES President

BY STEVE HARVEY

NEW YORK, NY—"Only connect!" wrote the early 20th-century English author E. M. Forster. It is advice that John Krivit, who steps into the position of AES President at the 139th International

AES Convention in New York City, has long since taken to heart. For Krivit, chairman of the AES Education Committee for the past six years and an educator by profession, the society serves as the nexus of all things audio.

"I've always seen the AES as this great connecting point," states Krivit. "My mission as a teacher has been to integrate the academic world with the professional one. As much as possible, I want my students to understand the economy of the business they seek to enter. Who are the players? What do they do?

How do they matriculate into jobs and how do they sustain successful careers? At the center of all of that is the Audio Engineering Society: the great connection point for the world of audio."

Krivit is steeped in academia. He is an associate professor of Audio & Media Technology at the New England Institute of Art and a faculty member at Bay State College and at Emerson College. He is also the founder of the Boston Area Definitive Audio Student Summit, an annual AES gathering of hundreds of audio students, faculty, professionals and enthusiasts.

He has served the AES in numerous positions: as an elected governor, on the Membership Committee, President's Strategic Advisory Group, Conference Policy Committee, Convention Policy Committee, Convention Planning Committees for 130th-137th and the Boston Chapter's Executive Committee.

The older generation of audio professionals could maybe learn a thing or two from the student population, Krivit believes. "Students and young people are farther along than the rest of us at using new technology to make connections; they understand the new media. One of the things I've tried to do is to bring some of the things we've been doing successfully with students to the general population of the AES. We really need to take advantage of 21st century tools to reach out, engage and build community."

Krivit sees great value in the society and its conventions. "For me, it's about engaging a community beyond the walls of the institution where you work or teach or learn. I've taught audio for 20 years at different colleges. Like most of our brethren, I love talking to anybody about audio and I love learning new things."

Intellectual curiosity and a willingness to learn are essential at any age. "People of all ages have to continually learn; ours is a moving target, so you're either going to continue to learn or you're quickly going to become irrelevant. There are so many new vicissitudes of technology, and the AES provides a great platform to ask questions and to receive answers."

For example, he offers, Jay LeBoeuf of



Incoming AES president John Krivit

Real Industry and a professor at Stanford University, and formerly with Avid and iZotope, will moderate a panel at the New York convention that will examine 16 case studies tracing audio products from ideation through commercialization. "The panel looks at what it takes to find yourself employed in the new media technology companies," says Krivit. "I think that's the kind of thing that is sometimes missing in audio education—the real, practical application of how one gets a job in this new paradigm. I'm thrilled that we can provide a platform for Jay and the great things that he is trying to do for the industry and

for students of all ages."

Two weeks out from the New York convention, the AES announced an extension of the registration period in order to maintain "record-breaking momentum," suggesting that the show is roaring back to strength after the economic downturn and other events of past years. Meanwhile, on the other side of the Atlantic, "European conventions have a much smaller footprint, but they're exciting and they have great content. Warsaw, the last one, was really something special," says Krivit, noting that

"We really need to take advantage of 21st century tools to reach out, engage and build community."

John Krivit

Berlin, Paris and a return to Warsaw are on the cards for hosting conventions in coming years.

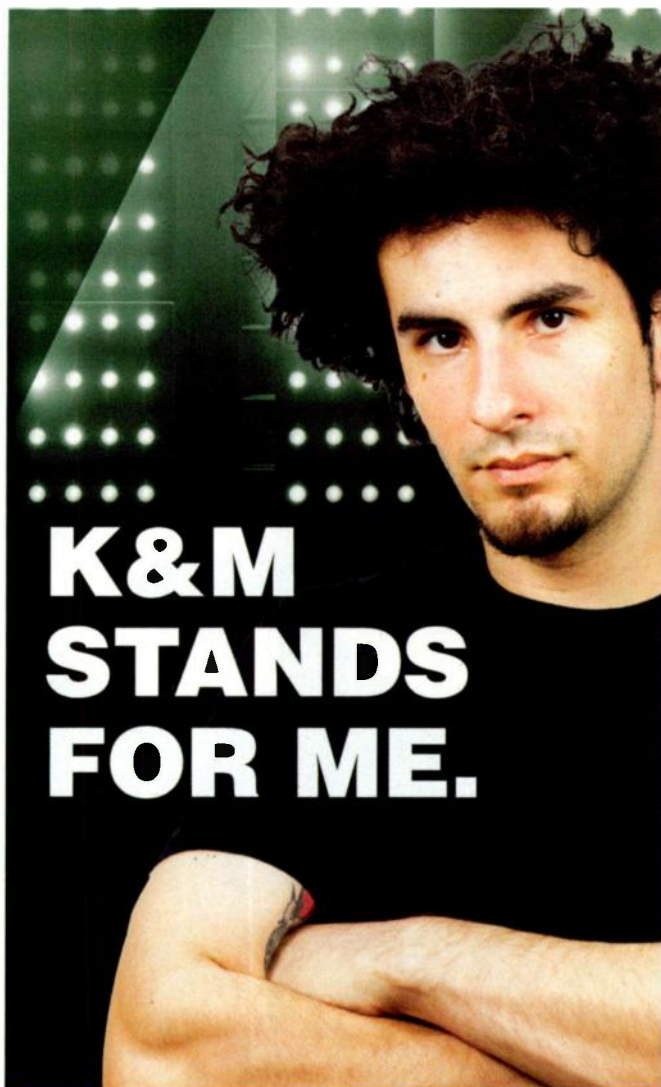
Elsewhere in the world, "We have a new chapter in China and have approved a new one in Myanmar," he reports. In Russia, there is a dynamic group of mostly recent university graduates who are driving a regular program of workshops for that local community.

"As the education chair, I've gotten so many inquiries from young people living in developing nations who want to pursue studies in audio. We have more than 75 AES professional sections and more than 95 AES student sections around the world. The AES is thrilled to try and do whatever we can to make opportunities abound for anyone around the world who seeks to learn about audio."

"We've got some new programs for students that we're going to unveil at the convention that I'm really thrilled about—ways that companies can connect with our student population. The education world is driving a lot of technology sales, and we're developing new ways that companies can reach out to students and to educators at schools. I think our members and partnering companies are going to be really excited about it," he says.

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Hardpop Builds System, International Reputation

CIUDAD JUÁREZ, MEXICO—Ricardo Tejada founded his EDM club, Hardpop, with the aim of making it a dance music mecca, but found resistance from high-end DJs he wanted to hire. “When he started contacting big names about coming to Juárez, a common response was, ‘Look, you’re going to have to do something really special with

were not an option, so the installation team had to ascertain more output from their sound system with the same current draw. “Powersoft allowed us to go from 47 percent efficient to 96 percent efficient, so we were able to shoehorn another 20 kW without any power system upgrades, which is unbelievable,” Weir said.

The fully re-imagined sound system includes a Powersoft K8 amplifier for the front subwoofers, a pair of M30D amplifiers for rear subwoofers and four K2 amplifiers for the main speaker cabinets. Additionally an M28Q amplifier powers the stage monitors, with an M50Q amplifier powering the monitor subs. There is also a Powersoft M28Q amplifier, which drives zone fills. Once the installation was complete, Weir used Powersoft’s Armonia software to balance the room with equalization.

“When people come out to party on a Saturday night in Ciudad Juárez, it’s different than you and I might experience stateside. The energy is escalated to a whole new level,” Weir remarked.

Powersoft
powersoft-audio.com



The hardcore EDM system at Hardpop is powered by a range of Powersoft amplifiers.

your sound system to get us to make the trip,” said installer Bill Weir, who Tejada brought in to update the club’s audio.

Weir knew that Hardpop’s new sound system would have to meet the frequency range demands of contemporary electronica, but there was another major concern: Power upgrades for the building

UK’s Beehive Pavilion at Expo Gets Positive Buzz

MILAN, ITALY—Ending a six-month run at the end of October, Expo Milano 2015—essentially this year’s World’s Fair—featured 145 countries, each hosting its own self-built pavilion. The spectacular UK Pavilion explored the role of pollination in our food supply with a meadow and 14-meter-high aluminum beehive. Underscoring the experience was a three-dimensional surround mix of music, nature, and bee sounds, emitting from a concealed, multi-zone Meyer Sound system.

Conceived and designed by Nottingham-based artist and sculptor Wolfgang Buttress (who also guided audio programmer Robin Whittaker and composers Tony Foster and Kevin Bates), the hive featured audio effects delivered by 18 MM-4XP self-powered loudspeakers and six MM-10XP subwoofers. Two UP-4XP and 12 MM-4XP loudspeakers and two MM-10XP subwoofers created audio zones at the front entrance and throughout the meadow, delivering a constantly shifting palette of musically enhanced, natural meadow and bee sounds that led visitors to the culminating experience of the hive. A small conference center apart from the hive housed two UP-4XP loudspeakers

and one MM-10XP subwoofer. The system made use of Meyer’s IntelligentDC technology, allowing a single, five-conductor cable to carry remote power and balanced audio signal to the loudspeakers from a rack-mount power supply and signal distribution unit.

“The MM-10XPs provide a low-frequency sound bed which emanates from the Hive, a hum that is produced from recorded cello, tuned for physical impact,” said Mike Bedford, audio system designer for the Pavilion and principal at Hoare Lea Acoustics of London. “The vertically spaced rings of MM-4XPs reproduce a dynamic mix of bee sounds, all interwoven with original music components that together move around the space, immersing the listener.”

For the structure of the Pavilion, Buttress collaborated with Simmonds Studio engineering and the architectural firm BDP. Manufacture and production was by Stage One, with graphic design and animation concepts by Squint/Opera. Dr. Martin Bencsik, an authority on bee behavior, served as scientific and creative consultant.

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The unique UK pavilion at this year’s Expo Milano sported a Meyer Sound multi-zone surround sound system.

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AES 61st International Conference
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Berlin, Germany • Spring 2017

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AES 14th Brasil Conference**
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Jimmie Johnson and the Pursuit of Audio Excellence

PSN Blogger Rob Tavaglione (seen here, on right) recently recorded an interview with NASCAR driver Jimmie Johnson, and after hearing about the racing champ's regimen, found himself inspired to adapt it to his own audio career:

Let me preface this with a little background. Jimmie is a really good race driver, quite arguably the best ever with six championship cups to his credit. He's so good, it's not even fathomable; if he were a producer, he'd have the most top-40 hits in a given year, six times over! He's like Pharrell, Babyface, Brendan O'Brien, Max Martin and Dr. Luke all put together! When Mr. Johnson talks about excellence, you oughta listen up.

Jimmie said that he spends lots of time evaluating and analyzing his mistakes, often against the advice of advisers who felt he was too negative. He went on to say that he found detailed preparation invaluable, that the confidence it bred allowed him to "slow everything down" and deal with the most tense situations calmly, without a panicky blur. He added that physical training not only brought him fitness, but also mental acuity and fast decision-making that further helped slow things down.

Seems to me that Jimmie is blessed with talent, but he's also right on the money with advice that can apply to many, many disciplines. The truth therein for audio mixers (FOH, broadcast or studio) is abundant.

For the insights he learned, visit prosoundnetwork.com/nov2015.



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Pro Sound News brings you audio news every weekday on prosoundnetwork.com, Twitter (@[prosoundnews](https://twitter.com/prosoundnews)) and Facebook (facebook.com/ProSoundNews)—but we also use social media to share links to interesting mainstream audio

stories. Here's a few we recently shared; get their links at prosoundnetwork.com/nov2015.

- ▶ Buy Megadeth leader Dave Mustaine's estate and home studio for a mere \$5.2 million.
- ▶ Lava Room Recording attracts Lil Wayne and Justin Bieber, looks to guide local artists.
- ▶ The couple who violently assaulted Nashville record producer Dave Brainard have turned themselves in.

BLOGGINGS

INSIDE RECORDING CLUTCH'S PSYCHIC WARFARE

Kings of heavy rock since the early Nineties, Clutch went into the studio in early 2015 with producer/engineer Machine (Lamb of God, Every Time I Die) to record its latest album, Psychic Warfare. While they'd worked together on earlier records, it was a brand-new recording experience, as the producer's Machine Shop Recording Studios had recently relocated from New Jersey to Dripping Springs, TX, 25 miles outside of Austin. It's a great-sounding album, so we went to Machine himself to find out more about the album's recording process.



SPACELAB9 LANDS AT NEWYORK COMIC CON

The annual New York Comic Con is a pop-culture phenomenon. Drawing an estimated 150,000 people yearly to the Jacob Javits Convention Center in Manhattan, the four-day event brings together people from all walks of life to indulge their love of comics, video games, movies, TV, books, sci-fi, costuming and more. Given all that visual media, it might not seem like a place you'd find an audio-oriented company, but for indie label Spacelab9, NYCC was a perfect fit.



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Roadies Teaser

Surely drawing from his embedded-with-the-band experiences as a *Rolling Stone* journalist during the 1970s, Cameron Crowe (*Almost Famous*; *Singles*; *Jerry Maguire*) will write and direct *Roadies*, a 10-episode, hour-long comedy about a tour production crew for Showtime. *Star Wars: The Force Awakens* director J.J. Abrams and Pearl Jam manager Kelly Curtis are involved, and Luke Wilson will headline the cast. While the show will debut next summer, you can catch a teaser clip cut from the pilot episode now at prosoundnetwork.com/nov2015.



Who Is An Internship Really For?

GUEST COMMENTARY BY CHRIS DAVIE

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

It's 3 a.m., I just helped the band load out, vacuumed the control room, prepped the morning coffee and gave the bathroom a serious cleaning.... This was my life as an intern decades ago in a small recording studio planted in Nashville's Music Row. I loved it.

Was this for my benefit—or that of the studio? I, for one, think it was to my benefit and recall that time with great pride and appreciation for what laid the foundation of my career.

Today, however, the question of who is the beneficiary in studios' internship relationships has become more important as employment regulations have been brought into

The question of who is the beneficiary in studios' internship relationships has become more important as employment regulations have been brought into the limelight.

the limelight. As musicmakers, regulations are not typically on the top of our to-do list; however, in today's world, if you are offering internships, it's a must.

How studios manage their internship programs vary, from those that fall comfortably in compliance to those that dance on the fringes. The Department of Labor (DOL) has long used its Fair Labor Standards Act (FLSA) to distinguish if an unpaid internship is indeed eligible to be considered as such and is not actual employment (which then follows wage and overtime laws). A set of six criteria is used to make this determination within the "for-profit" private sector. These are:

- The internship is similar to training which would be given in an educational environment.

- The experience is for the benefit of the intern.

- The intern does not displace existing employees, but does work under close supervision of existing staff.

- The employer derives no immediate advantage from the activities of the intern, and on occasion, its operations may actually be impeded.

- The intern is not necessarily entitled to a job at the conclusion of the internship.

- Both the employer and intern understand that the intern is not entitled to wages for the time spent in the internship. All six of these criteria must be met for an internship to not be considered an employment relationship.

Enter 2013 and Glatt v. Fox—three interns on the movie Black Swan filed suit against Fox Searchlight Pictures, claiming their internships should be classified as employment and thus compensated as such. The federal District Court ruled in favor of the interns using the DOL's set of six criteria. The case was then heard in the Second Circuit Court of Appeals, which brought

(continued on page 55)

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New Orleans Museum Mints New Music

BY STEVE HARVEY

NEW ORLEANS, LA—The only building in the country to have produced both United States and Confederate money, the Old U.S. Mint, part of the Louisiana State Museum network of National Historic Landmarks and architecturally significant structures, is focused on music these days. Built in 1835, the building features permanent exhibits highlighting the role of New Orleans in the history of jazz, a photography gallery spotlighting the new generation of New Orleans musicians and, on the third floor, a performance space with adjacent recording studio.

Akustiks, LLC, in South Norwalk, CT provided the acoustic and AV systems design for both the live space—designated the New Orleans Mint Performing Arts Center, presenting New Orleans and Louisiana music and entertainment—and the production studio. Louisiana-based PSX Audio Visual Technology was the AV systems integrator, and Theater Projects supplied the lighting and theater design.

According to Akustiks principal Russ Todd, “The idea was that there would be some adjustability to the room. There are some innovative



A Euphonix MC Control and two MC Mix fader panels provide control of Pro Tools in the control room of the Old U.S. Mint's recording studio.

acoustic panels that slide over some of the historic windows that were maintained in the buildings. These acoustic panels have both diffusion and absorption integrated into them, so you can vary the acoustics depending on your taste.”

Sound reinforcement is provided by an installed Meyer Sound rig featuring UPQ-2P, UPJ-1P and UPM-

1P cabinets plus 500-HP subs with a Galileo 616 handling system management. EAW MicroWedges provide on-stage monitoring. The sound and lighting systems are configured to support both end-stage and in-the-round set-ups.

The control room is used to record, webcast and archive video and audio of the busy schedule of live

performances in the adjoining venue, which are presented by the Louisiana Museum Foundation's Music at the Mint. The studio also provides digitization and preservation services for the Louisiana State Museum's historically significant jazz music collection.

“We took a typical control room approach. You'll see some of Peter

(continued on page 27)

Sam Phillips Captured Raw Rock 'n' Roll

BY STEVE HARVEY

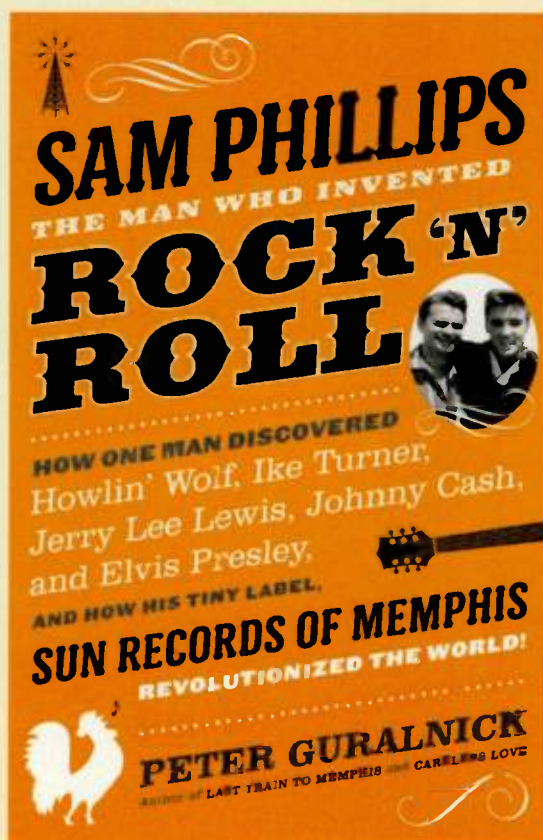
MEMPHIS, TN—One of the first images to meet your eye when you crack open Peter Guralnick's new book is a photograph of a box containing a reel of Scotch magnetic tape. The writing, in part, reads: “Give me ‘hot’ based on both 78+45's and as much presence peak + bias as possible!”

The man who wrote that message is the subject of the book—*Sam Phillips: The Man Who Invented Rock 'n' Roll*. The recipient? Bill Putnam.

“The one engineer that I heard [Sam] express great admiration for, the first person to whom he ever entrusted a record to master, was Bill Putnam. He met him on a trip to Chicago and was impressed, with the sound at Universal and with Bill Putnam,” says Guralnick, on the phone. As for that note: “Sam wanted to

carry everything to the edge of distortion.”

Sam saw himself very much as a teacher,” says Guralnick.



Peter Guralnick's biography of Sam Phillips was 25 years in the making.

The author, who has written some of the definitive histories of rock 'n' roll, including a prize-winning, two-volume biography of Elvis Presley (*Last Train to Memphis* and *Careless Love*), initially met Knox, Phillips' eldest son, after publishing *Feel Like Going Home*, which included a short chapter on Sun Records, in 1971. “We became friends,” he says. “From that time on, it was my hope to interview Sam. I wasn't thinking about a biography. Sam had no interest; he was always looking forward. It took eight years before we finally set up an interview.”

When Phillips finally opened up, “He was determined to impart his lessons, from the first time I met him. It was thrilling, inspiring.

Subsequently, Phillips gave many interviews to many outlets. But it took another eight or nine years for him to acquiesce to being the subject of a documentary film—with the same title as this new book, and also written by Guralnick—that debuted in 2000.

Readers probably need no introduction to Phillips, a radio engineer and on-air presenter who established the Sun Records label and recording studios in Memphis and Nashville, and whose name is indelibly linked to artists such as Howlin' Wolf, Ike Turner, Jerry Lee Lewis, Johnny Cash, Roy Orbison and Elvis Presley, whose careers he helped launch. In his Author's Note, Guralnick writes that Phillips—who passed away in 2003—would likely have demurred regarding the book's subtitle; “discovered” might have been preferable to “invented.” Phillips felt he had a mission, the author writes, “to open up an area of freedom within the artist himself...to recognize that individual's unique

(continued on page 26)



"Musicians love the JDX in their IEM's. That's a great compliment when you realize just how demanding these guys are about their sound."

~ **Kevin Madigan**
FOH - Lucinda Williams.



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~ **Kerry King**
Slayer.



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~ **Eddie Mapp**
FOH - Evanescence, Papa Roach, Stone Temple Pilots.



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~ **Michael Thompson**
Shania Twain, Celine Dion, Baby Face.



"The Radial JDX captures the distortion from the bass amp without any loss of low end. And with such a loud band, it also helps eliminate spill."

~ **Jon Burton**
FOH - The Prodigy.



"The JDX is nothing short of revolutionary! I can't believe the clarity and dynamics, yet it still retains the grind of my bass amp. It breathes!"

~ **Danny Miranda**
Queen, Blue Oyster Cult, Meat Loaf.



"Little did I know about the detail Radial adds to my overall sound until I tried the JDX. It's the little thing that makes a big difference."

~ **Silenoz**
Dimmu Borgir.



"The JDX gives character without the worries of bleed and feedback. I was so surprised how close it sounded to a SM57, I had to double-check."

~ **Jim Warren**
FOH - Radiohead, Arcade Fire, Nine Inch Nails.



"With the Radial JDX, my guitar sound is much fuller and cleaner in my in-ear monitors and out front, our engineer loves to blend it with the amp mic for a consistently 'thick' sound."

~ **Ben Ottewell**
Gomez.



"I was looking to make the bass 'poke' through in my mix so I tried the JDX. It's a great alternative to mic'ing a dirty cab. I've been using it ever since."

~ **Russ Giroux**
FOH - Chickenfoot.



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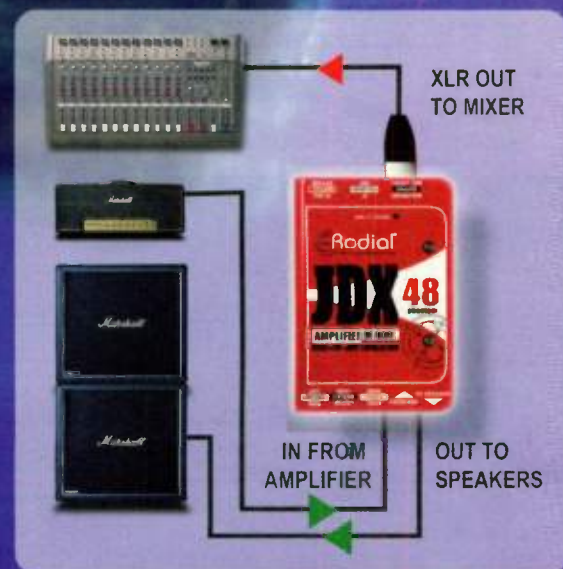


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Mills College: Unique Collaborations and Amalgamated Techniques

BY STROTHER BULLINS

OAKLAND, CA—Mills College is a century-old, all-women's undergraduate and co-ed graduate liberal arts college with a unique approach to musical collaboration in its Center for Contemporary Music (CCM), a leader in experimental music creation.

CCM co-directors/professors Maggi Payne and Chris Brown work closely with technical director Les Stuck to blend modern DAW and software-based technologies with time-proven analog tools in the preparation of future composers and audio content creators.

"The Mills program is small with a large diversity of musicians," explains Stuck. "Some people come here as purely classical violinists, for example; it's all they know. Meanwhile, there are those that come to Mills that have been programming music software for a while. We get these people together, encouraging them to play and collaborate with each other. One example of this is the students' own concert series



Students at Mills College enjoy a blend of analog and digital recording technology, centered on a new API 1608 console and sidecar and bookended by a classic Studer A80 multitrack and a brand-new Pro Tools rig.

on Thursday nights, which forces them to step outside of their natural boundaries and make music together. We strongly emphasize improvisation, too—a wonderful performance technique and the best way to learn how to be a composer."

Recently, Mills College purchased a new API 1608 analog console and sidecar alongside extensive Pro Tools system upgrades; the 1608 replaced a decades-old AMEK TAC Scorpion mixer. As Stuck explains,

students find unique recording tools at Mills College, gleaned from years of technological innovation and evolution. "It's been a center for really experimental, avant-garde music since the '70s," he notes. "We have an old Moog 3P Modular Synthesizer and even a Buchla synth—a super-early one. Of course, we teach contemporary, computer-based audio with Pro Tools, Max, SuperCollider and more, but we also have a Studer A80 multitrack with Dolby SR, and now this lovely API 1608 analog console. Our students are encouraged to collaborate in strange new—and old—ways; there is no artistic dogma here."

As Stuck explains it, the API 1608 purchase was "a no-brainer and the best possible option" for Mills. "I should say that in choosing an analog recording mixer today, there aren't that many choices if you want something really good," he continues. "The 1608 sounds great and has a good reputation; it's a solid professional console. Another benefit is its compact size, as we have a small control room."

Further, Payne didn't want an inline console. "The API is a mixer that you can configure any way you want," he says. "I think it's great

for educational purposes. For our configuration, the expander handles 16 channels of monitoring and the 1608 is the input section. This is the way that Maggi has been teaching for a long time and it works well."

Mills actively teaches other traditional recording skills such as two-track editing via analog tape machines, though not simply for historical perspective. "Sure, I think it's interesting, kids love it, and it has this whole retro quality to it," tells Stuck, "but with my own history as a recording engineer, I think the best way to learn is to gain as many experiences as possible, with all kinds of technology and all kinds of producers. Zooming out to the big picture, every recording program out there is based on Pro Tools. The fact is, software is pretty easy to learn; people don't have to go to school to learn software. Just by giving students exposure to the many different methods of recording music is very good for their futures. We don't know what kind of technology will be available to us in 20 years."

Another benefit to emphasizing historically proven and/or old-school analog recording techniques in education is that burgeoning composers and artists learn to recognize the aural differences between varying techniques, choosing methods accordingly to the project at hand. "A big deal about analog is the sound quality," illustrates Stuck. "I think that's not a simple issue to talk about, so it takes hands-on and listening experiences to learn the differences between formats, techniques and gear. There are certain aspects of analog recording that sound better in some cases and some that don't sound as good in others; a contemporary recording engineer has to be able to make those distinctions. For example, a beautiful, old tube microphone may sound amazing, but it might not be clean enough to record classical music. Or an analog multi-track recorder can be overloaded in a sweet-sounding way, but that format may create troubles in editing. For any step of the recording process, it's good to have experiences with analog and digital recording so as to combine them to make sense for the project at hand."



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Guy Harrison, Audio Technology Magazine



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ARTIST: HUNTRESS
ALBUM: STATIC
LABEL: NAPALM RECORDS
PERSONNEL:
Produced by: James A. Rota, Paul Fig
Engineered by: Paul Fig
Studios: Underbrow (Burbank, CA)
Mastered by: Gene "The Machine" Grimaldi
EQUIPMENT NOTES:
 Aurora Audio Sidecar mixer; Avid Pro Tools 11; Universal Audio Apollo 16 I/O at 96 kHz; ADAM Audio A7, ProAc Studio 100 studio monitor



ARTIST: MAIA SHARP
ALBUM: THE DASH BETWEEN THE DATES
LABEL: EONE MUSIC
PERSONNEL:
Produced by: Maia Sharp, Linda Taylor
Engineered by: Linda Taylor, Maia Sharp, Larry Goetz, Ryan Freeland
Mix Engineer: Linda Taylor
Studios: Rubicon Music, Crooked Crown Music, The Lair Studio, Stampede Origin (Los Angeles, CA)
Mastered by: Jim Demain at Yes Master (Nashville, TN)
EQUIPMENT NOTES:
 AVID PRO TOOLS; FOCAL CMS 65, YAMAHA NS-10, PROAC STUDIO 100 STUDIO MONITORS



ARTIST: KEEPER
ALBUM: NOT DONE
LABEL: SELF-RELEASED
PERSONNEL:
Produced by: MoonDoctor
Engineered by: MoonDoctor, Orion Garcia
Studios: Private studio

(Austin, TX); Freshmoon Studios (San Antonio, TX)
Mastered by: Sam John at Precise Mastering (Roxburghshire, UK)
EQUIPMENT NOTES:
 APPLE LOGIC PRO X; ADAM AUDIO A7X, M-AUDIO DSM2 STUDIO MONITORS



ARTIST: SPEAKING THE KING'S
ALBUM: CAROUSEL
LABEL: NUCLEAR BLAST RECORDS
PERSONNEL:
Produced by: Steve Evetts
Engineered by: Allan Hessler
Mix Engineer: Steve Evetts
Studios: Omen Room (Garden Grove, CA)
Mastered by: Alan Douches at West West Side Music (Hudson Valley, NY)
EQUIPMENT NOTES:
 NEOTEK SERIES 1E CONSOLE; AVID CONTROL 24 CONTROL SURFACE; DANGEROUS MUSIC 2-BUS; AVID PRO TOOLS HD; GENELEC 1030A, YAMAHA NS-10, KRK 7000B STUDIO MONITORS



ARTIST: BOYSLASHFRIEND
ALBUM: LOW KEY
LABEL: FEEL UP RECORDS
PERSONNEL:
Produced by: MNTN
Engineered by: Daniel Lynas
Studios: Brickhaus (Brooklyn, NY)
Mastered by: Sebastian Apolinario at The Brooklyn Embassy (Brooklyn, NY)
EQUIPMENT NOTES:
 APOGEE SYMPHONY I/O; APPLE LOGIC PRO X; AVID PRO TOOLS; YAMAHA NS-10, HS8S STUDIO MONITORS



ARTIST: DAVID BERKELEY
ALBUM: CARDBOARD BOAT
LABEL: STRAW MAN
PERSONNEL:
Produced by: David Berkeley
Engineered by: Jono Manson
Studios: Kitchen Sink
Mastered by: Stephen Marcussen at Marcussen Mastering (Los Angeles, CA)
EQUIPMENT NOTES: AVID PRO TOOLS



ARTIST: MOON KING
ALBUM: SECRET LIFE
LABEL: LAST GANG RECORDS
PERSONNEL:
Produced by: Daniel Benjamin
Engineered by: Noah Giffin
Mix Engineer: Jacob Portrait
Studios: A cottage in Ontario, Canada
Mastered by: Sarah Register at The Lodge (New York, NY)
EQUIPMENT NOTES:
 APPLE LOGIC PRO X; AVID PRO TOOLS; KRK ROKIT 8, DYNAUDIO BM12 MKIII STUDIO MONITORS



ARTIST: GRANVILLE AUTOMATIC
ALBUM: AN ARMY WITHOUT MUSIC: CIVIL WAR STORIES FROM HALLOWED GROUND
LABEL: SELF-RELEASED/BMG
PERSONNEL:
Produced by: Gary Maurer
Engineered by: Gary Maurer
Studios: Saltlands (Brooklyn, NY)

Mastered by: Jonathan Wyner at M-Works (Cambridge, MA)
EQUIPMENT NOTES:
 NEVE 80 SERIES CONSOLE WITH 1073 EQ MODULES, TRIDENT 80B WITH NEVE 542 SIDECAR; AVID PRO TOOLS 10; STUDER A80 RECORDER; GENELEC 1031A, YAMAHA NS-10 STUDIO MONITORS



ARTIST: SUNFLOWER DEAD
ALBUM: IT'S TIME TO GET WEIRD
LABEL: BLOODY BAT RECORDS
PERSONNEL:
Produced by: Dave Fortman, Mikey Doling
Engineered by: Jeremy Parker
Assistant Engineer: Josh Franks
Studios: Stagg Street Studios (Van Nuys, CA); Dead End Studios (Palm Desert, CA)
Mastered by: Ted Jensen at Sterling Sound (New York, NY)
EQUIPMENT NOTES:
 API CONSOLE; AVID PRO TOOLS; YAMAHA NS-10, UREI 813 STUDIO MONITORS



ARTIST: DAVID WAX MUSEUM
ALBUM: GUESTHOUSE
LABEL: THIRTY TIGERS
PERSONNEL:
Produced by: Josh Kaufman
Engineered by: D James Goodman, Josh Kaufman
Studios: The Isokon (Woodstock, NY)
Mastered by: Nathan James at Vault Mastering Studios (Phoenix, AZ)
EQUIPMENT NOTES: MCI 416A CONSOLE; AVID PRO TOOLS HD WITH LYNX CONVERTERS; BAREFOOT MM27, BBC LS3/5A STUDIO MONITORS

notes

SSL Pops Up at Bonnaroo

MANCHESTER, TN—Bonnaroo Festival's pop-up Haybale Studio memorialized the event with help from an SSL (solidstatellogic.com) AWS 548 SuperAnalogue console operated by music and podcast producer Lij Shaw, owner of The Toy Box Studio in East Nashville, TN, who recorded three-song sessions with 40 artists—from DJs to rock to bluegrass—over the festival's four days.

Airshow Adds Fourth SADiE

ROCKAWAY, NJ—Airshow Mastering Takoma Park has installed its fourth SADiE (prismsound.com) system, and has upgraded facility-wide to Prism Sound's latest SADiE 6.1 audio recording and editing software; senior mastering engineer Randy LeRoy recently mastered projects for country artists Jamey Johnson, Amanda Watkins and Brooke Hogan, among others.

BB4 Boasts PMCs

NEW YORK, NY—BB4 Studios, which launched in late 2014 with the stated aim of providing producers, engineers, artists and labels with an innovative audio resource, has chosen PMC (pmc-speakers.com) IB2 speakers for its mixing and mastering facility designed by in-house engineer Christos Tsantilis and BB4 owner, Rafael "Raf" Platen in Williamsburg, NY.

ISP Goes Underground

MESA, AZ—Built 30 feet below grade, Platinum Underground Studio, owned and operated by ICON guitarist John Aquilino, is a 4,000-square-foot multi-room facility designed by Vincent Van Haaff with a 2,500-square-foot live room for recording sessions and rehearsals that is equipped with ISP Technologies (isptechnologies.com) live sound and guitar products, including a Mongoose line array system.

Revenge of the MIDI



BY CRAIG
ANDERTON

In 1983, the Dow Jones average closed at 1,258. A movie ticket cost about \$2.50, 3.5-inch floppy disks weren't available yet, and it would be another year before you could buy commercial CD players from Philips and Sony. *Flashdance* and *Octopussy* were big in the theaters. ARPANET officially changed to the Internet Protocol, and so the internet was born...along with Lotus 1-2-3, Microsoft Word and the MIDI specification. MIDI defied expectations, and has lasted over 30 years—unlike ISA, NuBus, SCSI, RS-232 and other specs that are a footnote in computer history.

When DAT appeared, musicians could drive MIDI instruments with computers into a mastering-friendly medium with sound quality that exceeded all but the finest contemporary analog setups. However, when the Alesis ADAT and Digidesign's four-channel Pro Tools system arrived in 1992, it looked like MIDI would fade out as digital audio faded in. Then in 1999, Steinberg released VST 2.0, which had the breakthrough feature of allowing plug-ins to receive MIDI data—and the rush of virtual instruments made MIDI more relevant than ever.

At the time, computers weren't sufficiently powerful to make virtual instruments more than a useful curiosity, but as CPU speeds increased, and 64-bit operating systems accommodated enough RAM to make virtual samplers a practical reality, MIDI was back with a vengeance. Furthermore, with MIDI now flying in and out of computers via USB connections, the bottleneck of a 31.25 kbps serial connection was no longer an issue.

Although Windows 10 has rediscovered MIDI, there's a lot more going on behind the scenes thanks to the overachieving (and often unappreciated) efforts of the MIDI Manufacturers Association. For example, since 2005, the MMA has been working on a high-definition protocol that's intended to provide greater data resolution for capturing performance gestures, extend note descriptions and offer more seamless device configuration. Many issues remain to be resolved—not just technical issues, but compliance testing, licensing and other le-

galities—but there's movement, and that movement will speed up as more manufacturers recognize the vital importance of the MMA and join the organization.

MIDI has also been part of consumer electronics for a long time, from games to ringtones. One im-

portant consumer-oriented initiative, Web MIDI API, is now supported by Google in its Chrome browser for most desktop and mobile operating systems. Although the Web MIDI API has gained considerable traction among HTML5 game developers, there's much potential

for the future. Basically, the spec connects the cloud to the physical world by sending and receiving MIDI messages to/from a client system's MIDI devices' inputs and outputs. This isn't about SMF playback, but actual MIDI control. MIDI's low bandwidth and ability to trigger high-quality sounds in the client system (as well the potential
(continued on page 26)



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SOTI: Recording

(continued from page 1)

music. Yes, we are creatures of habit.

In reporting a growing “DAW migration” in the August issue of *Pro Sound News*, I questioned Nashville pro Christopher Rowe about “how powerful the native side of the fence is getting.” Like many pros, Rowe can use whatever he wants, yet he’s

moving to more affordable, native processing, attesting that he “won’t be on PT 12.”

With DAWs no longer a financial hurdle, the remaining obstacle between the art of recording and desired, professional results are the industry’s steadily evaporating commercial facilities—classic, historic, professional spaces with beautiful, market-proven acoustics, most closed and never replaced. A byproduct of “location, location, location,” the most recognizable victims are in hubs with vibrant musical art scenes and a reasonably equal demand for residential and commercial spaces other than art studios. Secondary markets are suffering by this trend, too. Literally other articles entirely, read about such sales and bankruptcies inside this very issue of *PSN*.

Yet we still need and desire appropriate, inspiring and even sonorous acoustics, driving many to build out their own working spaces. Investing in personal space acoustic treatment is a steady trend, but the acoustician-crafted masterpieces closing in New York, L.A., Nashville and elsewhere simply won’t be a part of our newly recorded history. “What to do?” asks the displaced studio rat? As locale remains a bigger problem than we can seem to solve, our collective focus largely returns to proven creative tools we appreciate.

Recordists, so widely having scaled back their non-essential hard-

ware rigs to load up on software, plug-ins, computers and associated I/O, show a genuine affinity for history repeated though moving forward with other useful, sometimes bleeding edge, technologies, techniques and recording environments. We collectively love big desks and the classic workflows; some can increasingly

working tools that will result in more analog processing back in your racks. That last one is an educated guess, but on the flip side, I’ll guarantee you this: with a truly hybrid recording philosophy, I know I won’t be pulling copper through my walls. Ethernet cable is too cheap and effective.

We’ll continue to see more touchscreen control of DAWs; far more affordable, less proprietary I/O; and better, faster and more affordable DAW, connectivity and networking tools that will result in more analog processing back in your racks.

buy into, or back into, their analog dreams. Look no further than the current successes of vintage gear-centric retailers such as Vintage King and Pro Audio Design to support this theory.

Such a large investment in DAWs and plug-ins is generally no longer required—at least at the extreme of what I remember from the late ’90s onward. Already pre-AES 2015 product announcements help illustrate this trend: We’ll continue to see more touchscreen control of DAWs; far more affordable, less proprietary I/O; and better, faster and more affordable DAW, connectivity and net-

In the mid-aughts, I wrote a fantasy feature for *Mix*: my very own dream studios, all geared up, at three price points; I believe the top budget was a quarter-million. Today, I could actually buy an API The Box for \$15,000 or an SSL XL-Desk for \$20,000, and neither one of those two brands could be a new console pick in 2004, even up to the \$250,000 limit. Like I said, pros aren’t buying DAW rigs that cost more than their cars anymore. And I believe recording engineers, overwhelmingly, would really like a big desk—or at least their beloved GML Model 8900 back.

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NUAGE Updates Blue Note

NEW YORK, NY—Though a cornerstone of the New York City jazz scene, The Blue Note is not a relic from another age. Recently, the club began recording and mixing audio projects for virtual reality videos in a joint venture with video house Rivet, and key to that effort is the club’s new Yamaha NUAGE Advanced Production System.

The Blue Note already houses a Yamaha M7CL Digital Audio Console in the club at front of house, but the NUAGE Advanced Production System was installed as part of another joint collaboration, this time with Yamaha sister company, Steinberg. Installation company Peltrix, located in Westchester County, NY, has had a long-standing relationship with the Blue Note (Peltrix owner, Amit Peleg, was house engineer at the Blue Note for more than 20 years prior to starting the firm) and recommended the NUAGE system which is being used for three distinct applications. The first is recording and mixing the virtual reality videos—A performance by The Soul Rebels at the jazz club is

a recent project by Rivet in VR format with audio mixed on NUAGE.

The Blue Note is also using the system to record individual tracks from live shows that will be sold on iTunes via a new dedicated Blue Note channel, and to record full CDs for release by the Blue Note’s own record label, Half Note Records. “The decision to install the NUAGE rig was made to benefit both the Blue Note and Peltrix,” states Peleg. “We are a Yamaha NUAGE premiere dealer so it is a perfect opportunity for us to be able to conduct hands-on demos at the high-caliber, musical landmark in the heart of Manhattan. We can also provide hands-on training using live music with world-renowned musicians for future NUAGE end-user customers.

“With the increased demand for live recordings, it was natural for the Blue Note to need an in-house recording system that can accommodate not only occasional



Amit Peleg with the Blue Note Jazz Club’s new NUAGE system.

recordings but now recordings as frequently as two to three times per week. The arrangement is a win-win for both Peltrix and the Blue Note,” says Peleg. “I always liked the natural workflow of the software and its sonic advantage over other DAWs, and having a post-production control surface that sits on top of that software is icing on the cake.”

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PMA Talks Maxing Your Production Music

BY STEVE HARVEY

LOS ANGELES, CA—The Production Music Association (PMA) held its second annual Production Music Conference in early September at the Directors Guild of America headquarters in Los Angeles. The PMA, a non-profit organization which advocates for the production music community, with more than 675 members—music publishers, composers and industry professionals—offered a dual-track schedule focusing on creative, financial and legal issues associated with production music.

This year also saw the launch of



Kicking off the second annual Production Music Conference were (l-r) PMA executive director Hunter Williams, composer Brian Tyler and journalist Jon Burlingame

the PMA's Mark Awards, recognizing excellence in production music in a range of genres and uses, as well as two special achievement honorees. The awards are named for the late Andy Mark, a music library owner and founding member of the PMA.

Composer, conductor and multi-instrumentalist Brian Tyler was the keynote speaker, in conversation with author and journalist Jon Burlingame.

Tyler has more than 70 films to his credit, including blockbusters such as *Avengers: Age of Ultron*, *Iron Man 3*, *Thor: The Dark World* and installments of the *Fast & Furious* franchise.

There was no one big break, said Tyler, who worked his way up from small indie projects. "The early ones were so micro-budget that I played all the instruments," he said. Tyler still enjoys playing on his own scores, often contributing keyboards, an assortment of esoteric instruments and especially drums, his first instrument.

Tyler also prefers to conduct his scores. "I know the film so well; I've watched every frame of it. A conductor probably saw it only once or twice. You have the ability in the first take to save the take," he noted.

When asked what business lessons he has learned, Tyler laughed, "Invest in real estate." He received some criticism in his early days for investing too much back into his craft: "Every dollar that I would get, I would get a piece of music, or upgrade the studio." But, stressed Tyler, "Make sure

(continued on page 31)

briefs

NEP Tees Off with Calrec

NEW YORK, NY—NEP has installed two networked Calrec (calrec.com) audio consoles into a new OB truck—an Apollo and Artemis, both in the B unit, handling the main mix and effects mixes, respectively—to cover professional golf and football in the U.S., together with about a dozen remote-controllable Calrec Hydra2 Fieldbox units of various sizes and configurations.

Sony Goes Big with Avid

CULVER CITY, CA—Sony Pictures (sonypictures.com) Post Production Services has installed the largest Avid (avid.com) S6 console installed anywhere to date, a 22-foot-long board featuring 48 faders in each of two sections, along with 12 meter displays, two sets of dual joysticks and two bias panels, in its 153-seat Anthony Quinn Theatre, supported by four Pro Tools|HDX2 players and two HDX recorders.

Margarita Mixers Wins Tellys

SANTA MONICA, CA—Mixers from Margarita Mix (margmix.com) Santa Monica, a FotoKem company, won in the Sound/Sound Design category of the 36th Annual Telly Awards, with Nathan Dubin earning a Silver Telly, the highest honor, for his work on "Animals" for Kia; Jimmy Hille a Bronze Telly, for Nissan's "The Ark;" and Paul Hurtubise a Bronze for Hyundai's "Driving Tips with David Feherty."

DPA Visits *The Accountant*

LOS ANGELES, CA—Freelance production sound mixer Whit Norris, CA5, planted a variety of DPA (dpamicrophones.com) discreet 4098 supercardioid mics near the actors to capture dialogue for the upcoming Warner Bros. thriller, *The Accountant*, starring Ben Affleck, with boom operator Doug Cameron and sound utility/second boom operator Alana Knutson also using the condenser 4017B shotgun mic.

Audio Team Conquers *Everest*

BY STEVE HARVEY

IVER HEATH, BUCKS., U.K. —Sound designer and supervising sound editor Glenn Freemantle, who created an Oscar-winning soundtrack in the vacuum of space for *Gravity*, proved

that he is equally adept at conjuring sounds from thin air for Icelandic director Baltasar Kormákur's *Everest*. While not a documentary film, the production—inspired by the events surrounding the deaths of a dozen climbers during a fierce blizzard on

the mountain in 1996—features a soundtrack that is nevertheless true to life.

Filmed on location in the Himalayas and the Alps as well as soundstages in England and Italy, *Everest* presented an immediate challenge to Freemantle and his Sound 24 team, re-recording mixer and sound design editor Niv Adiri and re-recording mixer Ian Tapp. "We had to put temp dialog and temp sound design tracks together right at the beginning, after Balt and [editor] Mick Audsley assembled the first cut, because they couldn't tell the story—you couldn't hear the dialog," reports Freemantle.

"We recorded all the dialog where we couldn't hear it—which was most of it," he says, bringing in sound-alikes to shoot the temp ADR tracks for the actors who were not available. Both on set and on location, he elaborates, "They're talking behind oxygen masks and there's wind machines and ice and things being thrown at them—you couldn't hear what they were saying. Every time you're outside or there's snow, that dialog would all have to be redone. We had to ADR 95 percent of it, because of the conditions they shot in."

The sound team and the actors, who included Jason Clarke, Josh Brolin, John Hawkes and Jake Gyllenhaal, worked hard to recreate the physical conditions that their char-

(continued on page 32)

LIVE SOUND

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PMA

(continued from page 30)

that you are up to date, technologically and musically.”

During “Follow the Dollar,” a panel on revenue streams on the Business Track, Cassie Lord of 5 Alarm Music observed, “The most important thing in the revenue stream with sync is to hold onto it; so many people are giving it away.”

The way to do that is knowing what to ask, she said, offering an acronym—TTRV, for territory, terms, rights and versions. Where is the piece going to air? For how long? “Ask the questions and you’ll get more money for the usage,” she said.

With the proliferation of internet destinations for production music, moderator Andrew Gross of Konsonant Music asked AdRev’s Noah Becker how to know what to charge for a license. “It’s important to evaluate the subscriber count, overall views on their channel, recent views” on YouTube, Facebook or whatever

on the monetization methodologies of the providers—in the event of a match being detected. (Shazam uses a similar method, linking consumers with retail outlets.)

Fingerprinting can detect false positives, the panel cautioned, for example, detecting identical samples used in multiple original pieces, requiring post-broadcast detective work to ascertain the rightsholder. Watermarking, typically through Source-

Audio, travels with the file, reducing errors.

On the Creative Track, a panel offered tips on writing a music library hit. “A good piece of production music says one thing and says it well,” said composer Jeff Rona. Making it editable is also a big help, he added.

According to Nick Phoenix, “The trend has gone toward stems, where [the client] really wants control over your piece.” There should be at least

four or five stems—drums, brass, strings, synths and so on. “They’re cutting music up in ways that maybe you won’t appreciate—but in the end, you appreciate the paycheck,” he laughed.

Phoenix also commented, “Sound quality is very important. You have to make sure your production values are up to a very high standard.”

Production Music Association
pmamusic.com

“They’re cutting music up in ways that maybe you won’t appreciate—but in the end, you appreciate the paycheck.”

Nick Phoenix

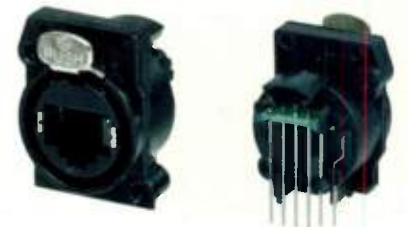
the platform might be, said Becker. AdRev, which monetizes YouTube placements, uses a similar formula to broadcast, in terms of impressions.

“It’s pretty easy to gauge how much a specific content creator is going to make off of a video containing your content,” Becker said. For YouTube, “Factor about 50 cents to a dollar of revenue for the creator for every 1,000 views of their video. You should quote them a sync fee that’s appropriate.”

There can be a tendency to undervalue the music, he added. “We’ve seen \$35 needle drop fees go into videos that generated over \$25,000 in revenue. Huge missed opportunities, there.”

Two detection methods can find and help monetize music usage. Fingerprinting by companies such as TuneSat, Soundmouse and AdRev works by delivering to a database master mp3 files with metadata containing instructions—dependent

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Everest

(continued from page 30)

acters encountered at high altitude. "We got them to put on weight vests with straps around them, and we'd gradually tighten the weights around their chests, so they were restricted. They would throw themselves around so they could hardly breathe."

Although Kormákur conveys the epic landscape with wide shots, the film is also very intimate. The idea was to be as immersive as possible, according to Freemantle. "When you watch an action movie, you're sitting in the audience and you're watching into the film. We wanted people to feel that they were in the film; you feel their plight on the journey."

"When you get close, you hear the ice in their faces and the flapping of their jackets; you have the storm whipping around you. We tried to create a real closeness to the characters, in all the close ups. It becomes very personal."

To help achieve that, he says, "We froze their jackets; we sprayed their equipment with water and put them in freezers overnight, then would record things." The team also spent

days recording ice sprays, synchronizing layers of textures to match the images. "Making the snow was harder than I thought it was going to be, to make it as realistic as you perceive it in your head," he says.

The post production sound was all done in Pro Tools 11, mixed through a Euphonix System 5 console and controlled via EUCON, on Pinewood Studios' Powell Theatre, the largest film mix room in the U.K. "It's a big, comfortable room," he says. "I just finished mixing *Steve Jobs* in that same room."

Everest was mixed in native Dolby Atmos, says Freemantle, who is currently working on his fifth film in the immersive format. "We cut in the Atmos format and laid it up, so by the time we got to the theater, we'd done most of the panning and everything. We try and tell the story before we get to the big room; it saves you time."

He adds, "The Atmos system, with its bass-managed surrounds, is an advantage to any film. There will come a time where it will become a matter of course, I think."

The dialog was essentially mixed to a 5.1 bed, with occasional lines assigned as objects when they needed to move off-screen. "A lot of the winds were in beds, too. We moved



JASIN BOLAND

The film *Everest* re-creates a blizzard that killed a dozen climbers on the famed mountain in 1996. The actors, including Jason Clarke seen here, had to ADR 95 percent of their dialogue after the fact due to the conditions they shot in.

the beds around us, then we would have objects like snow sprays or individual elements; they were the detail on top," he says.

For example, "When the ice went over your head, we'd have some of the higher frequencies, the snow and the ice, and we'd use those to create movement over your head. You have to choose your moments. If you fill the overheads too much, you narrow the film down."

"Atmos can make the film wider, and you can create more weight with it, because you have the bass man-

agement in the surrounds. When you want it to kick in, you can really feel the weight."

There were many layers of winds. "It was a journey through a scene; there might be some bass content to glue it together, but it wouldn't be one sound that would play. You're on the mountain for two hours—it could become white noise—so we wanted to always have it change and make it interesting. We were always using different sounds all the time."

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innovations: the manufacturer's view

Creating Consistent Sound For Every Seat

D&B AUDIOTECHNIK ARRAYPROCESSING

BY FRANK BOTHE

ArrayProcessing is an optional feature within the d&b ArrayCalc simulation software V8, available to download from dbaudio.com. Using this function, the advanced Digital Signal Processing within the D80 and D20 mobile amplifiers as well as the 10D and 30D install amplifiers can enhance the performance of the d&b J Series, V-Series and Y-Series line array systems.

ArrayProcessing calculates and designs the holistic behavior of a line array, creating individual sets of FIR and IIR filters for every single cabinet of the array, each of which are powered by a dedicated amplifier channel. These filters shape the sound generated by the array to precisely match a user-defined level distribution and obtain a uniform frequency response over a given audience geometry. ArrayProcessing adds 5.9 msec of latency; this is in addition to the 0.3 msec of the d&b amplifiers, arriving at a total of only 6.2 msec.

MOTIVATION AND BENEFITS

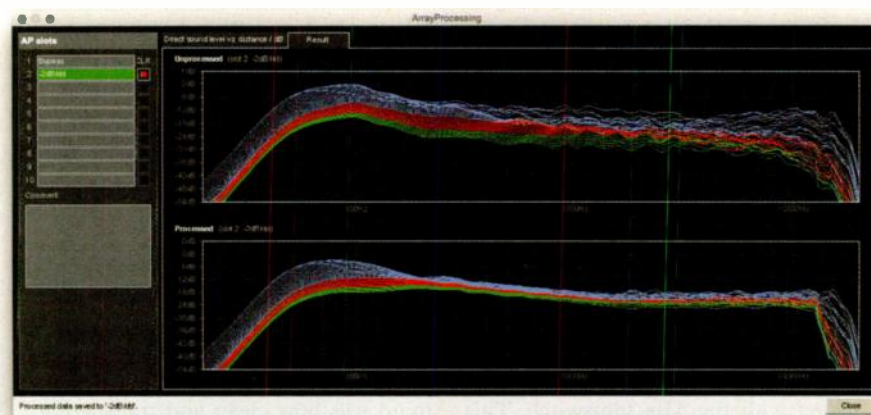
Typically, a line array setup for a given situation is planned in a way that optimizes the level distribution over distance in the high-mid frequency range (2 kHz to 4 kHz). This requires a specific vertical aiming for the individual cabinets that is defined by the splay angles between them. However, the array dispersion at lower frequencies (100 Hz to 1,000 Hz, depending on the array length) is a direct result of the total array curvature created by the splay settings (and not the individual aiming of a cabinet). This often creates a different level over distance distribution compared to the high-mid range.

The result is an uneven spatial balance and spectral response from the front of a venue to the back—a rich and (too) warm sound close to the array, which may become thin and almost aggressive in remote areas. The effect is well-known and has often been a cause for criticism against line array technology.

Another example is the difference in spectral response when covering

steep seating areas with a strongly curved array, as it is often used in outfill and 270-degree applications for tiers or balconies. In the highest seats, it sounds very thin, while in the seats around the middle, there is a strong and annoying midrange beam, which disappears again when approaching the stage. In these situations, it can often be perceived that the lower midrange dispersion does not follow the array shape.

ArrayProcessing can eliminate these issues by providing a consistent frequency response throughout all listening positions. The optimization means each area within a listening area has the same spectral consistency, so the sound at the FOH position applies to each member of the audience. The mix is valid for everyone.



Example for unprocessed (top) and processed (bottom) frequency responses over distance.

COMPENSATING AIR ABSORPTION EFFECTS

ArrayProcessing includes air absorption effects in its calculations and provides a precise and seamless correction for all relevant cabinets. This provides a more consistent sound balance over distance, and in many applications where the system has sufficient headroom, its throw can be extended and the need for delay systems greatly reduced.

FLEXIBILITY

The level distribution in the audience area can be modified and tailored to reduce the level towards the front of the audience area and modify the level drop over distance over the audience area. Different ArrayProcessing settings for the array can be compared at a mouse click.

INTELLIGIBILITY

In many applications, achieving a more accurate directivity control causes less stimulus to the reverberant field and leads to improved intelligibility.

HOW DOES IT WORK?

When ArrayProcessing is enabled, target points are distributed along the listening area profile with a 20 cm spacing (along the intersection of the array profile with all matching listening planes). ArrayProcessing calculates the contribution of each individual source of the array to each listening position using a high spectral resolution of 24 frequencies per octave, making a total of 240 individual frequencies per target point over the entire 10-octave audio band. The resulting data is stored in a matrix

tings and system type. Any optimized line array will provide the same sonic characteristics, regardless of Series. Any combination using multiple columns of optimized line arrays (rear fills, outfills, delays) does not require individual tuning and maintains this uniform sonic footprint.

Any further adjustment to the system response, like master equalization for example, is valid for all line arrays in the system. As all loudspeaker columns have the same response, these adjustments will be identical for the entire system for all listening areas.

USER PARAMETERS

The user can specify a desired level distribution along the listening profile. This is done in a simple way by specifying the level drop (in dB per doubling of distance) for up to three different sections of the listening area profile (Front/Central/Rear). Additionally, a level offset can be applied to specific listening planes.

Furthermore, there is another powerful parameter: The Power/Glory fader, which defines the processing emphasis. Special focus on either maximum SPL and system headroom (Power) or on a best match of the target level distribution and frequency responses (Glory) can be selected. The center position usually provides a good balance between

those parameters.

Up to 10 different combinations of user-parameter settings can be prepared and stored in the 'ArrayProcessing slots' of the amplifiers. These can be selected using the R1 Remote control software V2. Switching between different slots is performed in near to real time.

OPTIMIZATION RESULT

After processing, ArrayCalc displays the optimized results for the frequency response and level distribution for each configuration (slot). The listening experience is as striking as the plots suggest.

Frank Bothe is head of Research and Development at d&b audiotechnik.

d&b audiotechnik
dbaudio.com

GRACE DESIGN TWO-CHANNEL FELIX INSTRUMENT AND MIC PREAMPLIFIER/DI/EQ ■ MANLEY FORCE FOUR-CHANNEL PREAMPLIFIER

GRACE DESIGN TWO-CHANNEL FELIX INSTRUMENT AND MIC PREAMPLIFIER/DI/EQ

As Grace Design's Felix manual states, it's designed for "working musicians, engineers, sound companies or venues looking for the highest quality solution for amplifying string instruments." That's me, and that's many of you, too. I've long been a fan of Grace Design products and the owner of both its m906 5.1 monitor controller and m103 channel strip. I've always associated Grace Design with super clean, premium performance studio equipment, so looking at a stomp box primarily designed for live work is a bit unusual.

Right out of the box though, you can tell that this unit is of Grace Design pedigree. Its anodized aluminum and steel chassis is quite attractive, and although seemingly loaded with knobs, it's easy to use. That's because Channels 1 and 2, which both provide the equivalent of Grace's m101 preamp, are identical yet fully independent. Provided per channel is Gain and a signal/clip LED (green when signal is present, red when clipping), followed by a sweepable HPF from 20 Hz to 1 kHz, notch-able with a side panel dipswitch. The latter is great for reducing unneeded low-end rumble from your instrument—a great feature for live use. Then there is a +/- 12 dB low shelf (125 Hz corner/40 Hz peak) followed by a fully parametric mid section with Q control from 0.5 to 5 and mid frequency adjustment that goes from 70 to 880 Hz, or 670 Hz to 8 kHz, selectable again on the side panel with a switch. Next is a fixed +/- 12dB high frequency adjustment (2 kHz shelving).

Grace Design also included a 10



Grace Design Felix

dB boost switch (0 to 10 dB) for all outputs when the Boost foot switch is engaged. The Mix knob allows Felix's two channels to be blended into one or sent out as individual channels. Last is Amp Out level control for the unbalanced amp output on the back of the unit; it also sets the level for the eighth-inch mini-headphone jack on the side panel.

Using the front panel switches, the Mix switch will light up both 1 and 2 when the Mix knob is set to both channels. But if the side panel dip is set to A-B, it turns the Felix into a dual mono box, where each output and input are fully independent, selected with the Mix footswitch. This is a very useful thing to have if, for example, users have two instruments plugged in. Finally, there's a Mute/Tune switch, muting all outputs except the dedicated tuner output on the back.

Felix's rear panel features two

XLR outs with ground lift, source select and line/mic level buttons, quarter-inch external footswitch, a tuner, amp output and effects inserts, XLR input, two quarter-inch line inputs (channels 1 and 2), amp source select and line/mic input buttons, and even med/high/low input impedance select switches. On the side, Felix provides dip switches, 48V phantom power and polarity reverse buttons for Channels 1 and 2.

In the studio, I ran my Martin OM-28 Marquis Madagascar with a Fishman Ellipse Aura through Felix as well as my old 70 Fender Precision. The first thing that came to mind was how clean and transparent it was—very much in line with what I expect of Grace Design. The EQ is smooth and having fully sweepable mids is quite valuable, and low-end cut is quite useful, too. Taking it a step further, guitarist/vocalist Scott E. Moore ran his 1934 Gibson L00



BY RICH TOZZOLI

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

acoustic through it into a full QSC PA system. His guitar outputs a stereo signal: channel 1 is a Fishman rare earth blend magnetic humbucking pickup with a mic; channel 2 is a K&K pure western mini soundboard transducer. Running both into Felix, we were able to dial up a great variety of sounds from just one great-sounding guitar. EQing each channel differently and creating a blend that sounded just tremendous through the PA was an easy task. We then tested it against two of Scott E.'s other acoustic "blender" boxes, and the Felix easily came out on top, both sonically and in the flexibility department (however, it was more expensive).

Within Felix, Grace Design has given us two studio-quality acoustic DI/instrument and mic preamps and a blending system with EQ built for any kind of stringed instrument. Without a doubt, Felix's build quality, attention to detail and flexibility is pro-worthy and 100 percent Grace Design quality. Here, for \$995 street, you certainly get what you pay for, if not much more.

Grace Design
gracedesign.com

MANLEY FORCE FOUR-CHANNEL PREAMPLIFIER

I was recently back at superstar drummer/producer Omar Hakim's studio, recording his upcoming Trio Of Oz record. In the midst of working, we received a few Manley Labs pieces to try out: the Core reference channel strip, four-channel Force vacuum tube microphone preamplifier and the single channel VoxBox.

The first thing we did was put four of his five toms (from the lowest up) into the four-channel Force (\$2,500 street). We then put the overhead center mic (we use left/right and center) into the VoxBox and used the Core for Jonathan Toscano's five-string bass.

Listening back, we all instantly agreed that we had just upped the game. With the Force—by which we had employed beyerdynamic TG D57c and TG D58c clip-

on cardioid condenser mics—we noticed how much "thicker" the tone was. This sounds crazy, but even when scratching the mics upon first tests, we were like, "oh boy, we're onto something." But the real proof was when Omar played. He hits fluidly but quite hard, and the toms were sounding markedly better than usual when using the Force. There was an undeniable new presence to them. Just as a test, I muted the toms in sections where they weren't played. The before and after results were striking; the resonating toms through the Force added to the depth of the overall drum sound, even when they weren't being played. As a result, there would be no gating or cleaning up of toms

(continued on page 39)



At Omar Hakim's studio, Rich Tozzoli employs a stack of Manley gear: the four-channel Force on toms, the Core on bass guitar, and VoxBox on overheads.

RUPERT NEVE DESIGNS RNDI ACTIVE TRANSFORMER DIRECT INTERFACE ■ FOCAL TRIO6 BE THREE-WAY ACTIVE STUDIO MONITOR

RUPERT NEVE DESIGNS RNDI ACTIVE TRANSFORMER DIRECT INTERFACE

It wasn't until I owned a Neve console that I truly understood the cumulative value of recording through circuitry designed by the legendary Rupert Neve. Rupert Neve Designs' RNDI provides comparable sound quality in the form of a direct interface (DI). The RNDI is an active, mono direct injection box built within a rugged steel chassis with custom transformers, a Class A discrete FET amplifier circuit and an LED current consumption meter with ground lift and speaker/instrument switches.

The 1.5 lb. RNDI measures 6.25 inches x 4 inches x 1.5 inches and includes a blue LED power indicator that illuminates when phantom power (required for operation) is present. The box's +21.5 dBu input headroom can handle any instrument or professional line level source without needing a pad. In speaker mode, it can handle the full output level of a massive 1,000 W amp (yes, +41.5 dBu). The box's high 2 Mohm input impedance ensures consistent performance with a wide variety of instruments and its Class A design prevents crossover distortion. The majority of the RNDI's harmonic content is 2nd order with some 3rd order content present; these musical harmonics become a sonically pleasing addition to the original signal. The box's phase



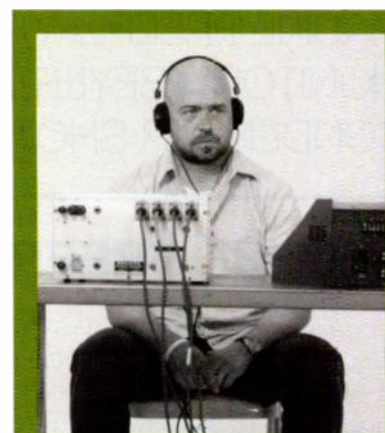
Rupert Neve Designs RNDI

coherence is amazing; this keeps the sound natural and results in a better outcome when blending the direct signal with a mic on the same sound source.

RNDI, which has a frequency response extending below 10 Hz and beyond 100 kHz, produces a potent and energetic direct sound that easily and faithfully reproduces the sonic depth of bass guitar and analog synths. In my comparisons to other direct boxes, I found that regardless of the audio source, the RNDI added a sonic depth to the sound that wasn't present in my other DIs (even active tube DIs

costing several times as much). The RNDI produced a deeper, fuller bottom end, smoother, richer highs and better clarity without any brittleness. The box's low impedance, transformer balanced output is perfectly suited to drive long cable runs, making it a perfect option for sound reinforcement situations. It's built like a tank so I'm sure it will easily bear the burdens of life on the road.

During my review period, I used the RNDI on keyboards, acoustic guitar, mandolin and bass guitar, and it performed wonderfully in every instance. During a live record-



BY RUSS LONG

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

ing, where the direct acoustic guitar tone was unusable with the guitarist's DI, switching to the RNDI was as drastic as switching instruments. Gone was the hollow, brittle sound of the guitar's piezo pickup; instead, the guitar sounded warm, smooth and full. The change was solely the result of switching DIs; everything else remained the same. I had similar results in a live recording with a mandolin. Where the RNDI really shines is bass guitar, where it adds wonderful harmonic content to the bass' mid-range tone, making it practically jump out of the mix while the bottom-end retains the smooth, rich fullness of a completely transparent DI.

The RNDI is a truly amazing device and at a street price of only \$269, it should be top consideration for any musician, studio, engineer or sound company in need of a high-quality DI.

Rupert Neve Designs
rupertneve.com

FOCAL TRIO6 BE THREE-WAY ACTIVE STUDIO MONITOR

As a long-time Focal fanatic—my mixing room is equipped with Focal SM9s and I have Twin6 Be monitors in my tracking space—I couldn't wait to hear the company's latest release: the three-way Trio6 Be. At a street price of \$2,795 each, the Trio 6Be sits midway in price between the SM9 and the Twin6 Be, providing more accurate monitoring than the Twin6 Be and even more volume than the SM9.

Along with fellow *PSN* contributor Rob Tavaglione, I and a few other audio types participated in an exclusive preview of the Trio6 Be at Studio at the Palms in Las Vegas earlier this year. I was immediately impressed by the monitor's ability to accurately reproduce audio

in amazing detail, regardless of the volume level.

The 44 lb. Trio6 Be measures 10.9 inches x 20.5 inches x 14.2 inches in size, and its enclosure is constructed of 22 mm MDF, beautifully finished in black and textured grey paint.



Focal Trio6 Be

The enclosure features two 8.5-inch round openings; an 8-inch woofer fills the first opening and the second is filled with a rotatable aluminum baffle incorporating a 5-inch mid-range/woofer, a 1-inch inverted dome beryllium tweeter (the same tweeter in Focal's SM9) and a pair of ports. The rotatable baffle allows the speaker to be accurately oriented in four different positions: vertical with woofers on top, vertical with woofers on bottom, horizontal with woofers outside or horizontal with woofers inside. Changing the orientation requires the removal of four hex bolts (wrench included), gripping the two vents, pulling the baffle forward and rotating it. Changing the ori-

entation takes a few minutes so it isn't possible to do quick A/B comparisons. However, I found that the actual physical space of the monitors placement is the biggest contributor to which configuration is best for a specific situation.

The speaker's rear panel includes XLR input switchable between -10 and +4 dBu operation, recessed potentiometers for adjusting the two-band shelving EQ and a variable-depth 160 Hz notch filter. A pair of quarter-inch jacks allows the connection and daisy chaining of a footswitch (not included) that activates Focal's Focus function. In Focus mode, the bass woofer is disabled and the enclosure switches to two-way operation. This function was

(continued on page 39)

MACKIE FREEPLAY PERSONAL PA ■ ADAM A7X STUDIO MONITOR ■ BEYERDYNAMIC MCE 86 II ELECTRET CONDENSER SHOTGUN MICROPHONE

MACKIE FREEPLAY PERSONAL PA

In my review-based pursuits, I've auditioned most portable PAs (PPAs) currently available in the marketplace: many great ones, some very portable ones, some not-so-portable ones and a lot that fall somewhere within those ideals. Currently shipping, the FreePlay Personal PA is the result of Mackie's latest and greatest brainstorm: a super portable "Swiss Army knife" sound reinforcement problem-solver, quite useful in many applications both personal and professional.

Visually, the black polymer-encased 9.5-inch x 17.8-inch x 9.1-inch FreePlay chassis best resembles a new-century "boom box." It seems to be built well and is primarily designed for portable, on-the-fly use, weighing in at 11 lbs. (without batteries or optional battery pack). As a child of the '80s, I was thrilled to use it as such, too: outdoors on the beach, while camping, and at any potential performance location for both playback and performance. The quick scoop? FreePlay is my favorite boom box, ever.

Most importantly, Mackie's FreePlay is a perfectly capable small PA: one ideal for coffee shop-style singer/songwriter uses, quick/easy sound reinforcement tasks and so on. As such, it's the type of pro audio box that musicians and audio wranglers would just keep in their cars.



Mackie FreePlay is a small portable PA for beyond typical tethered usage, such as at the beach.

FreePlay is likely more robust than you think, too; it boasts 150 W (RMS) and 300 W (Peak) of power. Its frequency response is an impressive and full-sounding 65 Hz - 20 kHz; it's a stereo playback system—left and right high-frequency drivers with a shared, green-tinted, eight-inch LF woofer. A built-in four-channel digital mixer plus effects (featuring well-chosen minimalistic reverb settings, two delays, four stereo mix EQ settings and a Feedback Destroyer for open mics and DI'd inputs), two mic/line preamps, an eighth-inch input and quarter-inch monitor output comprise the FreePlay's simple I/O scheme.

Additionally, consider Bluetooth

playback and the FreePlay becomes a real problem solver. For example, it's a perfect solution for a restaurant patio's program-music playback and visiting singer/songwriter on Fridays; and, with battery-powered capabilities (standard Ds or via optional rechargeable Lithium-ion), it can move anywhere necessary. Further, FreePlay delivers deep, punchy bass and detailed highs tuned via Mackie's free iOS-ready FreePlay Connect app (adjusting levels, EQ, effects and other key parameters), so it sounds great while being easy to use.

In addition to my own portable/personal PA use, I loaned the FreePlay review unit to a local pastor who often

(continued on page 38)

BEYERDYNAMIC MCE 86 II ELECTRET CONDENSER SHOTGUN MICROPHONE

Electret shotgun microphones—such as beyerdynamic's MCE 86 II (\$379 street), reviewed here—are small diaphragm condensers, yet ones with key design features making them the only choice for some recording and sound reinforcement tasks. Live events (from sports to outdoor weddings), theaters and houses-of-worship (HOWs) are distinctly different environments where one or two available shotgun microphones can make the difference between sound success and a noisy disaster, as they will capture slightly-to-fairly-distant sounds like no other microphone type on the market.

How do they work? Well, a standard shotgun microphone most always features a long, multi-slotted tube paired with a supercardioid or hypercardioid capsule beneath it. In use, the desirable on-axis sound reaches the capsule, and off-axis sound largely cancels itself out first as it enters the mic's multiple side slots, thus essentially "enhancing" the on-axis sound.

I've personally discovered several great uses for these "interference tube" microphones in places such as small- to medium-sized HOWs. Two areas in

which a shotgun microphone will shine include where pastors want their own microphone out of sight (a shotgun can easily be placed multiple feet away, near the floor and hidden in a flower arrangement, for example) rather than an obtrusive podium mic; and, for example, in theatrical productions, holiday pageants and the like, where multiple children have speaking parts and there aren't enough inputs or microphones (or both) to capture everyone. In the latter example, simply grab a shotgun microphone and boom pole then actively aim it, or "run and gun."

The MCE 86 II is an affordable and truly superb-sounding hypercardioid shotgun, one I would enthusiastically recommend to anyone. It sounds fabulous and full-range, boasting a rich 50 Hz-18 kHz frequency response. It's lightweight for its size (0.2 lbs.) and ruggedly built with a work-ready, no-scratch finish.

In reviewing the MCE 86 II, it performed flawlessly for such HOW tasks detailed above. I left

(continued on page 38)

beyer MCE
86 II



BY STROTHER BULLINS,
REVIEWS EDITOR, NEWBAY
MEDIA AV/PRO AUDIO GROUP

Strother Bullins is NewBay Media's Reviews Editor, AV/Pro Audio Group, active musician, recordist and club-level sound reinforcement wrangler. sbullins@nbmedia.com

ADAM AUDIO A7X AX-SERIES TWO-WAY ACTIVE STUDIO MONITOR

Approximately \$400 more than ADAM Audio's comparably sized, budget-priced F-Series model, the F7, the A7X is one of the best all-around reference-grade powered studio monitors I've discovered on the market, at any price. At \$749 street each, the A7X is firmly within the mid-level, powered two-way landscape, yet offers a uniquely detailed performance thanks to several key features: ADAM's X-ART proprietary folded ribbon tweeter technology (approximating the size of a comparable 2-inch dome tweeter found in most standard studio monitors, yet providing up to a reported 50 kHz frequency response); the robust carbon fiber, Rohacell, and glass fiber 7-inch woofer reaching down to 42 Hz; dual 2-inch front ports; and a dual-powered design, featuring a 50W continuous Class A/B amp for highs and efficient 100 W continuous Class D amp for lows.

Unlike the F-Series (assembled in China), the AX-Series is

(continued on page 38)

AUDIO PRECISION APX555 AUDIO TEST SYSTEM ■ AMPHION TWO15 STUDIO LOUDSPEAKERS ■ FUTURE SONICS SPECTRUM SERIES G10 UNIVERSAL FIT PROFESSIONAL EARPHONES

AUDIO PRECISION APX555 AUDIO TEST SYSTEM

Bench Mode, Bench Mode, Bench Mode! Yeah, I'm supposed to be impressed by the Audio Precision APx555's best-in-class analog measurement and signal generation performance (and I am); by the range of possible interfaces and signal types that can be employed for testing (and I am); by the easy set up of test procedures for rapid testing of frequently inspected devices and for manufacturing quality control testing (and I am); but as an only-modestly-reformed shop geek and longtime user of the APx series' predecessors, the bench mode felt like home. That is, if you can imagine coming home and



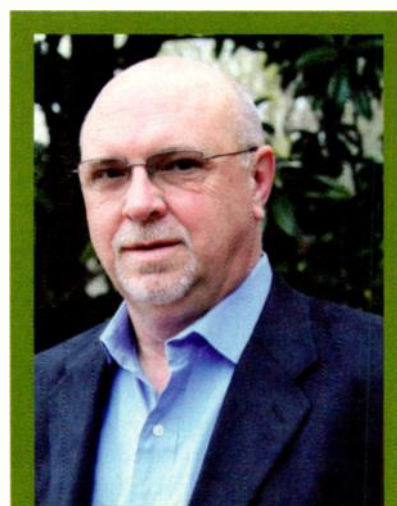
Audio Precision APx555

finding that your familiar domicile has been given a first-class extreme makeover that exactly suits your tastes, needs and lifestyle. As a longtime AP Cascade owner and user, diving into the APx555 and the latest APx software is just like that—instantly familiar and comfortable, yet at the same time completely refreshed and reimagined, rebuilt for speed and efficiency, with a heavy dose of outright elegance.

Bench Mode harkens back to the familiar AP software interface from pre-APx versions, home for many of

my tech brethren. In the older software, the screen was pretty drab and busy, but with a ton of information in a single location. The first iterations of the APx software were more focused on the Sequence Mode automated testing and advanced reporting options than a shop tech's need for direct and manual control. Now, both approaches are easily accessible with fresh graphics. You don't have to be a geek to run sophisticated tests with APx, but you can geek out if that's your style.

As you might expect with a flagship product, the APx555 incorporates the sum of Audio Precision's substantial experience. The residual THD+N specs are 5 dB better than AP's 2700 series at -120 dB, bandwidth is 1 MHz and FFT's can measure 1.2 million points at 24-bit reso-



BY FRANK WELLS

Frank Wells is a former radio station Chief Engineer, former recording studio tech, former President of the Audio Engineering Society and former editor of *Audio Media* and *Pro Sound News*. Today he's several other things.

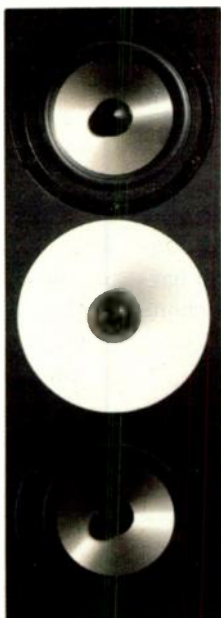
lution. The impressive litany goes on, including the broad list of standard and optional I/O—Serial, HDMI, Bluetooth, PDM (think DSD if unfamiliar)—and more. AP does an exceptional job of helping its customers address fast changing needs.

The APx555 is an expensive system (\$28,300 base, with up-options including advanced master clock). If you need it or want it, you probably already know about it. I'm happy to have had the opportunity to drive it, like getting to drive a fine sports car. The APx555 is heartily endorsed.

AMPHION TWO15 STUDIO LOUDSPEAKERS

The Amphion Two15 studio loudspeaker, as with the Finnish company's full line, has two core features that stand out in the studio monitor market: They are passive and they are sealed enclosures. Amphion chose the route of twin passive radiators on the rear to match the twin mid-low drivers on the front. Yeah, I know, they are passive monitors so calling the radiators passive might seem like a redundancy. The differentiator is that the front speakers get drive from an external amp, while the passive radiators reflect the motion of the front speakers, moving in when the mid-low drivers move out, and out when they move in, avoiding energy build-up inside the cabinet. In the Two15 (\$2,000 each), two 5.25-inch speakers are active, along with a 1-inch titanium dome tweeter. Frequency response is rated at 44 Hz to 20 kHz +/- 3 dB with a "low" crossover point of 1,600 Hz.

Provided for the review was Amphion's Amp500 power amp (two-



Amphion Two15

channel, rated at 500 W a channel into 2 ohms, so it should provide around 250 W at the Two15's rated 4 ohms, per channel, \$1,800) and Amphion's 2 x 2.5 m twisted pair speaker cables (\$175). The whole system is about as simple as can be. The power amp has only an on/off switch on the front, a pair of input XLRs on the back with unique Argento Audio three-way binding posts for outputs and an IEC AC power jack.

I first set the monitors up on desktop on Prima-cooustic Recoil Stabilizers, but they performed better off the desktop on Ultimate Support MS-100B monitor stands (by the way, they go vertical, not horizontal). Over an extended listening period (weeks), I give the Two15s excellent marks in clarity, detail, tone, consistency across the frequency spectrum, off-axis response and dynamic performance. The only quibble I noted was with a few tracks I listen to that extend the

(continued on page 38)

FUTURE SONICS SPECTRUM SERIES G10 UNIVERSAL FIT PROFESSIONAL EARPHONES

From the originator of in-ear monitor systems comes the latest in its progression of universal fit earphones. I've used them all. I liked the EM3s a lot. I loved the Atrio M5s. And now I'm equally fond, if not more so, of the Spectrum Series G10s.

Future Sonics employs a single custom-designed, full-bandwidth driver in its earphones, deliberately eschewing armature, "hearing aid"-style drivers (so there's no crossover or concerns about phase). The G10s have a sleek, modern appearance, twisted pair cabling and an integral thumb groove that makes figuring out which is right and left instinc-



Future Sonics Spectrum Series G10

tive. They come with a range of foam and soft silicon end pieces, or "sleeves," so the user can choose whether he wants the ultimate isolation of the foamies or the com-

(continued on page 38)

Adam Audio

(continued from page 36)

designed and built in Berlin, Germany; the enclosure's high-quality standards are both physically and aurally obvious as premium pots, switches and I/O are first class and the sound would surely please audiophiles and recording engineers alike. Among those are the super-handly front panel on/off switch with accompanying green LED and input sensitivity knob (infinity to +14 dB, notched in the middle at 0 dB of gain).

Thoughtful high- and low-shelf EQs reside on the A7X's back panel (actually, on the entire AX Series except for the smallest model, the A3X)—high shelf is at 5 kHz, low is at 300 Hz, both +/- 6 dB adjustable. Adjacent to the EQ is a tweeter level adjustment (+/- 4 dB). Balanced XLR and unbalanced RCA inputs are provided. As such, the A7X proves to be reasonably flexible for a variety of production environments.

Sitting atop Primacoustic's Recoil Stabilizers and paired with ADAM's



ADAM Audio A7X

truly awesome (and nearly deserving of a separate review) Sub10 Mk2 (\$1,499 street)—a compact 200 W continuous powered subwoofer packed with features—this A7X monitoring rig was consistently musical to my ears, yet seemed to fully reveal all qualities of individual sources within most every mix I played back during my review period. Most importantly, my AX'ed mixes translated to secondary playback systems (my car, headphones, other musicians' home systems) like no other I've used with-

in recent memory. Perhaps I'm better than I used to be; perhaps the ADAM AX-Series is better than other studio monitors I've used. Perhaps both are correct.

To me, buying studio monitors just isn't as sexy as microphones, outboard and mixers; it's really hard for me to get that excited about black boxes that, at best, add absolutely nothing to the sonic equation. That said, my most favorite listening experiences ever—countless playbacks at Masterfonics' The Tracking Room, for one example—were definitely sexy. Not only did I enjoy revisiting my most played reference material during this review period, those I worked with on various recording projects (mostly) loved hearing the playbacks of precisely what was captured in the recording process.

Nearly \$3k for this particular AX-Series rig (including the Sub10 Mk2) may make you wince, as it did me, but I'd challenge you to find a better-performing system for the money or even a better way to immediately improve the quality of your output.

ADAM Audio
adam-audio.com

Mackie

(continued from page 36)

performs as a live singer/songwriter. He took it to several outside venues as his only PPA and monitor, ultimately raving about the experience and impressive coverage. On that note, I recognize its huge potential in the realm of singer/songwriters or what untethered artists may need for a truly portable PA. It really can go anywhere; it sounds great with a full charge; and it seems to fill a real void in the marketplace for "personal PA" products. Actually, Mackie's FreePlay may be the only product of its kind; the next closest thing I've used is Sunburst Gear's MM Series, which is also portable, wireless and Bluetooth-ready. That said, Sunburst's MM Series isn't something I'd want to drop into the sand at the beach (the Sunburst is closer to a studio/live monitor than a portable PA) but Mackie's FreePlay certainly is.

Admittedly, I was disappointed that the FreePlay review unit didn't ship with the FreePlay Lithium-ion rechargeable battery (\$69 street), marketed as an option for buyers. Instead, I rather efficiently burned through one install of six D batteries over several afternoons of outside/remote usage; I was impressed by how long it took for my batteries to bite the dust. Speaking of accessories, FreePlay has an optional "kick stand"/pole mount (\$24 street) and carbon fiber bag (\$69 street) available for extra purchase, too.

In all, I'd recommend any audio pro to seek out a chance to hear and use Mackie's FreePlay. If nothing else, it's the boom box you always wanted—just add input.

Mackie
Mackie.com

beyerdynamic

(continued from page 36)

the mic at a local church to use for a couple of weeks; they responded by enthusiastically inquiring about where to buy one. For years, their revolving volunteer staff tried to capture small, youthful voices in various plays as well as the shy and public-speaking averse; now they finally had an easy-to-use and unobtrusive tool to capture them.

Next, I was hired to provide comprehensive sound services for a summertime outdoor wedding—from live band reinforcement and playback to capturing the vows for recording and

sound reinforcement purposes. For this gig, the MCE 86 II was the linchpin; during dress rehearsal, I auditioned the shotgun, pointing it precisely where the bride and groom stood with the pastor. The result was an intimate, close-up spoken word track that proved to be both useful during the wedding as well as later, when paired with a wedding video shot by another party.

Finally, I just happened to have the MCE 86 II in my microphone bag while running sound for a multi-artist outdoor acoustic/bluegrass event. This being a "gather 'round the mic" type of setting, there were two different instances during the event where one particular instrumentalist was hard to hear in the overall mix. Just as an

experiment, I grabbed the MCE 86 II, put it on a stand and placed it as out of sight as I could, being careful to aim toward the "buried" player. It worked like a charm, especially during solo passages where the player needed just a small yet natural-sounding boost.

The MCE 86 II's remarkable smoothness rivals small diaphragm condensers I'd normally choose to use in the studio, and I believe that's saying a lot, especially considering its affordable price. A shotgun microphone is simply a tool worth having in any "workhorse" microphone collection, and the MCE 86 II is an ideal specimen.

beyerdynamic
north-america.beyerdynamic.com

Amphion

(continued from page 37)

soundstage outside the speakers on most top-notch systems; within the speakers' physical placement, the Two15s had dandy depth, height and localization, but the image did not extend outwards left and right—a result that an Amphion rep suggested was due to the cabinets' point-source nature.

There are a growing number of high-profile engineers adopting the Two15s. If your bank account can handle it, you might just add yourself to the list after an audition.

Amphion Loudspeakers
amphion.fi

Future Sonics

(continued from page 37)

fort of the silicone sleeves. As with the Atrios, I opted for the silicon sleeves for my use; they seal well and are comfortable for long periods of use.

Frequency response is rated as simply 18 Hz to 20 kHz; I'd like to see a plot of the frequency response, the G10s (\$219) evidencing to my ear a gentle boost moving down from the mids. Knowing that Future Sonics voices its ear monitors with musicians in mind, I wouldn't expect them to measure totally flat. I might not want to use the G10s for making

critical balance decisions, but they sure sound sweet. That said, if you want to know what people mean when they say transducers sound "musical," give the G10s a listen, but use a good DAC. With phone/iPad audio, the G10s sound good; with a reference-quality DAC (I used Benchmark and Emotiva units), the G10s really put a smile on my face.

I've turned a number of folks on to Future Sonics' universal fit in-ear monitors, including gigging musicians who wanted superlative performance but couldn't afford custom molded IEMs. I'm glad to be able to put Future Sonics back on that list with the introduction of the Spectrum Sound G10s.

Future Sonics
futuresonics.com

Manley

(continued from page 34)

on this session. It's almost hard to believe a preamp change could alter the drum sound in this way, but we all agreed that it did.

Focal

(continued from page 35)

first incorporated into the SM9's design but that speaker requires you to physically push a button on each cabinet to change modes—a bit of a pain. The Trio6 Be has perfected the concept, allowing the modes changed via footswitch, no moving from listening position required. Brilliant!

The monitors I received had already been burned in. I immediately put them to work for several hours auditioning my staple reference material: Pink Floyd's *Dark Side of the Moon*, Elton John's *Goodbye Yellow Brick Road*, James Taylor's *JT* and *Hourglass*, The Beatles' *Let It Be*, The Beach Boys' *Pet Sounds* and Daft Punk's *Random Access Memories*. "I was impressed" would be an understatement. While I found the speakers to be a pleasure to listen to, it's their

"Trio6 Be allows its modes changed via footswitch, no moving from listening position required. Brilliant!"

stunning imaging, detail, balance and clarity that's so impressive, providing extremely precise monitoring.

Next, I spent several days using the monitors while recording overdubs on several projects. I found them to be precise at all volume levels and non-fatiguing over long periods of time. Later, while using them for a mix, I was ecstatic about their performance and my mix translated perfectly between my Trio6 Be and my SM9 pairs. As an SM9 owner, I loved the concept of Focus mode but in practicality, I didn't use it much; standing to hit a button on each speaker is a bit of a pain. The addition of a footswitch with the Trio6 Be makes switching modes instantaneous and the feature much more useful to pro-level users.

Focal
focal.com

What we also liked about the Force was how simple it was to use. It has four channels of Class A, 12AX-7 dual-triode vacuum tube preamplification taken from the Core unit. It has gold-plated XLRs running into Manley's Iron Mic input transformer. Each channel also has a quarter-inch Hi-Z 10 Mohm jack for line or instrument level similar to the SLAM! unit. Also provided is standard 48V phantom, 120 Hz HPF, Polarity Invert and

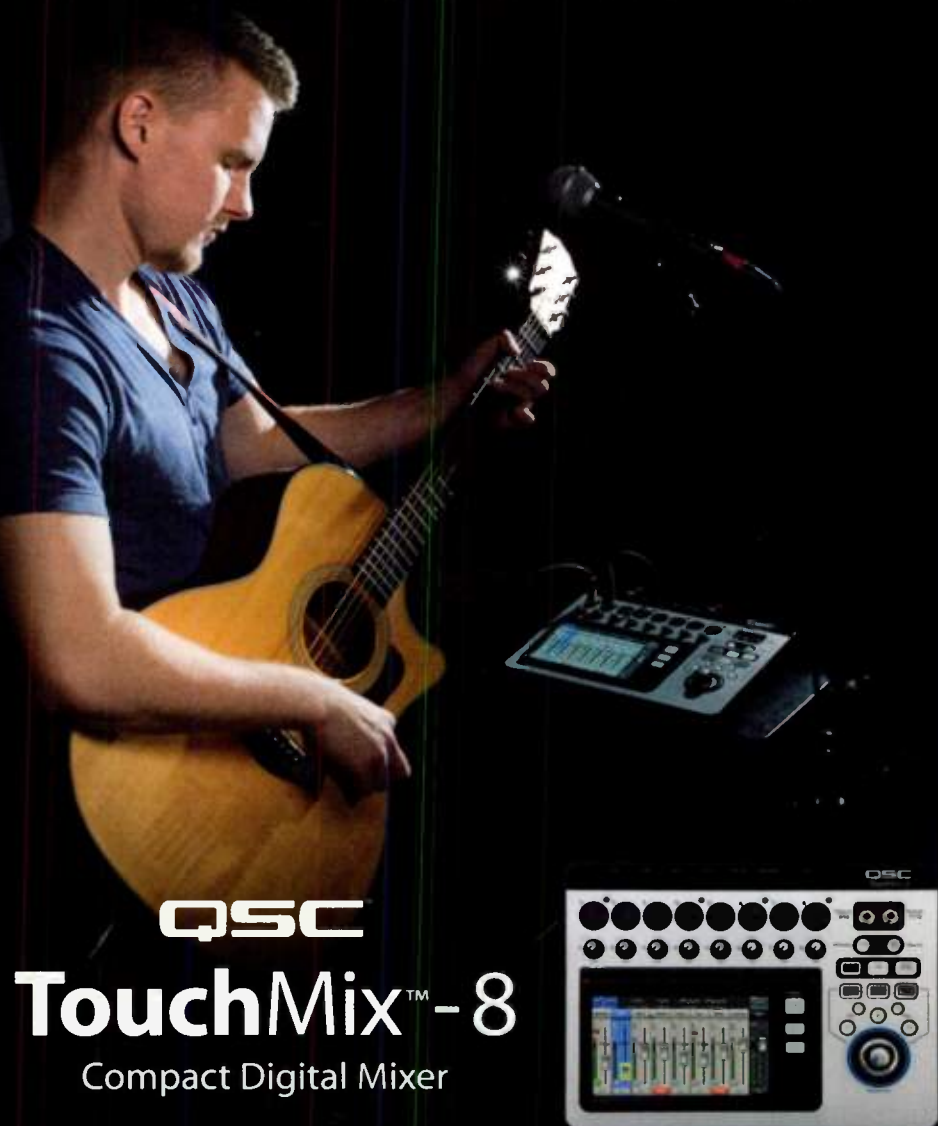
Hi/Low input attenuator buttons. Users get either 40 or 50 dB of gain with an additional 10 dB available via internal jumper. Then there's a 7-Segment LED peak meter on each channel—and that's it. The pots feel sturdy, the unit feels super solid and, most importantly, it sounds great.

And that's a big part of what makes the Force so great: There's not too much to think about. Plug in, push a few buttons, turn a knob and bam—

tight, solid and thick sound. Omar was convinced enough to buy two of them after the session, plus a VoxBox, which ended up on bass. I gladly took the Core to my next session at Clubhouse Studios in Rhinebeck NY; after using it, owner/engineer Paul Antonelli wouldn't let me take it home. As a result, I'll get to that unit in a future review after more use.

Manley Labs
manley.com

THE WORLD'S MOST POWERFUL 8-Channel Mixer



QSC
TouchMix™-8
Compact Digital Mixer

Big claim for a small mixer, right? When you experience TouchMix for yourself, you'll agree that it's not hype - it's the real deal. You'll hear sonic clarity only found on the most high fidelity audio devices in the world. You'll find a feature set that is equal to some of the most-used professional consoles on tour today. And, you'll discover what no other digital mixer gives you - an easy to understand and easy to use product that delivers control, flexibility and above all else, professional results. That's real power. That's TouchMix.

QSC
qsc.com

Slate Media Technology RAVEN MTi2 Multi-Touch Control Surfaces

The 27-inch MTi2 is Slate's latest RAVEN Multi-Touch DAW control surface, now ready—via RAVEN 3.0 software—to support DAWs including Pro Tools, Cubase/Nuendo, Studio One v3, Logic Pro X, Digital Performer and Ableton Live. New RAVEN 3.0 software includes upgraded hardware fader modeling and Batch Commander RECORD features—allowing customized multi-move commands within the user's DAW of choice, accessible by a single touch of a button.



Primacoustic Paintables Clouds: Now Shipping

Primacoustic's new Paintables absorptive clouds include the circular Cirrus, hexagonal Hexus and square Altos, each in 36-inch and 48-inch diameters. Each panel is made from 1-1/2-inch thick high-density, six-lbs. glass wool with resin-hardened edges with micromesh that fully wraps the panel. All Paintables are factory painted in Absolute White latex; proprietary surfaces enable users to lightly spray paint the panels on-site to color match any decor without affecting the acoustical performance, according to Primacoustic.



Blue Sky Audio Management Controller

Built to compliment the Star System One monitoring system, Blue Sky's Audio Management Controller (AMC) is also compatible with virtually all studio monitors. The AMC is an eight-channel DSP-based system, and each channel features 1/3-octave EQ, eight bands of filters and parametric EQ (10 bands of parametric EQ on the bass channel), and variable delay for time alignment.



Integrating with Blue Sky's Speaker Room Optimization auto-alignment system (SRO) in conjunction with bundled Windows software, AMC's other features include eight system presets (EQ curves, etc.), lip sync delay, 7.1 bass management with a variable cutoff frequency per channel and an externally

firstlook

API 535-LA Line Amplifier

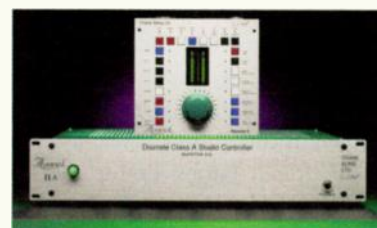
Modeled after API's console-based 325 booster cards, the 535-LA line amplifier can both amplify and attenuate incoming and outgoing signals while providing API's sonic characteristics—intended for digital signals such as DAW outputs. The 535-LA also includes a balanced input, a polarity switch, 20 dB pad for incoming signal attenuation, LED clip indicator and a three-position toggle switch for selecting different output gain levels from the transformer. Output gain range is from 6 dB to 45 dB. The 535 utilizes discrete 2510 and 2520 op amps along with API proprietary transformers.



accessible mute input. The AMC is fitted with balanced analog and digital I/O with bypass-able sample rate conversion.

Crane Song Avocet IIA and Solaris D/A featuring Quantum DACs

Crane Song's new Quantum DAC uses a 32-bit converter and asynchronous sample rate conversion for jitter reduction with up sampling to 211 kHz. With jitter less than 1 pS, Quantum DA has the lowest published jitter values in the industry, according to Crane Song.



Avocet IIA is a stereo monitor controller capable of operating in surround configurations up to 7.1. Features include dim, mute, phase, mono and 16-bit truncation functions, a dedicated subwoofer output, and a speaker select switch that sends line level balanced audio to one of three outputs.

The Solaris Quantum D/A offers three separate analog outputs: main out with discrete output amplifier and stepped attenuator; balanced, fixed level output (at +18 dBu); and a stepped attenuator headphone output/amplifier.

Novation Circuit Synth/Rhythm Instrument

Novation's new Circuit is a stand-alone "groove box" that combines Nova-heritage synths with sculpted drums. Users can apply Circuit to create an entire tune by combining up to 128 steps of synth and drum patterns, adding space, depth and energy to music with built-in effects; sidechain is included. Compositions can be saved to one of 32 slots. Battery powered, Circuit can be used anywhere and creations can be loaded into a DAW later. Key features include a two-part Nova-heritage analog-modeled synthesizer; four-part drum machine; 4x8 grid of RGB, velocity-sensitive sequencer pads; six-voice polyphony; many oscillator types and wavetables; 64 production-ready patches; built-in speaker; and USB or MIDI-ready, for use with outside computer-based DAWs and other hardware.



NEW

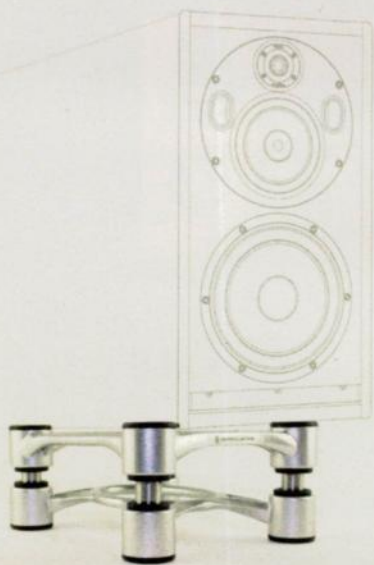
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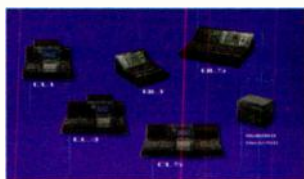
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Yamaha Pro Audio CL/QL Version 3.1 Software

Version 3.1 software for Yamaha's CL and QL Series digital mixing consoles is now available.

It provides a number of new features including control of the RSio64-D, or "bento box," serving as a bridge between a Dante network and MY-card format. Updates are also available for the StageMix application with V5.1 for iPad, R Remote application, and Console File Converter applications for broader data compatibility between Yamaha digital mixing consoles.

New features in V.3.1 include the Pan Law Parameter with Center Nominal and LR Nominal settings to monaural input channels. On Center Nominal, nominal level is produced when the channel is panned to center; on LR Nominal, nominal level is produced when the channel is panned full L or R.



DPA d:screet Slim Microphone

DPA Microphones has announced the d:screet Slim Microphone, an omnidirectional body-worn model specifically developed for the film industry to allow "near invisible" placement. The d:screet Slim can be placed into a space as small as 2 mm in width and comes with DPA's new button-hole mount, providing a 90-degree sound input angle in relation to the wearer's mouth. Two d:screet Slim versions are available: high- and low-sensitivity models featuring DPA's 4060 and 4061 capsules, respectively. Color options include beige, white, black and brown. A refinement of DPA's mic bodyworn mic concealer is currently under development as an additional accessory.



DiGiCo S21 Digital Mixing Console

DiGiCo is featuring its new 96 kHz S21 digital mixing console, borne of the same FPGA algorithms as the flagship SD7 with a mic preamp design from the 192 kHz SD-Rack. Additional S21 specifications include two large multi-touch screens, RGB switch encoders with HTL (Hidden Til Lit), 21 touch-sensitive moving faders, four layers in banks of 10, 24 mic/line inputs, 12 analog outs, 36 busses, 40 flexi-channels, 16 flexi-busses, two AES I/O, two DMI slots, two Ethernet connections, USB2 Audio I/O, Word Clock I/O, GPI and GPO, eight effects engines, four DiGiTubes, 16 graphic EQs, four multi-band comps, snapshots and DiGiCo's Stealth Digital Processing.



Jensen ISO-MAX Media-1 and Media-2 DIs

Jensen Transformers' new DI boxes are specially designed to eliminate noise when using laptops and other consumer audio sources.

Each are equipped with Jensen JT-DB-EPC transformers and a variable pad to adjust input level for all types of media

sources (laptops, tablets, video players and DJ

mixers) connected via quarter-inch RCA or 3.5mm inputs, allowing signal levels to be set on the fly. Media-1 is a single channel device; Media-2 offers full stereo functionality.



L-Acoustics X Series Coaxial Loudspeakers

A new line of coaxial speakers for the installation and rental markets, three new enclosures in the X Series family—the X8 live monitor, X12 multipurpose enclosure and X15 reference stage monitor—have been created, making use of technologies that led to the launch of L-Acoustics' K2 last year.



X Series features include high-excursion neodymium drivers, ellipsoid directivity, laminar-vented ports and reportedly up to 30 percent comparative weight reduction. Used as a stage monitor, the X Series offers low latency monitor presets and a seven-percent lower profile. In installation applications, the X Series comes with a range of flexible rigging accessories and a RAL custom color program. The X Series is a true point-source system for short throw applications.

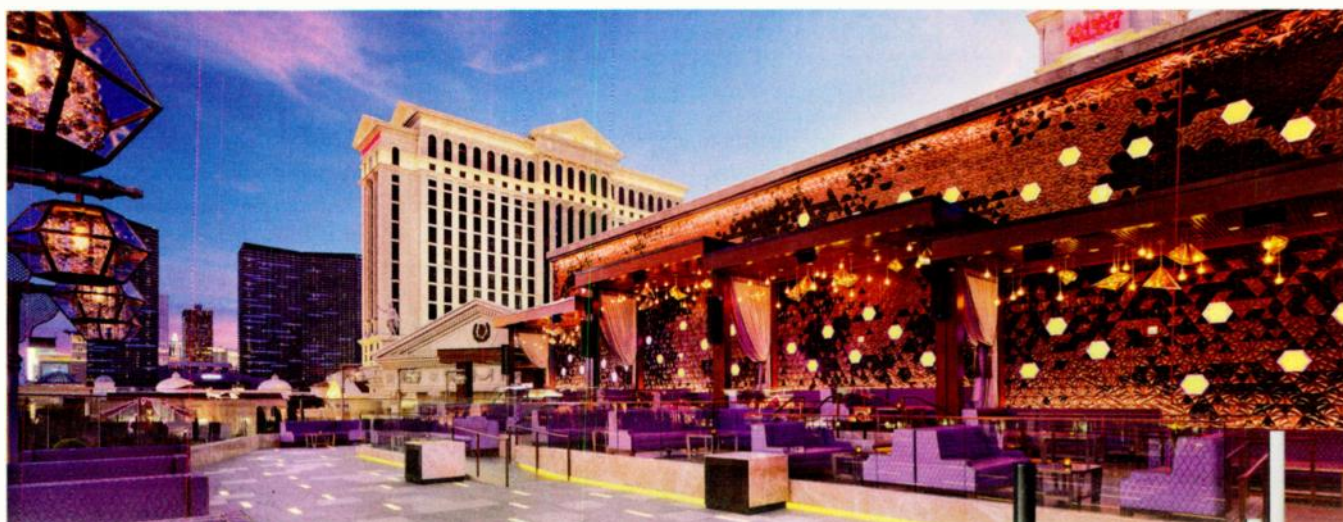
firstlook

Radial Engineering BT-Pro Bluetooth Direct Box

Radial's new BT-Pro captures the wireless transmission from a Bluetooth-enabled device, converting the signal to a balanced line for use in a PA system. It uses a T-shaped access cavity; the antenna is behind it, protected by a milled Sintra insert made from closed-cell PVC, allowing reception distances up to 60 feet. The BT-Pro is powered by an external supply, via USB adapter or USB laptop port. The latest Bluetooth wireless A2DP interface utilizes over 2.0 EDR (Enhanced Data Rate) for higher speed transmission and audio quality. Inside, BT-Pro converts the data to a stereo analog signal, producing up to +4 dB at the output. The signal level is controlled by a front panel potentiometer shared with a built-in headphone amp.



There's more information on all the products featured at prosoundnetwork.com/nov2015.



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The World Leader in Steerable Sound

Mixing Monitors for 5 Seconds of Summer

BY BEN BOOKER

NEW YORK, NY—As an experienced sound engineer for over 20 years, I've worked with all genres and styles, mixing for acts including Scissor Sisters, PJ Harvey, Spiritualized and now 5 Seconds of Summer—who just wrapped a global tour and dropped their latest album last month.

My work with the band started in 2013, when John Delf, owner of Edge Studios and a good friend of mine, invited me to mix shows for a young, up-and-coming, Australian band fresh off their arena tour with One Direction, called 5 Seconds of Summer. Using the classic Midas XL3, my choice desk back in the analogue days, in place at London's Islington Academy, and the Ultimate Ears 11 PROs that the band had already been fitted for, I began to look after their mixes. Within a song or two, I became a full-time member of the 5SOS family.

With that comes a lot of touring. While on tour, I use a world-standard DiGiCo SD10 live digital console, an important factor for an international tour visiting different territories. Able to handle a great number of inputs



Ben Booker, monitor engineer for 5 Seconds of Summer, sporting his Ultimate Ears UE 11 Pro ear monitors.

and outputs, the SD10 has macro keys that can be programmed to do any task during a show, including individual talk back to the artist or swapping vocals in mixes as the performers switch sides of the stage. Using multi-band comps on the outputs plus another compressor with a very low 1-1.5 ratio, I gently compress the mix during shows, a technique to glue mixes together.

To create the perfect sound alongside the UE-11 PROs and the SD10 console, I use the clean sound and wide turning range of the Sennheiser's 2000 series, with 12 channels in two different ranges. Band members Luke, Calum, Ashton and Michael each have two IEM packs, with one in each range, just in case something happens mid-show. Also employed are Sennheiser 3732mk2 receivers with 5200 hand-

helds using 5235 dynamic capsules. Just as with the tight seal of the in-ear monitors, the 5235 Dynamic capsules are to keep crowd noise out, as a condenser capsule would let too much sound spill in.

Mix-wise, 5SOS is very straightforward. I pan drums, vocals and guitars in the stereo mix to create space, and occasionally delay one side of the stereo guitar by 8ms to create a larger guitar sound. In my past work, I've had to EQ the output of in-ear monitor mixes to give a flat sound, but with the UE-11s, I can run outputs completely flat and trust the sound I hear.

Each member of the band and I have relied on our three sets of UE-11s during rehearsals, tours and shows. Utilizing Ultimate Ears' impressive laser ear-scanning to create the band's newest pair led to perfectly

(continued on page 47)

Juanes Provides Loco De Amor

BY SAM MCLEAN

NEW YORK, NY—Colombian singer/songwriter/guitarist Juanes, arguably one of the biggest Latin music

artists to emerge from the early 21st century, spent the summer performing to sold-out crowds in the United States on his Loco De Amor (Crazy Love) tour, supported by sound

reinforcement provider Camarillo, CA-based Rat Sound Systems.

Along for the journey was Stanley Soares, front-of-house engineer for Juanes, who oversaw a sizable audio system based around DiGiCo mixing desks and an Eastern Acoustic Works Anya system. "I went to a demo of Anya last year, had the opportunity to mix with it and was impressed," Soares said. "When I received confirmation about the Juanes tour, I suggested that we go out with an Anya system and was absolutely thrilled we could make that happen. Some people don't like to take a risk on trying something new, but everyone from management to the artist were extremely happy with the results of the PA."

Feeding that system from the house position was a DiGiCo SD10

(continued on page 48)



The sold-out crowd at the Anselmo Valencia Tori Amphitheatre in Tuscon, AZ heard every note via an EAW Anya PA supplied by Rat Sound.

briefs

Alabama Shakes Settles On SSL

ATHENS, AL—Rock buzz band

Alabama Shakes has been touring behind its latest release, *Sound & Color*. Mixing the band on festival dates and headlining shows, FOH and production engineer Shane Haase has been using a Solid State Logic (solidstatelogic.com) Live L500 console at each stop.

Mojoe Rises For Country Festival

PANAMA CITY BEACH, FL—Country's biggest acts performed at the annual Pepsi Gulf Coast Jam. Bradenton, FL-based Mojoe Productions provided audio for the three-day festival, flying a 15-box JBL Pro VerTec 4889 hang with 10 Ramsdell (ramsdellproaudio.com) subs per side, all supplemented by Ramsdell LA112 Line Array enclosures used for delays.

A&H Takes Bullet On Tour

LAS VEGAS, NV—Bullet For My Valentine has been touring the world this year using Allen & Heath (allen-heath.com) mixers. FOH engineer Dave Nutbrown has a GLD-80 at FOH, while monitor engineer Adam Boole overses an iDR-48 MixRack and iLive-R72 rackmount Control Surface. The two systems are connected via ACE using a Cat 5 cable.

Sony Wireless Gets Mixed In The Jam

NASHVILLE, TN—The 40th annual Charlie Daniels Volunteer Jam was held at the Bridgestone Arena in Nashville, TN in August, raising \$300,000 for The Journey Home Project. Head engineer Bob Workman used 10 channels of Sony (pro.sony.com) DWX digital wireless handheld transmitters with Heil capsules for the all-star event.

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Old and New with Innocence + Experience

BY CLIVE YOUNG

NEW YORK, NY—There were a lot of dramatic stories leading up to U2's current Innocence + Experience world tour; most of them are easily Googled, but here's one you might not have heard. Last December, the group played New York City's Times Square for World AIDS Day, with Bruce Springsteen and others sitting in for lead singer Bono, who was recovering from a bicycle accident. The band's audio supplier, Clair Global, was involved, so Joe O'Herlihy, U2's sound director since the 1970s, found himself in the company's hometown of Lititz, Penn. during the days leading up to the event.

"We were prepping," he recalled months later, staring out across the expanse of Madison Square Garden on the last night of the band's North American leg. "I just happened to be in the right place at the wrong time, as they say, because the engineering department were testing a column of Cohesion CO-12s. I'd been part and parcel of their development for two years, but hadn't heard this; I said, 'Oh, that sounds amazing.' The sonic quality, the intelligibility was just something else—but they weren't going to happen until September, 2015."

Fast-forward three months to February 8; the U2 team was back in Lititz when it discovered that the production, as it was designed on paper, would require 225,000 lbs. of lights, rigging, video and sound to be hung from arena ceilings—far past the average arena ceiling's weight limit. The production had to go on a diet and hit a max of 180,000 lbs. "My original design was based around Clair's I5 boxes, and the configuration was 78,600 lbs.," said O'Herlihy. Doing some quick math, it was determined the same arrangement built with CO-12 boxes would weigh 44,200 lbs., including cabling and trussing. The



U2's massive arena-length production meant that the adapted in-the-round line array configuration included 12 hangs of Clair's brand-new Cohesion CO-12 boxes, hung equidistantly in an oval around the arena floor's rim.

only catch was that the U2 tour was starting in exactly two months on April 8, and CO-12s wouldn't go into production until the fall.

Needless to say, opening night in Vancouver found U2 playing beneath 120 CO-12 boxes. "The paint was barely dry!" laughed Greg Hall, Clair Global's business manager, still somewhat incredulous that they made it happen. O'Herlihy agreed but added, "Delivering that has been a major coup—for me putting U2

halves of the venue.

Since the band and screen command so much visual real estate—and use all of it continuously throughout the show—O'Herlihy's Lab.gruppen-powered PA design adapts the traditional in-the-round format, broadening it into an oval that follows the curvature of the arena floor's rim. Creating a nearfield speaker-like sound field, a stereo image is created across a dozen flown arrays, consisting of up to 12 Co-

"Delivering that has been a major coup—for me putting U2 into the frame to be the first band to use it, and Clair for their commitment to run with it and turn September into April."

Joe O'Herlihy

into the frame to be the first band to use it, and Clair for their commitment to run with it and turn September into April."

The push into new territory, however, matches the rest of the production, which makes the most of an arena's floor, centering on a main stage at one end with a thin runway cutting lengthwise down the venue to the other end's circular B-stage, dubbed "the E stage," as in "Experience." Above the runway hangs a massive, double-sided screen—"The Divider"—presenting video to both

hesion CO-12 boxes, each hang equidistant from the next, all complemented by eight hangs of three Cohesion CP-218 subs, using the cardioid method to steer bass energy into the venue. Meanwhile, 56 Cohesion CO-8 speakers—which Clair has had for some time—are used for downfills and centerfills above the various stages, and also for front fills down at ground level. With so many hangs so close to the audience, the result is a PA that doesn't have to be driven hard to hit the show's average of 100 dB, peaking around 104.

Another benefit of the system arrangement? Since every inch of a venue gets the same stereo image, the FOH position doesn't have to be confined to the arena floor. As a result, O'Herlihy can usually be found mixing up in the stands. For the band's eight-show run at Madison Square Garden, he was on the top deck above the luxury boxes at mid-court. "I really fought hard to get that location actually," he recalled. The vantage point was ideal, providing clear sightlines of the entire sprawling production.

It was also a good place to be because there was room for the considerable FOH mix position, complete with racks of outboard gear, and two DiGiCo SD7 consoles (one sitting there as a redundant backup). O'Herlihy's desks have snapshots saved for 70-80 songs: "It's fantastic to have the snapshot available that you can access each and every one of those songs in the event of Bono coming around and saying, as he has done in several occasions on this tour, 'Okay, we're going to play 'Stuck in a Moment' instead of whatever song that's listed.'"

Given the prevalence of plug-ins these days that can replicate nearly any piece of outboard gear imaginable, why would O'Herlihy bring multiple racks of vintage gear out on the road? The short answer is: Because he can.

Acknowledging the appeal, ac-

(continued on page 46)

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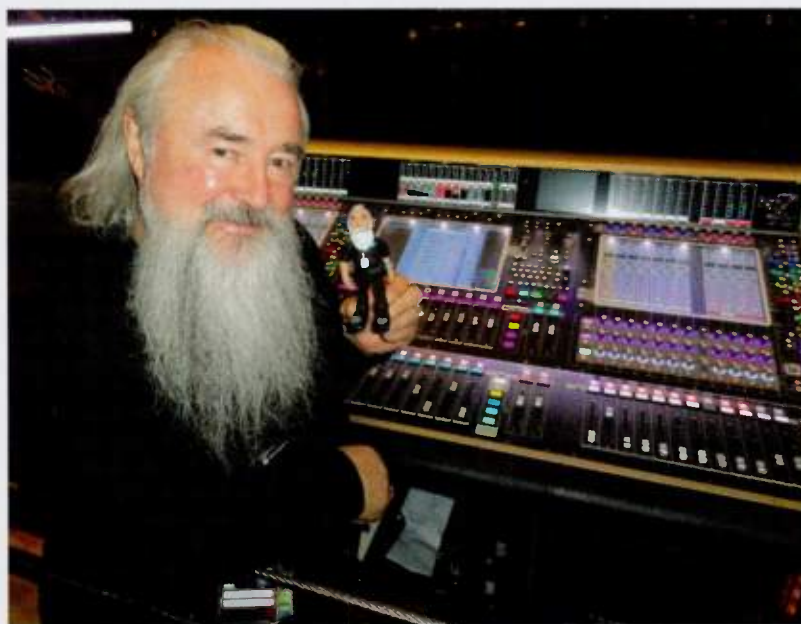
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U2

(continued from page 44)

cessibility and non-existent weight of plug-ins, O'Herlihy nonetheless explained, "All of them portrayed and are presented as to replicate what's in my rack, which is the real, vintage product, like the Manley VoxBox; I use a couple of those for Bono's vocals. There's an Avalon 747 there for Edge's vocals. The Summit DCL-200s? I absolutely love them and I've got eight on all of Edge's amps—and they're the real deal. These vintage devices sound as sweet and as right as they should. There's absolutely nothing wrong with DiGiCo's onboard effects and I use quite a bit of the SD7's dynamics in specific channels, but there's a few things I have for particular treatments and effects—like this ancient Yamaha SPX1000. They were used in the studio for certain sound ef-



U2's sound director, Joe O'Herlihy, with his DiGiCo SD7 console and a mini doppelganger: "There's a guy on the crew here that makes them; it's pretty cool, alright!"

fects, like the vocal on 'The Fly,' and you can only get it in that device. It's weird, but if that's what we need to do, then we do that."

Beneath the main stage sits monitorworld—a warren of three mix positions, each with its own DiGiCo SD7 (plus a floating, redundant spare), overseen by Alastair McMillan, mixing for Bono; Richard Rainey, mixing for The Edge; and CJ Eriksson, mixing for Adam Clayton and Larry Mullin Jr. Also in the under-stage area is senior monitor systems engineer, Niall Slevin, who handles all the production's RF.

Given the massive video setup and variety of venues that the tour will visit through its worldwide travels, prepping its RF was no simple matter, requiring two days of testing The Divider at video hardware provider PRG Nocturne in Birmingham, UK—where O'Herlihy's son Mark works. "We went up into the frame [between the two back-to-back screens] and tested every possible frequency for every possible territory," said O'Herlihy. "It was the best piece of R&D that we've ever done because ultimately, touch wood, we haven't had any RF difficulty so far."

There's still a long way to go—it was broadly hinted that the production has extensive, if so far unveiled, plans for next year. Meanwhile, the band keeps streamlining its show, night after night, changing set lists, arrangements, video material and more. "During the rehearsal process, we were into 60-70 songs in the entire catalog and then about 10 of the new songs, so it's a good mixture between the old and new," noted O'Herlihy. The same could be said for the tour's audio system.

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U2

Clair Global (Lives, PA)

FOH Engineer:

Joe O'Herlihy

Monitor Engineers:

Alastair McMillan, Richard Rainey, CJ Eriksson

Crew Chief/System

Engineer:

Jo Ravitch

Ast. Systems Engineer:

Joel Merrill

RF/Mon. System Engineer:

Niall Slevin

Ast. Stage Engineer:

Brandon Schuette

Techs:

Chris Fulton, Mike LaCroix, Jen Smola, Pascal Harlaut

FOH Console:

(2) DiGiCo SD7

Monitor Console:

(3) DiGiCo SD7

House Speakers:

Clair Cohesion 12; Cohesion 8; i-3; Cohesion CP-218 Sub-lows

Monitor Speakers:

Clair Cohesion CP-118 Sub-lows

Personal Monitors:

Sennheiser 2000 Series

House Amplifiers:

Lab.gruppen

Monitor Amplifiers:

Lab.gruppen

FOH Equipment:

TC Electronic 2290; Lexicon PCM70, 480L; Summit DCL-200; Manley VoxBox; Yamaha SPX-1000; Avalon VT-737SP; Eventide H3500; Klark-Teknik DN6000

Monitor Equipment:

Bricasti M7; Yamaha SPX-990, SPX-1000; AMS RMX16; TC Electronic M5000; Lexicon PCM80

Microphones:

Shure Beta91, Beta52, SM57, SM 98; AKG 414; Audio-Technica AT4071, AT4050; Sennheiser MD-421; DPA 4099; Radial ProD8, Duplex, SW8; Shure Axient

MLA Tackles SW4's EDM

LONDON, UK—Capital Sound recently handled audio for five sites at The South West Four Festival (SW4), an annual dance music event in London that featured headliners Faithless, Eric Prydz, Skrillex and Basement Jaxx. Martin Audio systems were used to cover the crowd of 30,000.

The main stage had 13 MLA plus

an MLD Downfill as the main hang down each side. A broadside cardioid array of 20 MLX subs boosted the low frequency, and a further 12 W8LM Mini Line Arrays were deployed for front fills.

The main Stage 2 tent saw a further eight MLA and MLD Downfill per side with six MLX subs set on each



London's Capital Sound provided Martin Audio systems for five stages at the SW4 Festival.

side in a Left/Right cardioid design, with four Martin Audio W2 as front fill

and LE1500 floor monitors on stage. On Stage 3, Capital deployed 12 MLA Compact and six MLX per side, the subs again in cardioid L/R configuration. Stage 4 had six MLA Compact elements, along with four WS218X on each side, in an end fire design with three W8LM in fills per side. Finally, a Martin Audio W8LC compact line array provided the Stage 5 sound. Martin Audio
martin-audio.com

5 Seconds of Summer

(continued from page 42)

fitted custom in-ear monitors. A great fit is the most important factor for in-ear monitors because when they fit perfectly, they give a full, solid sound in the ear, as well as form a tight seal, stopping the impressively loud screaming of teenage girls, known to reach 136 decibels.

And to further help with those screaming fans, I have a crowd noise VCA, if required, a FX VCA to kill reverb sound and a vocal VCA, allowing me to turn each member's vocal up to the remainder of the band, without affecting each member's own vocal. All of the band's own vocals pre-fade to their own mix and post fade to everyone else. Useful during sound check, or when the band wants to speak to each other in-between songs, we have several talkbacks located around the stage with push to talk foot switches.

In my 5SOS mixes, I stay away from snapshots and mix the show as we go, making changes as needed. Live sound constantly changes, and it is necessary to listen and pay attention at all time. During performances, I hardly ever look at the console; rather, I look at the band and am sure to give a big thumbs up if Luke, Calum, Ashton or Michael ask for anything.

To allow the audience to hear the great sound that 5SOS does, I always carry my own microphones to keep a consistent sound. Utilizing the same microphone system, mixing desk, console and IEM system from show to show makes all the difference, and in the end, to ensure the best sound quality for each member of 5SOS and their sold-out arenas of screaming fans, I never leave home without my Sennheiser microphones, WSM software or UE 11 PROs.

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Juanes

(continued from page 42)

console equipped with Waves Sound-Grid Server One, along with an SD rack (56 x 48) that he shared with the monitor engineer. Soares' outboard gear included Waves MaxxBCL (RS) inserted on the mains and an Empirical Labs Distressor for Juanes' vocals.

A Lake LM44 digital signal processor distributed and drove the Anya system. Live recordings, made utilizing a Waves DiGiGrid MGB with Logic Audio, were used for virtual sound-checks.

Meanwhile, another DiGiCo SD10 was on hand at monitorworld; the tour traveled with an assortment of Shure wireless microphones and PSM 1000 in-ear monitoring systems as well as an Aviom 360 System to



NICOLAS ACHURY

FOH engineer Stanley Soares mixed each show on a DiGiCo SD10 console.

manage the IEM systems.

Juanes played a variety of venues, so the production carried 40 Anya modules and eight EAW KF364NT loudspeakers for fill in order to handle everything. As a result, an evening's show needed anywhere from eight to 20 modules per side, depending on the coverage required, though Soares reported the system sounded consistent regardless.

Helping ensure that initially, EAW's technical training manager Bernie Broderick was on site for the first few shows to ensure the system was tailored to the tour's needs. For the long term, however, Jason Brandt,

Juanes' Loco De Amor U.S. tour was one of the first to use EAW's Anya System.

system tech for Rat Sound, was responsible for the design and fine-tuning of the Anya PA throughout the tour—an effort he accomplished using EAW Resolution software, which models the coverage and frequency response throughout a venue. "Once the venue parameters are input into Resolution, it tells us exactly what we need to ensure coverage throughout the room," said Soares. "If I found out the seating area had changed—they either added more rows or opened up a new section—we could adjust our coverage by modifying the software."

With the support from Rat Sound and the opportunity to use a new PA, Soares closed out the tour pleased with the results he'd gotten out of the system: "Anya gave me piece of mind so that I could concentrate on creating an amazing mix and giving Juanes fans an incredible show. Because that is what it is all about."

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Mixing Ariana Grande Live

LOS ANGELES, CA—Toby Francis may be best known for mixing hard rock acts like Kiss, Aerosmith and ZZ Top, but the versatile FOH engineer can't be tied down to one style. Take the current 88-date Ariana Grande world tour; you'll find him mixing the pop spectacle behind the DiGiCo SD7 console supplied by VER Tour Sound.

Francis switched from his typically preferred SD10 desk to the SD7 in order to better accommodate the show's 90-input channel count. "It's a blend of track and live inputs, with the emphasis on live inputs," he says, including multiple keyboards, guitar, bass, drums and a small string section. "The only thing that is obviously track is her background vocals. She did all of the backgrounds on the record, so the only way to make it sound right was to continue that."

The DiGiCo's multiband dynamic equalizers and compressors are also essential to his mix, says Francis, who groups drums, bass, keyboards and other instruments separately. "I take all of those groups into yet another group of all the music and create a separate path that's all of the vocals. I treat the two paths completely separately, then I combine them into the Meyer Sound Leo/Lyon PA system."

He continues, "I use a lot of layers of compression. I use the Waves C6 on Ari's vocal, then go into a group with the onboard three-band compressor and take her vocal and the background vocals and compress them together there. It sounds so polished. My daughter came to a recent show; she was showing me videos she had made and the sound was crystal clear."

Monitor engineer Justin Hoffmann also uses an SD7 for the show, and the two engineers share one large rack. "We call it our 'execution rack.' It has two DiGiCo SD-Racks, a MADI converter and word clock distribution to all of the external digital devices," Francis elaborates. "It's also got all of the wireless receivers and ear transmitters, all hardwired. The stage rolls at about two o'clock, the monitor console rolls under the stage and the rack rolls in. The cabling is pre-laid when they build the stage so we're literally checking things ten minutes after the stage rolls."

Tracks from two Pro Tools computers pass via Antelope Audio interfaces into a D.O.T.E.C MADI switcher that selects machine A or B and sends it to an Optocore converter. "That shows up like a stage rack," explains Francis. "Of everything we tried, that was sonically the best way to do it, and it gave both front-of-house and monitors the most

versatility." The system also enables timecode distribution for the show's video, lighting and laser automation.

He adds, "We don't use a splitter, which is a huge sonic advantage. By eliminating a splitter, you keep your impedances as pure as possible. By having the SD-Rack at the stage, you cut your copper link to 100 feet or

less on every input. Then the sonic advantage of the console really itself takes it to a whole new level."

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Toby Francis manning Ariana Grande's mix on one of her tour's two DiGiCo SD7 desks

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TOP 10 TOURS OF THE MONTH

ACT / STATISTICS

CREW

EQUIPMENT

1 TAYLOR SWIFT EIGHTH DAY SOUND	David Payne (he/be); Scott Wasilk (me); Jordan Kolenc (me/cc); Edgardo Vertanessian (se); Casey Stewart (ae); Bill Flugan (rf); Andy Dudash, Bill Fegley, Turner Pollari (tech)	HC: DiGiCo SD7; MC: (2) DiGiCo SD7; HS: d&b audiotechnik J and V series with array processing; IEM: Ultimate Ears; Sensaphonics; Shure PSM 1000; Albatross Audio PH9B; HA: d&b audiotechnik D80; HARDWIRED MICS: Shure Beta 91/52; Telefunken M80SH; Audio-Technica ATM450; DPA 4099; AKG 414; Sennheiser 935; Radial J48, Tonebone PZ-Pre, JX2, JR1M, Hot Shot DM1; WIRELESS MICS: Sennheiser 9000 Series with 9235 capsules, 5000 Series with 5235 capsules; FOH EQUIPMENT: Waves SD7 Pro Show Bundle; Rupert Neve Designs MBP and Portico II Channel; SPL TD4; Bricasti M7; Lexicon PCM 92; Elysia Nvelope; TK Audio BC1; MONITOR EQUIPMENT: Waves SD7 Pro Show Bundle; Rupert Neve Designs Portico II Channel; SPL TD4; Lexicon PCM 70, PCM 92; Eventide Eclipse; Bricasti M7; TC Electronic M-One XL; dbx 160x; UBK Fatso Jr.
2 ONE DIRECTION EIGHTH DAY SOUND / WIGWAM	Mark Littlewood (he); Saul Skoutarides (me); Nick Mooney (cc); Chris Hall (sys tech); Ralph Smart (m tech); Sapna Patel, Ali Viles (rf techs); Ben Smith, Chris Delusion, Peter Mesaros (techs)	HC: DiGiCo; MC: DiGiCo SD7; HS: d&b Audiotechnik J8, J12, B2, V8; IEM: Sennheiser; HA: d&b Audiotechnik D80
3 KENNY CHESNEY MORRIS LIGHT AND SOUND INC.	Chris Rabold (he); Bryan Baxley (be); Phill Robinson (me-Chesney); Tanner Freese (foh tech); Rich Rossey (patch); Justin Meeks (cc); John Mills (se); Phil Spina, Ryan Lewis, Annie Hallquist (techs)	HC: SSL Live L500; MC: (2) Midas Pro9; HS: (184) Nexo STM; IEM: Shure PSM 1000; HA: Nexo NUAR Universal Amp Rack; HARDWIRED MICS: Shure SM57, Beta 52, SM58; Earthworks; Audio-Technica; Radial JD6, JDI; Sonic Farm 2di4; WIRELESS MICS: Shure Axient with KSM9HS caps
4 MADONNA EIGHTH DAY SOUND	Andy Meyer (be); Demetrius Moore (he); Matt Napier, Sean Spuehler (me); Mark Brnich (cc); Mike Hackman (se); Wayne Hall, Clinton Reynolds (ae); Greg Horning, Rachael Lawrence (tech)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: d&b Audiotechnik J8, J12, J Sub, J Infra, V12; MS: d&b Audiotechnik V8, V Sub, M4; IEM: Sennheiser; HA: d&b Audiotechnik D80; MA: d&b Audiotechnik D80; HARDWIRED MICS: Audio Technica; Sennheiser; Shure; Milab; WIRELESS MICS: Sennheiser; FOH EQUIPMENT: Waves; MONITOR EQUIPMENT: RME
5 AC/DC CLAIR GLOBAL	Pab Boothroyd (be); John Lewis (me); Kenny Check (msys tech); Chris Nichols (sys tech); Jon Brook (stage tecj); Rich Thompson, Andrew Bongardt, Emmett Tubritt, Leon Rieger, Trystan Forbes, Tyson Clark (pa techs)	HC: Midas XL4; MC: Midas Heritage 4000; HS: Clair i-5D/i-5b, i-3 FF, i-5 (delays); MS: Clair CP-212, SRM, CP-118, Vision, CP-218; IEM: Shure PSM-1000; HA: Lab.gruppen PLM 20000Q; MA: Lab.gruppen PLM 20000Q; WIRELESS MICS: Shure UR series; FOH EQUIPMENT: GML 8200; Summit TLA-100; dbx 160SL, Quantum; Drawmer DS-201; TC Electronic D-Two, M6000; Lake LM44; MONITOR EQUIPMENT: TC Electronic EQ Station 8, D-Two, M2000; Eventide H3000, H3500; BSS DPR-901; Drawmer DS-201
6 BILLY JOEL CLAIR GLOBAL	Brian Ruggles (he); Josh Weibel (me); Rich Schoenadel (cc/se); Jay Yochem (m tech); Tom Ford, Bryan Darling (tech)	HC: DiGiCo SD5; MC: DiGiCo SD10; HS: Clair i-5, i-5b, i-3, P-2, CP-218; MS: Clair CM-22, SRM, ML-18; IEM: Sennheiser 2050; HA: Clair StakRak (Lab.gruppen); MA: Lab.gruppen; HARDWIRED MICS: Shure; AKG; Sennheiser; Audio-Technica; Radial DI, SW8, Firefly; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Waves
7 J. COLE LMG	Raymond Rogers (be); Brandon Henderson (me); Jason Chamlee (se); Barry Hogan (ae); Ben Bruns (tech); Craig Mitchell (vendor rep)	HC: SSL Live L500; MC: Avid Venue Profile; HS: L-Acoustics K1, K2; MS: L-Acoustics SB28 subs, ARCs; IEM: Shure PSM 1000; HA: L-Acoustics LA-RAK; MA: L-Acoustics LA-RAK; WIRELESS MICS: Shure UHF-R; FOH EQUIPMENT: SSL Live-Recorder; MONITOR EQUIPMENT: Waves
8 ROMEO SANTOS 3G PRODUCTIONS	Manny Perez (he/cc/se); Franklin Espinal (be); Javier “Chico” Morales (me); Ken Quinlan (se/cc), Sara Jean Holt (ae)	HC: Avid Venue; MC: Yamaha PM1D; HS: (18) d&b audiotechnik J Series mains, V Series sides, Y Series 270° hang, mixed J Infra/JSub sub array, Q10s Front Fills; MS: L-Acoustics flown Arcs; IEM: Sennheiser SR2050, G3; Aviom A16; HA: d&b audiotechnik D80; MA: L-Acoustic LA8; HARDWIRED MICS: Shure; Sennheiser; WIRELESS MICS: Shure UHF-R Beta 58; FOH EQUIPMENT: Dolby Lake; d&b audiotechnik R1 System control; Rational Acoustics Smaart 7
9 FOO FIGHTERS DELICATE PRODUCTIONS	Bryan Worthen (be); Ian Beverage (me); Steve Walsh (cc); Phillip Reynolds (se); Phil Boutle (m tech); Tony Luna (stage tech); Will Whitaker (PA/stage tech); Russ Cunningham, John Kaylor (PA tech)	HC: DiGiCo SD5; MC: Midas Pro9; HS: L-Acoustics K1, K2, KARA, ARC, SB28; MS: d&b audiotechnik M2; Martin Audio WT3, WS218X, WS18X; IEM: Sennheiser 2050; JH Audio ear pieces; HA: L-Acoustics LA8; MA: d&b audiotechnik D80; Martin Audio MA5.2K; MICS: 901, 602, 904, 905 614, 431, 42; Shure 57; FOH EQUIPMENT: (5) Avalon VT-737sp Preamplifier
10 JUAN GABRIEL 3G PRODUCTIONS	Erwin Rios (be); Oscar Gonzales (me); Manny Perez (cc/se); Sara Jean Holt (rf tech); Ken Quinlan (ae); Stephan Gauthier (monitor tech); Robert Valdez, Lance Jessick (techs)	HC: DiGiCo SD10; MC: DiGiCo SD10; HS: Martin MLA, MLAC, DD12, MLX Subs; MS: d&b audiotechnik M2, M4, Q1, B2; IEM: Shure PSM 1000; MA: d&b audiotechnik D80; HARDWIRED MICS: Shure; DPA; Sennheiser; WIRELESS MICS: Shure UHF-R handhelds, beltpacks; Professional Wireless DB-24 Distro; FOH EQUIPMENT: Lab.gruppen LM44; Avalon VT-737; MONITOR EQUIPMENT: TC Electronic 6000; Shure E5

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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Charting New Paths

BY JACQUES SONYIEUX

The Vaccines are on a roll. Having released their critically acclaimed *English Graffiti* album in May (their third album in four years), the band has already toured the world, opening for The Rolling Stones, Muse and others while selling out mid-sized halls around the U.S. Produced by Dave Fridmann and Cole M. Greif-Neill and recorded at Fridmann's studio in upstate New York, *English Graffiti* is a refined and polished recording.

Artistically, it is a beacon of hope for anyone who feels that the alt/indie scene has lost its footing, with each song exposing a fresh dimension of an extraordinarily prolific band. *Pro Sound News* sat down for a virtual pint with frontman and principal writer Justin Hayward-Young, who provided 20/20 perspective on the band's latest effort.

ON REFLECTION:

We are all really happy with this record. Honestly, there were so many special moments that occurred during the recording, and that's one of the things that makes it so scary when you have to give it up for the world: Nobody will ever know how special it felt creating it. A record is never perfect, but now that we're playing it out, it is a lot more deeply rooted in our hearts and minds. Only recently, we've begun asking ourselves, 'Where do we go from here and how do we build on this? What will we do differently next time?'

ON BUILDING FROM THE CORE:

There was just a lot of material because there were so many songs stored up over time. The irony is that that some of the songs that maybe sound more like the Vaccines, such as "20/20," "Handsome" and "Radio Bikini," came last and adopted 'our formula,' so to speak. There were many songs that we were stoked about, but they just didn't have very simple pop songs at their core. And I think that whatever we do, we always have to start with great songs at the core. It is all very well to start a song with an interesting beat, cool production idea or a weird sound, but if there isn't a good song at the core, it's certainly something we don't do well. We ended up starting with the songs and putting weird and wonderful things on top of that.

ON RECORDING IN PITCH BLACK:

I am not a great player or very technical, but I have a lot of stuff in my head and sometimes I am able to



The Vaccines are led by Justin Hayward-Young (left)

get it out by happy accidents; other times, I am not. As far as vocals are concerned, I have this awareness of how I've sounded in the past and how I want to sound moving forward. For this record, I just wanted to sound close and personal, so I recorded most of the vocals in pitch black, in the smallest space I could find. For the higher falsetto stuff, I was normally lying on my back. Generally, I just wanted to feel good while laying down the vocal tracks. I used a single mic on pretty much the whole thing: a Sennheiser 421. It is funny, because I demoed a lot on it as well—but we went through about three or four of them before we found one that felt really great.

ON RECORDING IN UPSTATE NEW YORK:

We recorded *English Graffiti* at Dave Fridmann's Tarbox Road Studios in upstate New York, not too far from Buffalo. Half of the year, it is lush and beautiful and the rest of the year, there is snow. Honestly, when you see his surroundings, all his records make sense—you can see why someone would look up to the sky and wonder what's up there and make music that sounds like it came

bond that I think is far deeper than friendship, and at the end of each session, we can always laugh about it after it has gone down. We love working with each other—that's why we've made three albums in four years because we enjoy each other's company.

ON LEAVING THE PAST BEHIND:

We didn't want to work within a framework and wanted to feel like anything was possible. And I sort of felt like it was, to be honest. We spent so long listening to Buddy Holly and Mick Jones thinking 'How can we get the guitars to sound like they do on *Combat Rock*? Or, 'How can we get our guitars to sound like Buddy Holly?' And then I realized, those guys weren't looking back 30, 40, 50, 60 years. They were looking forward and thinking 'How can I get a guitar sound like nothing that's been done before?' On this record, a lot of people think we used a lot of synths—but apart from a single Juno we used, it's all guitars. We wanted to try to make noises on our guitars that people have never made before.

ON TURNING PROFESSIONAL:

I always wanted to do music, and studying at university was just a way

"I realized those guys weren't looking back 30, 40, 50, 60 years. They were looking forward and thinking 'How can I get a guitar sound like nothing that's been done before?'"

Justin Hayward-Young, The Vaccines

from up there. Then there is also this icy isolation and harshness to the environment, which I think is kind of an embodiment of his sonic palette.

ON KEEPING GOOD COMPANY:

The chemistry in The Vaccines is one of brotherhood rather than friendship. It gets tense and people say things they don't always mean, and people aren't always great at expressing themselves in certain situations, but I think we have a common love and a common goal. There is a

to get to London. Turning professional was never a scary thing for me. In fact, the idea that it wouldn't happen was pretty scary to me—I was very lucky that I made some demos and got a manager as I was just finishing university. Pretty much the day I put the pen down, we went off on tour.

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.

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Ken Blecher

American Music & Sound has named **Ken Blecher** as national sales manager for dBTechnologies. An industry veteran of the MI, Production and Installation audio markets, he has experience developing international brands throughout the U.S. His role will be to increase sales within the United States for the Italian active speaker and digital amplifier manufacturer by providing marketing strategies and product training to dealers and representatives.



Amy Huson

Meyer Sound has added **Amy Huson** as its new director of Marketing, Business and Programs, and **Jane Eagleson** as public relations manager. Additionally, **Rachel Archibald's** role has expanded as she becomes director of Marketing, Corporate and Brand. Huson will take responsibility for a variety of key marketing areas, including the international trade show program, lead generation, channel support efforts, vertical market strategies and website initiatives. Eagleson will be the contact for pro-audio trade media, support mainstream media outreach, and drive content development. Archibald will assume responsibility for leadership in the areas of product marketing, advertising, development of brand collateral and corporate brand experience. Huson's background includes leadership positions at Harman, Plantronics and Autodesk, in addition to serving as co-founder and vice-president for marketing at an audio software startup later acquired by Plantronics. Eagleson



Jane Eagleson

has more than 20 years of experience in communications, primarily in the professional sailing world where she handled communications, event management and press relations for sailing events including the Volvo Ocean Race and the Sydney Olympics.



Andy Trott

Music Group has named **Andy Trott** as senior vice president of its Professional Division, starting in November. Trott becomes the first senior appointment in the freshly restructured Music Group. Trott spent the last 12 years at Harman Professional, where in addition to serving on the Executive Team, he held various operating roles including managing director of Soundcraft, president of the Mixer Group and vice president & general manager of the Mixing, Microphones & Headphones Strategic Business Unit, plus served as leader for the Soundcraft, Studer and AKG businesses.



Paul Bell

Group One Ltd., DiGiCo's US distributor, has appointed **Paul Bell** as its technical support engineer for the digital console brand. Based in Farmingdale, NY, Bell previously served in exactly the same capacity for the manufacturer back in the UK for six years, following four years there as a test engineer. Bell is now providing technical support for DiGiCo's US customers via phone and email, making domestic site visits for servicing and training, and facilitating local repairs.

Joey D'Angelo has joined QSC Systems as director of Systems Solutions. In his new role, he will contribute to QSC's strategic direction within its systems business, across the areas

60SECONDS



MAILE L. KEONE

Listen Technologies

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

A: My new position is VP of Sales and Marketing for Listen Technologies. In my former role as VP of Marketing, I always worked closely with the sales team, now I get the chance to work directly with them. These roles are always closely aligned in any organization, with the goal being to understand our customer's needs and deliver an exceptional product that meets those needs.

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

A: I have a deep background in both sales and marketing. Although most of my recent experience is on the marketing side, in any management position, you can't have an understanding of one without the other. Our company works through dealers and distributors, so my background in Channel Marketing comes is very useful.

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

A: If I told you, I'd have to lock you away until we launch them! Marketing our products is easy, because of the technology leaps we have made over the past few years. Our new generation of assistive listening receivers are half the weight and size of our competitors and deliver 20 dB less noise and hiss. Our integrated lanyard with neck loop and DSP driver give an exceptional experience for users with t-coil hearing aids—I could go on and on. We've got a fun campaign coming up for those. We are also going to highlight our new infrared products, as the performance on those exceeded our expectation, especially at the price point. We are constantly innovating technology, which makes the marketing side fun. Another initiative is to ramp up marketing with our channel partners and strengthen those relationships.

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

A: One big goal dear to me is to make hearing accessibility ubiquitously available. Accessibility is a universal right under the ADA, but it isn't fairly applied. Physical accessibility like wheelchair ramps are required for a building to be opened, remodeled or occupied. Why isn't the same accessibility required for assistive listening? I will continue to work hard to change the way accessibility is granted. Hearing loss is the third most-common physical condition after arthritis and heart disease. Our ability to change the experience for people with hearing loss exists; we just need to have assistive listening devices in venues, and then get people to ask for them! Short term, I just want to sell and market the most amazing assistive listening products to benefit those who need them.

Q: What is the greatest challenge that you face?

A: My biggest challenge on a daily basis continues to be the fact that people are uninformed about the mandatory compliance aspect of assistive listening. I would love for people just to do the right thing, to put technology in that allows people who have difficulty hearing to have a better experience. However, it is ultimately required by law and getting that word out is always a challenge.

of sales, marketing and training, working to create partnerships in key market segments. D'Angelo will be involved in product conceptualization and roadmap discussions. Previously, he was a vice



Joey D'Angelo

president at Charles M. Salter Associates, a San Francisco-based consulting firm focused on providing acoustic, audiovisual, telecommunications and security solutions and services.

soundREPS

■ **Community Professional Loudspeakers** has appointed **Audio Geer** as its sales representative for Southern California and Southern Nevada, and **CM Tech Group** as its sales representative for Canada.

■ **Grund Audio Design** has announced that Sierra Marketing will represent Grundorf Corporation throughout the territories of Arkansas, Louisiana, Mississippi, Oklahoma, and Texas.

■ **Listen Technologies** has named **Anew Communications Technology** to represent it throughout Southern California and Southern Nevada, and **Ampetronic** as its distributor for the U.K.

■ **IsoAcoustics** has made **Audio Plus Services/Plurison** its distributor in the U.S. and Canada.

■ **VUE Audiotechnik** has partnered with **East-**

ern Sound Factory Co., LTD., which will be the exclusive VUE distributor throughout Japan.

■ **sE Electronics** has named **Focusrite Audio Engineering** as its exclusive U.K. distributor for the manufacturer's entire line.

■ **Audient** has made **Lexon Distribucion SA** the new distributor in Spain for its compact product range.

ADAM Audio's X-ART Excites, Helps Define Innovative German Firm

DAVID ANGRESS, CHIEF EXECUTIVE OFFICER, ADAM AUDIO

BY SILAS LYNCH

There are few studio monitor manufacturers with proprietary technology quite as striking, both visually and sonically, as ADAM Audio. Defined by its evolved X-ART ribbon tweeter technology—borne of physicist Dr. Oskar Heil's Air Motion Transformer (AMT) invention—the notably low distortion and extended highs (up to 50 kHz!) of ADAM's brand-wide feature have created a legion of devotees.

Directing ADAM Audio today is David Angress, who grew up in San Francisco in the 1960s amongst a bevy of musician friends, dabbling in electronics since his pre-teen years. "I had a particular fascination with transducers, and I became their tech guy," he explains of his role in the local community. "I was this young guy fixing their gear, recording their gigs, and building and running PAs. All of this caused my original career goal of becoming an electrical engineer to veer towards working with professional audio equipment. After a career spanning some decades in the audio industry—including senior executive positions at companies including AKG Acoustics, Harman Professional and Guitar Center as well as owning my own consulting business—I'm excited to be at the helm of ADAM Audio."

Decades before his recent appointment at ADAM, Angress serendipitously met Dr. Heil and discovered his development of ribbon tweeter technology. "Fast forward to 1999, and I met the founder of ADAM Audio in Germany, who had refined the AMT. For the last 15 years or so, I have followed the development of ADAM Audio, always interested in its famous handcrafted tweeter and having tremendous respect for the company's fine engineering and superior sounding products. So naturally I jumped at the chance to lead this organization when the company's owners offered me this role."

As Angress explains it, ADAM Audio is "a German precision tool maker," rather than simply a speaker manufacturer. "We are in the business of making these precision tools for creative professionals whose choice of audio recording and mixing products is essential to their resulting project," he continues. "What a cre-

ative professional hears on an ADAM monitor happens to translate particularly well to other environments, allowing them to accurately hear exactly what the end-user listener will hear. The clarity and low distortion of ADAM speakers also allows the engineer to hear every nuance of the mix as well as have much longer listening sessions without ear fatigue. As a result, ADAM's products have found happy homes in renowned professional recording studios, broadcast facilities and post houses around the world, and as monitors for nearfield use in smaller spaces. Many of our professional studio monitors have been repurposed for use as high-end hi-fi speakers as well. If an instrument or sound is there, an ADAM speaker will reproduce it."

Angress reports that, as of late, ADAM Audio has experienced a renewed energy in delivering premium monitoring products to market, bolstered by its worldwide network of offices, distributors and passionate end users. "In addition to our headquarters in Berlin, ADAM Audio also has offices in Nashville, London and Beijing, and we work with distribution partners worldwide," he notes. "ADAM, which has a long rich history of helping creative professionals record and mix award-winning projects, has now been reenergized by our increased investments in R&D, product



David Angress, CEO, ADAM Audio

management, personnel, distribution and modern manufacturing techniques—and we continue to build our world-famous tweeter by hand in our Berlin facility. All of our products are engineered here in Berlin. Every ADAM Audio speaker includes the German hand-built precision X-ART tweeter, and each system is individually calibrated to meet ADAM's rigorous standards."

ADAM has consistently attracted clients within the pro audio market, serving those who choose gear based on quality first, price second. This, explains Angress, goes hand-in-hand

for nearfield use. Today, ADAM serves many areas in the audio marketplace; we manufacture monitors for the high-end of the market which sell for as much as \$50,000 per pair while also producing products to suit the ever-growing market of conservatively priced monitors designed for musician-owned studios."

"Our focus is on precision manufacturing and handmade components built by experienced people who have been with ADAM Audio for many, many years," Angress continues. "We are constantly talking to our customers to learn how their workflow is changing. At the same time, our engineers are looking at emerging technologies in electronics, compo-

nents, acoustic technologies and materials science in order to continually improve the value of our products. From engineering to manufacturing to customer service, all of our team members at ADAM are keenly aware that our products are designed and built for use by discriminating creative professionals whose work and livelihood depend upon having accurate, precision audio tools. We have a reputation for high-quality engineering and superior sound, and intend to continue earning it in the years ahead."

Angress emphasizes that ADAM Audio's presence in the studio monitor marketplace stems from incorporating both style-based refinements and measurable technologies into its designs. "We believe that combining our creative experience and engineering know-how has allowed us to produce products which blend the best part of both art and science, so that creative audio professionals who use ADAM Audio loudspeakers as tools of their trade can enjoy their listening experiences and produce their best work. ADAM Audio is proud to be a contributor to the creative process. We have done a heck of a good job with that and are very proud of it. We will continue to produce precision, handmade, evolutionary and magical German designs. Our reenergized R&D group is hard at work behind closed doors on producing the next generation of exciting ADAM Audio products."

ADAM Audio
adam-audio.com

"We are in the business of making these precision tools for creative professionals whose choice of audio recording and mixing products is essential to their resulting project."

David Angress

SOTI: Post-Production

(continued from page 1)

Soundelux in July 2014, for example, sent shockwaves through the L.A. community. But in the vacuum left by the closing of the many and various locations occupied by Todd-AO, Soundelux and POP Sound (Pacific Ocean Post), other organizations have taken up the slack.

For instance, as reported in *PSN's* October 2015 issue, ad agency 72andSunny has built out a significant video and audio post facility in-house at its facility in L.A.'s Silicon Beach neighborhood, reducing its reliance on the fortunes of third-party facilities. "We saw a similar trend to some degree in the Toronto market, with some ad agencies bringing production in-house," says Chris Parker, CTO with the SIM Group.

The SIM Group encompasses SIM Digital cinematography and playback equipment; PS Production Services grip and lighting service; Chainsaw and Pixel Underground picture post services; StationEX, which provides physical and file-based media fulfillment and encoding/distribution services; and Bling Digital's workflow solution. Into that mix has now been added two audio post facilities.

The first of those was Post Factory N.Y., says Parker. "Our clients were interested in having us service shows, and the industry at large, in New York. It proved to be a really good fit, culturally, to have them be a member of the SIM Group family."

Many states nationwide offer tax incentives to entice film and TV productions, and sometimes post production, along with their associated local economy-boosting dollars. New York has been especially successful with its incentives, leading to more

productions moving to the state and particularly New York City.

"The post production industry there has always been pretty solid, but with the aggressive tax credits that are in place, it just seems to be growing, both on the post side and the production side. We actually have two offices set up—the Post Factory offices in Manhattan and then we also opened up a Bling Digital location in Brooklyn to get closer to where a lot of the production activity has been cropping up," says Parker.

More recently, Tattersall Sound and Picture has also been brought into the group. "For us, it was a natural extension of our post production services to get into post audio," says Parker. "Although they are based out of Toronto, they service shows for the Canadian market and for the American studios as well." In September 2015, Tattersall announced that it had added a 35-speaker Dolby Atmos system to its largest mixing stage and completed its first feature film project in the immersive sound format.

There are long-term plans to offer some services via the cloud and link the facilities, says Parker, so that, say, a client in New York or L.A. could take advantage of Tattersall's services. "In the short term, most of our facilities have migrated to using Sohonet to solidify our connectivity between locations."

Two Los Angeles-based independent post facilities also recently announced an alliance, enabling Hollywood-based Larson Studios to operate the Main Stage at Post Haste's Culver City location. "Post Haste is a non-union facility. With this relationship, Larson is able to bring in new content that is union

"The post production industry [in New York] has always been pretty solid, but with the aggressive tax credits that are in place, it just seems to be growing, both on the post side and the production side."

Chris Parker, CTO, The SIM Group

into our facility; they are a signatory," explains Allan Falk, owner and president of Post Haste Digital.

Plus, he says, this provides Larson with a location on L.A.'s Westside. "We're currently mixing the new season of *The X-Files* here. One of the executive producers said, 'this is fabulous'—because he lives less than a mile away from us. And [show creator] Chris Carter was raving about the sound of our dubbing stage."

Falk notes, "We're a pretty full-service post facility." Post Haste's Culver City facility houses two re-recording and mixing stages, ADR and Foley stages, two machine rooms and six editorial and mastering suites where the company has completed restoration, mastering, compression, authoring and other services. "Another benefit of forming this alliance with Larson is that it can generate additional services all under one roof," he says.

"Part of the arrangement with Larson is that we have dedicated bandwidth that's reserved specifically for their content, so it's very easy for us to transfer materials between the two companies," adds Brian Bartelt, general manager at Post Haste.

Although California has now instituted tax incentives to try and keep production and post projects in the state, Bartelt says it's too early to tell if they are working yet. "It seems like there are more productions, but I would attribute that to the new digital platforms that are creating content," such as Amazon, Hulu and

Netflix.

Earlier in the year, Kim Waugh, SVP, post production services worldwide, Warner Bros. Entertainment, announced that WB Sound had acquired Digital Cinema New York, following a two-year relationship with the studio. Warner Bros. now offers a full complement of sound and picture services in Burbank, New York and London.

In a statement, Waugh said, "As the industry moves to a broader consolidation of picture and sound, Warner Bros. continues to expand and develop the full scope of our post production services. The volume of production in and around the New York area grows more and more robust, and we are fully committed to creatively serving the increasingly greater needs of the community."

WB Sound New York, as it is now called, is under the guidance of Skip Lievsay, the Oscar-winning sound supervisor and re-recording mixer for *Gravity*. The facility provides sound design, sound supervision, sound editorial, re-recording and ADR services at the Midtown Manhattan facility previously occupied by Digital Cinema.

Lievsay's creative team at WB Sound New York includes sound supervisor and re-recording mixer Paul Urmson, supervising sound editors Eliza Paley and Ben Cheah, and re-recording mixer Michael Barry. Feature films that have been edited and mixed at the facility this year include *Into the Woods* and *Rikki and the Flash*.

Microsoft Owns The Quietest Place On Earth

REDMOND, WA—Everyone needs a quiet place to go to, even Microsoft, which had now owns an anechoic chamber that recently broke the Guinness World Record for the Quietest Place on Earth, measuring -20.6 dB. For context, the theoretical noise produced by Brownian motion—the random movement of particles in air—is the quietest-known sound outside the vacuum of space, and is measured at -23 dB.

In March 2014, Microsoft contracted Eckel Noise Control Technologies to design a chamber for audio and device testing. Hundraj Gopal,

Ph.D., Microsoft principal human factors engineer, explained, "We use these facilities for designing products like the Surface, HoloLens and Cortana, that we take great pride in." LeSalle Munroe, Microsoft senior engineer, surface devices, added, "This chamber gives us the opportunity to look for those really small signals that can have an impact to the end user. We always want to have the best tools available for the job, and that's what this is."

Installation began at Building 87 that May, under the direction of



Microsoft's record-breaking anechoic chamber.

installer Viking Enterprises of Waterford, Conn., which outfitted the chamber's walls, ceilings and door with sound-absorbing anechoic wedg-

es, and anti-vibration mounts used isolate the chamber from the rest of the building's foundation. The project—which also included constructing two smaller anechoic chambers—was completed in July that year.

Since then, independent tests of the main chamber by specialists from Brüel & Kjær confirmed that the chamber had broken the previous world record of -13 dB, held by an Eckel anechoic chamber at Orfield Laboratories in Minneapolis. Eckel
www.eckelusa.com

SOTI: Sound Reinforcement

(continued from page 1)

ent Taylor Swift making the rounds through the stadiums of North America. Throw in—just for starters—Shania Twain, U2, Madonna, One Direction, Paul McCartney, Billy Joel and The Grateful Dead's final shows, and an astronomical cumulative gross at year's end doesn't seem out of the question.

All this can only bode well for the live sound providers behind national tours, but it's also indicative of a larger picture playing out across the country—one that affects sound companies at all levels. In October, the Thomson Reuters/University of Michigan's U.S. Consumer Sentiment Index reached 92.1—its highest mark since 2007, before the start of the recession. That means consumers are expecting continued economic expansion and have high personal financial expectations as a result. Folks who aren't worried about how to put food on the table are understandably more likely to empty their wallets for entertainment, whether for top-shelf tours (which hit an all-time record average ticket price of \$76.20 this summer), regional events or local bands playing the town band shell. More consumers out for a night of fun traditionally mean more work overall for the live sound industry.

While the concert industry has always been seen as recession-proof, that theory was put to the test back in 2008 and 2009. The result for audio providers was to endure clients trying to cut costs at every turn; if the productions were in fact recession-proof, it was partially accomplished on the backs of their vendors. As the economy has picked back up, the mindset of, if not skimping on, certainly curtailing production costs has only slowly eased off. However, with ticket sales up 5.8 percent over last year during the first half of 2015, according to *Pollstar*, and average gas prices still nowhere near 2014's high-point of \$3.70 a gallon, it's all creating atmosphere where acts stepping up to sheds and arenas—or returning to them—are more likely to spring for an extra truck to carry full production to ensure continuity of experience, rather than opt for bringing only control gear and picking up local systems at every stop. One national audio company's gain, however, becomes multiple local companies' losses in this scenario, as their stacks and racks may support tours passing through less often as a result.

One continued success affecting audio vendors from the regional companies up to the national tour-

ing sound businesses like Eighth Day, Thunder Audio and VER Tour Sound, has been the unstoppable growth of festivals. While there have been predictions of a marketplace shakeout for the last few years, new multi-day events continue to crop up annually, and successful upstarts like producer Nile Rodgers' FOLD Fest, which debuted this year in Long Island, NY's wine country, continue to feed that appetite. Existing popular events continue unabated—in June, the CMA Music Fest in Nashville hit a new attendance record of 87,680—

with that format. The seemingly endless bumper crop of fests has helped make up the difference in ticket sales—and audio system rentals—for an era that is creating fewer career acts capable of filling major venues for more than a year or two.

There's numerous studies that note Millennials value "experiences" (like festivals, though not limited to them) over possessions—a 2014 survey by Eventbrite found that 78 percent of Gen Y prefers to spend money on experiences over things, and that among all ages, U.S. consumers have increased their spending on experiences by 70 percent since 1987. Those numbers correlate with findings by InfoComm in its recently released *Live Events: 2015 Industry*

Folks who aren't worried about how to put food on the table are understandably more likely to empty their wallets for entertainment

and promoter AEG has hinted in *Billboard* that it plans to launch three major festivals in 2016.

That festivals are a hit is not news; indeed, it's been the Plan B of tour-sound audio vendors for some time as Baby Boomer-era entertainers—often their most reliable clients—edge into their 70s. For now, those older acts, though there's fewer of them on the road these days, can still hold their own headlining in major venues, arguably in part because their generation grew accustomed to seeing the artists in such a format.

Conversely, Millennials—the current 18-35 generation—have grown up in an era of specialty festivals, whether indie rock or EDM, that field dozens of small acts over the course of two or three days, and as an audience, they're equally content

Insights Study, which notes that increasingly "[live event firms] strive to create immersive environments for participants as a means to enhance their overall experience."

With the pressure on to create ever more technologically advanced efforts, event producers are preferring to work with specialized providers. During the height of the recession, many concert audio companies diversified into system installation markets, but now InfoComm found that "the trend is toward specialization and many live events firms have divested their interests in installed AV in favor of focusing on the live events market." Bolstering that intention, the report found live events/rental and staging service providers driving anywhere up to 20 percent of their revenues back into product purchas-

es, with North American providers particularly focused on gear that offers the best combination of innovation, features and customer requirements. The takeaway would appear to be that if the average U.S. consumer is confident about the economy looking forward and is going out to events, sound companies at all levels are confident about consumers' confidence, and are replenishing their inventories to ensure they're ready to meet demand.

It's entirely possible that a culling of the festival herd may not happen for some time, if only because more and more municipalities are welcoming their promoters with open arms. An economic impact report released in August by EDM promoter Insomniac found the company held 48 festivals in 14 cities between 2010 and 2014, generating a total economic output of \$3.17 billion, including \$181.1 million in state and local taxes. As Insomniac is just one festival promoter among many, the overall numbers at play going forward could be staggering, and that's just the U.S. market.

Taking a worldwide view, Price Waterhouse Cooper recently released *Global entertainment and media outlook 2015-2019*, which predicts the annual growth in global live music revenue will help the music business just about compensate evenly for its declines in recorded music. Fueling that will be the usual mix of concert sponsorship and ticket sales—but the surprise is that growth from ticket sales will outpace sponsorship, rising from a global total of \$20.51 billion in 2014 to an expected \$23.69 billion in 2019. While inevitably some of that will be fueled by rising ticket prices, it would also seem to indicate more tickets in general being sold—translating into continued and likely increasing amounts of work ahead for audio providers at all levels of concert and event production.

Internships

(continued from page 19)

the DOL's criteria into question and provided new criteria to test who is the primary beneficiary of an internship. Using the new criteria in July, 2015, the higher court reversed the judgment of the lower District Court. The higher court's criteria—a set of seven deciding factors similar to those of the DOL—modified the requirements that the employer could derive no immediate advantage from the internship and on occasion its operations might be impeded, and then bolstered the importance of

the educational component of an internship.

What does all this mean for the professional audio community and specifically employers and schools? I believe the link between the two is a key to the health of our industry; working together has never been more important with regard to the transition of the next generation of engineers into the professional community. When schools and employers have a solid link and use internships as a conduit to continue developing new talent, everyone wins. Schools that have not adopted formal internship components within their curriculums should consider it. Employers not already doing so

should consider working closely with those schools offering formal internship programs. This is not the only way to operate within the letters of the regulations; however, it appears the cleanest.

It is unknown whether the seven guidelines from the very influential Second Circuit court will be adopted by the Department of Labor or if other federal courts around the country will follow suit. What we do know is that when internships are structured in a way that integrates the intern's classroom learning with practical skill development in a real-world setting, the internship will likely sit on firm ground in the eyes of the regulators.



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MUSICetc. IIII

Charting New Paths

BY JACQUES SONYIEUX

The Vaccines are on a roll. Having released their critically acclaimed *English Graffiti* album in May (their third album in four years), the band has already toured the world, opening for The Rolling Stones, Muse and others while selling out mid-sized halls around the U.S. Produced by Dave Fridmann and Cole M. Greif-Neill and recorded at Fridmann's studio in upstate New York, *English Graffiti* is a refined and polished recording.

Artistically, it is a beacon of hope for anyone who feels that the alt/indie scene has lost its footing, with each song exposing a fresh dimension of an extraordinarily prolific band. *Pro Sound News* sat down for a virtual pint with frontman and principal writer Justin Hayward-Young, who provided 20/20 perspective on the band's latest effort.

ON REFLECTION:

We are all really happy with this record. Honestly, there were so many special moments that occurred during the recording, and that's one of the things that makes it so scary when you have to give it up for the world: Nobody will ever know how special it felt creating it. A record is never perfect, but now that we're playing it out, it is a lot more deeply rooted in our hearts and minds. Only recently, we've begun asking ourselves, 'Where do we go from here and how do we build on this? What will we do differently next time?'

ON BUILDING FROM THE CORE:

There was just a lot of material because there were so many songs stored up over time. The irony is that that some of the songs that maybe sound more like the Vaccines, such as "20/20," "Handsome" and "Radio Bikini," came last and adopted 'our formula,' so to speak. There were many songs that we were stoked about, but they just didn't have very simple pop songs at their core. And I think that whatever we do, we always have to start with great songs at the core. It is all very well to start a song with an interesting beat, cool production idea or a weird sound, but if there isn't a good song at the core, it's certainly something we don't do well. We ended up starting with the songs and putting weird and wonderful things on top of that.

ON RECORDING IN PITCH BLACK:

I am not a great player or very technical, but I have a lot of stuff in my head and sometimes I am able to



The Vaccines are led by Justin Hayward-Young (left)

get it out by happy accidents; other times, I am not. As far as vocals are concerned, I have this awareness of how I've sounded in the past and how I want to sound moving forward. For this record, I just wanted to sound close and personal, so I recorded most of the vocals in pitch black, in the smallest space I could find. For the higher falsetto stuff, I was normally lying on my back. Generally, I just wanted to feel good while laying down the vocal tracks. I used a single mic on pretty much the whole thing: a Sennheiser 421. It is funny, because I demoed a lot on it as well—but we went through about three or four of them before we found one that felt really great.

ON RECORDING IN UPSTATE NEW YORK:

We recorded *English Graffiti* at Dave Fridmann's Tarbox Road Studios in upstate New York, not too far from Buffalo. Half of the year, it is lush and beautiful and the rest of the year, there is snow. Honestly, when you see his surroundings, all his records make sense—you can see why someone would look up to the sky and wonder what's up there and make music that sounds like it came

bond that I think is far deeper than friendship, and at the end of each session, we can always laugh about it after it has gone down. We love working with each other—that's why we've made three albums in four years because we enjoy each other's company.

ON LEAVING THE PAST BEHIND:

We didn't want to work within a framework and wanted to feel like anything was possible. And I sort of felt like it was, to be honest. We spent so long listening to Buddy Holly and Mick Jones thinking 'How can we get the guitars to sound like they do on *Combat Rock*? Or, 'How can we get our guitars to sound like Buddy Holly?' And then I realized, those guys weren't looking back 30, 40, 50, 60 years. They were looking forward and thinking 'How can I get a guitar sound like nothing that's been done before?' On this record, a lot of people think we used a lot of synths—but apart from a single Juno we used, it's all guitars. We wanted to try to make noises on our guitars that people have never made before.

ON TURNING PROFESSIONAL:

I always wanted to do music, and studying at university was just a way

"I realized those guys weren't looking back 30, 40, 50, 60 years. They were looking forward and thinking 'How can I get a guitar sound like nothing that's been done before?'"

Justin Hayward-Young, The Vaccines

from up there. Then there is also this icy isolation and harshness to the environment, which I think is kind of an embodiment of his sonic palette.

ON KEEPING GOOD COMPANY:

The chemistry in The Vaccines is one of brotherhood rather than friendship. It gets tense and people say things they don't always mean, and people aren't always great at expressing themselves in certain situations, but I think we have a common love and a common goal. There is a

to get to London. Turning professional was never a scary thing for me. In fact, the idea that it wouldn't happen was pretty scary to me—I was very lucky that I made some demos and got a manager as I was just finishing university. Pretty much the day I put the pen down, we went off on tour.

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.

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