

pro sound

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JOHN STALEY PHOTO

TV Production Shifts Towards Portability, AoIP

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

LAS VEGAS, NV—Changes abound in broadcast audio, significantly affecting everyone involved—producers and content creators, consumers, gear manufacturers, advertisers and most certainly the broadcasters themselves. That’s the consensus amongst

most pro audio experts PSN met at the Las Vegas Convention Center (LVCC) for the 2015 NAB Show. And largely, it’s all about the Internet.

Since NAB 2014, for example, we have Sling TV—low-cost Internet Protocol pay television (IPTV) with major channels on board—owned by Dish Network, unveiled in Jan-

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Moving Target

Issues of acoustics, the challenges of low frequency reproduction, loudness, processing, personalization and immersive audio formats were all considered during the Audio Engineering Society’s recent three-day 57th International Conference in Hollywood, CA, “The Future of Audio Entertainment Technology.” (Conference co-chair Brian McCarty pictured)



PACKING THE AISLES—The National Association of Broadcasters’ 2015 NAB Show attracted a reported 103,042 attendees. Spread across more than one million square feet of space, 1,789 exhibitors displayed and demonstrated products and services relating to every aspect of the development, management and delivery of content across every conceivable platform.

NAB 2015 Marks Tipping Point Of Transition To Full IP Television Delivery?

BY STEVE HARVEY

LAS VEGAS, NV—According

to Gordon Smith, chairman/CEO of the National Association of Broadcasters (NAB),

the impending incentive auction is an opportunity for the industry to develop and adopt a next-generation technology platform. “In an increasingly fragmented marketplace, next-gen promises to provide flexibility, IP interoperability and new revenue streams,” said Smith in his keynote at the 2015 NAB Show in Las Vegas.

IP is already well-established and widely adopted in many markets within the

audio world. But this year, if the recent NAB Show is any indication, marks a tipping point for the wider broadcast industry, which is now grasping the potential of IP in the face of cord-cutting customers, OTT (over-the-top) content delivery and the reduced over-the-air footprint that could result from the incentive auction.

The auction is intended to encourage TV stations to sell

(continued on page 52)

Right Down The Center

Spectacular detail and imaging characterize Genelec’s Acoustically Coaxial Smart Active three-way monitor, the 8351A. The exclusive first US review of the 8351A is included with many more products in this month’s PAR in PSN pages.



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Yamaha Merges Pro Audio Businesses

BUENA PARK, CA—In a broad-ranging move, Yamaha Corporation of America is consolidating its Live Sound Department, Steinberg North America and Commercial Audio Units into a newly formed Professional Audio division. Founded with the aim of creating a unified presence within the live sound, recording and sound installation markets, the new division will be led by 27-year Yamaha vet-

eran, Alan Macpherson.

Yamaha's various pro audio entities have introduced numerous high-profile products in recent times, such as the CL and QL live sound consoles and upcoming flagship PM10 Rivage desk, as well as Steinberg's Cubase Pro 8 and Artist 8 DAWs. Furthering their presence in the pro audio marketplace, the new Yamaha Professional Audio division will handle these and all other Yamaha commercial audio products currently marketed by Yamaha Commercial Audio Systems (YCAS).

The new division will oversee all Yamaha live sound products, Nexo speaker products, the Yamaha Nuage post-production system, Steinberg software and hardware products, and Yamaha's new commercial installed sound products. Yamaha's service offerings for dealers and customers will continue unchanged, as will the current distribution strategy. The division will also continue to serve commercial audio markets in Canada as well as the U.S.

YCAS will be merged into YCA and Larry Italia, another Yamaha veteran who most recently has served as vice president/general manager of YCAS, will be leaving Yamaha. "We wish to acknowledge Larry's years of loyal and valuable service to the company," said Hitoshi Fukutome, president, Yamaha Corporation of America. "Larry has made significant contributions and helped Yamaha achieve many milestones during his tenure. We wish him the very best in the future."

Tapped to lead the new Yamaha Pro Audio division, Macpherson is currently general manager of its Pro Audio and Combo division, and previously led Steinberg recording products in the U.S. He began his career at Yamaha Canada Music Ltd. in 1987. In 1999, he was promoted to national sales and marketing manager of the Pro Music and Audio Division and, in 2001, was named marketing manager, Combo and Music Production Division. His responsibilities were further broadened in 2006, when he was named manager of the Corporate Planning and Communications department at Yamaha Canada. He

became director of Steinberg North America at YCA in 2008. Macpherson will report directly to Tom Sumner, senior vice president of YCA.

YCA will rename its current Pro Audio and Combo division the Pro Music division. The new Pro Music division will now focus on marketing Yamaha guitars, amps, acoustic and electronic drums and music production products. John Shalhoup, who has a 16-year Yamaha career, will lead the new Pro Music division. He currently is the company's chief marketing director, guiding company-wide branding and marketing strategy. Shalhoup will report directly to Rick Young, senior vice president of YCA.

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briefs

ISP Gets Loud About 'Proud'

WATERFORD, MI—The Proud to Manufacture in Michigan program recently selected ISP Technologies (isptechnologies.com) as its Featured Manufacturer of the Week, spreading the word across the program's website and social media outlets, including its LinkedIn, Facebook and Twitter accounts. ISP designs and manufactures guitar signal processing, professional audio equipment and its High Definition Distributed audio products

Roland Founder Takes ATV to PL+S

FRANKFURT, GERMANY—Ikutarō Kakehashi, founder of Roland, used Frankfurt Musikmesse/Pro Light + Sound to announce his new company, Atelier Vision Corporation (ateliervision.co.jp), which was unveiled for the first time internationally. Founded last year, the new company is focusing on applications in the broadcast, entertainment, networking, corporate AV, events, installation and digital signage markets.

beyerdynamic Reboots US Pro Audio Unit

FARMINGDALE, NY—beyerdynamic (beyerdynamic.com) has taken the reins as its own direct source for Pro Audio products in the U.S. The Heilbronn, Germany-based company's conference and consumer products are already distributed from its U.S. headquarters in Farmingdale, NY; beyerdynamic's pro audio products—wired and wireless microphones, headphones, headsets and broadcast related products—will join them under the guidance of Dave Hetrick, who has been named as the Pro Audio National Sales Manager for the Pro Audio business unit.



NASHVILLE LISTENS WITH P&E WING—The Recording Academy Nashville Chapter and Producers & Engineers Wing recently presented "In the Mix: Listening Session" at Addiction Sound Studios in Nashville's Berry Hill neighborhood. Attendees included engineers, producers, studio owners, journalists and other industry figures. Among those contributing to the session were (l-r, standing) Rick Clark, Bil VornDick, P&E Wing committee co-chair Julian King, (seated) PSN contributor Russ Long, and Jason Lehning.

Immersive Content: AES 57th International Conference On Entertainment Tech

BY STEVE HARVEY

HOLLYWOOD, CA—Issues of acoustics, the challenges of low frequency reproduction, loudness, processing, personalization and immersive audio formats were the focus of the Audio Engineering Society's recent three-day 57th International Conference in Hollywood, CA. Taking as its theme "The Future of Audio Entertainment Technology," the conference presented workshops, paper sessions and panel discussions on audio delivery via the cinema, television and the internet.

It has been hard to avoid the topic of immersive audio recently, and this conference was no exception, dedicating the entire final day to the subject. From ambisonics and binaural to

channel-based schemes such as Auro-3D, the object-based systems being produced by Dolby Labs and DTS, as well as the hybrid MPEG-H standard, the many and various immersive formats were discussed in great detail over the weekend by the manufacturers and their product users.

Immersive sound in the cinema—and, increasingly, in the home—is being driven more by manufacturers, content creators and audio professionals than consumer demand, it seems. "We did a lot of audience research on the experience of immersive sound. Most novice listeners find a marginal difference between 5.1 and immersive sound," reported Brian Claypool of Barco, which recently acquired IOSONO and is a partner



Sony Pictures' Brian Vessa, also chair of SMPTE's Technical Committee 25CSS, outlines the issues motivating cinema audio standards initiatives.

with Auro Technology.

Claypool wondered if there should be "baseline performance criteria" for immersive content, in order to make

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SOUNDRECORDING

Sharing Space To Cover Mic To Master 20
Two looks at the two companies sharing the same studio complex in Santa Ana, CA—the nearly 40-year-old recording facility, rebuilt and reborn as Blue Velvet Studio, and the revitalized Sound Affair Mastering, returning to its birthplace in an all-new, custom-built space.

Studio Showcase: Bikini Atoll 22
After years of working with the likes of Mos Def, Slash and Smashing Pumpkins in Los Angeles, sound designer Grant Goddard left Los Angeles for the Nashville region, where he's built a new creative oasis in the form of Bikini Atoll Sound, working with up and-coming bands.

SOUNDPOST/BROADCAST

BBC Reports On Object-Based Broadcast Audio 30
A presentation by Frank Melchior, lead technologist with BBC Research & Development in the U.K., during the AES 57th International Conference in Hollywood, CA, at the beginning of March offered a glimpse into the potential of object-based audio. As Melchior observed at the conclusion to his presentation, "Object-based broadcasting is the future of audio."

SOUNDTECHNOLOGY

Pro Audio Review in PSN 33-39
Genelec 8351A Acoustically Coaxial Smart Active Monitor; Rich Tozzoli's Third Annual Spring Vacation (Glyph Studio Mini, AEA N8 ribbon mic, Audio-Technica AE2500 dual element cardioid mic, Shure KSM9HS handheld vocal Microphone, Teegarden Audio Fatboy tube DIs, Sunburst Gear M3BR8 powered speakers, Novation Bass Station II, Millennia HV-35P mobile preamplifiers, Avid Pro Tools 11, Universal Audio UAD v8.0 and UAD Console 2.0, Eventide H9 harmonizer multi-effects pedal); Acme Audio Opticom XLA-3 MKII; Q2 Audio ADR Complex F760X-RS; iZotope Ozone 6 Advanced; Mackie ProFXv2 Series Professional Mixers; DPA SC4098 d:screet podium microphone

SOUNDPRODUCTS

NAB 2015 Best of Show Awards 40

SOUNDREINFORCEMENT

Building on Clearwater's Legacy 42
What does it take to provide audio for an environmentally conscious festival that attracts 20,000 people every year but is dead-set on keeping a small carbon footprint? Find out as we go behind-the-scenes of the nearly 50-year-old Clearwater Great Hudson River Revival.

Live Sound Showcase: Florida Georgia Line 44
One of the hottest new acts in Country Music, Florida Georgia Line, shows crowds a good time every night, aided by a sound crew that's come up the ranks with them—and some subs that raise as much hell as the band themselves.

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2015 NAB Convention 1, 40
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viewfromthetop. 54	Mark Loughman started out at BAE Audio as an intern, found out he was learning more on-the-job than at school and wound up getting hired full-time. Now he owns the company and is steering its "organic and steady growth" as BAE hits its 15th anniversary.
music,etc. 58	Jaques Sonyieux talks with Jon Regen about his new album, <i>Stop Time</i> , and how working with producer Mitchell Froom (Crowded House, Paul McCartney) changed his view of the music he was bringing in to record.

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
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A Postcard From Frankfurt

Mid-March in Frankfurt seemed much like the March I'd left at home. The first two days, the temps topped 70° F and the locals sought out any patch of sunshine they could find and basked in the warmth. The next two days were 10° cooler, which actually helped in the halls, where air conditioning was obviously not a priority.

For many of our readers, trade shows are something you read about in magazines and online, and don't attend, though you probably have a decent mental image of the aisles, lined with row after row of manufacturers displaying their wares.

Each spring, Frankfurt has two simultaneous events, sharing a common spread of exhibit halls—kind of a Winter NAMM on steroids, for those of you who have experienced Anaheim in January. Where NAMM is loosely separated by musical instrument category under a single expansive roof, Frankfurt's Musikmesse divides MI exhibitors along the same lines, but in separate buildings within the messe, or festival, grounds. The second event is ProLight+Sound, which is comprised of two halls—one for lighting and the other for pro audio—supplemented by outside stages where large sound systems are demoed.

Hall 5.1 at Musikmesse is devoted to recording gear, with some spillage downstairs to 5.0 and into Hall 4 (where they share space with gui-

tars—companies like Gibson and TC Electronic obviously having a foot in both worlds). Most of the U.S. manufacturers exhibit with their distributors, and many tell me that exhibition participation is actually secondary for them to their meetings with their worldwide distributors who converge on Frankfurt each year.

Over in Hall 8, the live sound community gathers, again with many sharing space on a distributors' booth

For 2016, planned changes in the Frankfurt shows are dramatic.

but with individual spaces that could occupy a sizeable footprint on their own. PL+S is the largest gathering of live sound brands that I've experienced in two decades of covering such events.

The combined attendance at the two Frankfurt shows was cited by the organizers as topping 108,000 this year from 146 countries, up from around 107,650 in 2014. The exhibitor count was 2,257, up from 2,216 in 2014, though that success was somewhat marred by notable no-shows like Fender.

There's been contraction in the

Musikmesse side of the equation for some time—Hall 6 remained entirely unused this year, for example. One change designed to help address this, and to cater to those who primarily attend for business dialog, was the addition of a new B2B meeting area—flanked by the impressive Neal Preston "In the Eye of the Rock'n'Roll Hurricane" photo exhibit of artists ranging from Freddy Mercury to Fleetwood Mac, a welcome distraction. Another change was the addition of a second public day; the final two days of Musikmesse allowed anyone to buy access, making Hall 5 pretty unbearable.

For next year, planned changes in the two shows are even more dramatic. Early March dates are slated with PL+S starting two days before Musikmesse and overlapping by two days, with all four days of Musikmesse being public days. A major shift in hall allocations is also planned, with PL+S moving up to the front halls, Musikmesse moving further back. As with any change, a lot of consternation was expressed about the plans—six show days, four public days, more expensive mid-week travel for those who don't stay the entire time, new locations. Some of the plans will no doubt be modified based on exhibitor feedback. I'm sure I'll be there regardless, based on the concentration of new gear and unparalleled access to manufacturers.

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Doug Sax Passes at 78

BY STEVE HARVEY

OJAI, CA—Legendary mastering engineer Doug Sax of The Mastering Lab in Ojai, CA, passed away on April 2, succumbing to cancer just three weeks short of his 79th birthday.

Sax opened The Mastering Lab in Hollywood in 1967, at a time when

the major labels and large recording studios typically mastered in-house, earning the company the title of the first independent mastering service in the country. Sax's partners in the facility were his older brother Sherwood, an electronics engineer who designed and hand-built all of the studio's custom equipment, and pianist



and composer Lincoln Mayorga, a friend from junior high school in Los Angeles. In high school, Sax played in

the trumpet section alongside Herb Alpert. He played in the 7th Army Symphony when drafted in 1959.

One of The Mastering Lab's first major projects was the eponymous debut album by The Doors, which was added to the National Recording Registry by the Library of Congress at the end of March, 2015. Sax went on to master an exhaustive list of artists including the Rolling Stones, the Who, Bob Dylan, Pink Floyd, the Eagles, Frank Sinatra and Diana Krall. In 2005, he won multiple Grammy Awards for mastering the stereo and 5.1-surround versions of Ray Charles' *Genius Loves Company*. He also won a Technical Grammy Award in 2004.

Sax and Mayorga founded Sheffield Lab Recordings in 1970, a label that pioneered direct-to-disc recording. The catalog endeared Sax to audiophiles worldwide and set a singular example of audio quality.

A perfectionist who was described as endearingly cantankerous, Sax was famously unimpressed with the CD format when it was first introduced, telling *Stereophile* magazine in 1989, "I don't think you are getting a 16-bit product. You are getting maybe 14 bits out the door." Sheffield Lab produced a t-shirt with the all-caps legend "STOP DIGITAL MADNESS."

In April of 2008, Sax announced that he would be closing up shop in Hollywood and relocating The Mastering Lab to Ojai, about 85 miles to the west. Mastering engineer Eric Boulanger and the staff will reportedly continue cutting at the facility.

The Mastering Lab
themasteringlab.com

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Les Paul Celebration Plans Set

NEW YORK, NY—The Les Paul Foundation has unveiled ambitious plans for a year-long celebration of the inventor of sound-on-sound recording and the solid-body electric guitar, starting on the day that would've been his 100th birthday—June 9, 2015.

The Les Paul Foundation's official "100th Birthday of Les Paul" efforts, running through May of 2016, will include a musical launch event in New York, a national PSA campaign giving youth a chance to "Pledge to Invent," a tribute concert in New York City, a new interactive website and far more.

Les Paul Foundation
lespaulfoundation.org



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DTS:X Details Unveiled

CALABASAS, CA—DTS is returning to cinemas with its next-generation DTS:X open, object-based, immersive audio technology.

The foundation of DTS:X is MDA, DTS' license fee-free, object-based immersive audio platform. The platform enables sound engineers to "mix once" for both immersive and

conventional cinemas in a combined object- and channel-based audio format, allowing content to be distributed beyond the theater for streaming, broadcast, optical media and more.

DTS has partnered with numerous server, sound rendering and processing companies. GDC Technology, which boasts the largest installed base

of digital cinema servers in the Asia-Pacific region, and the second largest globally, plus QSC and USL have developed and made available DTS:X-ready components that process and render MDA files.

DTS is presently working with several major studios and mixing stages in Los Angeles, Northern California and Canada that are evaluating DTS:X. Content announcements will be made by the studios when

ready. DTS' MDACreator software is currently being used to prepare the IMAX soundtrack for Marvel's *Avengers: Age of Ultron*.

Manufacturers representing nearly 90 percent of the home AVR and surround processor market will launch DTS:X-enabled products beginning in early Summer 2015, with additional manufacturer and model announcements to follow in the coming months.

DTS:X supports up to 32 speaker locations; metadata-based spatial mapping renders the ideal 3D sound image to actual speaker layouts. DTS:X supports lossless encoding or it can operate in a high-quality lossy mode. It offers support for up to 96k for object mixes and supports up to 192k for stereo and multi-channel mixes.

DTS, Inc.
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- ▶ Helps Increase the Intelligibility of Your Production

RIAA Reports Modest Growth

WASHINGTON, DC—The wholesale value of the American music business showed a modest 2 percent growth in 2014, while the overall retail value of the business dipped 0.5 percent, according to the annual report from the Recording Industry Association of America (RIAA).

Last year marked the fourth straight year of wholesale growth, and the fifth straight year of essentially flat retail revenues, which are valued at \$6.97 billion (down from a reported \$7 billion in 2013). Downloads account for 37 percent of market value (down from 40 percent in 2013), streaming revenues grew to 27 percent from 21 percent, and physical product shrank to 32 percent from 35 percent.

Paid subscriptions to U.S. streaming services were up 26 percent year-over-year in 2014 and have tripled since 2011 to 7.7 million subscribers, with a value of \$799 million. Ad-supported streaming accounted for an additional \$295 million.

Vinyl accounted for \$320 million in 2014, up from nearly \$214 million in 2013.

RIAA
riaa.com

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The White Stripes, Beck

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[16] **sound INTERNATIONAL** **||||**
MGG Rocks Annual Afrikaans Is Groot Music

PRETORIA, SOUTH AFRICA—An annual music event held at the Moreletapark Auditorium in Pretoria, the Afrikaans Is Groot Music Show held nine sold-out concerts at the 7,000-seat venue. Providing audio for the shows was MGG Productions, which fielded JBL VTX line arrays, Crown I-Tech HD amplifiers and Soundcraft Vi Consoles.

MGG Productions project manager Denzil Smith and his team worked with regional Harman importers and distributors Wild & Marr to design and run the system, which featured a total of 32



RF Tech Jaco Beukes, looking after dozens of Shure wireless systems in RF land, during the Afrikaans is Groot Music Shows.

JBL VTX V20 line array elements—12 per side for the main PA along with a center hang of eight JBL VTX V20, 10 VT4886 subcompact line array elements for front fill, and a combination of G28 and S25 subwoofers in cardioid formation. Monitors on-hand included JBL VTX F15, F12

and SRX 712 loudspeakers used for on-forement, but there was also a substantial of IEM systems in use as well. Many artists provided their own custom earphones, and all but two of the in-ear monitoring systems used were Shure, with 20 channels of PSM 900, six channels of PSM 700 and six channels of PSM 1000.

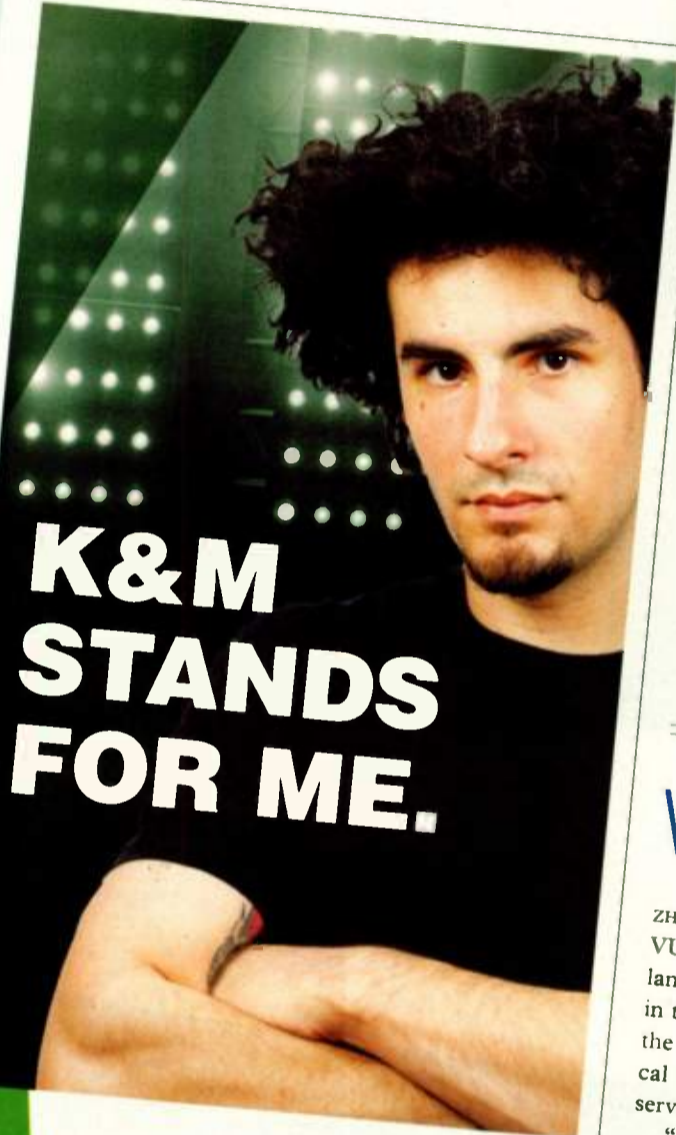
All loudspeakers were powered by V-Racks, which included Crown I-Tech 12000HDs and I-Tech 4x3500HD models; system management and control were handled with JBL HiQnet Performance Manager software. Shure wireless microphones featured were 42 channels of UR4-D, as well as a half-dozen channels of Axient for the key artists. RF Management was through Shure's Wireless Workbench.

At FOH, Soundcraft Vi6 and Vi3000 consoles were used. The Vi6 controlled all band inputs and additional multitracks for playout from Avid's Pro Tools. This was connected via an additional MADI card. The Vi6 was also used to trigger scenes to the Vi3000 via MIDI and HiQnet which triggered the RealTime Rack. The Vi3000 was used to handle vocals and sub scenes.

Wild & Marr
wildandmarr.co.za

Harman
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VUE Audiotechnik Opens Vue China

ZHEJIANG, CHINA—VUE Audiotechnik has founded VUE Audiotechnik China. Aiming to serve mainland China, the subsidiary is located in Zhejiang in the Jiashan County. The new company will carry the entire VUE line of products and provide technical support, with project-design, commissioning services and training to be added in the near future.

"From the start, VUE Audiotechnik was conceived as a truly international-based company, with engineering and manufacturing resources in the U.S., Germany and China," says Ken Berger, CEO of VUE Audiotechnik. "Last year, we added VUE Europa GmbH, a dedicated company that serves the European Market. Owing to our goal to be a worldwide force, opening VUE China is the next logical step. We're investing to become a leader in China, the fastest growing market in the world, which will soon be the single largest consumer market."

VUE has appointed Global Market Management's Alex Schloesser as Managing Director of the new subsidiary. He will spearhead the development and staff training, until the company is fully self-reliant under its own brand manager. Global Market Management is also managing VUE's Asia Pacific business development in establishing new distribution channels and bringing in new direct business.

"I'm truly looking forward to getting VUE Audiotechnik China up and running," says Schloesser. "It's an exciting challenge to build a company from



At VUE Audiotechnik China: Alex Schloesser, managing director, and Tiffany Jin, sales assistant.

the ground up, and I am confident that this newest addition to the VUE company portfolio will achieve unlimited success in China. VUE's products, with their excellent sound quality, fidelity and value, speak for themselves; establishing an independent subsidiary will considerably ease the process of introducing them to the Chinese market."

VUE is currently staffing the office with management, sales and technical support team members; this includes the recent appointment of Tiffany Jin as sales assistant. VUE Audiotechnik
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Remembering Stan Freberg

Stan Freberg died in April at the age of 88; while renowned as a comedian and radio personality, he was also an early driving force in pro audio, as Mr. Bonzai discovered when he interviewed Freberg in 1983:

I met Stan Freberg not because I recognized his face, but because I overheard his voice in a crowded L.A. supermarket. I did a mental double-take, looked around and pushed my way through the shopping carts to shake this man's hand. He cordially introduced his 12-year-old son, Donovan, and we made plans for a lunching. I thought it would be revealing fun to meet with two generations of Frebergs.

The success of his recording career was propelled by his fame as a radio comic. In 1957, he took over Jack Benny's network slot and his legendary show was the very last network radio comedy series. The double album culled from the programs won the Grammy as Comedy Album of the Year. As a record industry footnote, Stan was one of the founding members of NARAS, and wrote their credo. In the opening segment of the radio show, he had an argument with himself, which eventually grew into a multi-voiced tirade among six or seven Frebergs. It was live radio, but he had pre-recorded the argument to the memorable delight of radio audiences.

"That was the first time that I had done it," he told me. "We did it the hard way, in mono, by taking the outputs of two recorders and going into a third machine. Overlap, overlap, overlap. I also did a record that was a takeoff on Les Paul and Mary Ford."

For the full article, visit prosoundnetwork.com/may2015.



sweet tweet links

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/may2015.

- ▶ Tried that Abbey Road Studios/Google tour? Pretty amazing—walk around the studio virtually like in GoogleMaps
- ▶ A look at the private studio—in a shipping container—that's been used by members of Portishead, Kasabian & others.
- ▶ Studio engineer Jimmy Johnson recalls recording the late Percy Sledge's classic "When A Man Loves A Woman."
- ▶ The Universal Record receives music via Bluetooth and plays it on a turntable—to prove a philosophical point.

BLOGGINGS

IN THE STUDIO WITH RON 'BUMBLEFOOT' THAL

How metal is guitarist Ron "Bumblefoot" Thal? The guy has played with Guns n' Roses and Lita Ford, and co-wrote and performed the theme to VH1 Classic's That Metal Show—and those are just a few of the highlights from his 20 year-plus career. "First-call guitar player" isn't the only hat he wears though—truthfully, Thal is a one-man industry, as you can get your hands on everything from Bumblefoot guitar cases to hot sauces. And if you pick up his latest solo album, Little Brother Is Watching, you'll find he's adept at producing, engineering and conducting gang vocals, too.



STUDENTS INVENT SOUND WAVE FIRE EXTINGUISHER

"All About That Bass" may have been a hit song last summer, but it's also the basic concept behind a prototypical fire extinguisher that uses sound waves to put out flames. Created by Viet Tran and Seth Robertson, engineering seniors at George Mason University in Fairfax, VA, the invention uses sound waves in the 30 to 60 Hertz range to separate oxygen from an object on fire, extinguishing flames without using water or chemicals.



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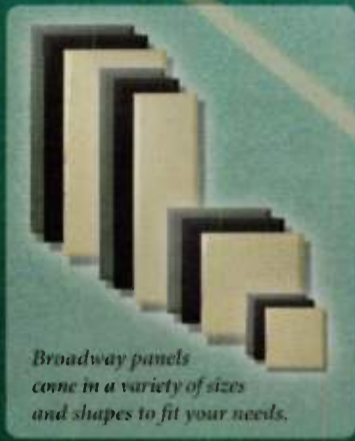
Frank Sinatra knew his way around a recording session, as this seven-minute, fly-on-the-wall clip of the singer recording "It Was A Very Good Year" shows. Singing with a live orchestra, the Chairman of the Board puffs away on his cigarettes, keeps an ear out for bad notes, cracks jokes to keep the mood up and remains focused on the practical demands of the day, too, concerned that the song remain short enough for rigid radio formats. Catch the clip at prosoundnetwork.com/may2015.



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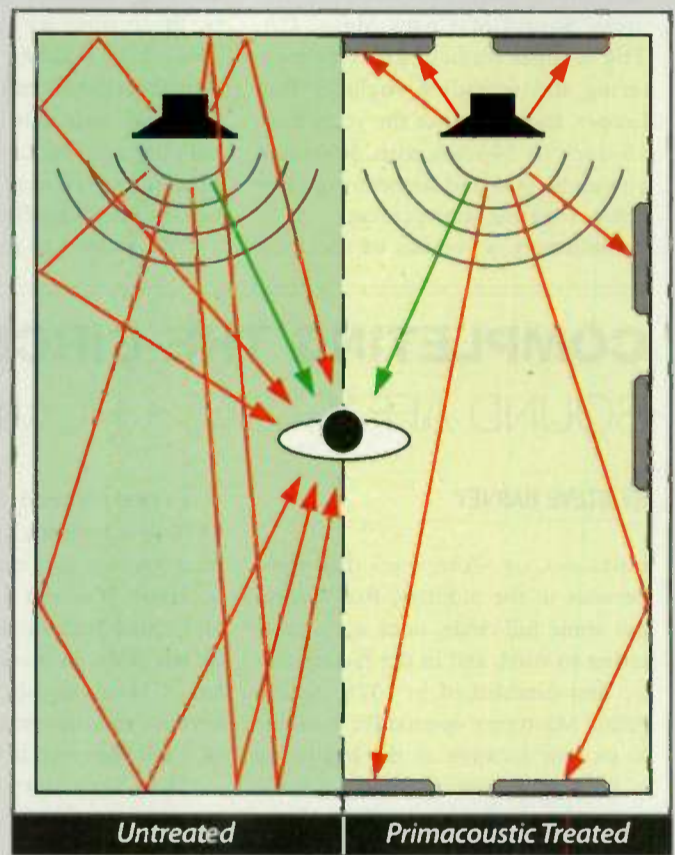


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With today's proliferation of multi-function rooms, effective communication has never been more important. So before you design that video conferencing solution, add more speakers to a gymnasium or install yet another PA system in your local house of worship, take 6 seconds to clap your hands and listen. If the echo persists, the problem may not be the PA system at all... but the acoustic space.



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Sharing Space To Cover Mic To Master

A "GOLDMINE" DRESSED IN BLUE VELVET

BY STEVE HARVEY

SANTA ANA, CA—Punk rock musician Dan Balistreri and his wife, Nicole, also a musician, went looking for a music-related business a couple of years ago and got lucky. "We stumbled on a goldmine," he says, surveying the live room at Blue Velvet Studio, which opened at the beginning of this year.

The Balistreris were looking for a rehearsal studio or a space where they could do some recording and video shoots. What they found was a ready-made recording studio, located in a commercial neighborhood in Santa Ana, CA, about 30 miles south of downtown Los Angeles.

Formerly known as Sound Affair, the facility was built in 1978 by pro audio dealer and studio design and construction company Express Sound of Costa Mesa, CA. The original studio, owned by mastering and recording engineer Ron Leeper, morphed over the years from 16-track to 24-track then diversified into audio post and sound-for-picture before focusing on mastering.

Balistreri, a veteran of the local



Pictured here (left to right) are Darin Frandsen and Dan Balistreri (business partners in Blue Velvet Studio along with Balistreri's wife Nicole) with Los Lobos recording engineer Shane Smith. The trio are behind the restored MCI console anchoring Blue Velvet's control room, which also features Tannoy mains and Focal nearfields for monitoring.

construction industry, used his expertise and connections to remodel the facility, turning an office space at the front of the building into a mastering suite in order to entice Leeper to return. "We were able to streamline the building and the cost. We didn't cut corners, but we were able to get some better deals," says Balistreri.

"We wanted to make it more of a

complex. We're able to go from recording to mixing to mastering, so clients can walk out with a record—and we want to get into direct-to-disk recording."

The husband and wife team, along with business partner Darin Frandsen, funded the lengthy remodeling project out of their paychecks and their sav-

(continued on page 26)

COMPLETING THE CIRCLE:

SOUND AFFAIR BACK HOME, BACK TO VINYL

BY STEVE HARVEY

SANTA ANA, CA—After more than three decades in the industry, Ron Leeper has come full circle, once again mastering to vinyl, and in the facility that he first established in 1978. Sound Affair Mastering opened for business at its new location at the beginning of the year, setting up shop in a space at the front of the new Blue Velvet Studio complex in Santa Ana, CA, 30 miles south of Los Angeles.

Leeper opened Sound Affair in 1978 as a multitrack recording studio after working as a mastering engineer at Hank Waring's DCT Recorders and Quad Teck in Hollywood, where he cut disks on Neumann and Scully lathes. He previously studied audio recording and mastering at the Institute of Audio Research in New York City.

"I'm very thankful that I was trained and mentored by Hank; he used to be a cutter at Capitol in the '60s, mastering all the hits," he says.

Sound Affair went through some changes as the years progressed, according to Leeper. "In keeping with the changing tides in the industry, I opened it as a small 16-track room in the mid-'70s, then in 1980-81, I moved everything out and turned it into 24-track room, because that was getting more and more popular. I ran that for quite a while, doing all kinds of projects.

"In the early '90s, I could see the dawn of home recording coming with ADAT. The calls were getting fewer and fewer, so I had to do something. You go full circle sometimes in this business; I got back into mastering, which is where I started years ago when I worked in Hollywood, with CD audio, and now vinyl."

In its annual report on the record business, published in March, the Recording Industry Association of America (RIAA) noted that physical format sales declined from 2013 to 2014. But drill down deeper and you will find that vinyl singles essentially doubled in revenue share during the period, from \$3 million to \$5.9 million. LPs and

(continued on page 24)



Mastering Engineer Ron Leeper in between Sound Affair's Ampex ATR-102 reel deck and Scully lathe.

notes

DPA Mikes
Great Dane

NEW YORK, NY—TimbreMusic tone-meister Mikkel Nymand recently employed DPA (dpamicrophones.com) dedicate 4015A wide cardioid and 4006A omni microphones when recording a collection of famed Danish composer Carl Nielsen's symphonies and concertos performed by the New York Philharmonic at Fisher Hall in Lincoln Center for The Nielsen Project, Tacapo Records' commemoration of Nielsen's 150th birthday.

Lectrosonics
Captures Jaguar

BIRMINGHAM, UK—UK-based sound recordist Bal Rayat recorded a prototype Jaguar XE S sports sedan at the carmaker's assembly plant in England using Lectrosonics (lectrosonics.com) Digital Hybrid Wireless Technology SMQV beltpack transmitters with AKG, Audio-Technica, Beyerdynamic, Sennheiser and Schoeps mics and a pair of SR Series dual-channel slot-mount receivers for Jaguar's advertising agency.

WSDG Builds
Owl Nest

OWATONNA, MN—Singer-songwriter-multi-instrumentalist Adam Young, a.k.a. Owl City, recently completed construction on his Walters-Storyk Design Group (wsdg.com)-designed dream studio in a rustic log cabin in the Minnesota woods, outfitted with an SSL AWS console, Adam Audio S-4XV main monitors, twin 60-inch LCD monitors and an extensive collection of outboard gear coordinated by PK Pandey, founder of GC Pro.

Abbey Road
Institute
Launched

LONDON, UK—Abbey Road Studios has launched Abbey Road Institute (abbeyroadinstitute.co.uk), offering a 12-month Advanced Diploma in Music Production and Sound Engineering to students 18 and over, taught at the north London studio complex by qualified lecturers and recognized music industry experts, including producers and label execs, alongside guest lectures from in-house engineers.

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Island No More: Bikini Atoll Leaves LA for Nashville Community

BY STROTHER BULLINS

What is now Bikini Atoll Studios lured its owner, audio engineer Grant Goddard, from his former home of Los Angeles to the creative environment he always wanted, nestled in the rolling hills between Nashville Metro and Franklin.

"I was really looking for a change," he recalls after initial visits to Music City. "The network of talent in Nashville excited me. The vibe of the city, how it attracted talented people from all over the world to pursue music, was really appealing to me. It still has a smalltown vibe, too, which, to me, is a better scene than LA—a huge city with little pockets of things here and there. In LA, it was really hard to tap into new talent, which is what I'm focused on working on these days."

The location between pastoral communities and urban convenience creates the right vibe for the kind of music Goddard specializes in, as a producer/engineer as well as a studio owner. "I'm near the Green Hills area, still with a Brentwood address," he explains, referencing classic 60s and 70s blues and rock-influenced as well as singer/songwriter-based Americana styles as his specialties. "It's close to town—10 minutes from Nashville and 10 minutes from Franklin—but still an isolated feel, peaceful, and natural. And the clubs around here feature really good rock bands. I'll ask them, 'What are you doing for recording?' and they'll reply, 'Well, we really haven't done a lot.' There's so many here that are motivated but looking for the opportunity. There are a lot of people in

the area running studios out of their home, bedroom or closet, but not enough good places offering better-quality spaces and gear that aren't the huge monster studios on Music Row or in Berry Hill. My place is in the middle; it's cozy and I can really help and encourage these artists."

Built in a former residential space, Bikini Atoll is a 2,000-square-foot facility with three main tracking spaces, including a large performance room, vocal booth and amp isolation room, plus a full lounge and kitchen. After some searching, Goddard considers himself lucky to have come across the space. "I was looking around for something I could build out without spending too much, something that was already acoustically treated to some degree," he explains. "I was looking with real estate people, on Craigslist, everywhere. But I stumbled onto some people that had a huge home with the space already built out."

With the facility sorted, the next step was to choose a worthy centerpiece for his studio. Goddard soon settled on the API 1608 analog mixer for several reasons. "I wanted something that was going to be high-quality, recognizable as such, and something I wouldn't outgrow," he offers. "You can start with the 16 channel, as I did, then expand to



The control room at Bikini Atoll, featuring an API 1608 analog mixer and a Focal Twin 6 Be/Sub 6 three-way monitoring system.

32, 48, or however many channels you may eventually need. In going with the API, I knew I wouldn't get to the point where I'd need to sell it and upgrade. It won't ever go out of style. It doesn't have software to go obsolete. I can keep adding modules to it. It can be a centerpiece to what I'm doing for a long time. And, it's still recognized as a big investment, though, which lends to studio credibility."

Goddard explains that he also found a monitoring solution on the same level as his API desk—a Focal Twin 6 Be and Sub 6 three-way system. "In the past, I've tried lots of different monitors, tweaking my mixes on a lot of different sources because it would sound different everywhere—studio speakers, car speakers, headphones," he recalls. "I felt like other monitors I've tried

were all over the place. With these Focals, I'm not working as hard. What I hear from them is pretty true to what I hear when monitoring on other sources outside of my mixing room. They're not cheap, but they didn't break me, either."

Having worked in LA with the likes of Mos Def, Fergie, Slash, Smashing Pumpkins and Kid Cudi, among others, Goddard now offers his services to a Middle Tennessee scene burgeoning with new music far flung from Nashville's bread-and-butter pop Country styles.

"I have a really good room now," Goddard concludes as he emphasizes the need for investment in a great environment with solid gear. "It's important to remember that you get what you pay for."

Bikini Atoll Studios
bikiniatollstudios.com

STUDIO: BIKINI ATOLL OWNER: GRANT GODDARD
LOCATION: NASHVILLE

There's more ▶ Check out more on Bikini Atoll, including extra photos and a full equipment list, at bikiniatollstudios.com.



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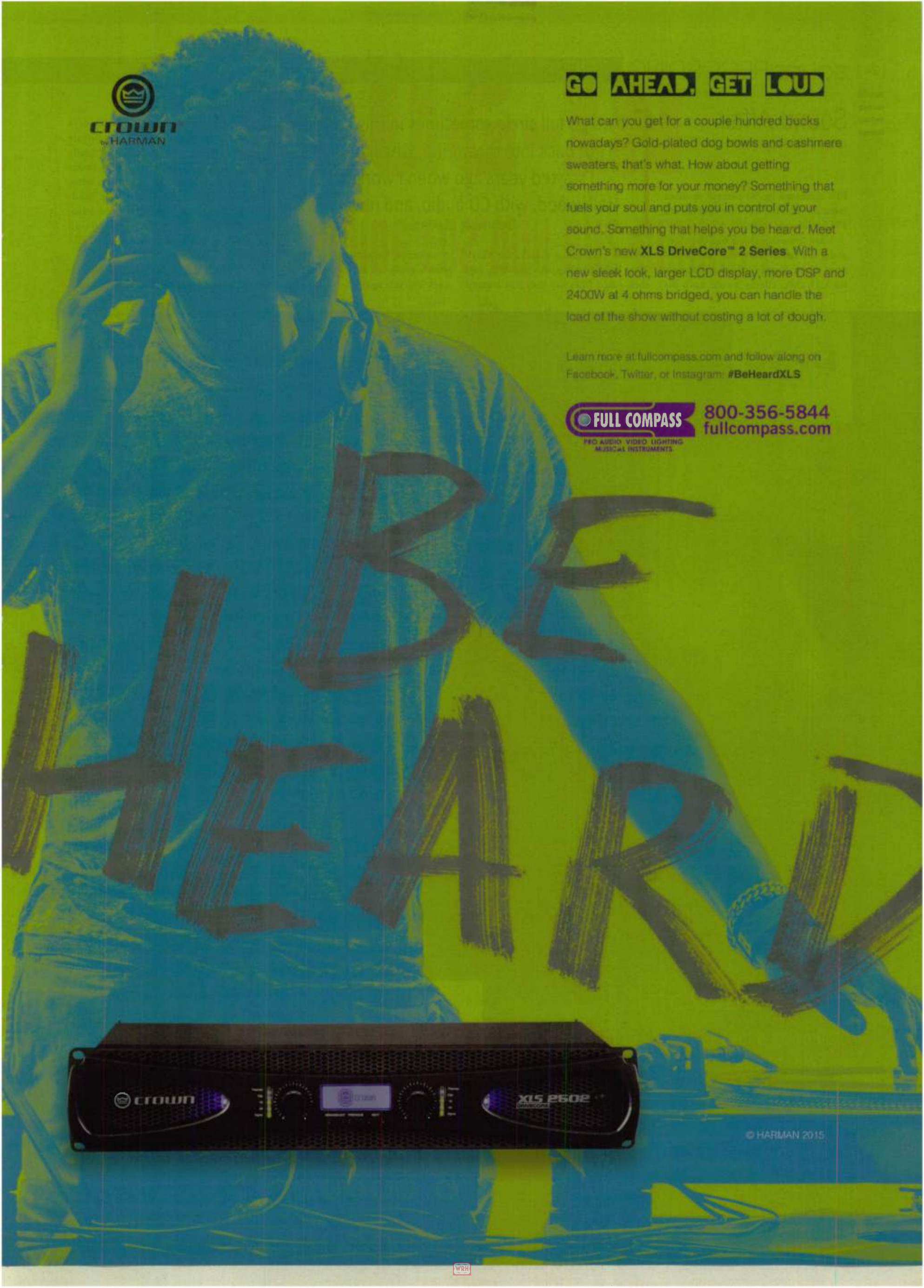
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Blue Velvet

(continued from page 20)

ings. One of the longest projects was the restoration of the 48-channel MCI JH-556D analog mixing console that now takes pride of place—and a lot of space—in the control room.

“We bought the board from a guy in Dallas, TX, Harvey Gerst, who

bought it in 2001 from Belmont University,” Balistreri reports. Gerst, a songwriter for artists such as The Byrds, was a member of Sweetwater, one of the opening acts at the Woodstock Festival, and now owns and operates Indian Trail Recording Studios. MCI originally built the desk for the Nashville-based university’s recording arts program in 1984.

Balistreri’s construction connections came in handy when Gerst de-

livered the console in a U-Haul trailer. “I was building apartments in Costa Mesa, three miles up the road,” he recalls. “I brought 10 guys from the job site and Darin brought a couple of guys; it took 14 guys to get it into the control room. That thing is huge.”

Ken Rains of Rains Audio Engineering in Newport Beach, CA, who also consulted on the design and acoustics of the mastering suite, provided a list of components and mate-

rials so that the team could refurbish the console themselves. “It took nine months to go through every channel strip and recap everything. We removed all the Molex connectors and direct-soldered everything. It was like raising the Titanic,” says Balistreri.

Frandsen had been operating a studio out of his house, where he had previously recorded one of Balistreri’s bands. “But with a home studio, with people in your house, and the trash, you don’t feel like you can get away from it,” says Frandsen, who was happy to partner with the Balistreris and move his gear into Blue Velvet.

The facility’s equipment list offers something for everyone, with an emphasis on analog gear. In addition to the MCI console, clients have a choice



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“We’re able to go from recording to mixing to mastering, so clients can walk out with a record.”

Dan Balistreri, Blue Velvet Studio

of Pro Tools or a 3M M79 two-inch 24-track tape machine. “We have Dolby SR24, so we can run it at low speed with no noise,” notes Frandsen.

Outboard racks house 16 channels of Grace M801 mic preamps, a pair of Manley Voxboxes, an Avalon Vt737sp, a Urei 535 Stereo Graphic EQ, and various compressors and limiters from Tube-Tech, Empirical Lab and Mogog. Monitoring is provided by vintage 15-inch Tannoy Gold mains and Focal Twin6 Be nearfields.

The biggest worry for any studio owner is that bookings will be hard to come by when they open for business. Happily, Blue Velvet hit the ground running, thanks to Leeper’s longtime friendship with Studio Referral Service’s Ellis Sorkin, who called looking for time for three-time Grammy-winning band Los Lobos.

“They were in here for January, February and March, three or four days a week,” says Balistreri. Between sessions, the band has been touring and performing at events such as MusiCares, during Grammy week.

Recording engineer Shane Smith, on his second album with the band, comments, “I like this place because the console sounds so great. There’s a lot of analog love available to us and a nice mic closet. It’s a collection of gear after my own heart. And the room sounds really good; I had a string section in here on Sunday and it just sounded phenomenal.”

Blue Velvet Studio
thebluevelvetstudio.com

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7

MASTER
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SERIES

Next-Gen Monitoring in Audio Control Rooms



Hear the truth.



You Say You Want a Convolution

BY CRAIG ANDERTON



Reverb used to be simple: a room with a mic and a speaker. You had one “preset,” with two “parameters”: mic and speaker placement. Over

time, variations appeared like EQing the signal going in or coming out, or delaying the signal to the reverb.

The limits of acoustic reverb led to plate and spring reverbs, but digital reverb provided the big

breakthrough. Computing power allowed implementing sophisticated algorithms that defined what happened to a signal as it bounced around rooms, decayed over time, and lost high frequencies through damping. Admittedly, early digital reverbs weren't particularly sweet-

sounding. But for studios without reverb rooms, digital reverb was an improvement—especially since by its very nature, reverb was often low in the mix anyway.

And now, convolution-based reverb is commonplace. Although the technology has been around for a while, implementations continue to improve (including uses beyond reverb). Most DAWs come bundled with convolution reverb.

Convolution reverb is to synthesized reverb as digital sampling is to digital synthesis. Convolution requires two elements: a sample (the *impulse response*) of the acoustic space you want to model, along with the audio you want to convolve. Convolution is the process of multiplying each signal's samples by the other signal's samples. Because this is computationally intensive, convolution-based processing used to be far from a real-time process. For example E-Mu's early samplers could do convolution, but it was a “push enter and have lunch” process. However, even those time constraints are falling due to clever programming techniques and ever-faster processing. So what's the final frontier for convolution reverb?

As with all things digital, “garbage in equals garbage out” and the quality of convolution reverb depends on the quality of the impulse. There are several ways to capture an impulse, but the most common is to “excite” a space with an impulse like a starter pistol, balloon pop, a loud click through a speaker system, etc.

Another option, the sine sweep method, excites an acoustic space by sweeping a sine wave across the frequency spectrum. While this gives a very accurate model of the space, the resulting recording requires deconvolution to convert the sweep into an impulse.

Yet another method is to approximate a space's characteristic with noise that's “shaped” to create a decay. Pink noise is well-suited for this application, and you can use high-cut filtering to reduce highs over time to simulate damping. Using different noise samples in the left and right channels gives a stereo effect, and this method makes it very easy to create exceptionally long reverbs—just let the sample go for as long as you want. It's also easy to generate “backwards” reverb impulses by using DSP to “reverse” your room. Although impulses created through noise may not have as much “character” as physical rooms, their consistency has its own merits.

Another advantage of convolu-

(continued on page 55)

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WRH

BBC Reports On Object-Based Broadcast Audio

BY STEVE HARVEY

HOLLYWOOD, CA—A presentation by Frank Melchior, lead technologist with BBC Research & Development in the U.K., during the AES 57th International Conference in Hollywood, CA, at the beginning of March offered a glimpse into the potential of object-based audio. As Melchior observed at the conclusion to his presentation, “Object-based broadcasting is the future of audio.”

The BBC, a public-service broadcaster funded by license fees levied on U.K. residents, has been experimenting with object-based audio for some time, as Melchior revealed. For example, the 5 live Football Experiment streamed audio over the web that allowed listeners to adjust the relative levels of the commentary and the sound of the soccer stadium. The audience was encouraged to complete a survey, which revealed that listeners were not particularly interested in altering the level of the atmosphere, but 30 percent chose to raise the level of the commentary while 30 percent lowered it.

“If we do immersive audio, we can’t do separate mixes for separate outputs,” said Melchior, as such a workflow would be cost-prohibitive. Beginning in 2012 the BBC experimented with radio dramas produced



Frank Melchior, lead technologist with BBC Research & Development, discusses the BBC’s forays into object-based broadcast audio during the AES 57th International Conference on “The Future of Audio Entertainment Technology.”

with a 24-speaker layout automatically rendered to 5.0 and, for the broadcast, to stereo. Subsequently, the focus has been on binaural production: “It’s most easily accessible to the BBC radio audience.”

The BBC has developed its own binaural production system rather than using commercially available tools—“Because we want to understand what is going on,” said Melchior—that utilizes three methods: dry HTRF (head-related transfer function), virtualization and a version for stereo headphone reproduc-

tion. “From experience, there’s room for all of them; the BBC’s mixing tools offers all options,” he reported. For example, a show featuring famed naturalist David Attenborough might include his commentary in stereo but the jungle atmospheres in binaural, he said. “There’s room for combinations.”

But, he also noted, “Object-based broadcasting is not just about immersive audio; there’s so much more.” The R&D department has been thinking hard about the potential for personalization, for example. “Mainly it means clever algorithms are selecting content for you based on what you have heard before,” he said.

The BBC’s Responsive Radio project goes beyond that. “The audio content should be responsive to the listeners and their environment. It could modify speech and background balances,” he suggested. Delving deeper into the possibilities, there might be a pause function during a radio drama, for instance, that allows the background music to continue, keeping the listener in the mood of the program while they do something like make a cup of tea. Implementing such features has required the BBC to develop rendering and distribution techniques, which it did using a standard web browser. Chrome and Firefox are both well supported, he said.

“Wouldn’t it be great if you could adjust the length of the program without producing different versions?” he asked. Using object-based audio it’s possible to adjust a 30-minute program to play back in, say, 22 minutes—not by altering the speed, but the content. “You leave out the

(continued on page 31)

briefs

Music Group Scores Neve Double

EDMOND, OK—Marking its tenth anniversary, The Music Group, one of the largest recording studio complexes in the Midwest, has installed Neve Genesys and Neve Genesys Black consoles at its newly remodeled facility. Vintage King provided the equipment package at the in Edmond, OK studio, the first in the world to install both Neve consoles.

ole Acquires Jingle Punks

TORONTO, CANADA—Rights management company ole (majorlyindie.com) has acquired Jingle Punks in a transaction that creates one of the world’s largest production music libraries which includes songs recorded by artists such as Beyoncé, Blake Shelton, Britney Spears, Carrie Underwood, Jay Z, Justin Timberlake, Kelly Clarkson, Madonna, Michael Jackson, One Direction, Rihanna, Rush, Taylor Swift and Timbaland.

Venn Arts Launches

New York, NY—Multidisciplinary music supervisor Jonathan Hecht, with more than a decade of experience on the agency, record label and talent sides of the business, has launched Brooklyn-based Venn Arts (vennarts-music.com), specializing in the creative practice of licensing songs and procuring artists/bands for a range of commercial projects; recent projects include work for Joe Fresh, Verizon Wireless and Subaru.

Parks & Rec Caught by Sound Devices

LOS ANGELES, CA—George Flores, CAS, production mixer for season seven of NBC comedy *Parks and Recreation*, captured show dialogue from up to 10 actors at a time with his Sound Devices (sounddevices.com) 664 field production mixer, also employing Sound Devices 633 and 744T recorders with DPA d:screet 4071 and d:screet 4060 mics, Sennheiser and Schoeps boom mics and a Lectrosonics Venue wireless system.

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DYNAUDIO
Professional

BBC

(continued from page 30)

less important bits, but the essence is always there. The content creator decides what the essence is," he explained.

"It's a way to represent the program so that you can make a choice of how long it should be, and you always get a great story," he added. In the future, he imagined, that functionality could be tied to a vehicle's GPS, lengthening or shortening a program based on road conditions and expected arrival time.

These and other experiments are available on a web platform, Taster, which was launched at the start of the year, he said, where the BBC can get immediate feedback from listeners. The site is geo-restricted, but there are workarounds for audiences outside the U.K. who wish to experience it.

The ITU is recommending object-based audio for the Advanced Sound System, its term for next-gen audio. The BBC is contributing to the creation of standards, Melchior noted, such as recommendations for an extension to BWF that can handle object-based audio data. The R&D department is also working with other standards bodies and has published its recommendations as an Open Source document, enabling others to participate in ongoing developments.

To enable the format to develop, said Melchior, "We need the equivalent of PCM in the object-based

"Object-based audio is definitely an enabler for great new experiences... It has the potential to be transformational."

Frank Melchior, BBC

world to make it successful and allow us, as broadcasters, to exchange content. We also need agreement on the production environment; for example, how to monitor. And we need tools." The workflow needs to scale,

he also pointed out, as experiments thus far been produced as one-offs.

"Object-based audio is definitely an enabler for great new experiences," he concluded. New technology and standards are emerging, "But an

open dialogue about the needs and the problems and the challenges is the most helpful thing now. There's no point saying everything is solved; it's not solved—but it will be."

The effort will be worth it: "It has the potential to be transformational," he said.

BBC Research & Development
bbc.co.uk/rd

BBC Taster
bbc.co.uk/taster

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Merging Moves to 64 Bits

PUIDOUX, SWITZERLAND—Merging Technologies' platforms have moved to 64-bit operation with the introduction of Pyramix 10, Ovation 6 and VCube 6.

According to the company, the move allows the development of new features, while the increasing availability of 64-bit plug-ins improves operational efficiency. The new 3D panner and revised bus structure allows sound designers to work in forms other than traditional 5.1 and 7.1 formats. Pyramix has already been used for Dolby Atmos and Auro 3D projects and is ready for NHK 22.2 or any other ad hoc loudspeaker configuration. Pyramix also now has dual-stream video playback capability. Merging Technologies
www.merging.com

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≡ ≡ ≡ Poll Sound Installs Yamaha Nuage

UTAH—Poll Sound of Salt Lake City and St. George, UT recently incorporated a Yamaha Nuage advanced production DAW system into its recording studio. The company, which offers audio/visual design, installation, rentals and event production, also has an in-house recording studio for voiceovers, music recording, mas-

tering and live recording mix downs. The Poll Sound studio has one control room linked to several recording rooms, with analog and network lines running to each space and utilizing Yamaha Rio input/output units for more input channels.

“We first learned about Nuage through our Yamaha sales represen-

tative, Randy Weitzel,” stated Brad Wadsworth, live/recording engineer at the studio. “After receiving a demo and then when simply putting my hands on the control surface, I was instantly impressed with the ease of inserting and controlling the parameters of plug-ins. And, as soon



Seated L to R at Poll Sound's Nuage control surface: engineer Brad Wadsworth and Rick Low, sales manager. Standing left to right: Bryce Stettler, rental manager; Chris Dye, mix engineer; Tyler Robinson, systems technician.

as I saw how fast I could perform editing functions, I was sold! I do a lot of live mixing, and the Nuage surface felt as close to a live console as anything I had used.

“One of the first clients that touched our system ended up purchasing one for his own studio a couple of months later,” says Wadsworth. “He was already a Nuendo user, but I was amazed how quickly he got around on the surface.”

Another client who had never used Nuendo or Nuage rented the studio, and Wadsworth sat in on the session the first day for a couple of hours. “By the following day, he was working on his own. It was a testament to the layout of the control surface and the elimination of needing to know key commands or menus for the software.”

When asked about key Nuage features, Wadsworth said “It’s all about the hands-on control and quick access to whatever parameter you want. The user assignable keys, both on the surface and the touch screen, speed up my workflow significantly, and so has the channel view control. It is so nice to be able to pull the channels you want to you, or hide or lock any of them, so you aren’t spending your time searching for tracks. The ability to control plug-in and EQ parameters, including assigning via the encoders, is also another plus.”

Wadsworth said having the headphone cue mixes built into the surface, including the option of quickly dialing up mixes via the fader flip mode, has also made Nuage feel like a real console rather than just a control surface. “One of the biggest assets Nuage has to offer is the layout of the master unit, especially the jog wheel and surrounding buttons. Yamaha has done a great job at placing those crucial and frequently accessed parameters at your fingertips.”

Poll Sound has used Nuage on various in-house and live recording projects including *The 23rd Army Band Veteran's Day Live Concert*, and the *Sally Bytheway Choral Live Christmas Concert*, and has filmed multiple Nuage tutorials for customer demos.

Poll Sound
pollsound.com

Yamaha Nuage
yamahaca.com

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Genelec 8351A Acoustically Coaxial Smart Active Monitor

BY FRANK WELLS

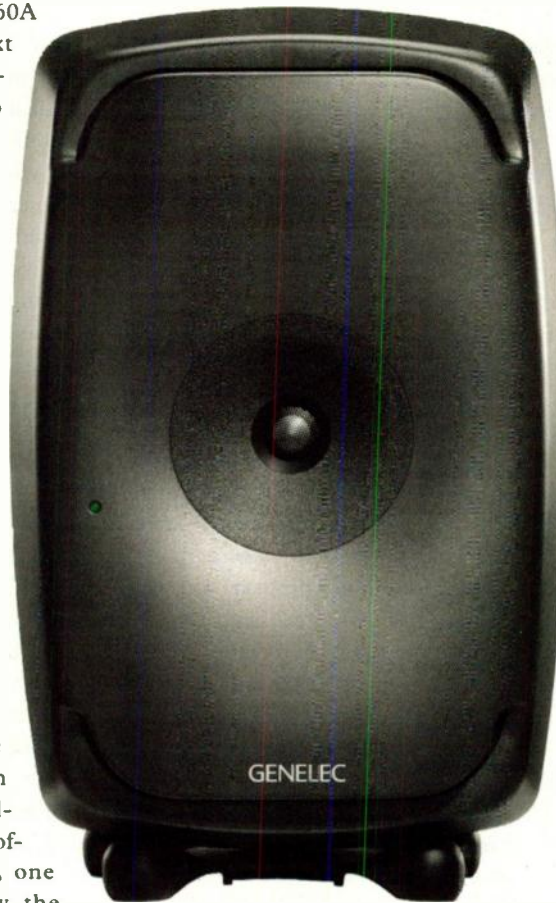
From a purely technological viewpoint, the Genelec 8351A offers something rare in today's loudspeaker market—truly innovative technology. Let's begin with Genelec innovations that have become familiar: internal amplification (which Genelec pioneered); the molded aluminum chassis with rounded edges (what Genelec calls its Minimum Diffraction Enclosure—MDE) for more consistent directivity and controlled internal cabinet reflections; an effective HF waveguide (Genelec calls it the Directivity Control Waveguide—DCW) that is integrated into the MDE; the Iso-Pod foot that both provides vibration isolation and a method of adjusting vertical tilt; the long, curved internal reflex tube (rear ported) that affords extended LF output (both in level and LF frequency response); digital (up to 192 kHz sampling) and analog inputs; and the Smart Active Monitor system (SAM) that incorporates Genelec Loudspeaker Management system (GLM) for configuration, level, delay and EQ control (and the AutoCal room optimization algorithms) under software/network control.

On top of that distinct family of technologies, Genelec introduced a coaxial mid/high driver with its flagship portable monitor, the 8260A. Dubbed the Minimum Diffraction Coaxial Driver (MDC, and I'm almost done introducing acronyms), the mid driver is designed to be part of the HF waveguide, smoothly integrated with the MDE. This allowed a three-way cabinet that achieved size and output level goals. While the

performance of the 8260A is stellar, Genelec next tackled the task of introducing the MDC to a compact three-way design, one the size of its 8250A two-way, which incorporates an eight-inch woofer. The MDC is too large for use with a traditional, round, eight-inch woofer in that size cabinet, so a new approach was needed.

As outlined in the *PSN* "Sound Innovations" column in October of last year, the solution was a new woofer approach. Unique oval woofers, with flat plane surfaces over a honey-comb-like infrastructure, 8.5-inch by 4-inch, were developed. Two of these woofers are in the 8351A, one above and one below the MDC, behind a larger continuous front DCW, with gaps top and bottom between the DCW and the main chassis (giving the monitors a distinct appearance). This Acoustically Concealed Woofer (ACW—last new acronym, I promise) technology allows for directional LF and coaxial performance across all three frequency bands (for more detail, link to the 8351A "Sound Innovations" column and the *PAR* review of the 8260As at prosoundnetwork.com/may2015)

Enough background; how do the 8351As perform in practice? In a



8351A Spec Summary

- ▶ acoustically coaxial three-way design
- ▶ controlled directivity, excellent neutrality on-axis and off-axis
- ▶ AutoCal in-room system calibration
- ▶ peak SPL ≥ 123 dB (per pair, SPL referenced at 1 m), maximum short term SPL ≥ 110 dB (one unit in half space, on axis, referenced to 1 m, averaged 100 Hz - 3 kHz)
- ▶ frequency response 32 Hz to 40 kHz (-6 dB), 38 Hz to 21 kHz (± 1.5 dB)
- ▶ two woofers 215 x 100 mm (8.5 x 4 in), MDC midrange 130 mm (5 in) and tweeter 19 mm ($\frac{3}{4}$ in)
- ▶ crossover frequencies 490 Hz and 2.6 kHz

there are no holes in the response or the detail; the dynamic frequency response is accurate across the audio band. The percussiveness in the upper low-end is as lifelike as I've ever heard, which I credit to the combination of the MDC and the new woofer technology.

The two woofers have a combined surface area near that of a 10-inch woofer cone. The 8351As match the LF specifications of the 8050As, but with all the advantages of a three-way, coaxial system.

I pushed the 8351As with my normal battery of test tracks. The only audible negative I could find was with a track with a sustained pipe organ note at about 29 Hz (well below the rated response), I could consistently produce some bass port chuffing with the volume up high.

All the technological innovations packed into the design yield a remarkable level of performance. As one might expect, leading-edge technology doesn't come cheap (\$4,795 each, list). Construction is labor intensive; the MDC and woofers are handmade at the Genelec factory in Finland. The unique value proposition includes outstanding imaging and detail, LF extension that will satisfy most without a sub, and high SPL performance from the reasonably portable cabinet size. The 8351As beg to be heard.

Genelec
genelecusa.com

Genelec Loudspeaker Management

I've used the GLM/AutoCal software alignment and control system in the past, now up to version 2.0 (for Windows only; Mac OSX support is coming soon). The review monitors came with Genelec's Loudspeaker Management System package—a microphone and network interface (USB to computer, Ethernet to the loudspeakers [daisy-chained], 1/8-inch connection for the test mic—\$495). Once hooked up, the downloaded GLM software auto recognized the loudspeakers (the system can control up to 25 loudspeakers with up to 5 subs). A simple drag and drop on a graphic layout tells the software how the monitors are physically arranged. Clicking the mic icon starts AutoCal—a sweep burst from each monitor is measured by the test mic in the listening position and the internal DSP is tweaked for maximum performance (four LF and two HF notch filters, two each HF and LF shelving filters are available as needed, per cabinet). The whole process takes just a couple of minutes for a stereo pair, and is sonically effective as well as being educational about one's listening room performance. The results can be stored locally in the speakers so that the computer is not needed, though I kept GLM open for its volume control tool when sourcing digitally.

word, stunning. The 8351A shares an operating guide with the operationally similar 8240A, 8250A and 8260A. Horizontal and vertical directivity plots are included for each. While the horizontal directionality plots are familiar, the 8351A bests the pack in the vertical plot, the horizontal performance being near identical to the vertical as one might expect from a coaxial system. The 8351As excel in imaging and off-axis performance. I wasn't in a position to A/B them critically, but I believe the 8351A imaging is a notch ahead of even the 8260As.

The 8351As perform exceedingly well at low volumes. In a dialogue with Genelec's Will Eggleston, he noted, "The directivity pattern of the LF in the 8351 is also equivalent to about a 18-inch driver, if the 8351As are oriented vertically. Simply more direct sound comes at you and less reflective energy. The 8351A is on par in directivity down to about 350 Hz with our 1038 [Genelec 15-inch, woofer loaded, three-way midfield]."

By taking the system three-way, the crossover frequencies can be optimized and each component can perform more efficiently within a narrower operating range. Higher SPLs are also possible. As each component operates more ideally across a narrower band of frequencies,

Third Annual St. John Recording & Review Retreat

For the past three years, Rich Tozzoli has organized a grand recording, gigging and equipment review opportunity by gathering his most fun-loving musician and audio-engineering friends, a select batch of gear and heading to the Caribbean. For 2015, Rich returned to paradise with some of the best performing, travel-friendly recording equipment yet.—Ed.

This year's music adventure down to St. John USVI—where good friends and I record, mix, compose and do a few live shows each year—was a blast once again. It started upon arrival with a massive downpour and a nice long wait for our luggage. By the time it rolled off the belt, it was clear that they had left it out in the rain for a while. After drying the luggage off and confirming the gear we had with us was safe, the sun broke through and it was blue skies and island breezes for the next two weeks.

It was basically the same production crew as last year: Clubhouse Studio owner Paul Antonell and engineer Mike Dwyer and myself. Drummer/percussionist Ray Levier and bassist Hank Skalka, who owns the house in St John, were joined for the first week by talented keyboardist/synthesist Bruce MacPherson, who, in addition to having a long history in the pro audio business, has played with the likes of Fleetwood Mac and programmed for groups such as Yes. Vocalist/guitarist Scott E. Moore would join us the second week for some studio work and to play our live shows. It doesn't hurt that Moore is also a high-level chef; we all know great food music (and bourbon) pair perfectly together, especially a few thousand miles from home.

Upon arrival to the house, we were joking that it was like Christmas. A healthy but streamlined stack of boxes awaited us, filled with cool audio toys. In them, we had a pair of Millennia HV-35P mobile preamplifiers, a pair of AEA N8 ribbon microphones for the recording

sessions, four channels of Teegarden Audio Fatboy Gear Tube DI, a pair of Elite Acoustics Designs' Sunburst Gear M3BR8 multipurpose powered monitors, a Shure KSM9HS handheld vocal microphone and an Audio-Technica AE-2500 dual-element kick drum microphone for both studio and live gigs. MacPherson had a keyboard stand and a 61-key controller shipped down, and I carried down an Eventide H9 harmonizer multi-effects pedal, iPad and Novation Bass Station II synth—the latter of which, from being a true analog synth, acted as my MIDI controller.

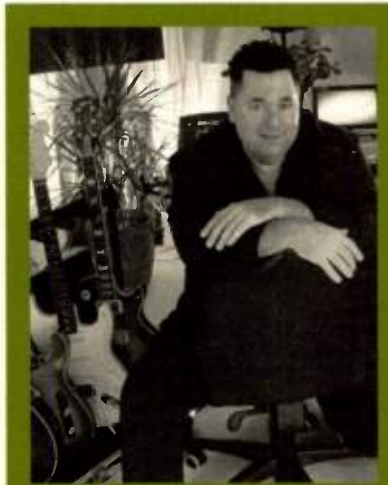
After a few years of doing this retreat, I have come to realize how keeping everything compact and small pays off. Both Antonell, who set up Studio A in the main house, and I, who had Studio B in the cottage, each ran a MacBook Pro with Universal Audio Apollo Duo interface. Each of us also had UAD Satellite DSP accelerators for full power mode. We set the cool little Sunburst M3BR8 speakers up for the main studio and, at my rig, my NHT Pro M-00s with S-00 sub monitoring rig, which was still packed away in the house from last year. With minimal setup and most everything running on Thunderbolt or USB 3.0, we were up and running in no time at all. In fact, I had a tight deadline on a show back home, so the first night there, MacPherson and I quickly cut tracks for A&E, which I promptly uploaded to the client's FTP server.

For drives, both studios used Glyph Studio Mini 1 TB models. These silent little powerhouses are great, because not only do they eschew fans, but they feature USB 3.0, dual FireWire 800 ports and eSATA connectivity. They are bus-powered via USB or FW, have a rear power switch and the ability to run via optional AC adapter, if needed. In St. John, I would record parts in Studio B, then just bring the drive up and hook it up to Studio A. Since we both ran the exact same setup—Pro Tools 11 with Universal Audio UAD v8.0 and UAD Console 2.0—interchange was seamless.

Like last year, the main living room of Skalka's house was transformed into a recording and rehearsal space. A snake ran from the live room into Studio A (Antonell's bedroom) and, using his Apollo Duo, he and Dwyer were able to send a headphone feed to a four-channel headphone preamp, allowing each of us to have individual volume control.

On Levier's kit—placed in the corner with walls blanketed—we used the AEA N8 ribbon mic pair as overheads; they feature the same aluminum ribbon as the R44 model. The N8 features a classic bidirectional figure-8 pattern, and it's a phantom-powered ribbon; it was great to capture the high ceiling sound of the drums. The N8 pair ran through a pair of Millennia HV-35P preamps, which are extremely clean and clear. It feels a bit unusual to engage +48 VDC phantom knowing there is a ribbon mic on the other end of the line, but that's part of what makes these things sound so good.

For some of the TV tracks we were doing—



BY RICH TOZZOLI

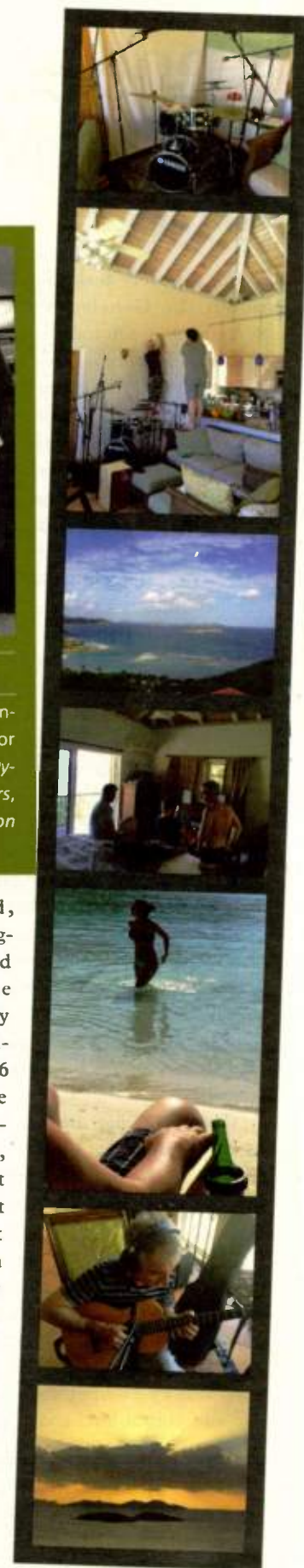
Rich Tozzoli is a producer, mixer, engineer and musician/composer for programming such as A&E's *Duck Dynasty*, History Channel's *Pawn Stars*, Harpo Studios' *21-Day Meditation Challenge* and more.

minimally-miked, classic old-school reggae—I knew I would be compressing the N8 overheads pretty hard, using the Universal Audio 1176 REV E. Luckily, the N8s handle compression extremely well, and their soft but true sound didn't get harsh when I hit them. The room from the upward facing pattern of the N8s really came alive with the high ceilings and sharp crisp tone, and the direct sound was nice and beefy. "I gotta have these!"

was my response when hearing them for the first time. During week two, we also used an N8 on Moore's acoustic guitar; again, they were extremely smooth and pleasing.

Back to the drums: On the kick, we used the Audio-Technica AE2500 dual element cardioid mic—basically two mics in one. It features a cardioid condenser and a dynamic capsule in one housing, broken out into two XLR cables. Antonell and Dwyer placed it on the front beater side of the kick, and we were all pleased to hear two distinct sounds from this one mic: the first, more of a low thump or thud; the other, more tick or top. As a bonus, we also used the AE2500 live at the gigs and all I can say is, "wow"—I distinctly remember hearing that kick for the first time as it shook the stage.

The Shure KSM9HS also served double duty, acting as the main vocal mic for Moore at the gigs



and as an additional acoustic guitar mic in studio. We all agreed it is superb—with crisp, punchy highs and a low, low feedback point in live settings. It has two polar patterns: hyper-cardioid and sub-cardioid—just unscrew the pop screen to access the switch. We found “hyper” to be best for gigs and “sub” best in the studio, for obvious reasons.

The Fatboy tube DIs got quite a workout, as we used them in the live room with a stereo direct output of my Eventide H9 and a single channel down in Studio B for my guitar DI into the Apollo Duo. None of us had heard these before, so we were all ears. The thing that pleased me the most—and what I noticed immediately—was how turning up the Beef knob made the DI even spongier; to a guitar player’s touch, this is gold. I was so impressed when first plugging it in that I had the guys come down to make sure I was hearing what I was hearing. Once I went beyond the 12 o’clock position of the Beef knob, you can hear the tube start to break up in a soft, pleasing, non-obtrusive way: “I gotta have one of these too!” I thought. My credit card will take a beating after this trip, but hey, I like the good stuff. What can I do?

Back up in Studio A, MacPherson’s keyboard rig—fed into a small mixer—ran stereo into a two-channel racked Fatboy DI. We also brought that DI out to the live show; MacPherson ran his laptop keyboard rig through it and into the console. The Fatboy DIs were also on Levier’s Wavedrum and Skalka’s six-string bass—both especially cool for the old-school reggae cuts.

One of the biggest gear surprises of the trip was how much we all liked the Sunburst Gear M3BR8 powered speakers, which have a 5 ¼-inch woofer and one-inch tweeter. They are heavier than they look (in a good way). We used them first as playback monitors with Anontell’s audio rig. Being also rechargeable battery powered Bluetooth-ready PA speakers (with pole mounts on the cabinets’ bottoms), we took them to the gigs, too—one as a monitor for Moore’s vocal, the other as a monitor for MacPherson’s keyboard rig. Our main speakers were QSC Audio. Of course, we had to keep the M3BR8s at reasonable levels or they would break up; they are not large, but small “personal” monitors. For our purposes, they were great. At night, we would play music through them, all battery powered, and relax on the

Actively working alongside my peers is immeasurably valuable. It is great to learn from others in person.

deck, so they got quite a workout throughout the entire retreat.

Another useful gear surprise was the ability to link together two Apollo interfaces using Universal Audio’s new V2 Console software. This let us create a compact four-channel rig, where one of the Duo’s acted as a master with main output volume control. We used that in both studio setups as needed; it’s great to be able to link multiple Apollo units together to create a bigger system.

Down in Studio B, I did a lot of composing for a variety of TV shows; some of it was keyboard-based, others parts guitar-based. For the guitar tracks, I ran into the Fatboy DI, then directly into Apollo. In UA’s console software window, I ran a variety of amps and effects direct. One of my favorite paths was the Friedman DS40 into Ocean Way Studio for room sound and an RE-201 for delay and reverb. Sadly, I had forgotten how cool it is to “commit,” as we call it, and simply print the guitar sound.

Sometimes, I would plug the Fatboy’s Thru output into my Eventide H9. In turn, the H9 fed the Apollo and I used my iPad for full Bluetooth control of the pedal. The H9 truly is a film score in a box, and I even did some cues one evening running the Novation Bass Station II into it, putting on a cool ambient preset and tweaking the filters on the synth.

Looking out the window at the sun setting on the waves, it was one of those striking “mind picture” moments on the retreat for me.

The Novation Bass Station II was another treat to have on this trip, and I used it as a MIDI controller with full size keys (two octave) and, of course, as an analog mono synth. MacPherson came in and gave me a good synthesis lesson [See his adjacent sidebar—Ed.] and then we did

some great TV cue work with it.

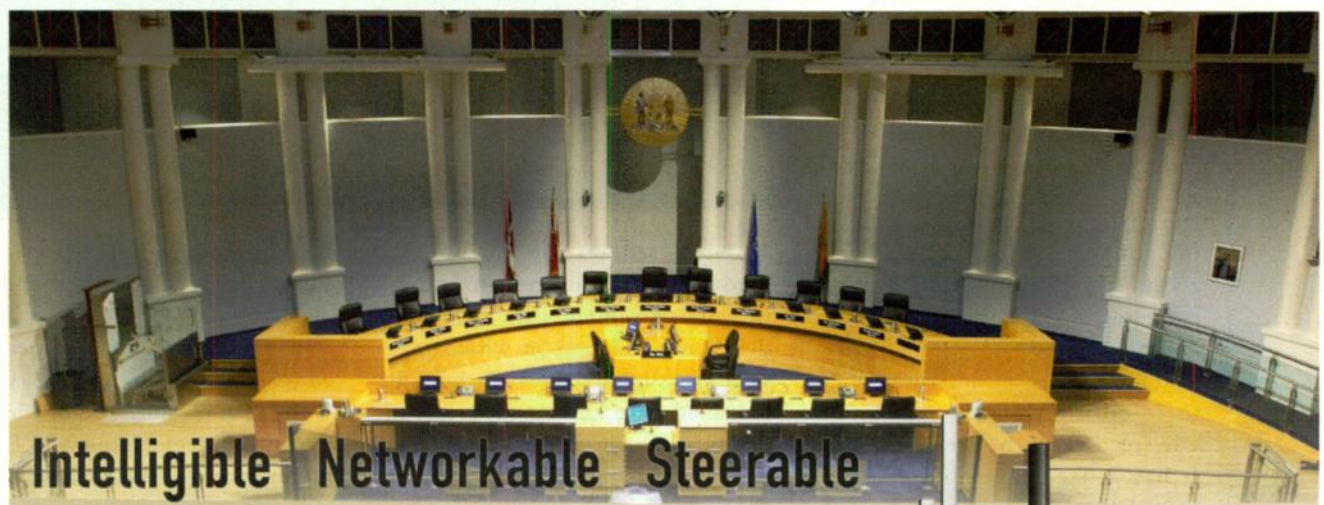
There are lessons I have learned doing remote mobile recordings. First and foremost, I can never have enough hard drives or oddball cables—“ding-alongs,” we call them—now including Thunderbolt, optical, 1/8-inch mini, USB and headphone adapters. Secondly, actively working alongside my peers is immeasurably valuable. It is great to learn from others in person, where we can share our audio knowledge on the spot, then unwind on the deck and look up into the sky each night with my good colleagues that are also good friends. Oh yeah, and I can’t forget about that good bourbon.

Novation Notes by Bruce MacPherson

About a half-hour to read the manual and get familiar with this little synth was all the time I had available before putting it in to use for a few TV cues and later, an evening gig. Its two DCOs (digitally controlled oscillators) had a nice way of acting a little like VCOs (voltage controlled oscillators) without the warm up time needed to be in tune. Its very slight detuning had a nice phasing type of character that I love and usually don’t hear in the DCOs of modern synths. The filter was smooth and the additional “Acid” setting was great for a more “rude” sound. Quick, punchy envelopes also delivered above my expectations.

Calling it a Bass Station seems to limit how one may use it; it’s a very capable lead synth as well as great for sound effects. A logical path and great layout made it fun to work the synth while playing it live as well as in the studio. At one point, Rich was working the Filter Cutoff while I was playing the keyboard, using the Pitch and Modulation wheels—fun for the whole family. The Arpeggiator and Sequencer both synced up with our DAW’s MIDI beat clock by simply sending it to the Bass Station II; this was a surprise since most synths usually need to be told to look for it.

Personally, two octaves aren’t enough for me, but hooking up a longer keyboard is simple with MIDI I/O and USB connection. The Bass Station II has a great sound and deep flexibility for a synth its size.



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THERE’S MORE ▶ See a video overview of Rich’s paradise villa setup, more details and photos at prosoundnetwork.com/may2015.

ACME AUDIO OPTICOM XLA-3 MKII ■ IZOTOPE OZONE 6 MASTERING SUITE ■ Q2
AUDIO ADR COMPEX F760X-RS

ACME AUDIO OPTICOM XLA-3 MKII

There's nothing more inspiring than a classic piece of audio gear and Acme Audio's Opticom (\$2,750) is precisely that: a modern day classic. Inspired by the Teletronix LA2A, the Opticom XLA-3 MKII is an all-tube optical limiter that offers a simple, elegant design with compression character that ranges from smooth and natural to aggressive and dirty. The 10.5 lb, 2U Opticom has a 20Hz to 20kHz +/- 1.4 dB frequency response and up to 29 dB of gain reduction (with 34 dB of makeup).

The retro-looking Opticom's sleek, non-compromise design is centered around high-speed cadmium-selenide (CdSe) photocells. It includes custom Bakelite-esque analog

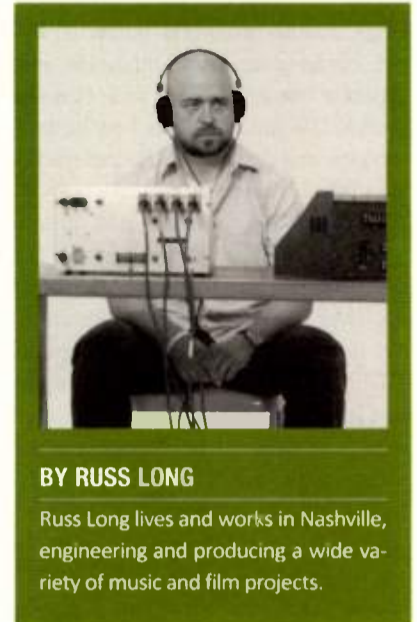


control knobs, full-sized backlit kidney-shaped VU meters, a 15 dB switchable input pad, a hand-wired 2-stage bypass switch and a Cinemag input transformer.

Input and output are via male and female Neutrik XLR connectors mounted on the rear panel. A TRS jack, wired in parallel with the

XLR input gives the option of using a quarter-inch male TRS plug for input. Also on the rear panel is a quarter-inch stereo link jack, the large power supply capacitor, the unit's five tubes (mounted in Micalax tube sockets) and a ground lift switch.

During my review period, I used the Opticom non-stop and it sounds wonderful on virtually everything. Drum room mics squash beautifully, electric guitars become rich, thick and powerful and acoustic instruments recorded through the Opticom sit perfectly in the mix. All of this said, bass guitar and vocals are the bomb. I haven't heard a vocal compressor that adds so much character and still sounds dynamic while being dramati-



BY RUSS LONG

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

ically squashed. It's like magic.

At first glance, the Opticom seems a bit pricey, as there aren't many single-channel compressors that cost nearly \$3,000. Once you give it a listen, you'll be sold. It sounds simply stunning.

Q2 AUDIO ADR COMPEX F760X-RS COMPRESSOR/LIMITER

The ADR Compex F760X-RS (\$2,750) is a classic FET based compressor/limiter/expander/gate and has been a go-to box for many engineers over the past several decades. The vintage units continue to garner top dollar from those in the know. With the cooperation and full support of ADR, Tim Mead's Q2 Audio has brought the elaborately designed Compex back to life. I should add that while the audio signal path and side-chain processing circuitry is completely faithful to the ADR's version, some features have been updated to improve long-term reliability and operational flexibility, including the addition of external side-chain access which is configurable in the compressor or gate side-chains or via internal jumpers.

The limiter is activated via a three-position toggle switch (Off, On, or On with Pre-emphasis). It has a fixed threshold and ratio (100:1), so the input level setting determines the amount of limiting. Since the circuit was designed for the broadcast industry, it has an extremely fast attack (below 250 μ s) with marginal overshoot and a fixed 250ms release time.

The compressor controls include threshold, ratio (1:1, 2:1, 3:1, 5:1, 10:1 and 20:1), attack time (250 μ s, 2.5 ms, 25 ms) and release time (ranging from 25 ms to 3.2 s, plus



an "auto" setting). The compressor's auto release setting, which I found to work extremely well, employs a dual time-constant in which transient peaks more than 6 dB above the threshold have an extremely fast recovery while lower level signals have a substantially slower recovery time, thus minimizing pumping artifacts.

The expander has a fixed 1:2 slope which increases to 1:20 when switched to the gate mode. The range is adjustable from 0 to 20 dB. The threshold ranges from Hi to Lo and release from Fast to Slow. I'm not sure exactly what the numerical relationship is to these settings, but the gate/expander needs to be set by ear, so I don't think it matters. The attack time can be set to 20 μ s, 2 ms or 40

ms. A three-position toggle switch selects between Off, Gate and Expander modes.

In addition to 13 independent controls (eight knobs and five switches) for each channel, the box has independent Stereo Input and Stereo Output controls. The stereo-coupling mode switch puts the Compex in stereo mode, which combines the control voltages produced by the compressor and expander side-chains. This prevents unwanted image shifting by providing identical gain-reduction in both channels. Since the momentary attenuation of individual transients doesn't typically create perceptible image shifts, the limiter side-chains remain independent in the stereo-coupling mode.

Kick and snare drum record wonderfully through the Compex circuit. Adjusting the compressor's attack and release make it easy to fine tune the kick drum's sustain and the crack of the snare. The expander also works well with percussive instruments.

The Compex works exceptionally well with vocals, too. It's the only device that I've encountered that allows the simultaneous use of compression and expansion and extremely dynamic vocal performances can benefit greatly from this feature, especially when recorded in a project studio with a higher than desirable noise floor.

Most compressors are either colored or clean, and the thing I like best about the Compex is that it can go extreme in either direction or anywhere in between. Subtle stereo buss compression beautifully glues a mix together, while extreme bass, drum or vocal squashing can add a ton of character to an otherwise boring performance.

Rivaled only by George Massenburg's 8900 Dynamic Range Controller in complexity, the ADR Compex F760X-RS's controls are initially a bit of a challenge to get around. But it's worth figuring out because the box sounds wonderful on virtually any sound source and it is amazingly powerful, allowing massive sonic control.

IZOTOPE OZONE 6 ADVANCED

One of the most exciting software releases over the past year has been iZotope's release of Ozone 6 Advanced, the latest manifestation of its popular mastering suite. The software combines several mastering tools, including Equalizer, Exciter, Imager, Dynamics, Dynamic EQ, Post Equalizer and Maximizer. These can be used as independent plug-ins or they can be simultaneously accessed as modules in the Ozone 6 Advanced plug-in, where up to six of the modules can be utilized in any desired sequence. Also included is the Insight metering suite. Ozone 6 comes in two variations—the full-blown Ozone 6 Advanced (\$599) and the slightly scaled down Ozone 6 (\$199), which lacks the Dynamic EQ module, the Insight metering suite and the component plug-ins.

The Equalizer and Post Equalizer modules are identical in performance but having two Equalizer modules allows their comprehensive eight-band frequency shaping to be used at two different points in the processing chain. The Equalizer modules emulate both analog and linear-phase filters and provide numerous digital and analog filter shapes. New to Ozone 6 are the Baxandall and Resonant Shelves, and the API-inspired Proportional Q and Band Shelf Bells. A spectrum analyzer in the EQ window makes it easy to locate problem frequencies as well as view the result of the equalization on the signal. It features eight adjustable filter bands that emulate both analog and linear-phase filters with several filter shape options.

Ozone's Exciter module splits the audio signal into four user-adjustable frequency bands that can be independently processed with one of several types of musical distortion, including the circuit-modeled Triode and Dual Triode modes or the updated Retro, Tape, Warm or Tube modes. Additionally, multiband and M/S modes provide a large range of sonic possibilities across the frequency spectrum and stereo field.

The Imager module provides the ability to employ stereo image enhancement (either widening or narrowing) of up to four frequency bands, providing independent control over stereo width by frequency. The Dynamics module provides one to four bands of analog-modeled compression, limiting and/or expansion. The module includes variable-knee compression, a 0 to 10 ms look-ahead feature and Auto Gain, which automatically compensates for the drop in level caused by the dynamics processing. This makes it easy to accurately compare the processed signal to the original signal. The interactive

Price Box:

- ▶ Ozone 6: \$249
- ▶ Ozone 6 upgrade from Ozone 1-5: \$99
- ▶ Ozone 6 Advanced: \$999
- ▶ Ozone 6 Advanced upgrade from Ozone 5 Advanced: \$299
- ▶ Ozone 6 Advanced upgrade from Ozone 1-6: \$749

Threshold control allows threshold points for the Limiter and Compressor stages to be set without taking my eyes off of the gain reduction meter.

The all-new Dynamic Equalizer module is the highlight of the update, and this module alone makes Ozone 6 well worth its price. It includes four bands of volume-sensitive EQ with five filter shapes (Baxandall Bass, Band Shelf, Peak Bell, Proportional Q and Baxandall Treble). When the threshold is exceeded, gain reduction is applied to the corresponding filter. The Inverse Mode will alternatively apply a gain boost. Each band is independently set to apply either a boost or cut, so the module offers significant flexibility. Attack and release times can be manually set, or alternatively, they can be set automatically using the Auto Scale function. I've had the best results using the auto function, but it's nice to know there is a manual option.

The Maximizer module is a single-band limiter designed to create a louder master without changing the actual sound of the mix. It provides four modes of processing (IRC I, IRC II, IRC III, Tube) to allow the processing to be tailored to the source material. I love the sound of the Tube Limiting mode, which is loosely modeled after the Fairchild 670. It combines a warmer, analog-sounding final stage limiting with the accuracy and simplicity of digital maximizing.

Ozone 6 Advanced includes the independent Insight metering plug-in that can also be purchased separately for \$499. It provides amazingly powerful metering options, accurately displaying any variation of Surround Scope, Spectrogram, Spectrum Analyzer, Vectorscope and Loudness Metering windows. If multiple meters are being utilized, they are independently sizable within the Insight window. The Surround Scope displays up

to five channels of surround data in Film, SMPTE/ITU, and DTS channel configurations; it allows the user to visualize how a surround mix can be spatially perceived during playback. It also notifies the user of any potential technical problems with the audio's alignment. The Spectrogram provides 2D and 3D viewing options that accurately visualize frequency information with regards to amplitude and time by effectively creating a detailed topographical audio map. Variable Meter Tap routing allows an audio stream from anywhere within a session to be routed to the spectrogram. The Spectrum Analyzer provides spectrum display for Stereo Average (Mid), Stereo Difference (Side), Average/Diff (Mid/Side), Left/Right, Stereo Maximum or Hybrid Stereo Width.

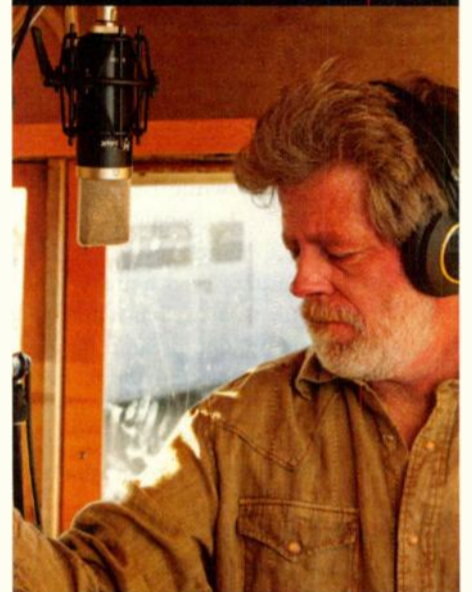
Before now, Ozone was only available in the form of a plug-in, but Ozone 6 introduces a standalone version that provides the ability to create a project master without a DAW. The application is compatible with WAV, AIFF and MP3 formats and it loads the files into the tabbed workspace along the top of the window, where they can be trimmed then faded in and out. It provides the option to load external VST/AU plug-ins into any of



placed by a modular setup that allows up to six modules to be easily added, removed or repositioned.

Ozone remains the only full-function mastering plug-in suite on the market today that includes everything needed to transform a final mix into a final master within a single plug-in. The Ozone 6 interface is focused on creativity, which makes it an absolute joy to use. Now I can't imagine mixing without it.

Shhh... Don't tell David



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David Royer designs microphones,

he's having visions of orchestras and choirs. He wants to pick up every detail with dimension, depth and dynamics. But then we take them and put them on screaming vocals, loud guitars and slammin' drums. From the most sensitive singer to the most rockin' of bands, Mojave Audio microphones excel at capturing every detail. So use them any way you see fit. Just don't tell David. And, by the way, they do rock on orchestras and choirs!



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PODIUM MICROPHONE

MACKIE PROFXV2 SERIES MIXERS

BY STROTHER BULLINS

Mackie's ProFX analog mixer series has proven to be an ideal solution for many applications: small clubs and venues, houses-of-worship (HOW), and portable PA-reliant, self-mixing musicians and bands. In mid-2012, I reviewed Mackie's flagship first-generation ProFX console, the ProFX22, in a cover story for *Pro Audio Review*. For the money—clocking in at \$650 street—it's one of the most useful, affordable analog mixers I've had the opportunity to use.

On April 15 at Musikmesse in Frankfurt, Mackie announced the ProFXv2 reboot, effectively expanding the line from four to six models with smaller (4-channel ProFX4v2) and larger channel-count versions (the 30-channel ProFX30v2, reviewed here) while further refining some of the key goals of the original ProFX launch. Now the ProFX Series features even better-sounding digital effects, as well as a new-generation microphone preamp influenced by Mackie's proven Onyx preamp technology. I've had the ProFX30v2 to use for nearly a month now, and it's quite impressive, to say the least.

EMPHASIZING "PRO" IN ITS FX

Our review unit, the ProFX30v2,



Mackie's ProFX30v2 Console

features all the attributes of the original ProFX console reviewed back in 2012, and more.

According to Mackie's Matt Redmon, markedly better-sounding digital effects were the first goals in improvement. Personally, I thought they were very good in v1, especially at the series' price points. But yes, I have to agree that they do now sound "better"—perhaps richer, more complex or evolved in ProFXv2. Upgraded from the RMFX 32-bit digital effects in v1, Mackie's new ReadyFX engine offers 16 reverbs, choruses and delays via all-new floating point DSP for more complex audio signal processing.

ONYX-ESQUE PREAMPLIFICATION

Recalling how good the microphone preamps in v1 sounded to

my ears, I was truly impressed upon auditioning the new Vita preamp in ProFXv2. Mackie touts Vita as "virtually noiseless" and I'd have to agree. Multiplied by the number of channels employed and with ReadyFX applied across the mixer, I found the ProFXv2 to be super clean with an impressively professional-grade sound.

Since the launch of the Onyx preamp, found in both Mackie's flagship recording and live sound devices, I've felt they could stand alongside most any boutique preamp, holding their own. The Vita amps now bolster the ProFX line with very similar aural characteristics.

OTHER KEY FEATURES

Some of the most appealing aspects of the ProFXv1 Series are still found in v2, including the seven-band graphic equalizer with well-chosen frequency points (125, 250, 500, 1k, 2k, 4k and 8k Hz, +/-15dB), switchable between Main Mix and Monitor 1 outputs; stereo/dual mono USB I/O (subgroups 1 and 2 or main L/R via USB to a user's DAW of choice, Mac or PC); and lovely-sounding three-band EQ with sweepable midrange on its mono channels.

On my review unit, also found in ProFXv1, mono channels 19-22 offer "one knob," fixed threshold compressors—most often useful for very simple dynamics wrangling tasks. On the ProFX30v2, four additional channel strips—23/24, 25/26, 27/28, and 29/30 are stereo, sans sweepable mid EQ; the first two channels include one XLR input each, with all four providing dual TRS inputs.

The largest ProFXv2 (the 30-input) measures 3.8 x 33.6 x 16.6-inches and 25 lbs., the ProFX30v2 is still small enough to easily carry around and position in the vast majority of portable PA applications. It's also a super choice for budget-conscious



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

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HOWs and smaller music venues aren't interested in jumping in the digital pool, yet but want the latest advances in whistle-clean mixer technology.

IN USE

I love reviewing smallish analog consoles, mainly because most of the musicians/end users that I regularly collaborate with inherently understand them, lending me extra insight on what makes certain makes and models appealing (or not). Like its slightly smaller predecessor, the ProFX22, the ProFX30v2 was useful and well-received everywhere I would choose an analog mixer, with plentiful I/O and solid effects. It shined as a premium small club mixer, impressed both others and myself as a recording/tracking mixing console, and was intuitive to nearly everyone who put their hands on it. The latter is worth its weight in gold, as no one wants a club-level mixer that takes more time and thought to decipher; there are always other, more time-consuming tasks at hand. The ProFXv2 doesn't exactly have an "easy button," but it makes you feel like it does.

SUMMARY

Now with two extra models and the improvements detailed above, the ProFXv2 Series graduates to a proven analog mixer that's even better than its already-impressive predecessor. With an MSRP price range of \$169.99 to \$1,149.99 for the ProFX30v2 reviewed here, it's still affordable to buy a nice padded bag—or better, a hard shell case—and hit the road with an intuitive, great-sounding compact analog mixer that should last a good long while. Mackie mackie.com

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unbalanced cable noise
50 Hz or 60 Hz hum

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Mismatched Cables
mono vs stereo issues
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DPA SC4098 D:SCREET PODIUM MICROPHONE

BY STROTHER BULLINS

The d:screeet SC4098 is a \$659.95 DPA supercardioid condenser podium microphone, primarily marketed for spoken-word applications.

The 48 VDC phantom-powered d:screeet SC4098 podium microphone features a pre-polarized condenser element with a maximum SPL of 136 dB before clipping. Frequency characteristics include a 20 Hz to 20 kHz response; it is predominantly flat yet with significant LF proximity effect at an 8-inch distance: +6 dB from flat between 600 Hz and 100 Hz, and on the HF side, a bump up to +3 dB between 5 kHz and 18 kHz. Lightweight at 3.1 ounces, this particular d:screeet podium mic is the longer 18-inch long model and terminated XLR-M, but a MicroDot S-50 connector model is available.

I swapped the d:screeet podium mic with a lower-cost Shure—a fine small podium condenser—at a local church for some initial applications and impressions. Based on price alone—with the DPA being nearly three times the Shure’s cost—these mics were not in the same class. While I’m still impressed with the Shure, I find the DPA intriguing and far more flexible.

On its primary intended application—spoken word—the SC4098 is on the level of any fine studio condenser microphone with some slight EQ applied. Its proximity effect adds intimate and appropriate low frequency body to full-voiced speakers

and a crisp yet natural-sounding boost up top, emphasizing enunciated details for great intelligibility.

At this particular church, the pastor frequently performs as a vocalist/acoustic guitarist from the pulpit, and the SC4098 also captured those performances quite well. His guitar’s off-axis distance from the SC4098 seemed to blend well with the on-axis close-miked vocal; he ultimately used one Sunday’s board mix to share a song via the church’s preferred social media site as it sounded both detailed and natural.

As I listened to two separate services’ board mixes at my studio, I was struck by the 4098’s overall quality and soon returned to the church to apply the SC4098 to

several other instruments often found in both HOWs and schools: woodwinds,

brass winds and percussion. Again, the SC4098’s performance was impressive; the instruments were full and detailed where it counts.

Then it struck me: at nearly \$1K street, the lauded d:facto handheld super cardioid is far pricier than the SC4098 and you can stick this SC4098 d:screeet anywhere, thanks to its very small capsule, low-profile

housing and long reach. For podium or stand-mounted use, this DPA mic could be a real workhorse for stationary performers or audio pros simply thinking outside of the box. I used it to reach over to the sweet spot on seated instrumentalists, into crowded percussion rigs, and down and around to even high-volume guitar cabinets: just add an accessory con-

necter to its XLR-M end and users can get quite creative.

At \$659.95, the DPA d:screeet SC4098 isn’t a low-cost podium microphone. Yet considering its well-chosen frequency response and alluring flexibility, it could be one of the best condenser mic bargains for HOW, theater and institutional applications.

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NAB 2015 Best of Show Awards

Pro Sound News' Best of Show Awards are gleaned from submitted nominations and subsequent exhibition-hall evaluation by a panel of industry experts and NewBay editors. The five winners for NAB 2015 are as follows:

CLEAR-COM FREESPEAK II 1.9 GHz WIRELESS INTERCOM SYSTEM

Clear-Com's FreeSpeak II 1.9 GHz wireless intercom system features a newly-designed wireless belt-pack and active antenna, which reportedly delivers broader cellular wireless coverage and more reliable connection than its predecessor. FreeSpeak II operates in multiple worldwide license-free DECT bands from 1.897 to 1.933 GHz.

FreeSpeak II can also now operate in the 2.4 GHz frequency band with new system components. Even though FreeSpeak II 2.4 GHz will have a separate yet similar set of system components as the 1.9 GHz version—base station, wireless belt-pack, active antenna, splitter and battery charger—the same base station or integrated FreeSpeak II systems can support a mix of both 1.9 GHz and 2.4 GHz belt-packs and antennas.



JBL LSR705i 7 SERIES MULTI-CHANNEL MONITOR

The first in JBL's new 7 Series line, the 705i model was conceived for multichannel monitoring in post rooms, broadcast facilities and trucks. Using patented technologies developed for JBL's flagship M2 Master Reference Monitor, 7 Series Studio Monitors are designed to deliver detailed imaging, extended frequency response and notable output from compact enclosures. Centrally amplified and tuned, the 705i Studio Monitor features a 39 Hz to 36 kHz frequency range, 107 dB SPL / 1 m maximum peak SPL (80 Hz to 20 kHz), Phoenix terminal inputs, birch plywood enclosures; top, bottom and rear mounting points; and more. Each 705i weighs 9 lbs. and measures 10.5 x 5.875 x 8.125 inches.



FAIRLIGHT 3D AUDIO WORKSPACE

Designed for the film and TV post production markets, Fairlight's 3D Audio Workspace (3DAW) was developed to help content creators deliver 3D sound in formats such as Auro-3D, Dolby Atmos and DTS MDA, without having to replace existing 2D tools and workflows. 3DAW's built-in user-definable B-chain processor allows instant switching between different surround formats and speaker sets, control of speaker muting and soloing, metering and support for up to 64 discrete speaker outputs.

Other features include Fairlight's AirPan (which allows users to reach out in space and place sounds where they want them), the sound location SpaceView display, and support for fixed bus formats in 2D and 3D from stereo, through to 5.1, on to Auro-3D and up to NHK's 22.2 format.



KLOTZ TOUCHSTONE CONTROLLER

The TouchStone is a fully configurable universal controller fitted with Klotz's Touch'nTactile technology, allowing control of audio processing, software and hardware utilities like radio mixers, DAWs or audio/video routers from the same device, along with program-associated data such as videos, pictures and text.

TouchStone controllers are fitted with low power-consuming processors running on embedded operating systems, depending on customer preferences. They are equipped with USB, Ethernet and RS 232 interfaces for communication with external networks and for technical control of radio shows from the same device.

Its command language of DigX-Pro protocol is compatible with the VADIS control language of Klotz DSP and router engines, which allows users to connect TouchStone controllers to any VADIS equipment.



SOUNDCRAFT Ui16 DIGITAL MIXING SYSTEM

The Ui16, the flagship of Soundcraft's new Ui Series, is a complete digital mixing system in a compact, road-ready stage box format with built-in Wi-Fi and the ability to be controlled by up to 10 connected devices via any HTML5-capable web browser, regardless of operating system. The Ui16 features 31-band graphic EQ, noise gate and compressor on all outputs, full Show/Snapshot recall with channel-recall safes and real-time frequency analyzer (RTA) on inputs and outputs.

The Ui16 and its smaller sibling, the Ui12, also feature built-in Harman signal processing from dbx, DigiTech and Lexicon, including dbx AFS2, DigiTech Amp Modeling and more.





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Building On Clearwater's Legacy



BY CLIVE YOUNG

The Clearwater Festival—officially known as Clearwater's Great Hudson River Revival—is one of the longest-running multi-day musical events in the Northeast. Held every June in Croton Point State Park in Croton-On-Hudson, NY, an hour outside New York City, the annual festival was originally founded in 1966 by Toshi Seeger and her husband, folk music legend Pete Seeger, as an effort to raise awareness—and money—for cleaning up the heavily polluted Hudson River. Today, the festival is run by Hudson River Sloop Clearwater, Inc., a non-profit involved in environmental research, education and advocacy for protecting the famous waterway.

While its roots are in folk music, the festival offers a range of musical styles, from Americana to blues to

The main stage of the 2014 Clearwater Festival, the Rainbow Stage found Klondike Sound providing audio via a purposefully minimal L-Acoustics V-Dosc system.

jazz and various indigenous genres from around the world. The June 20-21, 2015 edition will present the likes of Guster, Neko Case, The Mavericks, Ani DiFranco, the Blind Boys of Alabama, Béla Fleck, David Crosby, Los Lobos, Kate Pierson of the B52s, Shelby Lynne and Angélique Kidjo—and that's just some of the acts on the main "Rainbow" stage, one of seven that run simultaneously across the park.

Keeping an eye on innumerable aspects of the event every year is production manager John Doerschuk, who keeps track of dozens of acts, seven stages, multiple sound companies and more. Whatever problems might arise, however, he's probably seen them before, as he's been part of the Clearwater team since 1979.

"My festival days go better the more time I put in up front," he laughed. "I work full-time at Terry Hanley Audio in Boston—one of the big regional sound contractors up in New England. We do a tremendous amount of work for all the universities, so it can get a little hard for me to advance the Clearwater Festival around all the commencements, but somehow I find cracks in my time to do everything. I'm talking on the phone constantly with artists about last-minute stuff—backline needs and transportation and access and garment hangers and irons and all the usual craziness. Last year, it just seemed like I had an extra week to tie up things, so I was sure it was going to be a major disaster."

(continued on page 46)

The Iconic Troubadour Modernizes Loudspeaker System

BY STEVE HARVEY

W. HOLLYWOOD, CA—To call The Troubadour legendary is almost an understatement. Opened in 1957 by the late Doug Weston, the iconic venue has seemingly hosted every performer on the planet in the past six decades, earning it a place in *Billboard* magazine's 2014 list of top five must-play clubs in the country, an accolade that came hard on the heels of *Rolling Stone* selecting The Troubadour as one of the 10 most influential clubs in North America.

But while the club, which has a capacity of between 300 and 400, made the transition from an analog to a digital FOH mixing console—an Avid Venue SC48, which also handles monitors—five years ago, the house PA system has been largely unchanged for over 20

years. Not only was the speaker system getting long in the tooth, but it was also not ideally configured for the



Rat Sound's Dave Rat (left) and The Troubadour's Oscar J. Narro, surrounded by the venue's new L-Acoustics system

room, so three years ago, production staff contacted Rat Sound Systems in Camarillo, CA, with which the club has a long relationship, and began to plan an upgrade.

The principal challenge was the

layout of the main room, which is much wider than it is deep, with an off-center balcony. Further, the mix position, in a corner of the balcony by the wall, has long been off-axis to the stage right speaker hang.

Dave Rat, president of Rat Sound, and Paul Freudenberg, general manager of Rat Sound, considered various designs and orientations of different types of loudspeakers, and evaluated the options using L-Acoustics' Soundvision software before selecting the optimum configuration. "We ended up with a solution of six L-Acoustics

ARCS IIs flown in horizontal mode to cover the main floor and four ARCS Focus cabinets oriented in a vertical configuration, slightly offset to stage left from the positions of the

(continued on page 48)

briefs

Church Doubles Up On DiGiCo

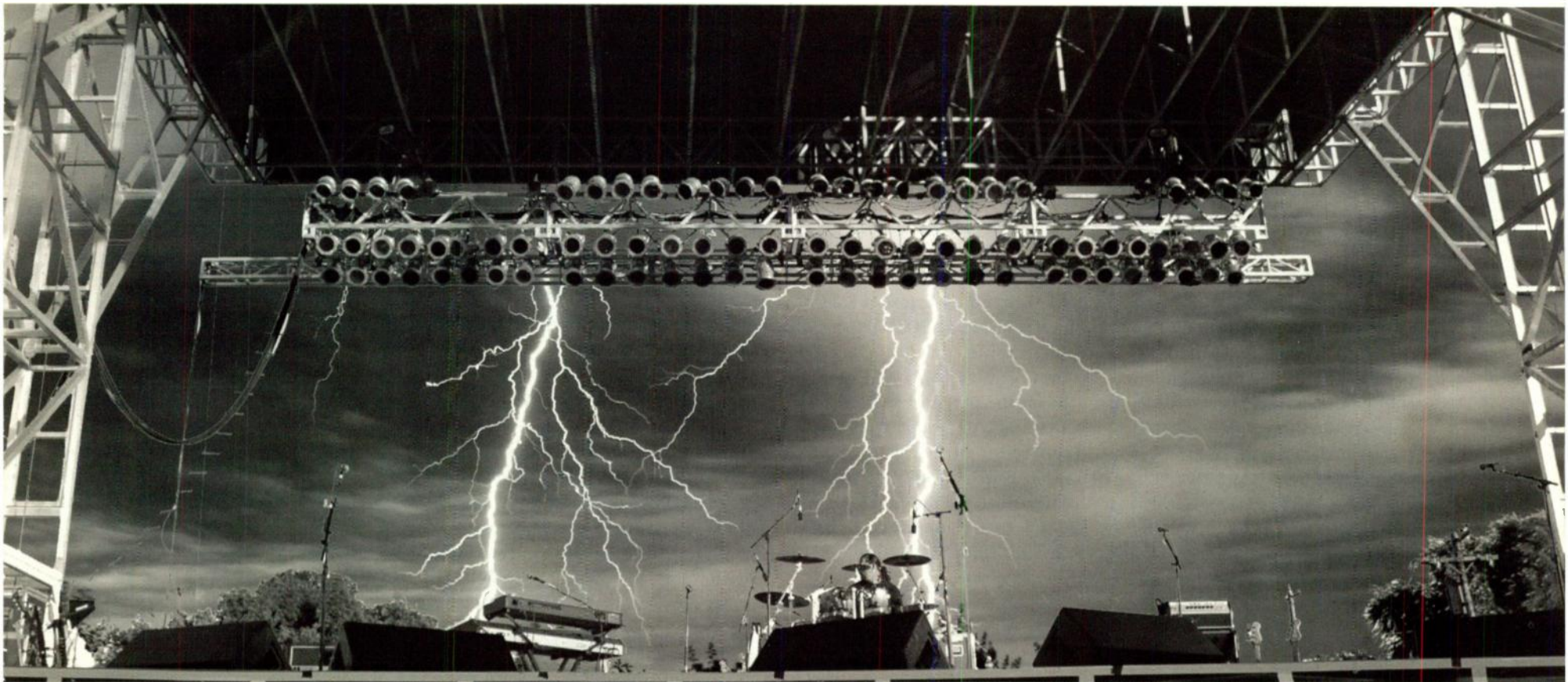
HOUSTON, TX—Second Baptist Church's 5,000-seat worship center on its West Campus in Houston recently added two DiGiCo (DiGiCo.biz) SD5 consoles for FOH and monitors, installed by local HOW systems integrator Covenant Communications. The Church previously had a D5, but had outgrown it. While handling house sound, the desks also aid services being broadcast, as engineers take direct feeds via tracking of the overall mix as well as 12-16 of the individual 'money' and room mic channels for the broadcast mix that is edited and mixed at the church's broadcast studio.

D.A.S. Bolsters BattleFrog Race

MIAMI, FL—The BattleFrog Obstacle Race Series, held recently in Miami, pushed athletes to the limit, ensuring they could hear instructions and more were D.A.S. Audio (dasaudio.com) Event and Action Series PAs deployed by Kenote Entertainment of Hollywood, FL. The main stage configuration used two stacks of five Event 208A dual 8-inch line array cabinets over two Event 218A dual 18-inch subwoofers running through a DSP-2040A multi-channel digital signal processor.

Shure Supports 340B Events

NEW YORK, NY—Sullivan & Gregory Entertainment has been providing audio for 340B University, a traveling educational program about the 340B Drug Pricing Program, complete with keynote addresses and breakout sessions for 250 attendees at every stop. The production uses Shure (shure.com) DDS 5900 Digital Discussion Systems for breakout session presenters, and QLX-D Digital Wireless for panels. With QLX-D the Sullivan & Gregory team can pair transmitters with receivers using the system's IR scan and sync.



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Cruise Control

BY STEVE VIOLA WITH CLIVE YOUNG

Florida Georgia Line named its first album *Here's To The Good Times*, and good times are what fans get when they come out to the duo's shows. Now, in the wake of hits like "Cruise" and "This is How We Roll" from that first, double-Platinum record, the act is back with *Anything Goes* and a ground-shaking arena tour to cement its place in modern country music.

Helping keep the fans on their feet every night is an audio system from Clair Global (Lititz, PA) and a sound crew that's come up through the ranks with the band. Engineer Jared Blumenburg hit the road for the first time three years ago when he began working on the production side for the duo, eventually moving his way up to FOH engineer. Likewise, monitor engineer Juan Gomez-Marin graduated from Full Sail and joined Clair Global, where manning the desk at stageside for the last two years has been his first work as a touring mixer.

Countless acts jettison their early engineers once they hit arena-level touring—but not this band, as production manager Ken Thomas explained: "The guys put a huge emphasis on finding good, quality people that fit early on and then having everybody grow. The tour manager, Troy Johnson, and I firmly believe that you find a good core of people that are going to stay with you for the next 10-15 years—you know, just grow the family."

That family has had quite a trip so far; when we caught up with them, it was in a tour bus parked

outside Madison Square Garden in New York, hours before a sold-out concert. Inside at FOH sat an Avid Venue Profile console, which Blumenburg mixes on nightly, going light on the plug-ins: "I use mostly Waves stuff, so I've got the Renaissance 'verbs, the H Delay, C6 compressor, Fairchild compressor on the vocals, and I use the Bomb Factory Slightly Rude compressor on the left and right. I don't do a whole lot of processing really."

Of course, the quality of a mix is dictated by what's going into it, starting onstage at the microphones—of which there aren't a lot. "Aside from wireless mics, pretty much the only ones on stage are on the drum kit, which is all standard," said Elliott Wiley, monitor tech. The selection includes Shure VP88s for overheads, a Beta52 on the kick drum, SM57 on the snare top and AKG 451 for hi-hats. Capturing the bass is a Radial Firefly Tube DI Box, and instead of having guitar cabinets blasting away, guitar heads and effects go into Palmer DIs. "It's still their tone, their head, just no stage volume," said Gomez-Marin, "so from room to room, it's the same



Tyler Hubbard of Florida Georgia Line rolls through "Dirt" at Madison Square Garden in New York City.

sound every night in their in-ears."

The IEMs in question are JH Audio J16 earbuds on every band member, all attached to Shure PSM 1000 transmitters, which are fed mixes from the DiGiCo SD10 desk at stageside, chosen because "It sounds great and I can ask that console to do what I want and it will do it. Other consoles, you don't have the flexibility of programming."

The most important microphones on stage, of course, are the vocals—in this case, standard Shure Beta58s on a wireless UR40 system, using mic-mounted Optogates from Axl Joost Elektronik to help reduce noise going in. Keeping those vocals clean helps set the mix just as Blumenburg wants it: "If you plug your ears, the thing you should hear first are vocal, kick and snare, so I always try to leave as much room as possible for that vocal to sit on top and still have a kick and snare that sounds like it's knocking you down. Joey [Moi, the band's producer] one time told me that what he wants to hear is a Metallica show—a good, powerful mix where the guitars are huge—so if we sound like that, we're doing our job."

Bringing that massive mix to the crowd are Clair i-5 line array boxes, hung 14 deep with As and Bs in front, and i-3s, 12 deep, on the sides. Bolstering the flown i-5Bs are CP-218s, described by PA man Hank Fury as "the new killer subs from Clair." How killer are they? Well, the band may sing about hell raising, but the new subs raised some of their own, laughed Thomas: "The three noise violations we got in rehearsals from the trailer park four miles away was impressive. The new subs definitely worked!"

Clair Global
Clairglobal.com

THERE'S MORE ▶ Watch Florida Georgia Line sing "Dirt" at MSG at prosoundnetwork.com/may2015

VITALstats

Florida Georgia Line

Clair (Lititz, PA)

FOH Engineer:

Jared Blumenburg

Monitor Engineer:

Juan Gomez-Marin

PA Tech:

Hank Fury

Systems Engineer:

Phil Kriz

Monitor Tech:

Elliott Wiley

Tech:

Brandon Allison

FOH Console:

Avid Venue Profile

Monitor Console:

DiGiCo SD10

House Speakers:

Clair i-5, i-5B, i-3, CP-218, FF-2

Personal Monitors:

Shure PSM 1000, JH Audio JH16; Clair Fractal antennas

House Amplifiers:

Clair StakRak (Lab.groupopen PLM20000)

Monitor Amplifiers:

Crown

FOH Equipment/

Plug-Ins:

Waves Renaissance, H Delay, C6 compressor, Fairchild compressor; Bomb Factory Slightly Rude Compressor

Microphones:

Shure VP88, Beta52, SM57, Beta58s on UR40 wireless; AKG 451; Radial Firefly Tube DI; Palmer Di

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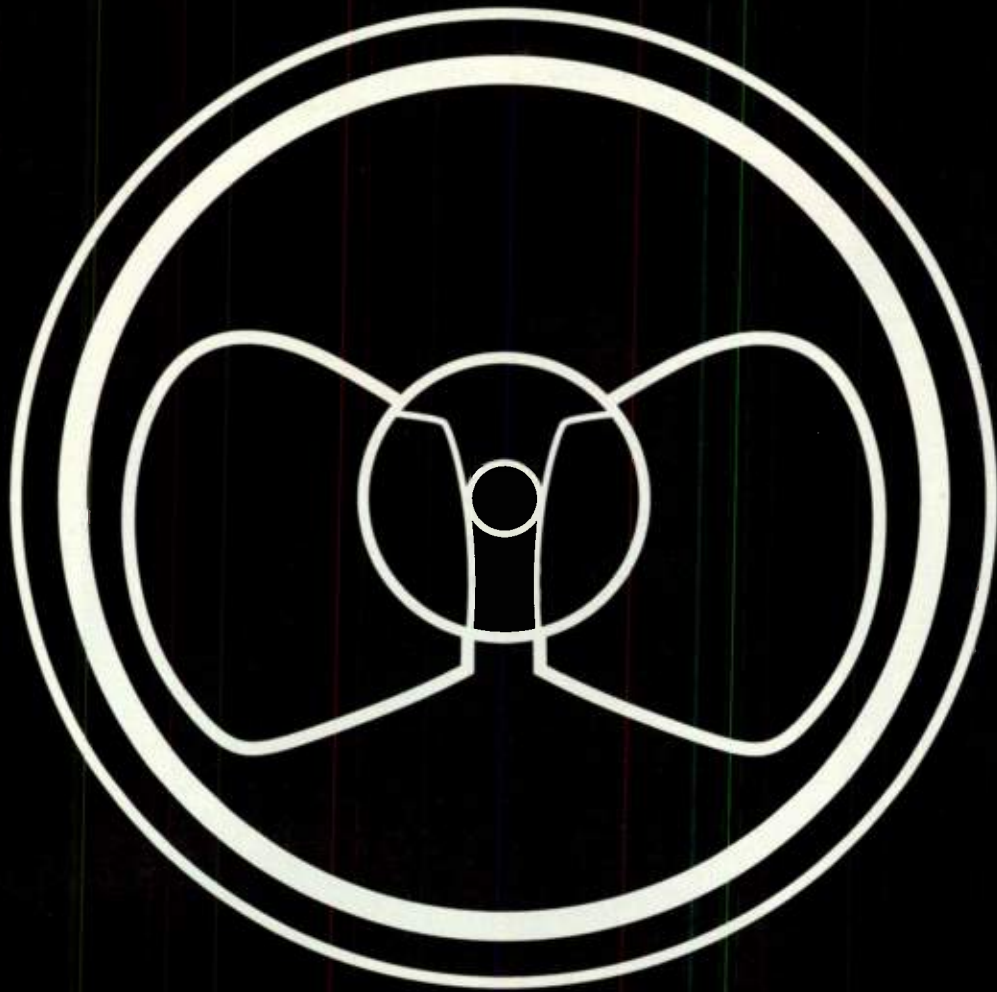
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Clearwater

(continued from page 42)

That never happened, much to Doerschuk's relief, but there were still tough choices to be made. While every stage had enough PA to cover the crowd nicely, the systems were starkly modest—and that was by design. Power was a serious issue as

only few hundred amps of electricity come into the park, which is on a peninsula. "We do bring in generators, but being an environmental festival, there's hard decisions to be made about that," Doerschuk admitted. "The pressure from these big acts to provide enormously powered systems and amenities can sometimes be in conflict with a scaled-down, grassroots, 'green' festival. That's a dance we've played for many, many

years."

While Doerschuk brings in a smidge of gear from Hanley Audio "to service some of the smaller stages and just smooth the production," Klondike Sound (Greenfield, MA) is the longtime main sound vendor for the festival, having been involved in Clearwater since the 1980s. "Klon [owner John Koehler] has a long reputation of excellence in festivals; he's the audio manager for the New

Orleans Jazz Festival, and he's the vendor for many others," said Doerschuk. Bringing clean sound to the Rainbow stage for the 2014 edition, the company fielded an L-Acoustics rig, with hangs of six V-Dosc and three dV-Dosc boxes per side, sending out mixes from an Avid Venue SC48 and a Yamaha PM5D at the FOH position.

Klondike Sound also handled the Dance and Hudson stages, where for the latter, it had a Yamaha QL5 console at FOH and another L-Acoustics-oriented system based around a groundstacked half-dozen dV-Dosc boxes and two dV-Subs per side. There, acts like Houndmouth brought harmony-drenched blues rock to an appreciative crowd that included boats anchored on the shore within the dispersion pattern of the PA, which was slightly angled out into the river.

Over at the Sloop Stage, one of the highlights was Pete Seeger's Spanish Civil War Song Legacy with Bernardo Palombo and Hudson Valley Sally. FOH was centered around a Yamaha CL5 console supplied by Ridgefield Park, NJ-based Boulevard Pro, sending mixes to groundstacked pairs of dV-Subs topped with three dV-Dosc boxes each. While it was Boulevard Pro's first year tackling the Sloop Stage, it, too, has been involved with Clearwater for a while, and provided a full backline package for five stages.

Toshi and Pete Seeger passed away in 2013 and 2014, respectively; while that meant performances throughout the 2014 edition were packed with tributes to them and their life-long efforts for environmental education, behind the scenes, organizers also honored them by continuing their work.

"I know it sounds ridiculously idealistic," said Doerschuk, "but Pete completely embodied the idea of people gathering in groups and just being joyous and talking about what they can do to change the world—so every time I'm trying to think of how to pull this festival together along with Steve Lurie, who is a fantastic festival director, we often say, 'Well, what would Toshi do? How do we honor Pete's legacy?' It's not how do we sell enough tickets or how do we get a McDonald's sponsorship, you know what I mean? It's not a business proposition—it's better."

Clearwater Festival
Clearwaterfestival.org

L-Acoustics
L-acoustics.com

Klondike Sound
Klondikesound.com

Boulevard Pro
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RM SERIES

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interface - if you can
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SD10

SD9

SD8

SD7

SD5

Troubadour

(continued from page 42)

main speakers to accommodate the offset balcony,” Freudenberg says. “The ARCS family’s directivity fits the low-ceilinged environment very well, and the 30-degree vertical coverage nicely addresses the balcony while also providing front of house

with direct sound.”

The ARCS Focus is a relatively recent addition to the product line. “The beauty of that loudspeaker is that it’s a two-way, 12-inch array speaker that is compact but has a nice concentration of power. It’s lightweight, and has the special constant curvature characteristic that L-Acoustics pioneered with the original ARCS. That means that there’s a seamless integration between

loudspeakers within the array,” says Freudenberg.

In addition to the left-right hangs of ARCS II and ARCS Focus boxes, Rat Sound’s solution also includes an L-Acoustics 12XTi coaxial covering a small balcony section at stage left. An L-Acoustics 115XT HiQ coaxial speaker provides center/down fill.

Four SB28 dual-18-inch subwoofers, stacked two high and positioned below the two main hangs, provide

low-end reinforcement. The two stacks are immediately in front of the stage and accessible to the crowd, which can get rowdy, says Dave Rat. “We got to do some fun custom work, including creating cages to protect the subs on custom rolling plates.”

According to Oscar J. Narro, who has worked at the club for four years and has been production manager for the past two years, “Now that we’re a little more on-axis, you get more sound in your face at front of house, which is nice.”

He reports, “All of the guest engineers have been very happy that the sound is so consistent around the room now. But I think the biggest compliment was when our bartenders—people that don’t have specially trained ears—noticed the improvement in the sound.”

“We were very happy with what we were able to achieve with asymmetrical hangs of L-Acoustics ARCS II and ARCS Focus enclosures,” says Rat.

A pair of LA8 and two LA4X processing amplifiers drive the entire L-Acoustics rig, with LA Network Manager providing a control software/dashboard for the mixer. Narro notes that the system has plenty of headroom available: “The first show we did with it was a punk gig by Anti Flag. The engineer brought his SPL meter and started the show at 115 dB, C-weighted, at the mix position. We still had plenty of headroom; we weren’t even tapping the limiters.”

The FOH console provides up to seven monitor mixes into various EAW two-way wedges, including six MW12s, two MW15s and six SM84s. An additional MW15 plus a Micro-Sub are reserved for drum fill. A Crown Macro-Tech MA-3600VZ, an XTi 2002 and six Macro-Tech MA-36x12 amplifiers power the monitor speakers, which are processed via two EAW UX8800 units.

Performers who have played the venerable venue since the upgrade have included Imagine Dragons, Lucinda Williams, Grouplove, Sam Hunt and Dave Alvin. They join a long, long list of artists that includes Buffalo Springfield, Joni Mitchell, Gordon Lightfoot, Neil Young, James Taylor, Elton John, Billy Joel and the Pointer Sisters, who between them all made their live, West Coast or U.S. debuts at The Troubadour. Notable showcases have included Nine Inch Nails, Depeche Mode and Rod Stewart, all in 2013, Red Hot Chili Peppers and Prince (2012), and The Cure and Hall & Oates (2008).

L-Acoustics
l-acoustics.com

Rat Sound Systems
ratsound.com

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ACT / STATISTICS	CREW	EQUIPMENT
1 FLEETWOOD MAC CLAIR	David Kob (be); Ed Dracoules, David Coyle (me); Donovan Friedman (cc/se); Steve Hupkowicz, Meg Tempio, Ricky Avilia, Dave Wiseman (techs)	HC: (2) Avid Venue Profile; Yamaha PM5000; MC: Avid Venue D-Show with sidecar; DiGiCo SD10; HS: Clair i-5D, i-5, CO-8, CP-118 subs, FF2; MS: Clair 12am, R-4III, ML-18; Avid PQ System; IEM: Shure PSM 1000, PSM 600; HA: Crown; MA: Crown; HARDWIRED MICS: AKG C414 B, C 451EB; Audio-Technica AT4054, AE6100; Shure SM 57, Beta 98, Beta 56, Beta 91a, KSM313/NE, Beta 181, KSM137; Beyers M 201 TG; Milab DC-96B, BDM-01; Sennheiser MD 421-II, MKH-416, ME 2, e 935; Audix D4; Countryman DI; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Summit TLA100; Yamaha SPX2000; Lexicon 480L; Eventide Eclipse; Bricasti M7; Aphex 612; TC Electronic D-Two; Lake LM 44, LM 26; Empirical Labs EL-8; Avalon AD2044; MONITOR EQUIPMENT: Crane Song Phoenix; TC Electronic VSS3; Rational Acoustics Smart
2 JUAN GABRIEL 3G LIVE	Rodrigo (be); Manny Perez (cc/se); Sara Holt (m/rf tech); Ken Quinlan (ae); Stephan Gauthier (monitor tech)	HC: DiGiCo SD10; MC: DiGiCo SD10; HS: Martin MLA, Martin MLAC, DD12, Martin 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 VT737; MONITOR EQUIPMENT: TC Electronic 6000; Shure E5
3 ARIANA GRANDE VER TOUR SOUND	Toby Francis (be); Justin Hoffmann (me); Brett Stec (cc/se); Ashley Zepar (m tech); Austin Dudley, Frank Peoples, Kenny Hottenstein (techs)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Meyer Sound Leo, Lyon, LFC 1100, Mica; MS: Meyer Sound MJF210; IEM: Sennheiser 2000 series; WIRELESS MICS: Sennheiser 5000 series; FOH EQUIPMENT: TC Electronics M5000; Rupert Neve Designs Primary Source Enhancer; Waves
4 ERIC CHURCH CLAIR	Billy Moore (be); Marc Earp (me); Jared Lawrie (se); Rachael Aull (m tech); Bryce Beauregard, Matthew Patterson (tech)	HC: (2) Midas Heritage 3000; MC: Avid Venue Profile, Venue SC48; HS: Clair i-5, i-5B, i-3, CO-8, CP-218, FF-2; IEM: Sennheiser G3; HA: Lab.gruppen PLM 20000Q; HARDWIRED MICS: Shure; Sennheiser; Royer; WIRELESS MICS: Shure; FOH EQUIPMENT: Manley VoxBox; Avalon VT-7475P, VT-7375P; Summit DCL-200; Tube Tech LCA 2B; Drawmer DS201; dbx 903; Yamaha SPX990, TC Electronic D-Two; Eventide H3500; MONITOR PLUG-INS: Waves Live Bundle; Crane Song Phoenix
5 BOB SEGER AND THE SILVER BULLET BAND CLAIR	Bruce Knight (be); Myles Hale (bme); Chris Nichols (cc/se); John Morris (m tech); Taylor Holden (tech)	HC: Avid Venue D-Show; MC: Soundcraft Vi6; HS: Clair i-5, i-5B, i-3, IDL, CP-218; MS: Clair SRM, BT-118; IEM: Shure PSM 1000, PSM 600 hardwired, UA874 antennas; Clair antenna combiners; HA: Lab.gruppen PLM 20000; MA: Crown 36x12; HARDWIRED MICS: Shure Beta 91a, SM 57, SM 58, KSM 27, KSM 313, KSM 9HS; Audix D6; Audio-Technica ATM350, AT4054; Sennheiser MKH-416, e604, e904; Beyers M 201 TG, M 88; Earthworks DP30/C; Neumann KM184; Radial JDI passive; WIRELESS MICS: Shure UR4D with KSM-9HS capsules; FOH EQUIPMENT: Waves Live and SSL plug-in bundles; Waves Max BCL, Lexicon 480L, Alan Smart C2
6 LUKE BRYAN CLAIR	Pete Healey (be/pm); Ed Janiszewski (me); Frank Sgambellone (se); Erik Rodstol (RF/Stage Tech); Rachael "Hope" Stuemke, Brent Edgerton (techs)	HC: Midas XL-4; Avid Venue Profile; MC: DiGiCo SD7; HS: Clair i-5D, i-5, i-DL, CO-8, CP-218; MS: Clair CP-218; IEM: Shure PSM 1000 IEM; HA: Clair StakRak; Lab.gruppen PLM 20000; HARDWIRED MICS: Shure; Audio-Technica; Countryman; Radial DI; WIRELESS MICS: Shure; FOH EQUIPMENT: Empirical Labs Distressor; Aphex 622; Urie LA-4; dbx; Summit DCL-200; TC Electronic 2290, D-Two, M5000, M3000; Eventide, H3500, Yamaha SPX 990; Waves C6, SSL Bundle, Vocal Rider plug-ins; MONITOR EQUIPMENT: Waves Mercury/SSL plug-ins
7 CHARLIE WILSON / KEM / JOE CLAIR	Paul Hollis, John "Buggs" Parkinson (be); Joshua "Fez" Delpert, "Big Ed" Learned (me); Frank Principato (se); Mike Gamble (ae); Kenneth Fielder, Andrew Bongardt (techs)	HC: Avid Venue Profile; MC: Avid Venue Profile; HS: Clair i-5, i-5B, i-3, BT-218, FF-2; MS: Clair 12AM II, CO-8, BT-218; IEM: Sennheiser 2000; Clair Fractal antennas; HA: Lab.gruppen PLM 20000; MA: Lab.gruppen PLM 20000; HARDWIRED MICS: Shure; Sennheiser; WIRELESS MICS: Shure; FOH EQUIPMENT: Avalon 737-SP
8 MARC ANTHONY VER TOUR SOUND	Jose Rivera (he); Eric "Pyle" Ramey (me); Jimmy Ibañez (ase)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: Meyer Sound Leo, Lyon; MS: Meyer Sound MJF-210, MJF-212; IEM: Shure PSM 1000; Ultimate Ears UE7; HARDWIRED MICS: Shure SM57, SM27, KSM32; Sennheiser e914, MD421; Beyerdynamic M88; Mytek; A Designs REDDI; Radial J48 DI; WIRELESS MICS: Shure Axient Wireless with KSM9HS capsule; FOH EQUIPMENT: Waves CLA bundle, C6, S1 Stereo Imager
9 MAROON 5 SOUND IMAGE	Jim Ebdon (be); Kevin Glendinning (bme); Marcus Douglas (cc); Andrew Dowling (se); Chris Houston, Nathan Payne (techs)	HC: DiGiCo SD7; MC: DiGiCo SD7; HS: (54) EAW Anya, (24) SB2001, (8) KF364NT; MS: Sound Image MA 1x12, MA 1x18; IEM: Shure PSM 1000; JH Audio Roxanne ear pieces; HA: Powersoft; MA: Crown I-Tech 12000HD; HARDWIRED MICS: AKG; Audio-Technica; Mojave; Neumann; Radial DI; Sennheiser; Shure; WIRELESS MICS: Shure; FOH EQUIPMENT: Crane Song HEDD-192; GML 8200; SSL Stereo Buss Compressor; Antelope Audio 10M/Trinity Master Clock; Waves plug-ins; MONITOR EQUIPMENT: TC Electronic 2290; Yamaha SPX1000; Rohde & Schwarz FSH3 Spectrum Analyzer
10 BILLY JOEL CLAIR	Brian Ruggles (he); Josh Weibel (me); Rich Schoenadel (cc/se); Jon Yochem (m tech); Tom Ford, Bryan Darling (tech)	HC: DiGiCo SD5; MC: DiGiCo SD10; HS: Clair i-5, i-5B, i-3, P-2, BT-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; WIRELESS MICS: Shure UR Series; FOH EQUIPMENT: Waves

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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Portability

(continued from page 1)

uary, 2015 at the LVCC during the Consumer Electronics Show (CES). Software manufacturers are increasingly wooing the “backpack producer,” touting highly-portable, all-inclusive A/V content production solutions and tools with unprecedented capabilities. And at the high end, audio over IP (AoIP) isn’t just a topic of discussion; it’s the plan for the future.

Who are new customers, the content creators in our evolving world of broadcasting? “If anything, they’re jacks-of-all-trades,” notes Jim Cooper of MOTU. “There’s a move to consolidate workflows onto a single desktop, and people are putting on multiple hats for multiple roles. Often there’s one person doing everything—soup to nuts, maybe even all the picture editing—and they are looking for simple solutions that give them broadcast quality.”

“Run-and-gun”-friendly features comprise much of the MOTU audio interface line today, explains Cooper.

“On the 8M, our Thunderbolt audio interface features a hardware-based limiter called V-Limit, allowing for an extra 9 dB of headroom when users are in an uncontrolled environment and capturing something on the run. We’ve also recently added AVB audio networking. We just continue to add value to the interfaces we make. If you look at a typical new MOTU interface, you have I/O, a mixer with twice the DSP as the older generation, with 48 inputs, all stereo buses, compression, EQ, format conversion and a full-blown monitor mixer that’s controllable from an iPad.”

Mike Scheibinger of Sony Creative Software waxed prophetically about the new generation of content creators following a popular demo where new sound design techniques were facilitated by SpectraLayers Pro 3’s spectral audio editing GUI and the Sound Forge Pro Mac DAW. “As it turns out, it’s all getting easier and easier to do,” offers Scheibinger. “It’s shooting film with DSLRs, editing audio on a laptop and creating an entire world for your multimedia that sparkles. The ability to shoot and render 4K video resolution in a portable

rig is available to basically everyone. Just like the music world in the last decade, this is the decade of the democratization of video content production and distribution—and I’m talking about video content that looks just like pro, downtown cinema 4K high-res. All of this opens up worlds

“Often there’s one person doing everything—soup to nuts.”

Jim Cooper, MOTU

of opportunities for anyone who has the inclination to create this kind of multimedia: Shoot it today, edit it tonight and show it by morning. And it will look and sound fantastic.”

Fixed install and large OB rigs still dominate the high-end of the market, where, “The biggest change facing audio manufacturers is AoIP,” attests Kevin Emmett of Calrec Audio, “and the market doesn’t quite know where it is yet. There’s a bunch of different standards: the closely aligned

RAVENNA and AES67, Dante, AVB and Hydra2—the Calrec proprietary network. Because our customers don’t know where to turn yet, we’re agnostic and working with RAVENNA and Dante. As a manufacturer, we need to support what the customer needs. Over the next few years, that arena will shift and change, shift and change. What the interoperable standards give you is being treated as a panacea. It allows everything to talk to each other, and it will be great...but no one knows which way to jump yet.”

As such, Calrec’s big unveilings were compact expansion units for Hydra2: Fieldbox and H2Hub, a rugged 8-input I/O and a switcher, respectively, intended for live sports, a category that Emmett says helps to push innovation in audio for broadcast. “With [the new units], we can provide very large networks very affordably—down two coppers, one acting as redundant,” he explains. “The cost-effective boxes, we think, will play a big part in our business moving forward. [In sports broadcasting] like golf—where you have a lot of inputs over a huge area, but only one or two in spots dotted about—it’s perfect.”

TV’s IP Future

(continued from page 1)

off their frequency spectrum in order for the telcos to beef-up their mobile services in response to apparent customer demand. But while the NAB, advocating on behalf of its members, and the Federal Communications Commission continue to trade barbs over the exact terms of the plan, some television practitioners are already making the leap into next-gen tech.

At a gala event hosted by Imagine Communications at the Hard

and cloud-based global programming playout, delivery and network operation with the help of Imagine’s products and services. “Imagine Communications’ IP solutions enable us to automate and deliver workflow processes and technologies to a more agile and scalable environment,” he explained, referring to the company’s VersioCloud and Zenium solutions.

During the Super Session “Television’s Transition to an All-IP Future—Why It’s a Big Deal,” consultant Clyde Smith with Fox Network Engineering and Operations observed, “The business is evolving more rapidly than we’ve ever seen

“By leveraging evolving IP and cloud technologies we are able to move beyond what’s currently possible with traditional, proprietary ‘big iron’ broadcast infrastructures.”

Vince Roberts, Disney/ABC Television Group

Rock Hotel and Casino’s The Joint the night before the NAB show floor opened, company CEO Charlie Vogt introduced Vince Roberts, executive VP, global operations and CTO of the Disney/ABC Television Group. “By leveraging evolving IP and cloud technologies, we are able to move beyond what’s currently possible with traditional proprietary ‘big iron’ broadcast infrastructures,” said Roberts, announcing that he plans to transition Disney/ABC to an IP-

it, but there is not enough flexibility with traditional infrastructures to address the rapidly changing business or to scale-up new services at will. IP means you can scale and that all these process can be automated.”

Meanwhile, in the audio world, interoperability between the disparate networking protocols is most definitely moving closer. The AES67 interoperability standard, published at the end of 2013, is effectively a subset of technologies already included in RAVEN-

NA. Immediately prior to the show, Audinate announced that Dante will shortly receive the scheduled firmware update supporting AES67, initially via the Brooklyn II card. The Telos Alliance also announced that its updated Livewire+ is fully compliant with the AES67 specification.

Other AoIP product introductions included Lawo’s launch of its new A__line family of interfaces with the A__mic8, which houses eight mic/line ins, four line outs and two RAVENNA/AES67 ports. Solid State Logic added two new Dante-enabled 19-inch interfaces, Network I/O: Stagebox, which offers eight mic/line inputs and eight line level outputs, and the Network I/O: MADI-Bridge.

Calrec announced that its consoles may now be integrated with DiGiCo desks—the two are in the pro audio group formed in August, 2014 along with Allen & Heath—via DiGiCo’s Orange Box. The rack-mount interface accepts DiGiCo Multichannel Interface (DMI) cards and, when equipped with Calrec’s new Hydra2 interface card, enables cross-brand interoperability.

On the third day of the NAB Show, coinciding with opening day at the Frankfurt ProLight&Sound in Germany, the umbrella business name for the three-brand group was revealed as Audiotonix, and DiGiCo also unveiled its new entry-level console, the S21. The compact desk offers DMI card options enabling input from Dante, Calrec’s Hydra2, Optocore and Waves

SoundGrid, as well as MADI.

Wheatstone also addressed the accelerating interest in AoIP technology with new product introductions at the show. The company’s new flagship IP-64 large-format TV console has been designed as an easy-to-operate surface that frees operators from the impression that they are facing a “sea of knobs,” as the company puts it, and also supports HD/SDI, AES, MADI, AoIP, analog or TDM connectivity. Gibraltar IP Mix Engine, the gateway to the WheatNet-IP audio network system, which also carries control and command functions, supports the company’s Dimension Three, D-8EX, Series Four and Series Two digital mixing consoles in addition to the new IP-64, and additionally enables AES67 compatibility. Also, the company and Eventide have partnered to add WheatNet-IP audio and control networking to Eventide’s BD600W profanity delay unit, which combines extended remote control and audio over Wheatstone’s WheatNet-IP broadcast network, with 80 seconds of profanity protection.

Avid is finally making good on its promise of interoperability with brands outside its immediate orbit, announcing at the show that Audinate is currently working with the company to develop a new Dante option card for the Venue S6L console system. The live sound desk will also offer interoperability with Waves plug-ins via the Waves SoundGrid AoIP network.

The NAB Show
nabshow.com



Bob Todrank
Harrison Audio

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

A: I am the new product strategist at Harrison Audio for the Mixbus DAW and related products. This entails helping with the development and execution of the current marketing/sales strategy as well as a long-term growth strategy for the future

of our Mixbus family of products.

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

A: I began my career in pro audio as a musician and recording engineer. I founded Valley Audio, a studio design and supply company as well as Valley People, a manufacturer of pro audio gear, as well as founding Roland US's Pro Audio division. I have had the privilege of marketing and selling my own company's products and well as many others in both retail and wholesale environments. I am bringing that broad background and perspective to Harrison. Thankfully, I have known the company and sold their products over the years so I'm familiar with a lot of the great history and technology that Harrison brings to the table. I'm really excited to be working with them.

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

A: Over the next year, we will be talking more about where Mixbus is headed, such as more software versions targeted for specific workflows, hardware devices, more great sounding Harrison plug-ins, all the way up to full Mixbus integration into our large format consoles. We will also be combining some old with many new ideas and concepts into a marketing program that will expose our unique "True Analog Mixing" features and the Harrison DSP sound quality of Mixbus to a much wider audience.

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

A: In the short term, I am immersing myself in everything Mixbus, what has been done in the past, reviewing future ideas, and learning the goals of the company. On a longer term basis, I am anxious to help in the development of a rich line of new Mixbus software and hardware products as well as growing our user base and market share.

Q: What is the greatest challenge that you face?

A: As Mixbus is still relatively new in a very crowded DAW market, our challenge is to raise the awareness of the unique features of Mixbus and build our user base for the future. I'm excited by the challenge—this is going to be a fun ride.



Lee Stein

Martin Audio has announced the appointment of Lee Stein as Vice President, North America. He will be tasked with continuing the brand's growth in the U.S. market in

both the installed and touring sound loudspeaker market sectors. Stein brings more than 18 years of industry management, sales and marketing experience, including roles with Avid Technology and Sennheiser, with an emphasis on Live Sound. Martin Audio Managing Director Luke Ireland says that Stein brings complementary industry knowledge and organizational skills that will bolster the efforts of U.S. Director of Operations, Rob Hofkamp and his team.

Audio, video, lighting and MI sales company, Full Compass Systems, has added Laura Lawrence to its staff. As Marketing Manager, Lawrence will be leading the department on a strategic path to expand Full Com-



Laura Lawrence

pass' customer base through improvements in the company's positioning and messaging in the marketplace. Lawrence studied at UW-Whitewater, where she earned a BA in Communications and an MBA in Marketing. Prior to joining Full Compass, Laura ran her own full-service agency and has worked in marketing for the past 18 years at a variety of companies across a range of industries.



Kris McDougall

National Sales Manager, Transducer

pass' customer base through improvements in the company's positioning and messaging in the marketplace.

Lawrence studied at UW-Whitewater, where she earned

a BA in Communications and an MBA in Marketing. Prior to joining Full Compass, Laura ran her own full-service agency and has worked in marketing for the past 18 years at a variety of companies across a range of industries.

American Music and Sound, independent US distributor of pro audio, musical instruments, and music creation products, has promoted Kris McDougall to the position of

Products. McDougall's career as a sales professional includes nearly a decade of hands-on technical sales experience and a background in studio recording, video production and audio engineering. His role will include the support of AM&S network of sales representatives and dealers nationally. McDougall's education includes graduating with honors from Montreal's Concordia University with a degree in Electroacoustic Studies and Music Technologies. He also attained a degree in Business Administration from John Abbott College.



Steve Spak



Daniel Lee



Ruby Biloskirka-Conley

In his new role, he will develop and maintain dealer relationships and sales programs, offer dealer resourc-

Roland Corporation U.S. has announced three new personnel appointments touted as aligning with the company's current strategic business plan of expansion and brand growth. The announcement was made by Jay Wanamaker, president and CEO of Roland Corporation U.S.

Steve Spak joins the Roland U.S. team as District Sales Manager (DSM) for the Mid-Atlantic District, spanning from New York City to Washington, D.C. Spak comes to Roland most recently from KMC Music Inc.

es in support of Roland products, strategy and objectives, and provide product training, merchandising and promotions at the retail level.

Daniel Lee comes on board as Local Marketing Specialist. Lee will augment Roland's marketing efforts to effectively partner with the dealer community as part of the company's Local Marketing initiative. An M.I. marketing specialist, he brings to Roland years of experience in the local marketing field, having served as Local & Retail Marketing Administrator during his tenure at Guitar Center. Lee is a working DJ and a graduate of UC Berkeley.

Ruby BC (a.k.a. Ruby Biloskirka-Conley) has signed on with Roland as Social Media and Content Specialist. She brings to the company a background in the music and entertainment business, having worked previously as a Keyboard Instructor at Musician's Institute (Hollywood, CA), a touring keyboard player for the American Idol band and also a keyboard clinician for Roland U.S. She is a graduate of the Berklee College of Music.



Raul Resendiz

PreSonus has added Raul Resendiz to the company as Key Accounts Manager. Resendiz will manage strategic account objectives with Guitar Center and Musician's Friend and work with independent representatives in the USA to increase brand awareness, customer and sales staff satisfaction, and sales.

Resendiz has worked in technical support, quality assurance, marketing and product field training. He has worked as engineer and sound tech for Taboo of the Black Eyed Peas since 2007.

soundREPS

Full Scale AV and Softube AB are teaming up to bring Softube's software and hardware products to the North American marketplace. "Softube is recognized as among the best in accurate software emulation products," said Jeff Mac of Full Scale AV. Oscar Öberg, CEO of Softube adds that, along with Softube's growth, "we are also creating entirely new product lines...With that comes a need for a strategy change when it comes to sales and marketing...we don't think we could have found a better partner than Full Scale AV."



Pictured L to R: Jeff Mac and Ted Bahas of Full Scale, Arvid Rosen and Henrik Vogel of Softube and Joe de Bie of JdB Consultancy.

The Student Becomes The Master

MARK LOUGHMAN, PRESIDENT,
BAE AUDIO

BY FRANK WELLS

It's not an uncommon scenario: Student gets internship, finds he's learning more on-the-job than in school, makes himself valuable enough to be hired full-time and he never looks back. It's significantly less common for the student to end up owning the company.

Two months into his tenure as an audio student at the Los Angeles Recording Workshop, Mark Loughman followed a message-board lead to an internship at Brent Averill Enterprises, which once repackaged vintage Neve console modules into rack-ready units before becoming the first company to replicate the venerated Neve 1073 preamp/EQ. Realizing the learning opportunity he'd discovered, he left school. "I started on minimum wage and worked 40 hours a week," Loughman recalls. "I was basically learning how to be a tech under the guidance of [design engineer] Avedis Kifedjian. I did that for about seven or eight years." From his perspective as a life-long musician, Loughman says he developed an interest in what went on inside the gear. "I learned all about signal flow, and the basic building blocks of analog technology."

While opining that "you are never finished learning," Loughman says he got to the point where he'd learned "the capabilities of what we were building, and realized that there was a lot more that we could be doing with certain circuits." As Loughman prepared to start his own company in 2009, to be dubbed UK Sound, Brent Averill decided to retire and Loughman bought him out. The name BAE Audio is a nod to Brent Averill Enterprises and British Audio Engineering.

"At BAE Audio, we had a fantastic sounding preamplifier that was designed years ago and because it became abandoned technology, we were legally able to recreate the design and get creative in enhancing the circuit for today's applications," Loughman recalls. "For example, nobody was putting 20 and 24 kHz on a product because they thought people couldn't hear these frequencies. Of course, we can't hear 24 kHz, but we can hear the curve leading up to it. The first unit I did with Avedis was called the 1023 and was essentially a deluxe 1073 with extended frequencies."

BAE is committed to building products to the highest possible standard, says Loughman, both in terms of parts and labor. "As a child of the '60s and '70s—the gear that was built back then is still around today and will be around long after we've gone—I wanted to adopt that philosophy as well."

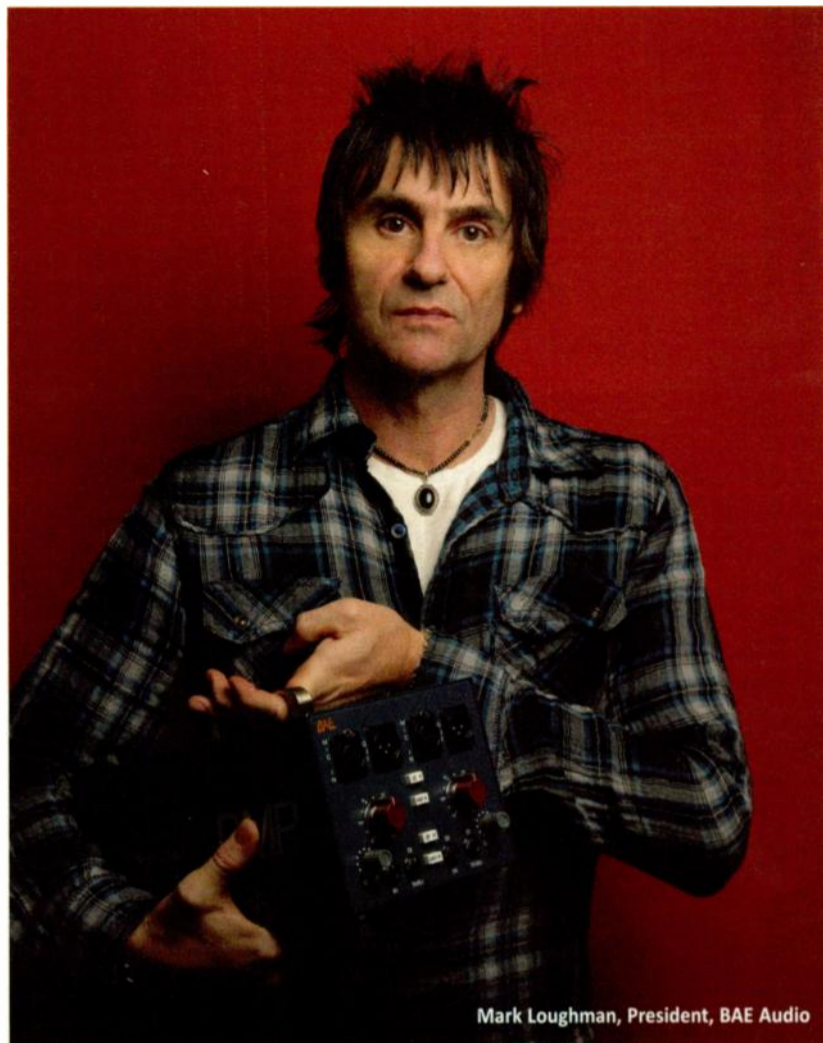
BAE is based in North Hollywood, California, with two assembly houses nearby. "We do all the construction and manufacturing at our assembly locations," says Loughman, "and then we do the final testing in our location in North Hollywood." Tech support and customer service are taken very seriously. "We realize that if a piece of equipment ever goes down, we need to be available to address this appropriately," Loughman elaborates. "Because our equipment is modular and not on a single circuit board,

"We want to build gear that we would use in the studio ourselves."

Mark Loughman

we can troubleshoot any issues quite easily." Support is available to walk customers through diagnostics for owner servicing, for local onsite repair for nearby customers, or through fast turnaround of gear returned to the factory. "I am on the test bench and I am answering email," says Loughman. "If someone wants to speak to me on the phone, I will make myself available." BAE sales are handled through what Loughman calls a "focused" dealer network.

"We want to build gear that we would use in the studio ourselves," says Loughman, when asked to further elaborate on BAE's corporate philosophy. "When we design something, we don't do it from a cost



Mark Loughman, President, BAE Audio

standpoint." Loughman says that the best techniques are the vintage techniques: "We adhere to philosophies of old, hand-wiring and using all discrete components. We don't cut corners here and always build things the best way they can be built. People can't expect anything more than that."

BAE has enjoyed an "organic and steady growth," according to Loughman. "We've never spiked in any given year or had a severe trough—it's always been constant. I believe this is how a business should be run. You want to grow it steadily so things like QC do not suffer and you maintain a good direction." Only a modest number of new products have been introduced over the years of BAE's existence. "We don't want to diversify our product line too much," explains Loughman. "Rather, we only want to complement our existing product line. We are a small firm, and our resources limited to a degree, so we have to be pragmatic in our product planning and projections." That said, within a few weeks, BAE will release a 500-series 1073-type mic pre. "We have other things in the pipeline," Loughman cautiously reveals, "but conception to the finished article can be a long and arduous journey." At least three new products are expected to be ready by the October AES Convention.

Though the microphone preamp market is crowded, Loughman welcomes competition. "Any company worth its salt welcomes competition," he opines. "If it's a product that peo-

ple want, they will choose the company that builds the best version. BAE Audio stands alone because we don't compromise. There are many ways of building this circuit, and other companies trying to do similar things. But we are very transparent about how we do it through online videos and such, and I will put our gear up against anything." The company welcomes—even encourages—user comparisons of vintage 1073s to BAE's circuits. One major aspect of BAE's fidelity to the original design is the transformers used. "There are a few companies that build a 1073," Loughman elaborates, "but if you build it without Carnhill/St. Ives transformers, it's like building a luxury car and putting a lawnmower engine in it. In fact, if you are looking to buy a 1073 from us, or anyone, you should inquire as to whether or not it has Carnhill/St. Ives transformers. If it doesn't, you should ask 'why not?'"

"We are not salesmen here," he adds. "If a customer is asking about something we don't make, or a particular flavor, we refer them to another company who make such preamps."

In conclusion, Loughman notes a milestone in BAE's history: "Because this year is our 15-year anniversary of building the 1073, which is consecutively longer than any other company in history, we are looking at what else we can produce with this circuit. Watch this space!"

BAE Audio
baeaudio.com

AES 57

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the differences more obvious. It is “simply not possible” to standardize the sound of an immersive mix, argued Dolby’s Charles Robinson, who spent time at Skywalker Sound during the development of Dolby Atmos. Mixers there have an expression, he said: “If it sounds right, it is right.”

Attempts at standardization could well slow innovation, according to Bert Van Deale of Auro Technologies. Immersive sound has come to market very quickly and is such a young format that it would be foolish to set anything in stone just yet. “We might be overlooking things; in five years, with hindsight, we might say we should have done it differently,” he said. Robinson agreed, commenting, “If we’d locked Atmos down at the start, it would be less good now.”

A panel discussion on streaming delivery of audio content chaired by the DTV Audio Group’s Roger Charlesworth spent considerable time on the topic of high-res music. Music streaming is increasing and downloads are decreasing. “That’s what the consumer seems to want,” said Jeff Dean of Meridian Audio. Hi-res downloads and streaming are seen as a premium product and priced accordingly, said Dean. Although the numbers are currently small, the labels are getting more content to the services because of consumer demand. “HD Tracks had their best

year last year by far,” he reported.

Dolby Atmos-encoded movies started to become available on Blu-ray Disc late last year and the ATSC is currently developing its next-generation U.S. broadcast standard, which will include support for immersive sound and is due for initial implementation perhaps five years from now. Meanwhile, certain OTT (over-the-top) cable outlets are offering Dolby Atmos content, as is Amazon via its Kindle Fire HDX 8.9.

Streaming is extremely competitive, said Sean Richardson of Starz Entertainment. “Continuing to push the limits with technology and quality are legitimate differentiators as long as you approach it correctly,” he said.

Brian McCarty, chair, AES Technical Committee for Digital Cinema and Television, who co-chaired the conference with Dr. Sean Olive, commented, “I call the last 10 years the ‘dark years,’ because all of a sudden, portability became the only factor for audio. I think those years are over; we’ve seen renewed interest at the AES in higher resolution formats. As far as I’m concerned, we should ban all of the lossy formats.”

As McCarty noted during his summary of the conference on the last day, many panelists pointed to the personalization of content and the virtualization of immersive formats to headphones—principally through streaming services—as offering tremendous and immediate potential. “We’ve seen many different techniques for developing and delivering these immersive standards and



Film sound veteran Brian McCarty, chair, AES Technical Committee for Digital Cinema and Television chair and co-chair of the 57th AES International Conference provides a summary of the three-day conference program in his closing remarks.

other audio formats to the headphone market,” said McCarty. “We need to start putting production workflows in place to deal with them.”

Going forward, there will also need to have standards put in place by the AES—as well as SMPTE, a partner in the conference—if immersive sound formats are to be able to

interoperate and exchange object- and channel-based audio essence and metadata. Sony Pictures’ Brian Vessa, chair of SMPTE’s Technical Committee 25CSS working toward a set of standards for cinema audio, observed that studios must sometimes mix to three different masters and multiple deliverables, which each utilize very different workflows. “That increases their post production schedule and costs, and they have to manage more DCP inventory; it’s a big management headache,” he said.

Exhibitors might also be reticent to invest in a particular proprietary format. “Once you do, you’re restricted to titles created in that format,” he said. “We have a lack of interoperability. It looks like we might need some standards.”

Sponsors for the AES 57th International Conference included Auro-3D, Avid, Dolby, DTS, Harman, MPSE, NBCUniversal Studio Post, Sennheiser and SMPTE. Audio Engineering Society aes.org

Anderton

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tion reverbs is that you can re-create the response of a hardware reverb unit by sending an impulse through the reverb and recording its output (although the irony of using state-of-the-art convolution technology to capture the mojo of a funky 12-bit digital reverb isn’t lost on me!).

Looking into the future, convolution can do a whole lot more than reverb. Applying something like a guitar chord as an impulse to a tambourine loop can give an angelic, melodic quality to the percussion. It’s also possible to grab an impulse of, for example, an acoustic guitar body and add it to an electric guitar recording. But perhaps one of the most interesting aspects of convolution is its unpredictability. Of course, you know that convolving a room impulse with a signal will add reverb, but convolving synth sounds, loops, and electric instruments can produce anything from

distorted train wrecks to interesting sounds you’ve never heard before.

We can also expect more use of algorithms that can tweak the sound, as happens with conventional synthetic reverb. Early convolution reverbs didn’t give you a whole lot of parameters to play with, but companies like Audio Ease and Waves kept adding more and more versatility. Just as samplers use synthesizer processing to alter a fundamentally “freeze-dried” sound, convolution reverbs can alter pre-delay, decay time, EQ, and more.

With the downsizing of today’s studios, it’s getting harder to find good acoustic spaces for recording. But with convolution, a quality room impulse can help simulate that effect very convincingly—and based on digital’s history, we can expect convolution-based processes to become better, faster and less expensive in the years ahead.

Author/musician Craig Anderton has given lectures on technology and the arts in 38 states, 10 countries, and 3 languages. Check out some of his music at youtube.com/thecraiganderton.

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A Steady Hand

BY JACQUES SONYIEUX

Jon Regen's *Stop Time* was sparked at a London party where the singer/songwriter found himself jamming with actor Jeremy Irons—Regen on piano and Irons on cello—in a distinctly New Orleansy kind of vibe.

Regen soon paired with producer Mitchell Froom [Crowded House, Paul McCartney] and began piecing together material for the new album. The title track is a *The Picture of Dorian Gray*-esque tale of a man who becomes dismayed at the passing of his youth, all cast within Regen's soulful delivery of vocals, piano and artful lyrics. With the help of Froom, *Stop Time* sees Regen backed up by Elvis Costello and the Imposters' members Davey Faragher and Pete Thomas. *Pro Sound News* caught up with Regen amidst his usual busy schedule of live performances.

ON RAMPING UP:

My last record came out in 2012. It was called *Revolution*, and pretty much a homespun affair. As far as the production was concerned, there were a lot of instrumental overdubs and a lot of vocal overdubs—it was a year-and-a-half in the making. After I toured that record and it was coming to the end of its cycle, I didn't really know what I was going to do next. Around this time, I had gotten engaged to the woman who is now my wife, so I was experiencing

a pretty upbeat period in my life. My last couple records had been breakup oriented, kind of melancholy singer-songwriter in style, so this led to me writing different kinds of songs. I would write on a legal pad, I would write emails to myself, whatever. I took the opportunity to get really lost in the process. One night, I went to a party in London where I bumped into the actor Jeremy Irons. We started jamming together and it turned into this bluesy New Orleans thing—this started an idea rolling in my mind. I came home and sort of married the New Orleans vibe that we had come up with to a set of lyrics that I had written about a guy who stares at himself in the mirror and sees his youth fading away. That song became the title track of the album, called "Stop Time."

ON RECRUITING MITCHELL FROOM:

I have so many of Mitchell Froom's records. Like most people I'm sure, he made the soundtrack to my life. When I was 16 years old, I got my driver's license, and I had that first Crowded House record on



Relationship changes, influence from New Orleans, a musical inspiration as producer and a new band add up to make Jon Regen's latest work, *Stop Time*, a departure from previous releases.

in my car. I reached out to Mitchell and we began this daily dialog about my record. He had very strong ideas about what direction it should be, and it was about 180 degrees away from where I thought the record was going to go. For example, I thought it was going to be a 'big record'—anthemic along the lines of Bruce Springsteen and Bruce Hornsby rock piano tunes. But Mitchell said, 'You sing like Frank Sinatra and have this great swinging in your piano playing. Why would you want to clutter up a record with tons of instruments and tons of vocal overdubs?' He wanted me to highlight my singing, songwriting and piano playing. He paired it down to solo piano and vocal songs. My record label loved it.

ON TRUSTING YOUR PRODUCER:

I had a very hard time arguing with anything Mitchell had to say. In a way, it was very comforting to not have to overthink any choices that were made in the process. This guy has such an impeccable record and is very opinionated—but not in an offensive way. Also, he was very measured in how he wanted these songs to go down: We did a ton of preproduction work since we didn't have a lot of time in the studio. Budget-wise, we were forced us to be very compact in the way we executed. I was going on tour for 36 days in Europe, and before I went, Mitchell had me cut the songs I had written into my Pro Tools system through my Apogee Symphony interface so he would be able to work on the songs. By the time I came back, he played me fully realized demos of a lot of these songs, with bass and drums. This was really inspiring.

ON SONICS:

Mitchell's idea from the start was that he wanted to put me with a band that is so good that it sounds like you have been playing together forever.

He chose Davey Faragher and Pete Thomas from Elvis Costello and the Imposters, so you can't argue with his band choice. Then I think everything that was done around that core trio was made to bring out elements of the song and add atmosphere, without distracting from the song. Our gear choices were pretty simple at the core. I played a grand piano through a spectacular Neumann U 47 that I bought from John Porter years ago that once belonged to John Lennon. I brought this mic out to Mitchell's studio and his engineer David Boucher said, 'That sounds like a great microphone—let's use it.'

ON AMALGAMATING JAZZ AND POP:

I came up as a straight-ahead jazz piano player, and then around 2003 and 2004, I began writing pop songs and trying to combine the freedom of jazz with the heart of two-minute pop songs. Since 2004, that has kind of been my goal as a pianist—to meld these two worlds together. My piano playing has definitely evolved, yet remains firmly rooted in both worlds. I am a guy that has never really sat down and copied anybody—so any of my influences just come from absorbing and loving the music I've listened to over the years. So far, it is incredible seeing people react to my new record. They see all the optimism and the positivity in it, which is a signal of where I am in my life. If that is the reaction that listeners are getting, then mission accomplished.

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: jacquessoxyieux@gmail.com.

THERE'S MORE ▶ Watch a sleek in-the-studio rendition of "I Will Wait" from *Stop Time* at prosoundnetwork.com/may2015

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