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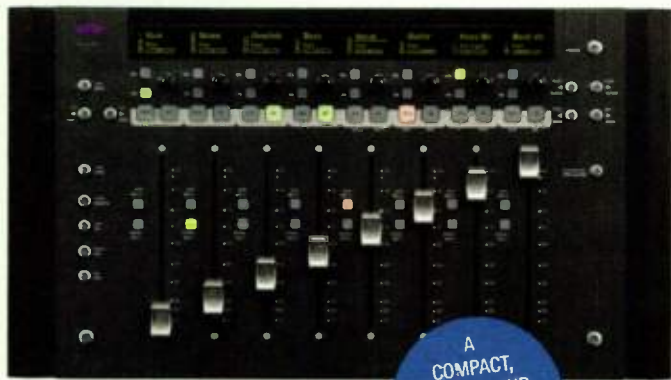
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On the Cover: The main concert hall at the remarkable Danish Radio in Copenhagen.

Photo: Bjarne Bergius Hermansen

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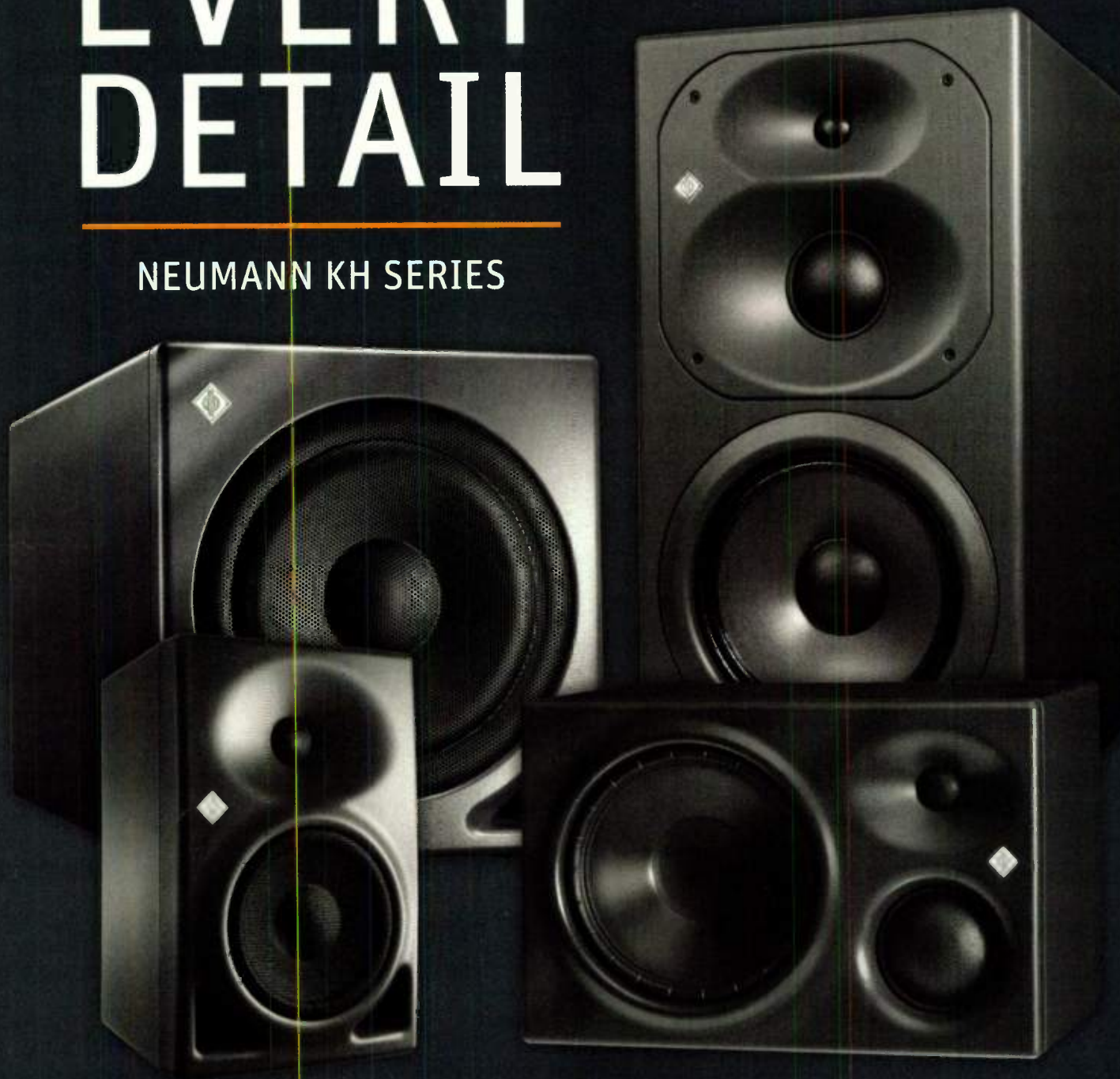


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EDITORIAL

EDITOR Tom Kenny tkenny@nbmedia.com
TECHNICAL EDITOR Kevin Becka kbecka@me.com
MANAGING EDITOR Lori Kennedy lkennedy@nbmedia.com
ASSISTANT EDITOR Matt Gallagher mgallagher@nbmedia.com
FILM SOUND EDITOR Larry Blake swelltone@aol.com
SOUND REINFORCEMENT EDITOR Steve La Cerra
CONSULTING EDITOR Paul D. Lehrman lehrman@pan.com
CONTRIBUTING EDITORS Barbara Schultz Michael Cooper Eddie Ciletti Gary Eskow Barry Rudolph Matt Hurwitz

ADVERTISING

SENIOR ACCOUNT EXECUTIVE, WESTERN REGION
Janis Crowley jcrowley@nbmedia.com
EUROPE/EASTERN SALES DIRECTOR
Paul Leifer pleifer@nbmedia-sales.net
SPECIALTY SALES MANAGER
Zahra Majma zmajma@nbmedia.com

ART & PRODUCTION

ART DIRECTOR Todd Berkowitz tberkowitz@nbmedia.com
PHOTOGRAPHY Steve Jennings, Todd Berkowitz
PRODUCTION MANAGER Beatrice Kim bkim@nbmedia.com

CIRCULATION

GROUP DIRECTOR, AUDIENCE DEVELOPMENT Meg Estevez

NEWBAY MEDIA AUDIO GROUP

EXECUTIVE VICE PRESIDENT/GROUP PUBLISHING DIRECTOR
AV, CONSUMER ELECTRONICS & EDUCATION DIVISIONS
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Current

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From the Editor

MIXTRIPS: FINDING A GROOVE ON THE ROAD

I've said it before in these pages: I've always wanted to go out on summer tour. Three or four months on the road, waking up in new towns, having all-new adventures, seeing a bit of the country and taking in the local flavors all across this great big wonderful land. The problem is I'm not in a band and I don't work in live sound. I can't pretend to be a comedian, and I have no book to peddle. But I am an editor and writer, and thanks to the convenience of PDF workflow, all I really need to do my job is a Wi-Fi connection and a cell phone. So I'm going on tour.

Perhaps it's some version of a midlife crisis, and if it is, then I plan to make the most of it. I suffer from no romantic illusions that being on the road is one big picnic on the beach, with blue skies, a gentle breeze and wait service in a shade-filled cabana. I know that storms can arise suddenly, there are flying insects and sometimes an obnoxious neighbor can spoil the day. I have great admiration and respect for the live sound professionals I've met in my 27 years at *Mix*; month after month on the road, trying to attain some sense of a normal life while constantly on the move, can take its toll. It's not at all easy, but the highs can sure be high. I've only been on the road for two weeks, driving down from the Bay Area to L.A. via Santa Barbara, and I'm still trying to settle into some sort of work routine.

But there's another big reason I'm hitting the road: I want to visit *Mix* readers where they live. Since being hired in 1988, I've maintained that while New York, Nashville and Los Angeles lie at the heart of the entertainment industry—and get the lion's share of attention—the audio industry doesn't exist without Minneapolis, Wichita, Asheville and Portland. El Paso, Denver, Des Moines and Louisville. Audio—quality audio—is everywhere. Although there is a true global economy, and the Internet does provide worldwide connection, 99 percent of our daily lives is all about being local.

In Santa Barbara, I got to run around with dear friend and March 2015 cover boy Chris Pelonis. He took me to a fantastic

place off of the San Marcos Pass, in Los Padres National Forest, called Cold Spring Tavern. It's been there since the 1870s, and every Sunday for the past 36 years (when not on tour), the acoustic blues duo of Tom Ball and Kenny Sultan put out two-and-a-half hours of fantastic music and performance, for an audience of bikers and tourists and artists and locals. It's also the first place Jeff Bridges and the Abiders, with Pelonis on guitar, played out live, a little more than five years ago. Great stories.

Then it was on to visit with one of the true giants of the past half-century of audio, Allen Sides, in his lovely Santa Barbara home. What a talent, and what a mind for business. Except for an interest in Eden Roc in St. Baart's, he's out of the studio business now and fully involved in an expanding speaker and design business. Look for the *Mix* Interview in October. He's fascinating.

Then I landed in L.A. and went to Sony Pictures Studios for a site visit in advance of our September event on Sound for Film; on to the Village with the indefatigable Jeff Greenberg to plan an upcoming cover shoot; then Formosa Group, Radio and Recording Connection, JBL, Vintage King and the bed and board hospitality of dear friends Ed and Rose Mann Cherney in Venice, and longtime soul mate Maureen Droney, former *Mix* L.A. editor now Managing Director of the Recording Academy P&E Wing, in Woodland Hills.

Next up are Phoenix, Albuquerque, El Paso and Austin, then New Orleans, Nashville, Chicago, Toronto, Montreal and many places in between. For a while, base camp will be among my parents and family in and around Indianapolis. But I'll be filing stories from everywhere.

You can follow the MixTrips blog on our website, and regular posts on our Facebook page. I'm already behind, and launching it all two weeks after I took off. Sometimes I'll be regular, sometimes I'll post in bunches. But they'll be local. I'm starting to find my groove.

Tom Kenny, Editor

Error Log

In *Mix* magazine's July 2015 issue "All Access" story about U2's INNOCENCE + eXPERIENCE Tour, on p. 31, in the right-hand column, the text at the end of the final paragraph is incomplete, as the final two words of the sentence spilled outside of the text box. The complete sentence should read, "This way we can run our Pro Tools sessions at 48k, making them a much more manageable size."

In *Mix*'s May 2015 issue, the feature "Studio Microphones: Large-Diaphragm Condensers, shows an incorrect product photo on p. 46. The mic pictured there is the sE Electronics/Rupert Neve RNR1 ribbon mic, while the text instead describes the company's RNT tube condenser mic. *Mix* regrets the errors.

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Producer/Engineer Csaba Petocz Passes Away

Mix magazine was saddened to learn of the passing of renowned producer and engineer Csaba Petocz on July 17 after a battle with cancer. Petocz was most recently interviewed in *Mix* by author Robyn Flans for her March 2015 cover story, "The Simple Genius of Toto XIV." During a career that spanned more than 30 years, Petocz built a lasting legacy of music.

Pro Sound News editor Frank Wells posted the following on Facebook: "My heart is broken today; I got the news last evening that Csaba Petocz has finally lost the war with cancer. He fought long and hard, across years of borrowed time, against impossible odds. Csaba was a regular fixture at Masterfonics studios in the nineties, mostly working for the late, great and also missed Barry Beckett. He was a great engineer, and a good friend with a devastating wit. I remember him battling a mix like he was in the ring with a prizefighter, and lighter moments like when he had me laughing uncontrollably as he pantomimed 'Stop, In The Name Of Love.'

"When I first talked to him after his initial diagnosis and treatment, he was the one that cheered me up, with a dark, stage-worthy comedy routine with the punch line, 'Oh, poor you, I have cancer.' I laughed till I cried, for more reasons than the humor. I'm better for having known you, my Hungarian-Aussie mate. Rest now, the battle is spent."



Csaba Petocz is pictured at the 28th Annual NAMM TEC Awards in January 2013.

Photo: @LE-STUDIO

On Facebook, producer/engineer Joe Chiccarelli wrote, "Lost my dearest friend and collaborator this weekend. RIP Csaba Petocz. One of the best Producers and engineers ever but more importantly one of the best humans I've met in my lifetime. My life is so much better for the time I spent with him."

On GearsLutz.com, Chiccarelli wrote "Csaba was my friend, my collaborator and my teacher in all things important in this world. His passion for life and his relationships was beyond extraordinary. It was reflected in his work and appreciated by all that came to

meet him over his brief lifetime.

"For all those who aspire to be great engineers and producers his work with Metallica, John Michael Montgomery, Aretha Franklin, Alanis Morissette, Cracker, Al Stewart, Larry Carlton, Morrissey, Elvis Costello and so many others was always top shelf. It's the way he lived life—wanting and savoring the best in everything and everyone. It's really worth a listen to appreciate his work and how much he cared and strived for excellence at every turn of a knob.

"I learned so so much from him. Not only about record making but the things that really matter. The way he respected artists and gave himself fully to them and their music. The way he valued his friendships and interactions with everyone he met. The total Love and Respect he had for his wife.

"He is deeply missed by so many. For those who didn't have the pleasure of knowing him I know his work will become an inspiration."



67th Emmy Awards Sound Nominations

The 67th Annual Primetime Emmy Awards will honor the best in U.S. prime time television programming from June 1, 2014 until

May 31, 2015, as chosen by the Academy of Television Arts & Sciences. Nominations for the 67th Emmy Awards were announced on July 16, 2015, by the Television Academy.

Mix magazine congratulates all nominees in the following categories: Outstanding Sound Editing For A Series, Outstanding Sound Editing For A Limited Series, Movie Or A Special, Outstanding Sound Editing For Nonfiction Programming (Single Or Multi-Camera), Outstanding Sound Mixing For A Comedy Or Drama Series (One Hour), Outstanding Sound Mixing For A Limited Series Or A Movie, Outstanding Sound Mixing For A Comedy Or Drama Series (Half-Hour) And Animation, Outstanding Sound Mixing For A Variety Series Or Special, and Outstanding Sound Mixing For Nonfiction Programming (Single or Multi-Camera).

Find a complete list of Sound Editing and Sound Mixing nominees at mixonline.com.

The complete list of Emmy nominations, media credential applications, and other Academy news is available at Emmys.com. The 67th Emmy Awards telecast airs live coast-to-coast on Sunday, September 20 (8 p.m. ET/5 p.m. PT) on Fox from the Microsoft Theater in Los Angeles.



Mix Nashville: Where Studio Meets Stage

Mix magazine is coming

back to Music City on August 29, 2015, for a one-of-a-kind, all-day professional audio event hosted by Clair Global, Nashville, and The Blackbird Academy that puts the spotlight on the country's most vibrant recording market.

Topics we will cover include Tracking Live—At Home and In-Studio; In the Box or Off the Rack? Mixing in a Hybrid Digital/Analog World; 21st Century Studio Business Models; and Anatomy of a Hit. Plus: Expert panels, leading technologies, and one-of-a-kind networking opportunities.

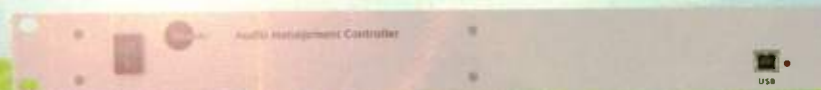
Kicking off Mix Nashville will be a Keynote Speech by world-renowned author and technologist Craig Anderton, who will be speaking on the near future of music production. Anderton, who currently holds the title Executive Vice President at Gibson Brands and is HarmonyCentral.com's Editorial Director, has been involved in music production and technology for more than 40 years as an author, producer and technology raconteur.

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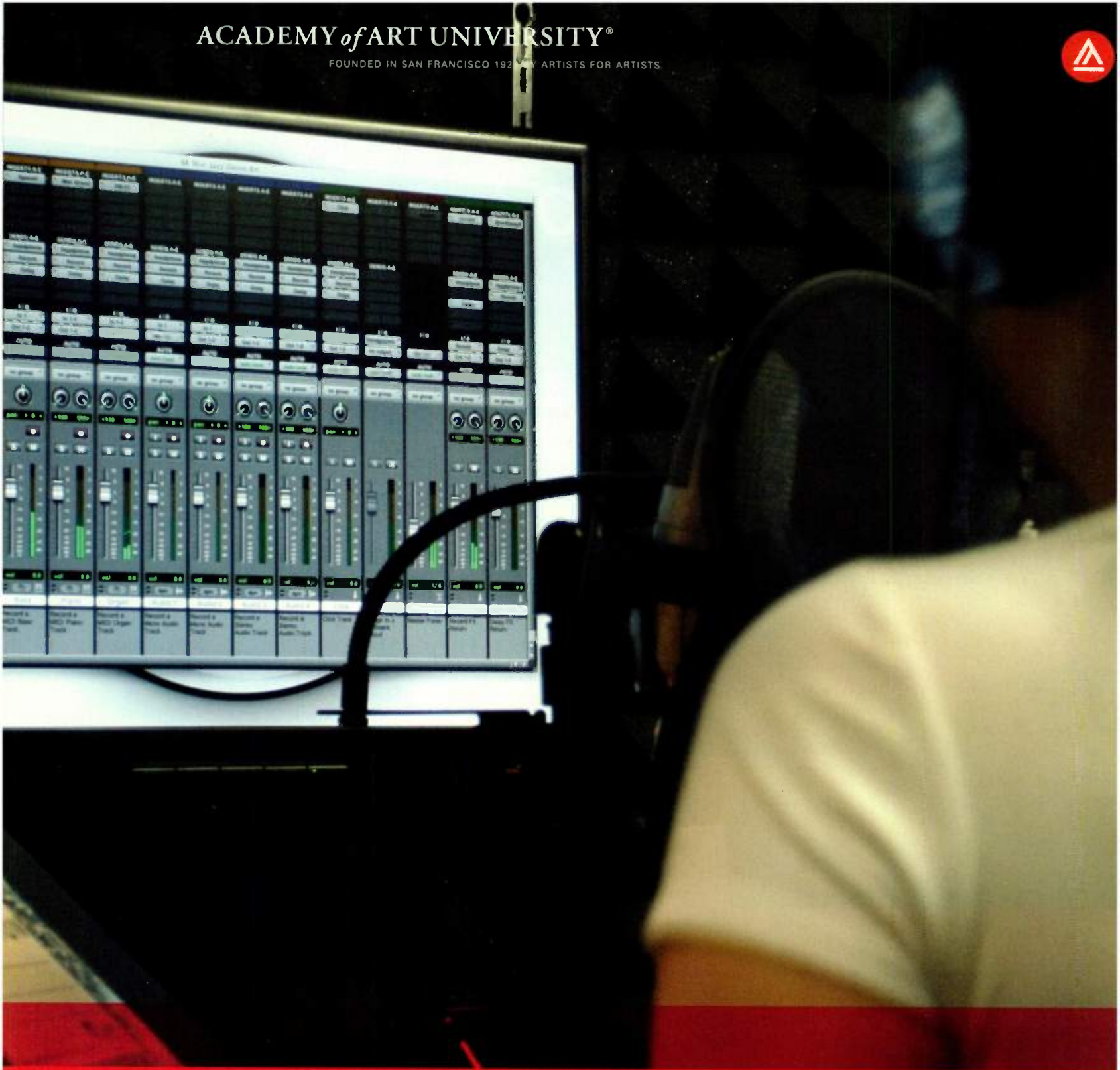
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PURE POETRY

Making Iris DeMent's 'The Trackless Woods'

Music journalists often praise great songwriters—Cole Porter, Bob Dylan, Smokey Robinson, etc.—as “poets” of their age. But we don’t often get the chance to cover actual poems, such as the lyrics of Iris DeMent’s breathtaking new album, *The Trackless Woods*.

DeMent has set 18 poems by the Russian writer Anna Akhmatova to piano-based music that follows the cadence of the poems so reverently, the poetry remains the absolute centerpiece of the album. *The Trackless Woods* was produced by DeMent and guitarist Richard Bennett, who also co-produced DeMent’s *Sing the Delta*.

“When we were finishing that album, Iris mentioned that she was head-over-heels over the work of this poet, and had begun writing music, but she wasn’t sure where it was going,” Bennett recalls.

DeMent, whose adopted daughter was born in Russia, felt a connection to Akhmatova’s poems, which often explore women’s rights and emotions, the evils of war, and Russian history. By the time DeMent was touring with *Delta*, she had a collection of pieces written. And when she saw Bennett next, they agreed to make an album.

Also involved from the outset was DeMent’s close friend Leo Kottke, who is a fellow admirer

of Akhmatova, as well as being a guitar virtuoso. It was Kottke who brought Burbank-based engineer Paul duGré (Weezer, Sam Phillips, Dave Alvin) into the fold.

“We recorded in Iris’s home, which was a real leap of faith for her,” duGré says. “Richard and Leo had said that if she was going to get the subtlety and energy from her writing, she should be at the piano where she wrote the music.”

“She worried that there would be too many things pulling at her sleeve at home,” Bennett recalls. “But the seed took hold and she came to like the idea.”

DeMent lives with her daughter and husband, singer/songwriter Greg Brown, in an arts



The recording setup in Iris DeMent's bungalow.

and crafts bungalow in Iowa City. So, duGré searched for equipment rental sources in the area. "I told Iris, 'I couldn't find any places to rent recording equipment, but this one company kept coming up in my search: I can easily rent a Ferris wheel!'" duGré says.

"Actually, one of the limitations was mine," he continues. "I do mostly mastering these days, and I use the Pyramix system. This meant I had to bring my system to Iowa."

Ultimately, duGré decided to FedEx some gear from Burbank. "But I put my best microphones in my carry-on," he says. "I have an RCA 77 that J.J. Cale gave me when I started my studio. That was not going to leave my sight."

duGré flew to Iowa on a Saturday, unpacked his FedEx parcels, and built the "studio" on Sunday to be ready for Monday morning tracking. He commandeered an office area for his rig: "... not so much for a control room as a listening area," he says.

Rooms in the DeMent/Brown home are not oversized, so duGré situated drummer Bryan Owings in the living room with DeMent and her 1910 Mason & Hamlin baby grand. He put up just a few mics on the kit: an Electro-Voice 666 on kick, a Royer SF-24 on floor tom, and a suspended Electro-Voice C090 lavalier overhead. DeMent's piano took another Royer SF-24.

DeMent's vocal mic was duGré's prized RCA ribbon. "Iris commented that engineers usually use a condenser on her, and she has to sing really close to the mic," duGré says. "But since she was going to play piano and sing, we found that the ribbon worked really well because she could swing her head and she could come closer or back away from the mic and her vocal would

stay pretty even. It's a different sound from what she was used to; it has more of an old-timey kind of feel to it that fit with our approach."

Bennett was also set up in the main room to allow communication between the co-producers. "On his acoustic, I used an old Schoeps CMT-56, for that really crisp, clear sound," duGré says. "For the electric, I used a Beyer M88."

"I mostly played a gut-string acoustic and my Gibson ES-330," Bennett says. "I also brought a little instrument called a Mandolin Guitarophone, which is not a mandolin at all. It looks more like an autoharp."

"I had never seen that instrument before," duGré says. "Richard played it with finger picks, and it's open-tuning, so the 'harp' parts are custom-tuned."

Kottke, who played acoustic on a couple of tracks and electric on one, used Bennett's rig. A smaller part of the living room, separated by a pony wall accommodated Jon Graboff (pedal steel, guitars) and Dave Jacques (bass). But truly, there was almost no isolation between instruments. "It's a live room with lots of wood, and there was tons of leakage. It was just, 'Let's get this as good as we can and make it come together in the mix,'" duGré says.

duGré kept his recording chains pretty simple—using API mic pre's and little else. The group tracked three songs a day for close to a week. Then duGré went back to Burbank to mix and master.

"In the mix, I mainly had to embrace the leakage, but I would shift the balances to feature an instrument," says duGré, whose primary mixing tools are the plug-in EQs, reverbs, etc. within Pyramix. "If I brought up too much of one sound, then the drums would have to change or the piano would change—re-prioritizing. Luckily, Iris's vocal is so strong, it was really not a problem."

"Her voice is so pure and her piano playing is so straightforward, and the tunes come from such an organic place," Bennett says. "That's what it's about." ■

ASLEEP AT THE WHEEL, 'STILL THE KING'



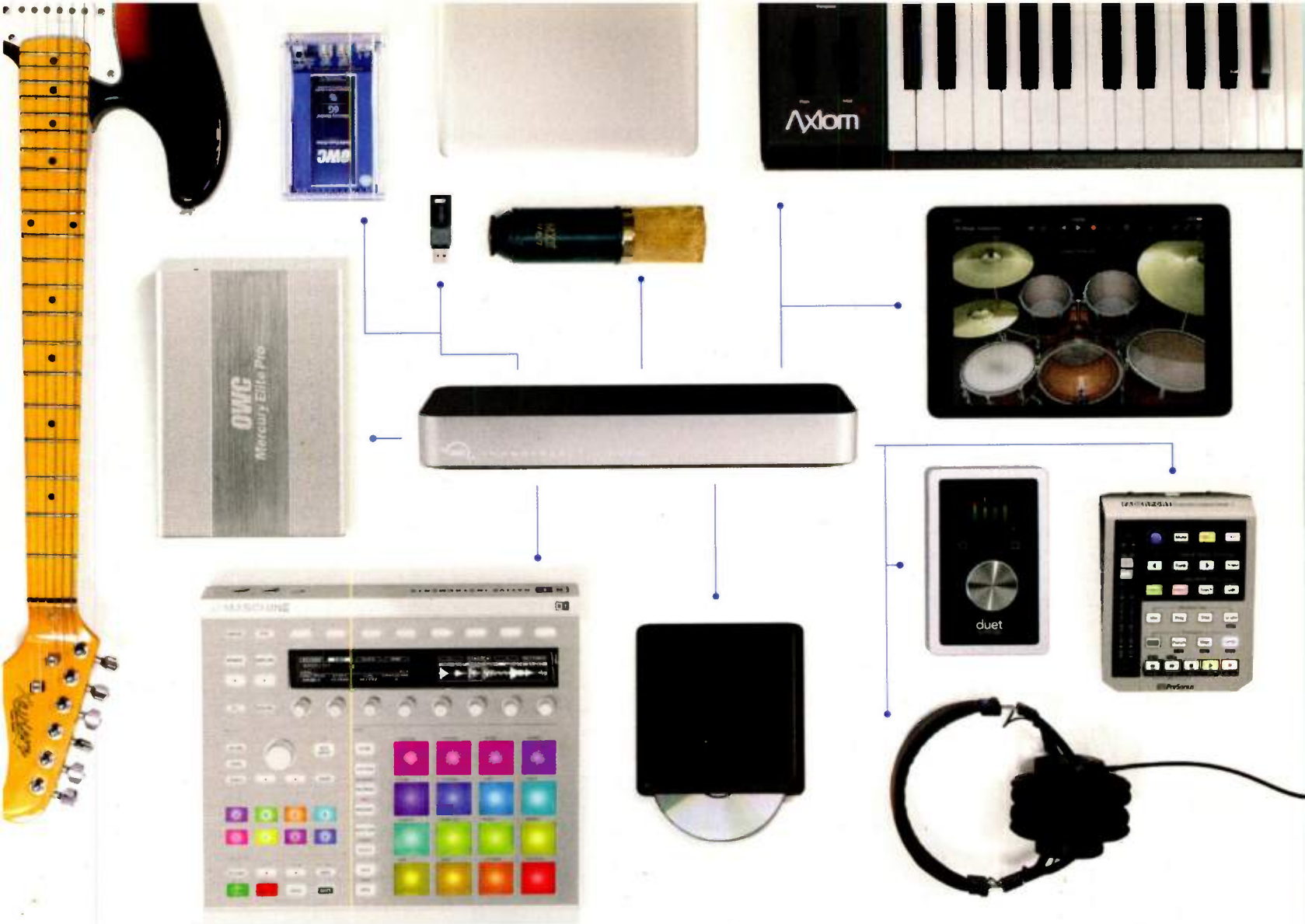
Beloved Texas swing group Asleep at the Wheel have been carrying the torch for the late Bob Wills' legacy almost as long as Wills did. Their latest release, *Still the King*, features 22 Wills tracks, with guest vocals by Americana favorites such as Old Crow Medicine Show and the Avett Brothers, as well as country superstars George Strait, Brad Paisley and more.

King was recorded almost entirely live, with AATW often traveling to Nashville and beyond to track with specific artists. "Merle Haggard did his vocal at his studio. Brad Paisley did his vocal and guitar in his studio," says the album's co-producer Sam Seifert. "But the majority was cut together in a room."

The lion's share of the recording was done in the band's Bismieux Studio (Austin), where Seifert recorded several sessions to Nuendo. "We have one live room," he says. "We'd set up drums, electric guitar, steel guitar in that room usually. The piano room is built within that room, but it's isolated. We'd isolate upright bass, fiddles, and the vocalist in iso rooms. But not one setup on this album was the same."

Seifert says that one of the more challenging instruments he captures on a daily basis is upright bass. "It's my nemesis," he laughs. "I typically put up a few mics and then choose one or blend two. For this record, it was mostly an RCA 44, the RCA Varacoustic, and an Altec 639—the birdcage mic. The bass player [Morgan Jahnig] from Old Crow Medicine Show suggested the Altec. He had his own, pointing directly at the bridge, three to four feet away. The others were on the high side, only five or six inches away, right between the F hole and the bridge."

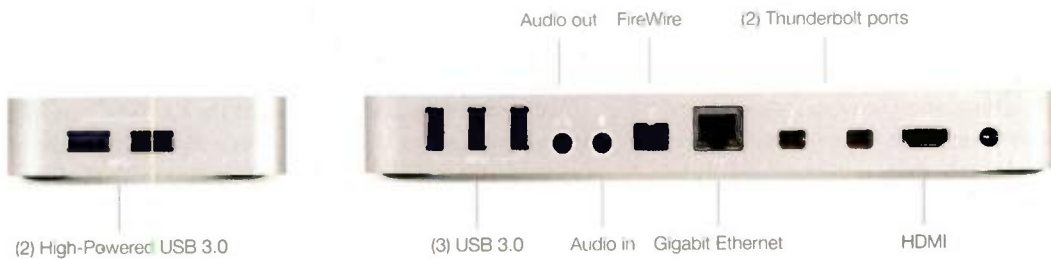
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World Radio History

GEORGE AND CHICO FREEMAN AT SOUTHPORT FOR 'ALL IN THE FAMILY'

Guitarist George Freeman has crossed paths with Southport Records owner/engineer Bradley Parker-Sparrow many times since Sparrow founded the label in 1977. Freeman's latest album, *All in the Family*, is a collection of blues-influenced jazz pieces recorded with his nephew, sax player Chico Freeman, and a cast of Chicago jazz stalwarts. Rhythmic and heartfelt, the album is a family affair in more ways than one.

All in the Family was co-produced by Sparrow and his wife/partner Joanie Pallatto in Southport's studio, which is situated in a former dental office in Chicago's Wrigleyville neighborhood. "I got tired of our former studio, which had no windows," Sparrow explains. "So we moved up into this dental office, and divided it acoustically into sectors."



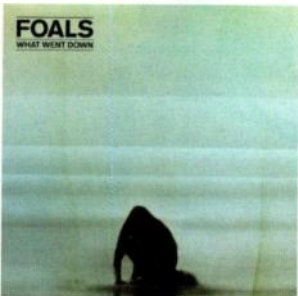
ALL IN THE FAMILY GEORGE FREEMAN | CHICO FREEMAN



close AKG C-12 and a Neumann U 47 farther back. We have a very old 47 that's been happy and hot its whole life, so I could get a little attack on the strings. He's a percussive, aggressive player."

Another thing that adds to Freeman's percussive playing: "For a pick, he uses a dresser doorknob, a screw-on knob made out of metal," Sparrow says. "He's 88 years old, and he feels he gets more strength from his fingers if he uses this knob instead of a pick."—Barbara Schultz

COOL SPIN FOALS, 'WHAT WENT DOWN'



For *What Went Down* (Warner Music), the follow-up to Foals' career-defining album, *Holy Fire*, the Oxford, UK quintet decamped to Saint-Remy-de-Provence in the South of France with über-producer James Ford (Arctic Monkeys, Mumford and Sons, Haim) to record at La Fabrique, the early

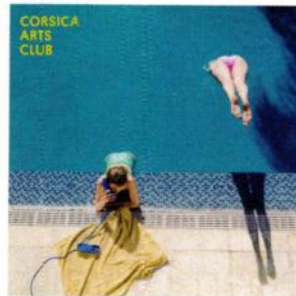
19th century farm-turned-recording studios.

The uncensored lyricism on *What Went Down* is more personal than anything previously written. Embarking on the writing process right on the heels of endless touring for *Holy Fire*, *What Went Down* captures those feelings raw and spits them out the same way. The incensed garage-rock noise of the title track, also the first single, signals a change in direction for the group. This proves misleading as the tone changes immediately with the next song, the pretty "Mountain At My Gates." This fluctuation between aggression and submission is a running theme on *What Went Down*. For every angry grinding number, "Snake Oil," there is an antidotal, melodious soother, "Night Swimmers"—almost like the group knows it needs to provide a reprieve from the intensity of its heavy songs.

What Went Down settles into itself toward the last third of the album, where the extremes are tempered, giving way to jangly, pop-friendly songs such as "London Thunder" and "Lonely Hunter."—Lily Moayeri

For a complete list of credits, visit Mixonline.com.

CORSICA ARTS CLUB RELEASES SELF-TITLED DEBUT



What you hear is not what you see with Corsica Arts Club. The Los Angeles-based duo of Arash Parsee and Brendan Thompsen (expanded to a five-piece live) look to the studio gear used on albums from the musicians with the most influence on them—Kraftwerk, David Bowie, Iggy Pop—to create the breezy electronic and sandy analog sounds on their self-titled four-track debut EP.

In their airy, garage-turned-home-studio space, the two have amassed a collection of pawn shop, Craig's List, and eBay vintage equipment that feels like a trip back in time. Fans of "destructive" recording, a term they've coined as the antithesis to non-destructive recording, Parsee and Thompsen keep a sound they like and slot everything around that, removing the option to start from scratch. For example, the screeching heard on EP opener, "Untamed," is Thompsen's voice—even if it doesn't sound human at all.

"I sang a melody into the computer, like David Byrne when he was speaking in tongues, creating melodies rather than actual words," he says. "I recorded that and mapped it out on an Akai MPK49 MIDI keyboard. Then I had to fit it on the chord progression which already existed."

"We stripped the melody down to the catchiest part," Parsee says. "The synthesized vocal effect is doubled with a Moog synthesizer. But through all that processing, it's still [Thompsen's] voice, and that's as analog as you can get."

Talking Heads is also referenced on "California I Follow," where Adrian Belew's guitar solo on "Born Under Punches (The Heat Goes On)" is emulated by doing riffs, chopping them up, putting them through echo, chopping some more, more echo, and finally bussing a synthesizer. Barely heard in the mix, it's one of the unique sounds on the song, which also features a Roland Space Echo feeding back into itself on every chorus, backward piano "like the beginning of Duran Duran's Rio" on the bridge, and an ARP playing what sounds like Morse code.—Lily Moayeri

Butch Vig



BAREFOOT

Classic Tracks

By Barbara Schultz



"JUNIOR'S FARM"

Paul McCartney and Wings

Mix's May 2015 issue included a feature story on the Country Music Hall of Fame and Museum exhibit titled "Dylan, Cash, and the Nashville Cats," which documents a sort of Golden Age, from 1968-74, when a slew of outside artists "discovered" the benefits of recording in Nashville. Taking advantage of Music City's embarrassment of riches—studios, musicians, producers, engineers—stars such as Bob Dylan, Neil Young, Joan Baez, Simon and Garfunkel, and others migrated to Music City, and then told their friends about their successful experiences recording there, and then they told their friends, and then they told their friends...

However, when Paul McCartney and Wings traveled to Nashville in '74, it was apparently not with any particular intention of recording there. They had been offered lodging in the home of songwriter Curly "Junior" Putman (the composer of the classic song "Green, Green Grass of Home," among others). The McCartneys and the other Wings musicians planned to settle in for six weeks on Putman's farm near Lebanon, Tenn., where they would rehearse for the Wings Over America tour, and keep a low profile.

"Their accommodations had been arranged through Buddy Killen, president of Tree Publishing at that time," explains engineer Er-

nie Winfrey, who provided some details about McCartney's Nashville stay for our "Nashville Cats" feature. "Buddy sent Curly to the tropics for an expenses-paid holiday, and the McCartney entourage moved in. Buddy acted as host and guide for them and, being the businessman he was, made sure they knew he had a recording studio if the mood should strike them to fool around in one."

Winfrey had worked frequently with Killen at Woodland Studios and moved over to the Sound Shop when Killen opened that studio in 1971. The engineer says he was surprised and nervous when the McCartneys just walked into Sound Shop one evening and sat down. "I had no idea what to expect, but between takes, they chatted with Buddy and myself, and I quickly felt much at ease," he says. "They said they felt very comfortable in the studio and made arrangements with Buddy to block out the next two weeks for themselves."

That was the beginning of what became a couple of career-defining weeks for Winfrey. He engineered all of the McCartney and Wings sessions, which he explains would start the same way each night: "They would arrive anywhere from 6 to 7 in the evening. The Sound Shop at that time only had one studio, and the limo would take them to the back. Their presence in Nashville was not supposed to be common knowledge, but you know how things are; of course, somehow the word got out, and every night the studio was surrounded by people. There was no way we could keep them away."

"Paul and Linda would get out of their limo and walk through the crowd, and Paul would sign autographs as he went, moving very slowly. He said he had learned the tricks of working a crowd from being in The Beatles, and you don't want to make any fast moves. He said, 'You don't want to look like you want to run to get away from them, or they'll tear you to pieces.' So he had that method down. He was just polite to the crowds, and he's just a pleasant person to be around. I guess that's why people still love him so much. He's a real sweet guy."

The group tracked about a song a day in Sound Shop, and Winfrey found McCartney equally nice to work with in the studio—a gentle but firm leader. "He encouraged a certain amount of input from me," Winfrey recalls. "Paul knew exactly what he was looking for, and he would correct someone if he thought they were not playing what they should. Gently, he would say, 'Why don't you try it like this?' And on occasion, he would go back to the drum kit and sit down and show Geoff Britton what he was looking for on the drums, for example. He was always in command of the sessions."

Sound Shop Studio, circa 1974, included a large tracking room that was paneled with pecky cypress, a porous material that builders would dredge from the bottom of the Mississippi. The wood was expensive, but popular with studio owners for its absorptive properties and natural look.

"It was kind of a dead-sounding room," Winfrey says. "We had an area

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in the back of the studio that was raised and had oak flooring, and that's where we would put the drums for a brighter sound."

More forward in the room were the rest of the musicians: guitarists Jimmy McCulloch and Denny Laine, Linda McCartney playing percussion, and Paul McCartney playing his Hofner bass and singing lead. "Paul liked to stand in the front of the room, right in front of the [control room] glass," Winfrey says. "He would be turned to the side, so he could glance to his left and see me, or look to his right and see all the musicians."

The band worked on several songs this way in Sound Shop, including a few that had been started in the UK ("Wide Prairie," "Hey Diddle," "Bridge on the River Suite") and new songs that started their lives in Nashville: "Eloise," "Send Me the Heart," "Sally G," and the last song they made in Sound Shop, the 1974 single "Junior's Farm."

"Alan Crowder, their road manager, pulled me aside and, very seriously, asked me if we could record rock 'n' roll here in Nashville," Winfrey says. "[Junior's Farm] is the result of that question."

"Junior's Farm" is, of course, a whimsical tribute to the place where the band was housed during its Nashville stay. Released as a single in October 1974, with "Sally G" as the B-side, the song features driving rhythms, with electric guitar parts that totally wail but are totally Wings. The lyrics are full of strange characters: the "poker man," an eskimo and a sea lion, etc. Winfrey says that the song had been written and rehearsed out at the farm, so the band was ready to record live when they brought the tune to the studio.

Winfrey recorded McCartney and Wings to 3M tape on a Studer A27, 24-track machine. His console back then was an MCI. Forty years on, Winfrey acknowledges that he's somewhat foggy on some of the details, but he knows that McCartney's vocal microphone would have been a Neumann U 67 or U 87. "We had an abundance of Neumann mics. We had a couple of U 47s also, but we would have used a 67 or 87 on Paul," he says.

Winfrey doesn't recall precisely what his drum-miking scheme was during that period, but he says they did sometimes use their Neumann mics on drums—kick and overheads, for example—as well as Shure dynamics. He doesn't think he used any room mics, however.

"We weren't necessarily concerned with a room mic, because we close-miked all the instruments and there would be leakage from one to another," he says. "We always got a big fat room sound there without the need for room mics. And we made quite a few hit records that way."

McCartney's bass was taken 100 percent direct; he didn't bring a bass amp to the session. Winfrey recalls that Sound Shop had a number of amps available, and he offered any and all to McCartney, but the former Beatle declined.

Laine and McCulloch's guitar amps were miked up with Shure SM57s. "Jimmy McCulloch, the lead guitar player, really got to shine on this song," Winfrey says. "Denny was also playing some really nice electric rhythm guitar. When the band goes into the cut-time feel on the end section, you'll notice the track gets real ballsy. Paul had me speed the tape up to overdub his bass at that point and, played back at normal speed, the track really fattens up."

The other main overdubs on "Junior's Farm" were the backing vocals, sung by Paul and Linda McCartney, and Denny Laine. "I would take one of the 67s or 87s and make it multidirectional, and they would gather around it," Winfrey says.

When tracking was complete, Winfrey created rough mixes for the McCartneys to take with them. He doesn't know exactly what bits may have been nipped or tucked later at Abbey Road, or where those

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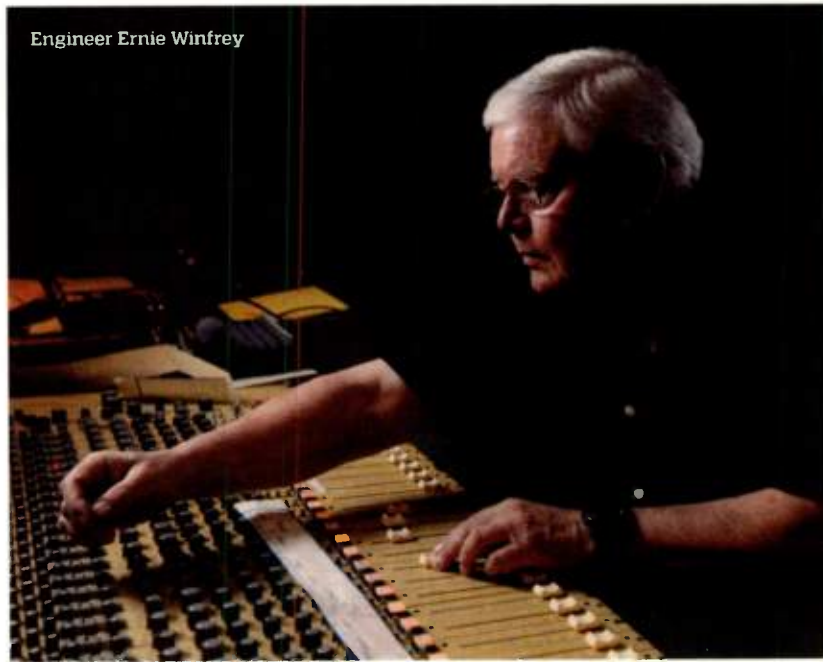


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Engineer Ernie Winfrey



mixes ended up, but he definitely knows where the safeties are:

“They left the safeties and never asked for them all this time, so when Mike [Bradley] sold Sound Shop in 2008, he called me and asked if I would like to have them,” Winfrey says. “So I have the 16-track safeties of all the things they cut—“Junior’s Farm,” “Sally G,” all of it. And as a matter of fact, I got to take them to an analog studio here in Nashville and run them through the console, and they still sound great. They have not lost any noticeable quality whatsoever.” A testament to the soundness of 1970s 3M tape!

Winfrey’s treasures also include a piece of an intro that he saved, which includes McCartney saying, “Are you ready, Ern?” before counting off.

Winfrey continued to work at the Sound Shop until 1992, when he developed some health problems. Like many music and audio pros, Winfrey never had any health insurance, so when he was diagnosed with a heart ailment, he had to take a day job that provided benefits, which allowed him to get lifesaving surgery. Thankfully, treatment was successful, and he still lives in Nashville.

He didn’t see Paul McCartney again until this past October, when the superstar performed at Nashville’s Bridgestone Arena. “He came through a couple of years ago, but I didn’t see him then. But this time, some people I know on Facebook, as a matter of fact, were instrumental in getting me to his folks and getting me the opportunity to see him again,” Winfrey says.

The song “Junior’s Farm” became one of McCartney and Wings’ big-

gest hits, rising to Number 3 on *Billboard’s* pop chart. Released as a single in ’74, it also appears on the remastered Wings album *Venus and Mars*, which came out in 2014.

The song is also notable because it was McCartney’s last release on the Apple label. And today it stands as a beloved rock ‘n’ roll milestone from a special time in the history of the home of country music. ■



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INGRID MICHAELSON

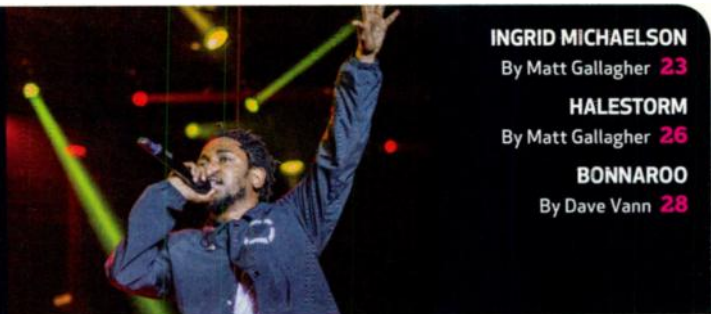
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Ingrid Michaelson and her five-piece band at Seattle's Paramount Theatre in June 2015.

INGRID MICHAELSON

'A Summer Night Out'

By Matt Gallagher

Over the past 10 years, singer-songwriter Ingrid Michaelson has continually found ways to expand her audience thanks to her persistent and evolving artistic vision, hard work, DIY aesthetic and willingness to try new approaches. Once noted as a breakout indie artist from within the ranks of MySpace, which helped to catapult her early songs from the Web into the soundtracks of the hit TV series ABC's *Grey's Anatomy*, as well as TV commercials (which in turn won her new fans), Michaelson went on to realize various chart successes with subsequent album releases between 2008 and 2012. She also toured rigorously during that time.

In April 2014, Michaelson moved further into pop-star territory in releasing *Lights Out*, her first widely collaborative effort, which resonated with a wider audience and sparked a newfound momentum in her career. According to *Pollstar*, which called 2014 "the most successful year of [her] career yet," *Lights Out* "peaked at No. 5 on the Nielsen SoundScan chart. The lead single, 'Girls Chase Boys,' marks the first Top 40 hit of Michaelson's career." Michaelson toured in 2014 to promote the album, and then upped the production ante when she set out again in June 2015.

Her "A Summer Night Out" headlining tour was a jaunt through 20 cities from June 3 through June 30, visiting theaters, auditoriums and am-

phitheaters, with stops at Red Rocks in Morrison, Colo., and Summer Stage Central Park. A Summer Night Out debuted a special lighting design, dual ramps connecting upper and lower levels, and a piano riser at center bringing a higher level of interaction with her fans.

Joining Michaelson (Yamaha piano and Renaissance Guitar Company tenor ukulele) onstage were co-musical directors Saul Simon MacWilliams (keyboards, guitar and trumpet) and Chris Kuffner (contrabass and electric bass), Allie Moss (electric and acoustic guitar), Billy Libby (electric and acoustic guitar), and Sarab Singh (percussion). All band members provided backing vocals.



Front-of-house engineer
Dutch Worthington



Production manager and
monitor engineer
Thomas "Chip" Valentino

Mix caught Michaelson in Seattle at the Paramount Theatre on June 17, at the midpoint of her tour, the 11th of 20 shows.

"This tour came together because Ingrid wrote an amazing record that added to her fan base and commanded larger venues," says Thomas "Chip" Valentino, Michaelson's production manager and monitor engineer. "I have worked with Ingrid on every tour since we started working together seven years ago." Valentino is part of a crew that includes tour manager Kevin Rife, assistant tour manager Ben Adams, front-of-house engineer "Dutch" Worthington, stage manager Wayne Davis, backline techs Avel Sosa II and Michael O'Neill, and lighting designer Ezra Donellan.

VER Nashville provided a package including audio control surfaces, six d&b audiotechnik Q7 front fills, d&b M4 wedges, microphones, direct boxes and a small floor lighting package. "In previous tours we were only employing audio production," Valentino explains, "but now we are running with staging and lighting, which brings the audience a more compelling performance and a more interactive environment for Ingrid to perform [in]—an environment that was designed by the incomparable [production designer] Sooner Routhier. Prior to production rehearsals, the band spent time going over the arrangements and rehearsing all the material at Complete Music Studios in Brooklyn."

FOH engineer Worthington, who is based in Austin, was on his second tour with Michaelson this June. "The d&b J-Series rig is one of my favorites," he says. "I need what most everyone needs in a P.A. system: clear, undistorted sound reproduction with even coverage of the venue and plenty of headroom for the full-on rock songs. I personally like the midrange to be on the smoother side considering the amount of midrange information in vocals and instruments. Of course, so much depends on the space we're in—theater versus outdoor venue versus club. For the most part all the P.A. systems on this tour have been really good.

"I have an Avid Profile out front with 46 inputs from the stage," Worthington continues. "This is what she toured with for this entire [*Lights Out*] record cycle, and so it made sense to keep consistent for this last run. I mix Ingrid more like a rock band than a pop star: I keep her vocals on top of the mix, but perhaps not as out front as [I would for] a pop act. I always try to keep the backing vocals very present with hers. It's a very dynamic set, so I follow suit with the mix, as well. I like to play with layers of reverb on vocals and just try and keep it musical and follow the flow of the show."

Michaelson sings into a wireless Shure KSM9 up front and a wireless SM58 at the piano position, and Worthington sends her vocal directly into

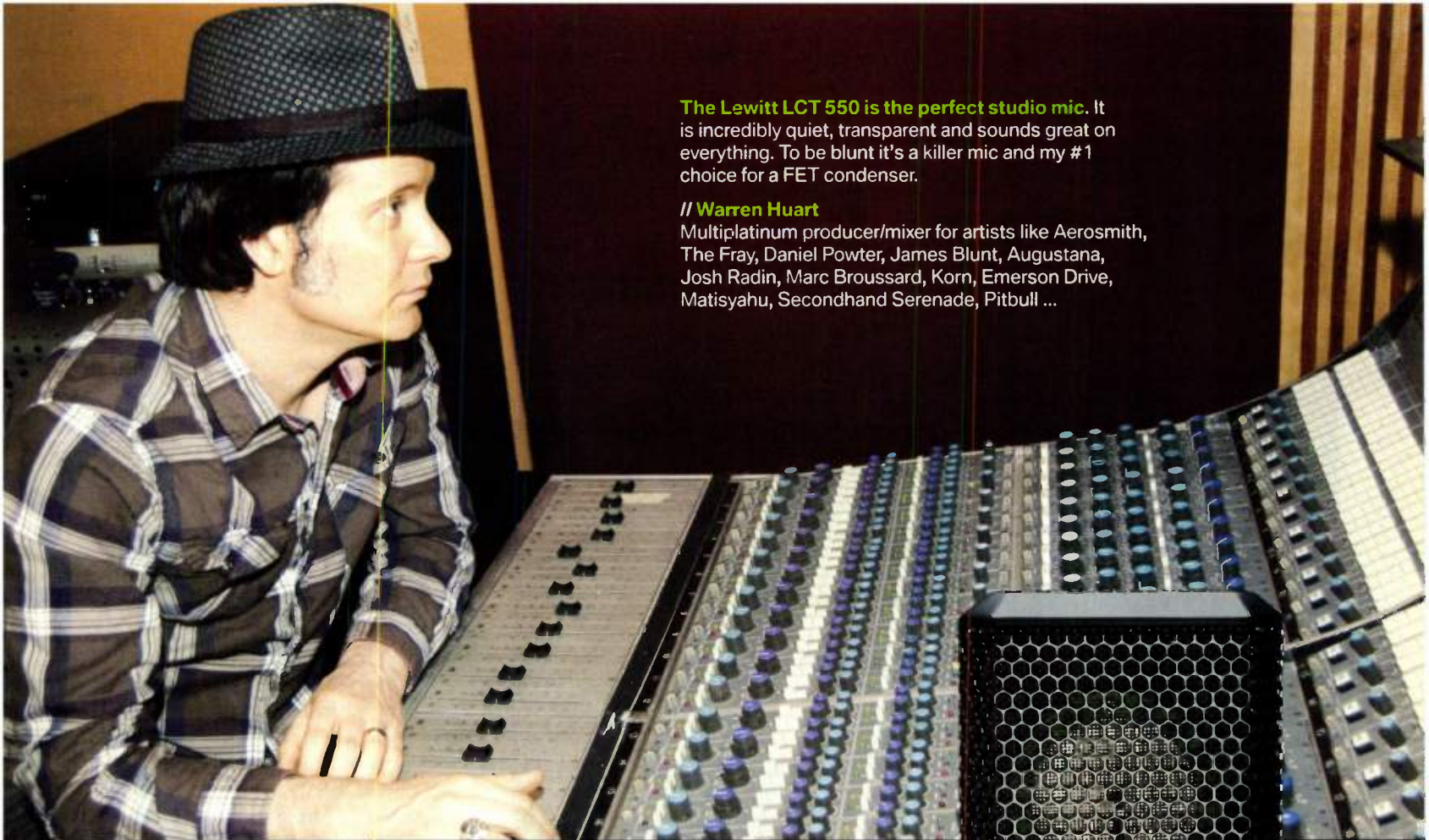
a stage rack, where he applies an Avid Smack! compressor/limiter plug-in and Waves C6 multiband compressor as needed: "The C6, depending on the room, helps with smoothing midrange and some de-essing," he says. "As for effects I like to keep a nice short layer of 'verb on at all times and then apply medium hall as well as 'verb with long predelay, a really long decay time for a dreamy feel. I also sneak a bit of tap delay in for certain parts as well. I use snapshots for every song, but have her vocal channels on recall safe and my fingers always on them. Ingrid moves between her piano mic and main vocal mic, loves to tell stories and improvise songs—she keeps me, and the band, on our toes.

"Every member of the band is a really incredible musician and all play multiple instruments during the show," Worthington adds. "Although there are a lot of midrange instruments, it is usually balanced sonically with a low-end counterpart and high shimmering components, as well. It always holds true that good sound starts onstage, and this is certainly the case here."

At the monitor position, Valentino also mixes on an Avid Profile, saying that he appreciates "the ease of routing, setting up snapshots and editing is clear and simple. The platform does not leave much room for user error. I also like that you can use Waves plug-ins natively." The tour employs Shure PSM1000 packs with ProR Wireless Diversity Bodypack Receivers and ProT Full Rack Dual Channel Wireless Transmitters, which Valentino calls "far and away the best in the industry for clarity, functionality and RF performance."

Michaelson and her bandmates each use JH Audio JH16 Pro Custom In-Ear Monitors. "We are fortunate to have both Shure and JH Audio backing Ingrid," Valentino says. "JH Audio has been our go-to company for years now in terms of IEMs, and I could not do my job as consistently without them. Not only do they have an amazing tonal quality, bass response and color, but the family aspect of JH Audio also makes doing business an utter pleasure.

"Of course, Ingrid prefers to hear her voice and the instrument she is playing foremost in her mix," Valentino notes, "but under that there is a good amount of bass, kick drum, Allie Moss' vocals, as well as a little of everything else to fill in the mix. In production rehearsals, the [musicians tend] to want to hear themselves mainly, but as the days go on, I mix everything else in around their primary instrument. I feel it is my job as an IEM engineer to bring a cohesion to each person's mix, so they are all listening to what the other band members are playing, as well as themselves. This is something that can be lost within the isolation of IEMs. It also lends to them performing onstage together and playing off one another, which adds to the audience's perception of the performance." ■



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HALESTORM

Relentless Hard Rock

By Matt Gallagher



Photo: Todd Berkowitz

Halestorm—Lzzy Hale (vocals and guitar), Arejay Hale (drums), Josh Storm (bass and vocals) and Joe Storm (guitar and vocals)—has been dishing out aggressive, highly energized rock since 1998. On March 28 of this year, the band's single "Apocalyptic," from their third album release, *Into The Wild Life* (Atlantic Records), earned the Number One spot on *Billboard's* Mainstream Rock Songs chart. In April, *Rolling Stone* magazine noted that Halestorm was the first female-fronted band to achieve this ranking since 1990, and declared lead vocalist Lzzy Hale to be one of "hard rock's most recognizable and dynamic female voices."

The quartet will tour the U.S., Canada, Japan, New Zealand, Australia and the UK into February 2016, and they have kept front-of-house engineer Mike Mahar "very busy" since he joined their camp in February 2012. "This band tours relentlessly," Mahar says. "We do a tremendous amount of dates worldwide so it has been an exciting time for everyone, if not a little exhausting on occasion. Things are going well so we don't expect that to end any time soon."

"The gigs we do are so varied in size and setting that it really keeps you on your toes," Mahar notes. "One day you are outdoors in front of tens of thousands of people and the next night you could

be in a small nightclub, so you must be able to improvise, adapt and overcome on a day-to-day basis. Temperature, humidity, building shape and construction materials—literally everything—changes every day, so you never get bored." [Laughs]

Mahar notes that the tour is not currently receiving production support and that he must mix on venue-provided consoles and P.A. systems. "We do carry the basic stuff needed to provide at least a base level of consistency: microphones mainly, along with cabling and stage boxes—things you really need to pull off these quick, no-soundcheck festival changeovers. I am using Sennheiser 935s on the vocals. It has a smooth response and is very sensitive with a crisp, clean top end."

"I am going for a pure reproduction of Lzzy's voice," Mahar continues. "Her brother, our drummer, really brutalizes the cymbals and bleed-through is always a challenge. I do a lot of fader riding. Lzzy is incredibly dynamic and uses the entire field of the microphone area. Sometimes she has her face right on the mic and other times she is a foot or more away and projecting really well. I will use a couple of compressors in series with different attack and release times to grab certain things in different ways—and of course that can really affect the response and ambient bleed-through, too."

On guitar cabinets, Mahar uses "421s paired with 57s, which is something I learned while working with Bud Snyder for Dickey Betts years ago. Dickey's tone is so huge and that combination worked really well to provide a blending of tones from the microphones. I do not EQ guitars. If something needs to be done I will work with our tech at the amp level to get what we need. I like the Beyer M88 on the bass cab. Using kick-drum microphones on the bass cabinet has never worked for me. I find I always end up pulling out a bunch of lower frequencies to get the definition I like so again, I try to pick a microphone that will do that for me closer to the source. [I use] Audix D6s on all my toms. I like a huge tom sound. It is a variety of the usual suspects elsewhere on the kit and backline."

As for building his FOH mixes at each summer gig, amidst hectic conditions, Mahar says it all depends on what the band gives him from their downbeat onstage. "They will come out and open up with a full throttle barn-burner like 'Love Bites' and you are like, 'Holy crap!' It is a full-on assault so I just try to prioritize depending on how it comes out of the gate: Get the vocal level set first and then work back down the chain working in the rhythm section bit by bit and listening to the comping, getting the drums settled in, etc."

"It is very dynamic and sometimes hard to control, which is in the end exciting, and gratifying when you can actually achieve your goals," says Mahar. "Generally speaking I can have it in pretty good shape in a song or two. It takes a little longer to get the broader aspects dialed [in], low end in particular. By 20 minutes in I have had enough dynamic opportunities to get everything sitting pretty comfortably. We don't use any [backing] tracks at all, so we have a genuine four-piece rock band here. They are human beings, things change from night to night and that plays a big part in the sound from night to night as well."

"It is awesome to be able to work with a vocalist that possesses the sheer power that Lzzy does," Mahar adds. "She really is amazing. Overall it is a dance, as are all the other aspects of what we do out there as engineers—a remarkable experience for sure!" ■



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BONNAROO

MUSIC & ARTS FESTIVAL 2015

PHOTOS BY DAVE VANN

The 14th annual Bonnaroo Music and Arts Festival took place June 11-14, 2015, in Manchester, Tenn., presenting music on five stages and headlining acts that included Billy Joel, Mumford & Sons, Deadmau5, Kendrick Lamar, Florence and the Machine, Robert Plant & The Sensational Space Shifters, My Morning Jacket, Bassnectar, Alabama Shakes, Ben Harper & The Innocent Criminals, and many more.

On the audio side, Hay Bale Sessions: Backstage at Bonnaroo returned under the guidance of lead engineer Elijah "Lij" Shaw along with head engineer Michael Hardesty, mastering engineer Joe Hutchinson, engineer Stephen Turney and assistant engineer Seiji Inouye. This year, nearly three-dozen stations broadcast live from the Radio Bonnaroo compound, overseen by head engineer Tom Hansen, which houses five broadcast booths from the middle of a farm in rural Tennessee. Mason Jar Media worked with Hay Bale and Radio Bonnaroo, assisting with booking and promotions, respectively. Find more coverage of Bonnaroo at mixonline.com.



Staff from Radio Bonnaroo, The Hay Bale Studio, and Mason Jar Media, back row, from left: Justin Harrunel, Molly Kummerle, Tom Hansen, Laura Hansen; front row, from left: Crissa Requate, Dan Buckley, Lij Shaw

Alabama Shakes on What Stage on June 12

Earth, Wind & Fire on Which Stage on June 14

Kendrick Lamar on What Stage on June 12

Tears For Fears in This Tent on June 12



Childish Gambino on Which Stage on June 13

FOH engineer Kenneth H. Williams mixes Childish Gambino on an Avid Profile console: "I really like the Waves C6 plug-in and I use that on Gambino's vocal channel."

Gary Clark, Jr., on Which Stage on June 13

Billy Joel headlined What Stage on June 14

Robert Plant & The Sensational Space Shifters on Which Stage on June 14

Florence and the Machine on What Stage on June 14



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On the Cover

By Eddy B. Brixen

DR KONCERTHUSET— DENMARK'S MUSIC WONDERLAND

A Walk Through Danish Radio With Niels Erik Lund



The Red Room, Studio 4, can be prepped for choir rehearsal or full-blown broadcast productions of dance and vocal groups, and everything in between. Notice the adjustable wall absorbers.

Photo: Courtesy of DR (Photographer: Jakob Boeserup)

DR—the shorthand for Danmarks Radio—has a history that goes all the way back to 1925, yet today, following completion of a 2008 ground-up rebuild, is one of the world's most modern broadcast organizations, producing content on all platforms available, ranging from radio/TV to Internet-based media. The daily real-time content delivery encompasses six television channels, three FM-radio channels, and 10 DAB channels. Most of the content is simultaneously streamed on the Internet, and gross amounts of on-demand services are offered.

As to DR being an independent license financed public institution, some regional stations and facilities are spread across the country.

However, the main facility is DR BYEN (DR Town). This facility, close to the center of Copenhagen, was completed in 2008. Here we find the main concert hall, 14 big studios for music, drama, and shows, and a vast number of smaller talk studios and so on. The four-building complex also offers all kinds of workshops for electronic equipment, woodwork, mechanics, and so on. Also, comprehensive libraries for background literature and music are a part of this impressive site.

We now take a guided tour with Niels Erik Lund, head of facilities of DR Koncerthuset (DR Concert House). This house plays an important and vital role in the entire broadcast complex. Niels Erik was from the



A live DR Big Band performance in Studio 3.

Photo: Courtesy of DR (Photographer: Bjarne Bergsteus Hermansen)

DR KONCERTHUSET

As we take a walk from the main entrance down DR Byens' connecting streets, it becomes obvious why the "audio" building got the name DR Koncerthuset: This place has the basic purpose to facilitate concerts for an audience. The house opened officially on January 17, 2009, with a gala concert, featuring the DR ensembles and attended by the Royal Family, including Queen Margrethe II.

DR Koncerthuset is an 11-story building (one of the four in the complex) rising above ground level. The project covers a total of 60 x 96 meters—an area corresponding to four football fields. On the outside, the building is covered by a blue canvas-type material, allowing huge images to be projected on this "screen" and making the building, with all its character, visible at a distance, both

beginning deeply involved in the process of planning the site and the implementation of those plans, all the while maintaining production at the previous facilities. No one knows this place better than he does.

Niels Erik explains: "There were several reasons for building the new media facility in Copenhagen. Back in the '50s, when television entered Denmark, producing radio and producing TV were regarded as two completely different disciplines. In the late '60s, a separate facility for TV was built just outside Copenhagen. This place, TV-Byen, was excellent and worked well for years. However, as time went on, it was found that in many ways too many facilities and too much manpower was involved in doing the same things. For instance, why have two editorial departments researching for the same news for radio and TV, respectively. Further, new media showed up and the question of who should produce what became still more evident. Finally, the whole transition from analog to digital demanded new strategies for production, transmission and facilities.

"In the end, the decision was made to gather all main activities in one place, and as a consequence, leaving all the other facilities in the Copenhagen area," he continues. "Building land was found very close to the city center—in the same area where the University of Copenhagen expanded, and many apartment houses were under construction. The Metro [Copenhagen underground] was planned to have stations nearby, securing proper public transportation. The DR organization formed working groups involving a large number of the employees to get all common knowledge utilized and expressed in the new facilities."

The construction activities of the building complex were divided into four segments, which were designed by four different architect teams to obtain maximum variation within the general plan. One of these four separate segments of the complex is DR Koncerthuset. French architect Jean Nouvel won the competition for this segment in March 2002. The head acoustician for this project was Yasuhisa Toyota of Nagata Acoustics in Japan. He was chosen because of his experience with concert halls built in the "wine yard" style, which specifically was a demand for the design of the main concert hall. Further, a few local Danish acousticians were assigned to the project.

with or without projected images.

The design of the complex provided three studios *en suite* (you can look straight through all three rooms, through a series of fixed, very thick glass). Nevertheless, the sound insulation between the rooms (R'w) in general is in the range of 70 dB. The concert hall is located on top of this three-in-a-row studio construction. The shape of the concert hall is more or less like a gigantic walnut. The remaining space between the studios and the "walnut" is utilized for the offices and a foyer. This foyer also has its own stage and can be used for concerts, as well.

DR Koncerthuset is a very exciting place, housing a vast amount of activities. Besides the concert hall and the studios, this house includes all the administration related to production. The planning and marketing of the concert activities is an essential part of the daily work. And all archives and technical support has found a place here.

"Much of the time DR's own ensembles occupy the studios and the concert hall," says Niels Erik. "On the payroll we find the Danish National Symphony Orchestra, Danish National Chamber Orchestra, Danish National Vocal Ensemble, Danish National Concert Choir, Danish National Girls' Choir, Danish National Children's Choir, Danish National Sprouts Choir and the DR Big Band. Together with guest performances and guest soloists from Denmark and abroad, DR strives to attain new musical heights. The same applies to rhythmical music, where DJs and bands will form new groundbreaking concepts. All ensembles are top-notch in their field. To ensure good sound quality, DR provides all the musical instruments played by the employed ensemble musicians!"

In-house facilities for musicians include 21 group rooms, 12 rooms for soloists and a further eight rehearsal rooms.

POWER TO THE PEOPLE

On our tour, we are first diving to the basement. This is the place where very few people have admittance: the well-secured space for electrical power and data servers.

"DR has the obligation of providing public service," explains Niels Erik. "However, more than that, DR is the facilitator of public-addressed

The SSL C200, looking out into Studio 2, with its fabric screens of artists on the acoustic panels. The control room layouts, including Dynaudio A1P monitors, are similar in studios 2, 3 and 4.



Photo: Courtesy of DR (Stock Photo)

“All segments have a grounding strategy by which all local branches are latched together in one huge ring-connection. In the old days, it was common to establish a separate earth for all signal-carrying parts of the installation. Nowadays, everything has to be kept at the same electrical potential, as it is no longer possible to determine specific signal lines when everything is based on an IT infrastructure.”

THE CONCERT HALL

The Concert Hall is rated as one of the top 10 classical concert halls in the world by the magazine *Grammophone*. This impressive venue is basically designed for classical symphonic music; however, variable acoustics, an advanced set design and the vast amount of broadcast installations provides a large number of possibilities. In the standard configuration, the Concert Hall seats 1,800 people around the arena-type stage. Another 150 seats can be added on the stage while, for some purposes, the stage is oriented in one direction, say for a pop show, reducing the available seats to 1,280.

The chairs are designed to have the same absorption when empty as a concertgoer provides when seated. The volume of 28,000 cubic meters ensures that the reverberation time is not too much affected by the presence of an audience.

The variable acoustics are obtained by using heavy movable curtains. The curtains are parked outside the room or above the ceiling when not in use. It takes approximately 20 minutes to transform the acoustics from a reverberation time of 2.3 seconds down to 1.6 seconds, which is more convenient for pop/rock/jazz and other rhythmic music.

The stage consists of 29 individually adjustable podiums. So depending on the size of the orchestra, or the genre of the music, the stage setting can be optimized in a very flexible way. For large musical works, the seating area behind the stage can be included for choirs of almost any size.

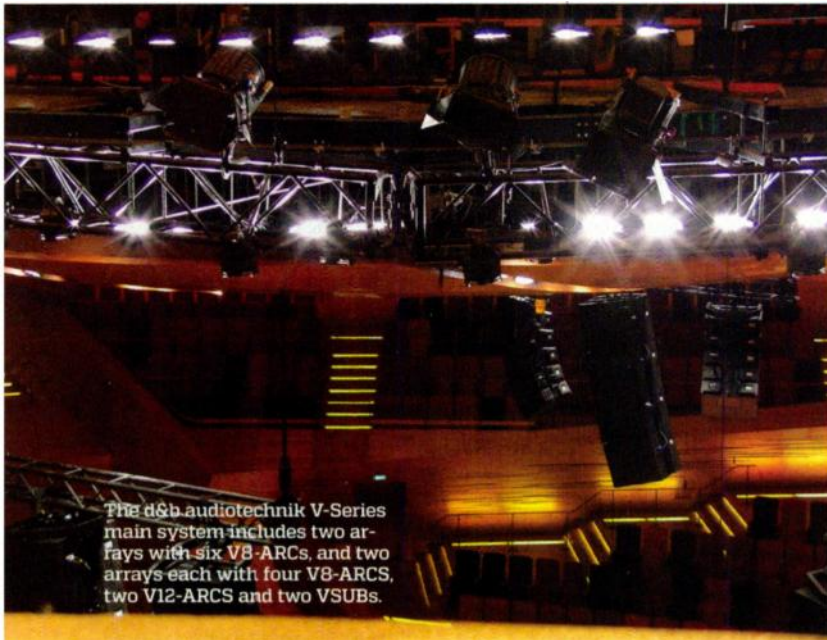
To make the hall complete, a 92-register Van den Heuvel organ is installed, with 6,142 pipes and a net weight of 40 tons. Further a series of Steinway concert pianos are available.

Above the stage, the canopy is suspended. It provides reflections back to the stage to improve ensemble feeling. Normally the canopy is parked in a fixed position 15.5 meters above the stage, but it is adjustable. Further, the canopy serves as a base for suspended microphones as well as the permanently installed sound reinforcement system.

For the recording of classical music, a main set of microphones are applied. Depending on the purpose, the main setup is an A-B pair or Decca Tree or a full 5-channel setup. DPA 4011A omni-directional microphones are a choice for that. Spot mics are added and time-aligned to the main set. Most spot mics are suspended from the ceiling or the canopy to reduce the amount of stands on the floor. Here again various DPAs are applied, the more directive types of the d:icate series like DPA 4011A, DPA 4015A and DPA 4018A. However, Schoeps and Neumann mics have found their way into the preferred selection as well.

For other genres of music that require sound reinforcement, the d:vote series of instrumental mics are widely used.

It is always a challenge to work in halls with an arena-type stage, having the audience entirely surrounding the performers. The visual impression may be very different in different areas of the seating. In contrast to the shoebox-shaped halls, the sound envelopment may suffer from the lack of side reflections. In this concert hall, much effort is put into the feeling of intimacy. When seated in the parterre (bottom floor),



The d&b audiotechnik V-Series main system includes two arrays with six VB-ARCS, and two arrays each with four VB-ARCS, two V12-ARCS and two VSUBs.

Photo: Eddy B. Dixson

messages from the authorities in case of any general alerts for the population of Denmark. This means that no internal or external power failure should be able to stop transmission. This is a political decision taken by the Danish government. Hence, the UPS of DR-Byen is a study of how no-nonsense power supplies should be designed. A no-break system supplies all transmission facilities. Systems of less importance are supplied by a short-break system [i.e., stage lighting].

“All blocks of the building complex are double-supplied,” he continues. “Two different 10 kV transformers are providing the working supply of 230 volts. If they fail, batteries take over, and some diesel generators start up. Eighty-five-thousand liters of diesel oil means the system can run for weeks. After that, it is a question of getting diesel supplied. The power consumption of DR-Byen is in the range of 6 MW but the capacity of the power system is somewhat double. Just in case...”

the hall seems rather small. Seated in the upper balcony areas, the room size is perceived much larger.

We take a trip to the top of the concert hall. Here we can see all the installations necessary for a versatile hall; lots of fly points (92 in total) and heavy steel wire reels. Also here, suspended from the outer ceiling, the heavy curtains for reverberation reduction are parked when not in use.

THE SR SYSTEM

A large d&b audiotechnik V-Series sound reinforcement system has recently been installed, providing amplification and SPL sufficient for most rock-style bands visiting the venue. It was decided to install a permanent system capable of providing sufficient amplification of all non-acoustic concerts, in order to save setup time between events. The system can deliver an SPL of 115 dB(C) continuously (plus some extra for the sub range).

One of the challenges has—as always—been to provide high SPLs in the seating area, but keep it off the arena stage, especially the rows close to the stage. This is managed by a flown system supplemented by some floor-stacked elements. It was all calculated in EASE to verify the basic qualities before installation.

The flown part of the system consists of two arrays with six V8-ARCs, and two arrays each with four V8-ARCS, two V12-ARCS and two VSUBs. Further, two VSUB-arrays and some fill-in speakers are permanently installed, suspended from the canopy.

The control room for the concert hall is some 47 square meters, nearly twice as wide as it is deep. It is equipped with an SSL C200 with 128 channels, 48 faders, but 128 mic inputs. For recording, both Pro Tools HD3 with 64 I/O and Pyramix with 72 I/O are available. The non-classical music engineers typically prefer Pro Tools while the classical engineers always prefer Pyramix. DAD AX24 converters takes care of the transition from analog to digital. For broadcast, 48kHz sampling is standard. However, for other kinds of productions, the DXD 384kHz option is applied.

STUDIO 2

Studio 2, with its volume of 6,600 cubic meters, has a double function: concert hall and rehearsal room. The stage construction is a copy of the podium construction found in the main concert hall. With a floor area of 555 square meters (and a ceiling height of 12 meters!), there is sufficient space for an audience of 749 (standing) and 550 (seated).

The design of this room is highly inspired by the big Hollywood scoring stages. Visiting the studio, it is quite easy to get associations to rustic-looking warehouses and heavy transportation boxes.

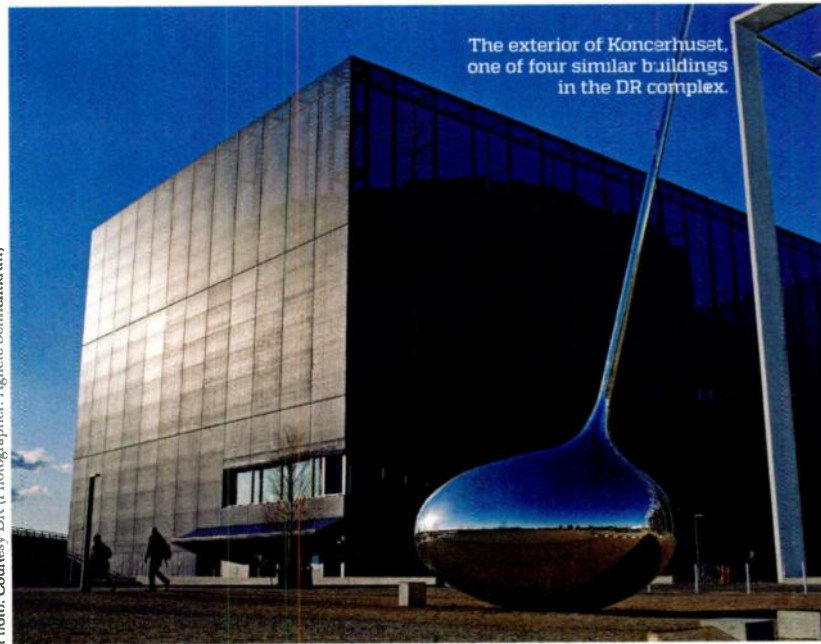
On the walls, we find large plates manufactured from birch. Most of these plates are movable so they can hide/unhide absorption material, changing the acoustics of the room in the range of 1 second to 1.7 seconds.

On these plates, we find huge portraits of 38 selected artists, musicians, conductors and composers printed for decoration. In this way, we are surrounded by musicians with DR relationships like Miles Davis, Carl Nielsen and Danish artist Kim Larsen—indicating that this room facilitates all genres, ranging from classical music to jazz and pop. To make the pop 'n' rock shine, a 6.6 kW L-Acoustics system is available.

STUDIOS 3 AND 4

The smallest studio of DR Koncerthuset, Studio 3, can be tailored for any occasion, as it has neither a fixed stage nor a fixed seating area. The

Photo: Courtesy DR (Photographer: Agnete Schlichtkrull)



The exterior of Koncerthuset, one of four similar buildings in the DR complex.

Photo: Eddy B. Brixen



Niels Erik Lund in a corner of the archive, reserved for CDs.

black walls are a combination of shiny and matte surfaces. Many doors hiding white-looking absorption material can be opened or closed for the adjustment of the reverberation time (0.7 to 1 second). The piano definitely inspires the looks of this studio.

This is the playground for the DR Big Band and other classical and non-classical activities.

Studio 4 is the last in the row of flexible studios/concert halls. Once again, this place has its own color: 50 shades of deep red!

Variable acoustics are again incorporated (1 to 1.3 seconds), this time with "Toblerone" triangular-shaped absorbers/reflectors that can be rotated by the push of a button, as it was the intention to implement different kinds of absorption principles in the different halls. In this red hall,

Continued on p. 42

'SKUNK' GOES SOLO

Master Guitarist Jeff Baxter Invites Friends Over to Write, Record

BY ROBYN FLANS

For the past 40 years, Jeff "Skunk" Baxter has been too busy to record his own album because he's either been part of Steely Dan or the Doobie Brothers, recording with the likes of Donna Summer, Joni Mitchell, Ringo Starr, Sheryl Crow, Dolly Parton and Rod Stewart, touring with James Brown, Elton John and Linda Ronstadt, producing records for Nazareth, Nils Lofgren and the Ventures, or working as a consultant to the U.S. Department of Defense.

But Baxter has finally taken the time to express himself on his yet-unnamed first solo record, created with longtime friend and musical collaborator CJ Vanston.

For any guitar player, Baxter's album is a requirement. For any music lover, ditto. But the sheer guitar art that he displays within the 12 songs is a journey that covers, for example, a homage to his Scottish roots with a scorching guitar lead in "Ladies From Hell," the trading of dueling gritty solos with Jonny Lang on "I Can Do Without," soul personified as he matches his guitar delivery with Michael McDonald's vocals on "Place in the Sun," a reinterpreted greasy "Do It Again" in a slow shuffle, and a tear-jerking instrumental pedal steel performance on "The Rose."

Baxter is quick to insist he couldn't have done this project without Vanston and the mental telepathy they have developed through the years. In fact, he applauds Vanston on his arrangement of "The Rose."

"It was so insightful," Baxter says. "He figured out where in the song is the emotion and grew that seed and pushed me hard. Frankly, by the end of the tune, I was crying because I was thinking about my dad."

Baxter and Vanston met and cemented a relationship around 1985 in Chicago on a jingle session for Hyatt, which also included Jo Pusateri on drums and Bob Lizik on bass.

"The producer comes in and he's just fried," Baxter recalls. "The chart's got a time signature on it and 64 bars and that's it. We ended up making up the whole jingle on the fly."

Through the years, the two would get together to write—an hour here, an hour there—but always found themselves too busy to commit to a project. After a few songs were written, they began to realize that an album was in their future.

One of the tunes, "Insecurity," goes back 25 years, originally recorded on an old Akai 12-track with Rick Livingstone on lead vocals.



Photo By Alex Kluit

CJ Vanston and Jeff
"Skunk" Baxter

"We brought the Akai 12-track in and transferred the tracks over," Vanston says. "I love the technology now. People ask me all the time, 'Don't you miss tape?' No way. I love the way we work today. I love everything about it. I think it sounds great. But that doesn't mean the stuff didn't sound great back then. This Akai 12-track was something that Jeff was involved in the development of and it had a great sound. The drum samples were what was dated. That was like an SP-1200. I think he played it on a drumKAT."

They added some vocals and recut the drums.

Jo Pusateri and Toss Panos played drums on the record. They cut Pusateri's drums in the outer room at Vanston's home base, the Treehouse, and Panos' drums at Panos' house. Vanston details the drum mics as follows: the kick, Shure Beta 52; snare, Shure SM57; hi-hat, Shure SM81; toms, Sennheiser 421s; overheads, a pair of Groove Tube GT55s.

"One of the plug-ins I love is Zynaptiq's Drum Leveler, which is incredible for minimizing leakage in hi-hat/snare/kick mics," Vanston says. "Wonderful tool. A lot of people are talking about this one."

Vanston's station in the main room of the cozy Treehouse has his keyboard central with a Mackie controller, surrounded by his favored JBL speakers on either side.

"We have been working with Harman-Kardon, as we love the newest JBL speakers," Vanston says. "The entire record was mixed on JBL LSR6328s, and Jeff and I both have JBL 305s at home to reference. Chris Dragon and Peter Chaikin suggested we hear their line of high-end home stereo speakers, Revel. We were both very impressed and are using the Revels as another reference for our final mixes—they have blurred the lines between high-end home audio and studio reference. These guys have really gotten it right with their waveguide technology."

Vanston uses an Apogee Converter with an Apogee Clock that goes into a MOTU 2408 interface. The room is equipped with five sets of Audio-Tech-

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Dave Smith Instruments
Sequential Prophet-6



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Soyuz Microphones SU-017 Tube Condenser Mic

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AKG C414 XLS Condenser Mic
24 Payments of \$50*



Roland JD-XI Analog Digital Crossover Synth
24 Payments of \$21*



Moog Music Tolex Minimoog Voyager XL
24 Payments of \$230*

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Photo By Timothy Fielding

Vanston, Jonny Lang and Baxter

nica M50 headphones, so all musicians can control their own sound.

The concept of the album was to write with the artists who came in to guest, such as Michael McDonald, Clint Black and Jonny Lang. But not to make it an "old friends" record.

"Our request was they had to be out of their comfort zone," Vanston says. "Clint Black is a huge Steely Dan fan, so we got him a Steely groove going. We brought Michael into a cinematic movie score kind of place and brought Jonny more into a rock land."

"Jonny came in and he was kinda making noises," Baxter recalls. "We wrote the words around it."

"There was an intention there," Vanston adds. "He knew what he was

singing about without knowing what he was singing about. So it's a he-said/she-said. 'You're telling me I'm the one who's wrong? Let me tell you what you do and all your crap. You know what? I can do without.'"

It took some coercing, but Baxter sings lead on "My Old School," because when he approached Steven Tyler to sing a rockier version of the 1973 Steely Dan song, Tyler declined, saying he liked the demo the way it was. Then he asked who was on vocals. It happened to be Baxter. Tyler said, "You do it."

Baxter's comfort zone is guitar, which is why one of Vanston's new favorite pieces of equipment is from British Audio Engineering.

"Jeff is one of the few guitar players in the world whose trademark sound is direct into the console—not a guitar amp, not a mic, direct into the console," Vanston explains. "And to be able to pull that off, you're not relying on the amp for sustain. You have to be able to let that guitar ring. Everything has to be fretted off just right. It takes a very good player to be able to go direct into the console. So we went into this 1073 DMP mic pre and plugged his guitar in and the whole world opened up."

Baxter knows the kind of sound he wants. He began building his own guitars and working with Roland 41 years ago, so when Vanston surprised him by recording his guitar straight into the 1073 DMP, Baxter says he was "just blown away."

"Jeff has an old (Roland Boss) ME10, which we used on a lot of stuff," Vanston says.

"Which I helped design for Roland, so I love it," Baxter interjects.

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"The PowerPre is a must hear. I got great results, particularly in high transient situations where you can drive it hard for more transformer color. I bought one."
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"The PowerPre is a fine example of a well designed, low-noise mic preamp that can give a bit of 'meat' or 'air' when needed. It may well be your preamp of choice."
~ Electronic Musician

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~ Mix

"The Q3 behaves like no EQ I have ever used... it can be a bit tricky at first, but it turns into a fun 'turn the knobs until something cool happens' type of box."
~ Professional Sound

"It took me about 10 seconds to land on something that worked perfectly. The Q3 is a useful, refreshing and simple tool. And it's fun."
~ TapeOp



"We used a lot of direct-in on that DMP and also a lot of amp simulators in Logic," Vanston says.

"Which I was dead-set against, until he said to try it," Baxter says. "I had never been comfortable with modeling. What I forgot is that technology moves at such a fast pace, and so what I remembered was different than what is."

"And sometimes it depends on who's running it," Vanston says. "I work with a lot of guitar players and I know how to dial sounds, so what he likes doing is he sits and plays and I just sit and mess around with sounds. He goes, 'No,' and I'll go to another thing and he'll go, 'No,' and I'll go to another thing, and he'll go, 'Okay, that's cool, take the chorus off that.'"

"And he knows my playing, so he does the modeling better than I do, so instead of having to go through a 1,000 different ideas, he can narrow it down fairly quickly," Baxter says.

The other component that Vanston says makes a difference to him is using Logic.

"As a music-creation tool, it is so superior and so fast," Vanston says. "I can't get over the fact that it's a \$200 program and I am almost using all the stock plug-ins."

A plug-in from Sound Radix that Vanston uses is Auto Align, which he says "simply takes the guesswork out of phase relationships between multiple microphones. It's a 'set-it-and-forget-it' plug-in that really makes a difference."

The next plan is to take it on the road late this year or early next with



Baxter, Vanston and Michael McDonald

Photo By CJ Vanston

another couple of musicians.

"We will be using the latest Roland video and audio products like the V1200HD for multicamera live switching controlled from the stage with a video backdrop, which will include films custom made for the tour by young filmmakers to accompany each song, along with a programmable mixer such as the Roland M-480 with the set programmed into it," Vanston says. "This will enable us to deliver a high-level production to the smaller venues that we will be playing, without truckloads of gear and big crews."

"Everyone in my life is telling me to go out and do it, even those I work with in the government," Baxter says. "Because it's what makes me happiest and I can make other people happy." ■

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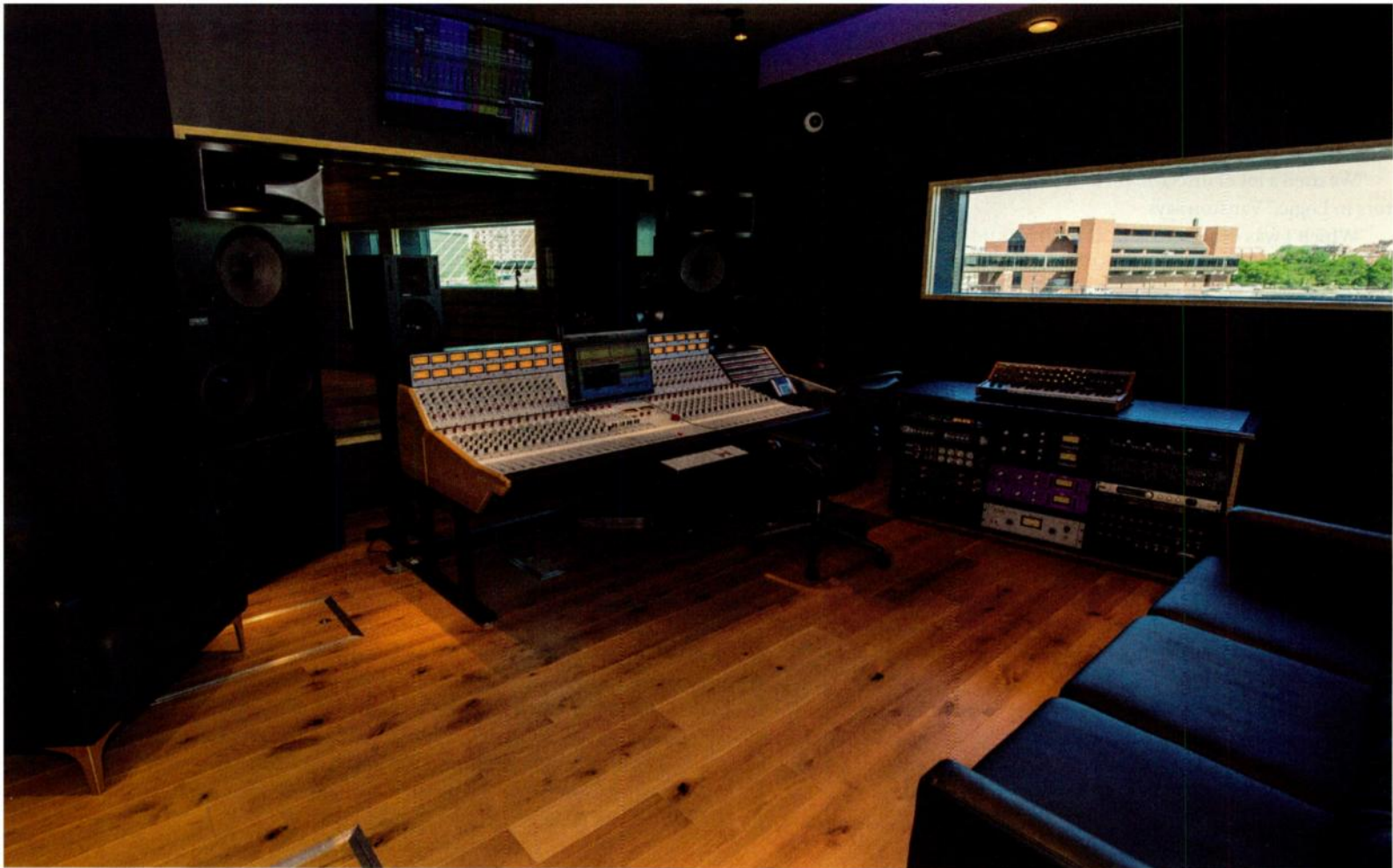


Photo: Corwin Wickersham

NURTURING TOMORROW'S ALL-STARS

Converse Rubber Tracks Sets Up Shop in Boston

BY BARBARA SCHULTZ

Since 2011, sneaker and apparel company, Converse Inc. has been giving back to youth culture with its Converse Rubber Tracks program, offering young bands free studio time in permanent and pop-up facilities around the world.

“The idea of Converse Rubber Tracks initially came about when we realized the brand’s biggest supporters over the years are artists, bands and musicians,” explains Jed Lewis, Global Music Marketing Director at Converse. “As a brand, we wanted to give back to these artists by creating useful opportunities for them to make their art—no strings attached.”

Through Converse Rubber Tracks, artists are given a full day of free studio time in a professional facility. The program built its first permanent studio four years ago in Brooklyn, and has another facility in Sao Paulo, Brazil.

Then, just last month, Converse Rubber Tracks went online with its new permanent studio, built into the new Converse headquarters in Boston. Designed by top acoustician Francis Manzella of FM Design, with exterior architectural design by Jennifer Carpenter, the facility is situated atop a recently opened Converse retail store on Lovejoy Wharf, where all things Converse now blend into a popular historic urban district.

“They planned that the studio would sit on top of the retail store as kind of a crown,” Manzella says. “They had set parameters about what the outside would look like, so we knew going in that there were going to be external windows; the control room and the live room have north-facing windows with views over the wharf.”

Manzella was asked to employ a similar setup at the Brooklyn facility; he used his trademark elegant solutions to create rooms that mirror the workflow of Brooklyn, but take the Boston building’s location, shape and materials into account.

“The studio is adjacent to a very busy street,” he says. “There’s a public promenade where people congregate. There are trucks and buses flying by all the time, and we knew we would be above a retail establishment.

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Live Room



Photo: Fran Manzella

We had to do the right thing as far as isolation, so we have proper floated floors, complete room-within-a-room construction.

"We actually achieved amazing isolation," Manzella continues. "I've been there three times since it was finished, and I heard no traffic—not a peep from the outside world—and that was when we were doing listening tests to identify internal noises and eliminate them. So you know we were listening to dead-quiet spaces very carefully."

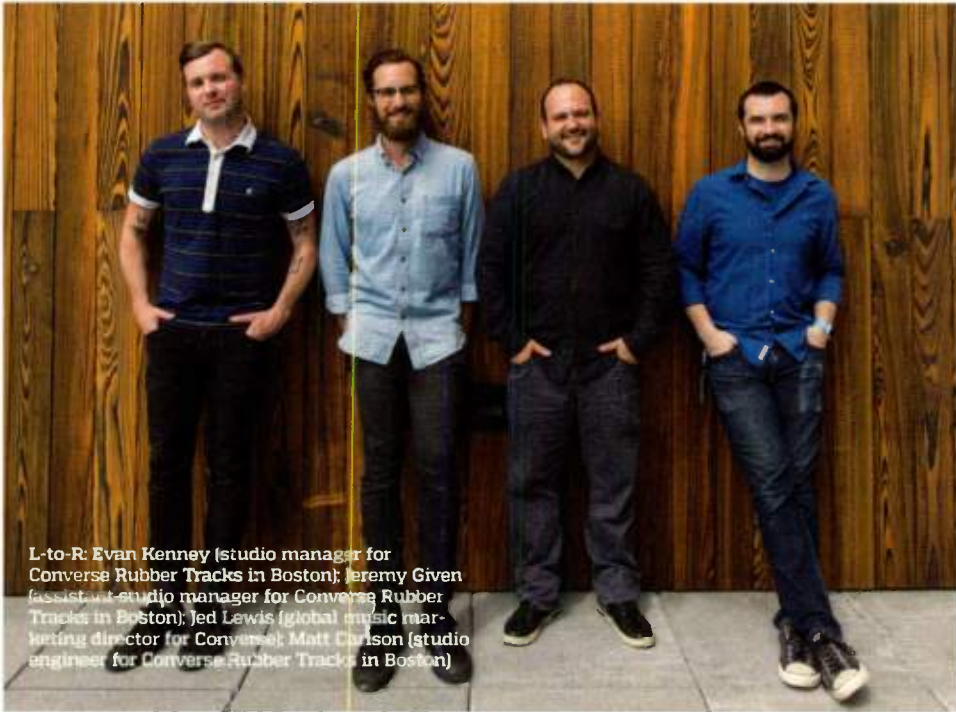
The completed control room at Converse Rubber Tracks in Boston measures 360 square feet, while the live room is 445

square feet, including a drum alcove, called the "dead niche," in the back corner of the room. "That is a more trapped area with the soffit lowered, whereas the main area has those high ceilings with diffusers, and a lot of reflective surfaces with the glass windows and hard floors," Manzella says.

"Both Brooklyn and Boston have a very comfortable work environment," says Brad Worrell, studio manager at Converse Rubber Tracks in Brooklyn. "That's important when you're working with young bands, because you don't want them to be intimidated by the space."



Photo: Corwin Wickensham



L-to-R: Evan Kenney (studio manager for Converse Rubber Tracks in Boston); Jeremy Given (assistant studio manager for Converse Rubber Tracks in Boston); Jed Lewis (global music marketing director for Converse); Matt Carlson (studio engineer for Converse Rubber Tracks in Boston)

Photo: Corwin Wickelsham

Worrell—who was instrumental in building the Boston facility—says that during Converse Rubber Tracks’ pop-up sessions, as well as within their permanent studios, Converse looks for similar qualities: mid-size rooms with quality, but not overly slick, designs to set young bands at ease, and equipment that includes extensive instruments and backline, and offers a straightforward workflow.

“We go for an old-school input chain,” he says. “We almost always work in places with analog consoles. We also always record to Pro Tools so the artists can work inside the box and take something with them.”

Reliability being of the essence on a one-day session, Worrell select-

ed a Rupert Neve Designs 5088 console for the Boston studio, along with a complement of familiar outboard gear and microphones, and Ocean Way HR2 main monitors. “We also have the HR2s in Brooklyn,” he says. “Those are the only large-format monitors that I’ve worked on that I felt like I could also mix on.”

The studio engineer at Converse Rubber Tracks in Boston is Matt Carlson, who has a background as a drummer as well as behind the glass, so he feels a connection to the musicians he works with from 11 a.m. to 7 p.m., five days a week.

“Because this is an educational moment for these newer bands, we try to provide the best experience from the moment they’re selected,” Carlson says. “The studio team begins advancing at least two weeks before to align on artist goals and determine what’s feasible during the day-long session. We provide advice that may help prepare them for their day in the studio.

“On the day of the actual session, we use the earlier half of the morning for the artists to sit one-on-one with the engineer and/or

producer discussing how everything will run. From there, we get sounds quickly and really hit the ground running. The full team works with them throughout the typical eight-hour session. With full bands, for example, we often encourage them to record basics all together.

“We are constantly surprised at how prepared many of these new bands are when they get to the studio,” Carlson continues. “Bands may come in looking to record two or three songs and end up recording four or five. It’s great to be able to help them bring their vision to life.”

Musicians who are interested in applying for studio time: visit converse-music.com/rubbertracks. ■

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A section of the foyer area, where the selection of furniture expresses the raw look you'll find everywhere outside the studios. The foyer also doubles as a recording space for live performance.

Photo: Eddy B. Brixen

Continued from p. 33

easy to see into the studios. All back walls are—more or less—covered with Schroeder diffusors, providing some absorption, but most importantly preventing disturbing hard reflections from the rear. Dynaudio AIR speakers have been installed for 5.1 monitoring. Behind the mixing position, racks are filled out with outboard gear—TubeTech compressors and the like.

Also, here we find SSL C200 consoles with 128 channels, 48 faders and 128 mic input directed into either Pro Tools HD3 or Pyramix.

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Content is king, and DR Koncerthuset will be a source of contribution for many years to come. ■

Eddy B. Brixen is a consultant, educator and technical writer working in the field of acoustics and electroacoustics.

variable podium setup makes the room extremely versatile. However, this room is very much in service to the DR choirs and chamber music.

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Kacey Musgraves and band with a mountain backdrop and L'Acoustics P.A.

Photo: Candace Horgan

TELLURIDE SOUND

Bluegrass Festival With a Legacy All Its Own

BY CANDACE HORGAN

For 42 years, fans have trekked to a tiny town in southwestern Colorado to enjoy bluegrass music in a setting marked by stunning mountain vistas. The Telluride Bluegrass Festival has grown from its humble roots and now sells out with more than 10,000 people each day for four days during the third weekend of June.

Many performers play Telluride every year, including new-generation stars like mandolin player Chris Thile, who has played the festival with Nickel Creek, Punch Brothers, and in duets with Edgar Meyer and Mike Marshall. Others include Tim O'Brien, who has played solo, with Darrell Scott, and with his longtime band Hot Rize; and the "King of Telluride," Sam Bush, who in 2015 played the festival for the 41st time. In fact, Bush's appearance at the second festival, with his newgrass supergroup New Grass Revival, helped put the festival on the map.

Telluride Bluegrass is the crown jewel of the Planet Bluegrass festival lineup. Planet Bluegrass, based in Lyons, Colo., also puts on RockyGrass

and the Rocky Mountain Folks Festival, and has in the past also hosted the Mabon Festival and Yonder Mountain String Band's Kinfolk Festival.

In 2014, Telluride got recognition from the industry when it was named "Music Festival of the Year" at the Pollstar Concert Industry Awards. It was the first time ever that a bluegrass festival and a Colorado festival had won the prestigious award.

Most of the artists feel that Telluride is a special festival.

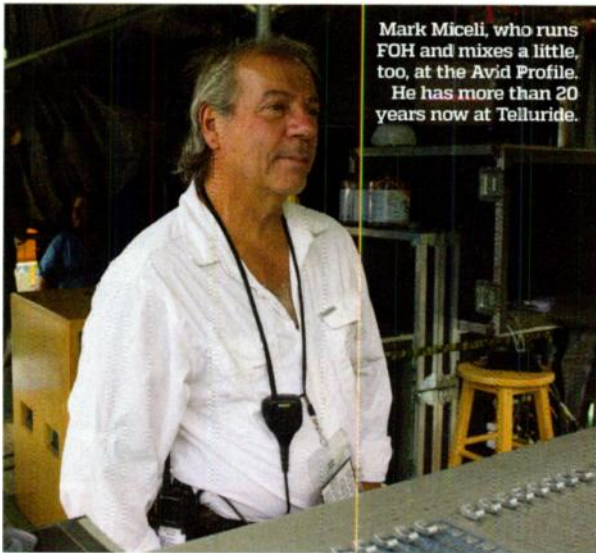
"It's the most beautiful place to play," says folk singer/songwriter Brett Dennen. "It would be an injustice to try to describe it. The best thing I can say is that the fans here are real music fans. You always have a great crowd when you play here, cause it's like a built-in audience. The mountains on top of that make it one of the best places."

It's not just the artists who return year after year. Many of the same members of the production crew have been on board for a decade or more, including Stage Manager Skip Kent, who also manages the stage for Planet Bluegrass' other two festivals and is the stage manager at the Emmys and the Super Bowl, among other high-profile gigs.

"I've been doing it for over 20 years," says Mark Miceli, who helps run the system at FOH. "I don't remember the first one I did, but I remember the system. It was a Meyer system set up on scaffolding. I was working for a Meyer dealer."

At the 2015 festival, they were running an L-Acoustics line array, with Avid Profiles at FOH, which were run by house engineer Tom Holmes, who also interfaces with the guest engineers brought by certain acts to get them up to speed quickly.

"We are running two Avid Profiles at front of house," explains Miceli. "One is what we call the 'batter-up' mixer. It's a place for the engineers to get their files together on a console that is not hot, and then they just



Mark Miceli, who runs FOH and mixes a little, too, at the Avid Profile. He has more than 20 years now at Telluride.

Summit tube compressor; everything else is plug-ins from the Pro Tools pack.

A different console is used for the tweener acts that sometimes play while the stage is being prepared for the next act.

“We have an old Allen & Heath 16-channel analog desk just for the tweeners,” says Miceli. “The funny thing is some people come up and say, ‘That’s the best sound you’ve had all day,’ and

bounce the files over to the live console, and that keeps the flow going. There are always caching issues and things that you need to straighten out.

“The speakers are L-Acoustics K1s, which are relatively new on the scene and are outstanding speakers. The L-Acoustics line arrays are in my opinion probably the best in terms of steering and doing what we tell them to do.”

For the array, the crew settled on 14 K1s per side, plus five KARA boxes a side for underfill. Front fills were handled by dV-DOSC boxes. There are also four delay towers out in the venue, each of which has dV-DOSC boxes. The angle of the boxes is set by the L-Acoustics program SoundVision. The crew arrives the weekend before the festival and starts building the system on Monday.

“I use two methods for system tuning,” says Miceli. “I use (Gold Line) TEF, which is kind of old school, but very, very accurate, and immune to outside noise interference. During the show, I use SMAART. I have multiple microphones out so I can look at the front fill system from the front of house position and delay position.

“These K1s could definitely handle the size of this field, by the way. The main reasoning for doing delay towers is that we really want to try to keep the average level down to 85 or 90 dB, so having the dV-DOSC out in the field allows us to keep the volume low and maintain good coverage. There is a signal-to-noise issue here with the wind, and if you turn it down in front and you are in the back and the wind is blowing, you aren’t going to hear it. Those delay towers really help to improve the signal-to-noise ratio when the conditions are really bad, and that’s about every 20 minutes here sometimes.”

The only outboard gear used at FOH is a

they may be right. I’m a little biased toward the old analog sounds, especially for bluegrass, but it would be almost impossible to do a festival this way analog.”

With Telluride Town Park being at nearly 9,000 feet high, there are some challenges with weather and altitude that the crew needs to deal with, according to Miceli.

“The interesting thing that makes Telluride a unique venue is the altitude density. Because we are at almost 9,000 feet, the air is much thinner, so all the transducers, the pistons, which need something to push against, behave a little differently because the air is thinner. That even affects some of the microphones, too. They are designed to work at a certain pressure.

“The temperature changes here, we go from 80 degrees during the day to 40 at night within a couple of hours, and the interesting thing that happens is there are different temperature layers, with warmer air over the audience and colder air sitting on top of it, and the line arrays have to penetrate that. What happens is the propagation rates differ in the temperature layers, so that causes the sound to change direction. It’s also never the same twice, so we have different presets in our delay settings for different temperatures, and once we look at things in SMAART we’ll see what we need to do compensate. We are always doing things with the system out here.”

Handling the monitor mixes is Michael Bové, who works with Kent and Holmes on a variety of other projects, including the Tony Awards. Bové has also worked the Kennedy Center Honors and the Latin Grammy Awards. The 2015 Telluride Bluegrass Festival was Bové’s seventh.

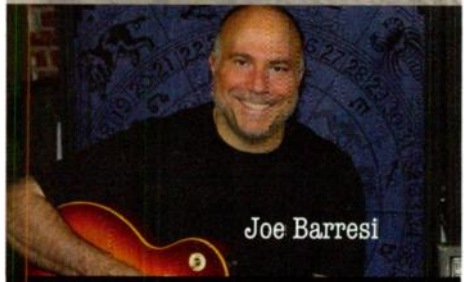
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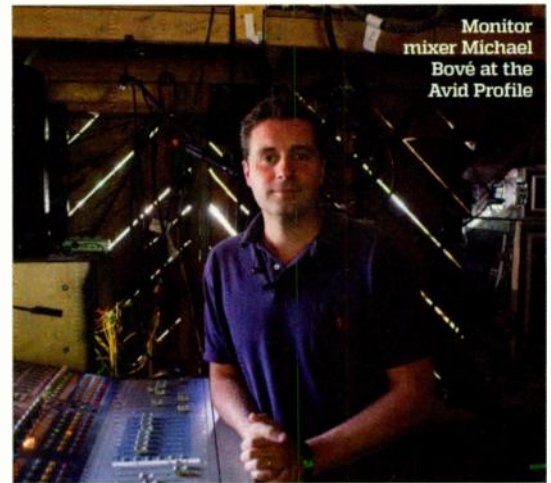
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Monitor mixer Michael Bové at the Avid Profile

Photo: Candace Horgan

says Bové. "I mainly do live television shows, special events. Last week, I did the Tony Awards at Radio City, I did a Memorial Day concert at the Capitol Lawn, I'll be doing the July 4 concert at the Capitol Lawn. I do stuff for Univision down in Miami a lot, and I do things at the White House for PBS."

Bové is mixing on an Avid Profile.

"A lot of people come in with files, so that makes it easy," explains Bové. "There's a lot of dust in this show that accumulates, and the faders deal well with it, so the console is good for that. You can run previews, so you can run audio while the show is going on and you can preview and go to the next act and prepare for it. When the act is over, you can snap to the new scene."

Bové's big push is to try to get more of the artists using in-ear monitors, which he says is a great help on a stage that has a lot of condenser microphones.

"The violins, they want to have a condenser mic; some of them don't even have a DI," says Bové. "Trying to make a condenser mic work on stage and not make it difficult for the front-of-house mixer, we turn off all the wedges, or as many wedges as we can, and having everyone use in-ears makes it good for the former and good for the front-of-house mixer."

All of the wedges on stage are Clair 12AMs, and the crew also provides Shure PSM 1000 in-ear monitors to those willing to try them.

Asked about house microphones, Bové says he has "a little bit of everything." Most of the acoustic instruments get Shure SM81s, while the vocal mics are Shure SM58s with a windscreen on them. The occasional drum kit gets a combination of a Sennheiser e 602 and Shure Beta 52A or Shure Beta 91A on the kick, Shure SM57s, and then Neumann KM 184s on the overheads.

Bové enjoys Telluride in part because of the musicianship of the artists, and also because of the crew he gets to work with.

"I think a big reason Telluride Bluegrass Festival won Pollstar Concert Industry Awards Music Festival of the year is because Skip Kent always assembles a top-notch audio team from around the country." ■

the RETRO Profile

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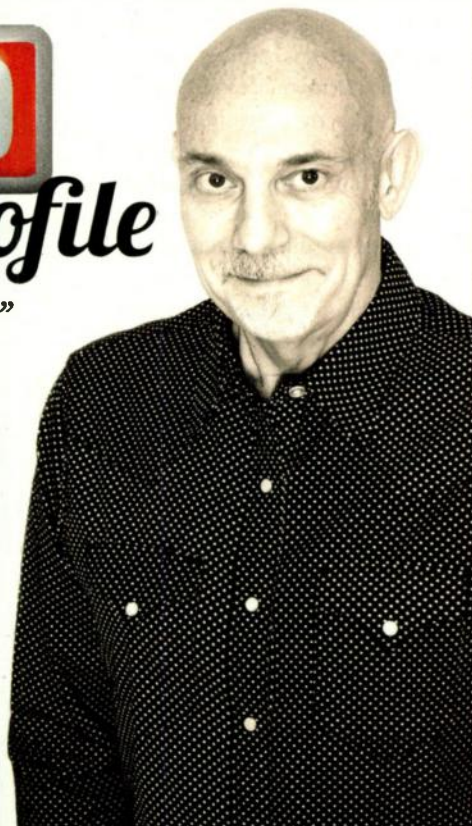
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TOP NEW & UPDATED LIVE MIXERS: BIG & SMALL

by STROTHER BULLINS

This baker's dozen represents the most interesting and promising new live mixing products in 2015, whether big, small or somewhere in between. While widely varied, the following mixers are at least relatable to one another in a few key areas: They are digital, with at least one incorporated touchscreen, third-party touchscreen-tablet control functionality, or both; offer comprehensive or expanded processing and recording features built-in; and are largely future-proofed for networkability via Dante and/or other Ethernet-based protocols.



ALLEN & HEATH dLIVE

Built for live touring and world-class installation applications, the dLive Series offers a worksurface with “daylight” viewable color touchscreen and multi-gesture control for drag, drop, pinch and zoom manipulation; a customized, proprietary GUI wid-

get section; color-based LED cascade view; and more. Bolstering this user-friendly feature set is a number of pro-grade tech specs: 24-bit, 96 kHz operation; expandability to 828 inputs, 848 outputs; and 2x 128-channel 24-bit/96 kHz option slots, all available in three surface sizes ranging from a single 12-inch color screen (S3000) to the 36-fader dual 12-inch color screen (S7000). A&H's MR Series Digital Mix Racks comprise the “brains” of the dLive, with dual-redundant Gigabit links to its surface-mount, hot-swappable onboard power supply, 128x64 mix cores, reversible rack installation rails, the Me-1 Personal Monitor port, dual redundant DX ports for future expansions, and 3x 128-channel 24-bit/96 kHz option ports for connection to third-party networks.



AVID VENUE | S6L

Avid's VENUE | S6L is a touch-based live sound mixing interface with tight integration with Pro Tools, touted as an ideal front-end to the Avid MediaCentral Platform, an end-to-end media management and distribution

platform. Fully modular and scalable, it is “touch-based” via touchscreen workflows, unique ergonomics, and proprietary visual feedback. A strong point of the S6L is its plentiful onboard plug-ins and power to handle “huge channel and plug-in counts at the lowest possible latency.” All processing is at 96 kHz, and support for higher sample rates is pos-

sible. It can be scaled via I/O, the VENUE | Stage 64 rack; each Stage 64 can be stocked with up to 64 inputs and 32 outputs, selected from a variety of analog and digital option cards. Notably, VENUE | S6L uses “open” Ethernet AVB across all of its components, requiring either lightweight, inexpensive Cat-5e cables for runs up to 100 meters, or fiber-optic cables for longer runs up to 500 meters.



BEHRINGER X18 X AIR

Packing numerous features within a \$699 street 18-channel, 12-bus mixer centered on an iPad or Android tablet, Behringer's aspiring X18 X Air digital mixer promises a bevy of appealing capabilities. Those include 16 programmable Midas preamplifiers; built-in WiFi router for direct operation; 18x18 USB interface, designed for iOS

tablet or PC recording; auto-mixing features, perfect for corporate/institutional applications; four stereo effects slots featuring parameters from the popular X32 digital mixer; UltraNet connectivity for P16-M Personal Monitor Mixers, etc.; and much more. The X18 X Air is yet to ship, but if its feature set is illustrative of its capabilities, it could ideal for multi-user, digital mixing settings (e.g., houses-of-worship market, schools, etc.); after all, it promises compatibility with platforms ranging from Android to iOS, and Linux to Mac. Stay tuned.



DIGICO S21

The S21 is DiGiCo's most affordable live mixer, bringing the high performance standards of its world-class SD7 to a head-turning price point of \$6,995 (S21

surface). The core of the S21 is the company's Stealth Digital Processing, with many of DiGiCo's flagship features included as standard—such as the SD7's FPGA algorithms and mic preamps from the 192kHz SD-Rack. Key features of the 96kHz S21 include 24 mic/line inputs, 12 analog outputs, 46 buses, dual multi-touch screens, 21 touch-sensitive moving faders, four layers of 10-fader banks with customizable layout, an integrated USB2 Audio I/O interface for recording and playback of up to 48 channels, eight effects engines, and much more.

While most of the mixers listed in this feature now include touch screens, DiGiCo notes that the company has been incorporating them

in products as far back as 1997. No doubt, DiGiCo is continuing to innovate at the top level of live mixing technology and the buzz surrounding the S21 at InfoComm 2015, the mixer's U.S. unveiling, echoes that sentiment.



FAIRLIGHT EVO.LIVE

Fairlight's flagship digital mixer has recently received a significant update via Version 5.1 software; the EVO.Live now provides up to 200 channels, offering newly enhanced signal routing with up to 16 mix-minus, 24 sub and eight main

buses. Further, options such as fly-in cart FX, off-line preparation via laptop and extended customization tools like optional lighting integration promise even more comprehensive control over complex live productions. Three EVO.Live models are available, any of which can be used together for a maximum of 60 faders: the standalone EVO.Live chassis measuring up to 104 inches, a small-format tabletop (TT) chassis at 28 inches wide for 12 faders and full center section and custom furniture mounted versions, per special order. Also playback and recording-ready, EVO.Live can be specified to record up to 128 audio signals with one track of full HD video while simultaneously mixing.



MACKIE DESIGNS DL32R WITH DANTE

Mackie's DL32R is a 32-channel digital live mixer controlled wirelessly from an iPad featuring 32x32 direct-to-drive multi-track recording/playback within a 3U rackmount chassis. Key features include 32 Onyx+ mic pres and 28 buses, Mackie's Master Fader control app, and, most recently, the optional DL Dante Expansion Card for DL32R providing 32x32 channels of network audio I/O, allowing the mixer to be connected to any Dante-powered A/V network. Essentially, it's a provided 32x14 digital snake, with tons of I/O plus all the benefits of a full-featured digital mixer.

I reviewed the buzzed-about DL32R earlier this year for Mix sister publication Pro Sound News. The gist was that it "covers the broadest range of audio tasks in the simplest way of any single product I've reviewed," as I wrote at the time. "Considering its feature set and Mack-

ie's presence and power in the industry, the DL32R is poised to be the next big thing in all-inclusive audio capture, control, mixing and live recording production at \$1,999 street. Add iPad, mics, cables and powered loudspeakers plus a CPU-based DAW or remote USB drive; that's all for a complete and super-capable live sound reinforcement + multichannel recording system."



PRESONUS STUDIOLIVE CS18AI

With PreSonus' new mixing surface for its innovative StudioLive RM Series rackmount digital mixers and the Studio One DAW, tactile surface fans now have a controller option besides touchscreens, PCs and a mouse. The CS18AI offers 18 100mm touch-sensitive motorized faders, control of up to 64 channels, traditional layer navigation, a built-in AVB Ethernet audio interface

with dual XMAX preamplifiers, balanced TRS line inputs, and 2 XLR and stereo headphone outputs. The CS18AI is networked via AVB Ethernet and PreSonus's own UCNET technology.



QSC TOUCHMIX SERIES

QSC's buzzed-about Touch-Mix Series of compact digital live mixers, the TouchMix-8 and TouchMix-16, feature built-in touchscreens with proprietary software and have thus far proven to be easy-to-use and quite a value. Simple Mode is akin to the "auto function on

a DSLR camera," explains QSC, while Advanced Mode allows experienced users to dig deep into a wealth of parameters: a four-band fully parametric EQ with HPF, gate, and compressor per input channel, four stereo processors with a full range of effects, 1/3-octave graphic EQ, multiple monitor mixes, and direct-to-USB multitrack capabilities. All this is packed into the size and weight of a laptop.



SOLID STATE LOGIC LIVE

Incorporating more than 40 new software and hardware-based features, SSL's Live Series L500 console becomes the L500 Plus, gaining what the company calls a "significant power increase" and improved functionality. The L500 Plus marks an increase from 192 to 256 mix paths, a doubling of effects

processing power; meanwhile, the L300 also gains mix paths—from 128 to 192. Software-based refinements include the new Super-Q single-button-activated Query function; optional Dante interface card for up to 32 x 32 channels of redundant I/O at 96 kHz; SOLSA (SSL Offline Setup Application) remote control software, allowing creation and editing of Live console Showfiles on a laptop, desktop or tablet PC; new broadcast-friendly features; a two-operator console expander mode; and more.



SOUNDCRAFT SI IMPACT

Designed to offer the ergonomics of a compact analog console, the 40-input Soundcraft Si Impact featuring 32 mic/line inputs balances classic functionality with modern conveniences, such as ViSi iPad digital mixing control, built-in Stage-

box connectivity for I/O expansion, and recording and playback via 32 x 32 USB I/O. Other features include Soundcraft's own FaderGlow illumination technology, 40 DSP input channels, 31 output busses, 26 motorized faders, and a five-inch color touchscreen display for access to show setup, patching, effects and security parameters. By the power of association through parent company Harman, the Si Impact also offers recognizable effects and dynamics from BSS, Lexicon and dbx.



SOUNDCRAFT UI SERIES REMOTE-CONTROLLED MIXERS

The new Ui12 and Ui16 Ui Series digital mixers each feature an integrated, onboard Wi-Fi router and can be controlled via a tablet, PC or smartphone with cross-platform compatibility via iOS, Android, Windows, Mac OS, and Linux devices—up to 10 control devices simultaneously. The 12-channel Ui12 offers four XLR combo mic/line inputs and four XLR mic inputs; the 16-channel Ui16 offers eight XLR combo mic/line and four XLR mic inputs. Features include built-in signal processing from dbx, DigiTech and Lexicon, including dbx AFS2, DigiTech Amp Modeling; fully recallable, remote-controlled mic gain and phantom power; 4-band parametric EQ; HPF, compressor, de-esser and noise gate on input channels; 31-band graphic EQ; noise gate and compressor on all outputs, plus real-time frequency analyzer (RTA) on inputs and outputs; comprehensive I/O and more.



YAMAHA RIVAGE PM10

The latest PM Series mixer, Yamaha's new flagship RIVAGE PM10, comprises the CS-R10 control surface, DSP-R10 DSP engine, RPi0622 I/O rack, three RY cards and two HY cards. What does all this mean? Inter-

esting, intriguing technologies abound in the RIVAGE PM10. It boasts a ground-up redesign of its analog circuitry and much more, including key features such as Yamaha's new Hybrid Microphone Preamplifiers with modeled Rupert Neve Designs transformer circuitry and SILK processing; Rupert Neve Designs/Yamaha co-developed VCM models of Neve-designed outboard devices from the '70s and '80s; upgraded channel EQ and dynamics; 45 plug-ins for creative channel processing; a reproduced Eventide H3000 for live applications; and the TWINLANE ring network using multi-model optical fiber. TWINLANE is an original Yamaha protocol "that can handle up to 400 96kHz audio channels over distances of up to 300 meters with low latency and redundancy," notes the company.



YAMAHA TF SERIES

Centered on a touchscreen, the TF Series is nearly the best balance of traditional audio workflow and pervasive modern convenience available in mid-level, pro-capable digital mixing. I'm currently reviewing a TF Series console, the mid-sized TF3 with 24 inputs. Thus far I've

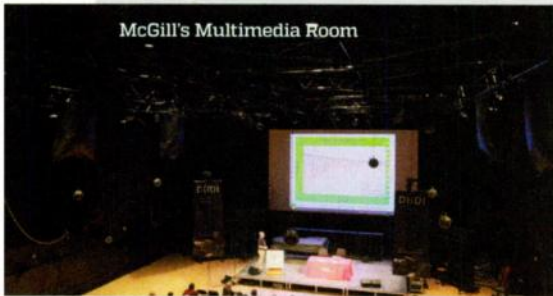
appreciated Yamaha's obvious commitment to developing mixing tools that are conducive with the flow and intuitiveness of modern consumer tech—touch-based GUIs, specifically, in Yamaha's own TouchFlow Operation—as well as proactive collaboration across corporate boundaries—e.g., Shure's creation of preset parameters for the TF Series encompassing equalization, dynamics, head amp gain, limiting and gating, all adjustable "in intensity with a single knob control," best explained by Yamaha promotional literature. Then there's further development of Yamaha's "one-knob" effects—one-knob compressors and EQs with signal specific modes; as Yamaha promotional material summarizes, to "achieve outstanding results with minimum effort in the shortest possible time." Any user, from novice church mixers to professionals, can appreciate these thoughtful TF Series features. ■

Strother Bullins is the Reviews Editor for NewBay Media's AV/Pro Audio Group. Contact him at sbullins@nbmedia.com.

MIX REGIONAL: CANADA

MCGILL'S CIRMMT RESEARCH HUB

McGill's Multimedia Room



Researchers from the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT), housed at the Schulich School of Music at McGill University, Montreal, received more than \$4 million in funding from the Canada

Foundation for Innovation and a total of \$10.9 million, which includes matching funds from the Quebec Government and McGill University. The funds will be used to create a unique interconnected research hub linking two exceptional spaces: McGill's Multimedia Room and Université de Montréal's Salle Claude Champagne.

The Multimedia Room at the Schulich School of Music is a 7,000 cubic-meter, sound-isolated box-inside-a-box that can simulate the acoustics of just about any performance venue in the world. The Salle Claude Champagne at the Faculté de Musique at the Université de Montréal is an iconic concert hall in Quebec. New funding will transform these two spaces into a facility for studying live performance, movement of sound in space and distributed performance in which members of an ensemble are geographically separated, but performing simultaneously.

Researchers from CIRMMT will help develop virtual acoustics to simulate concert environments and other technologies for audio recording, film, television, distance education and multimedia artworks, while neuroscientists and psychologists will be able to study the ways in which large numbers of performers coordinate their actions, as well as the factors that lead listeners to perceive the sounds of different instruments as blended or distinct in orchestral works. Applications include the reduction and prevention of injuries among professional musicians, improved hearing aids, improvements to the quality of recorded music and live performance, and science-based music therapy.



Co-owner
Denis Savage



Studio manager
René Aubé

Studios Piccolo Celebrates 40 Years

This year marks the 40th anniversary of Studios Piccolo. The Montreal-based studio started as a demo and pre-production basement studio in a private home in the east end of Montreal. At that time, it catered to artists who needed a space to rehearse and record demos to prepare for their albums and concerts. Activity was mostly dedicated to projects by one of the studio's owners, bassist François Messier.

"In the beginning, the legendary Sony TC630 was the main piece of equipment," says René Aubé, who has been the studio's manager for 25 years, and who also hung around the studio when he was a musician before then. "The 'Sound on Sound' feature of the Sony TC630 permitted limited bouncing from one track onto the other, adding overdub and background noise layers to the recordings. A Shure 4-in, 1-out mono mixer with no tone control was the console."

Then the studio moved to Dominique Messier's (another one of the studio's owners) private home. "We built a more soundproof environment—once again a basement studio—and bought a Studer 24-track and a Trident 24 console," Aubé says. The studio was ready to start taking on pro projects. Québec artist Daniel Bélanger's first hit album was made here, among many others.

After nine years, Studios Piccolo moved again, this time to its current location. Among other features, the studio has a 40x60x16-foot recording room, high wooden ceilings, and a Steinway 9-foot grand piano. Studio A houses a 48-channel SSL Duality and 16-channel Neve 1073, and Studio B (for mixing) has Avid ICON D-command and Barefoot MiniMain 12 and Dynaudio Air20 5.1 monitors.

Co-owner/FOH mixer/sound designer Denis Savage joined the journey in the late '90s, and Studios Piccolo took off by leaps and bounds, recording hundreds of albums and film and TV soundtracks.

Now, Studios Piccolo has four studios with recording/mixing capabilities, one mobile truck, one mastering studio (The Lab Montreal), and one archiving studio. A big anniversary celebration will take place later this year.

The All-New Blue Light Studio

After four-and-a-half years of making music at 650 Industrial Avenue in Vancouver, Blue Light Studio has done what every studio owner dreams of and dreads at the same time: torn it all down in the name building a bigger and better facility. Blue Light's new 2,400-square-foot multiroom facility remains in Vancouver, just in a different part—in the musically inclined Commercial Drive community—and offers two main recording rooms, several production suites, with plans of adding rehearsal rooms. The Toft ATB 24 console remains at the heart of the facility.

The studio currently has one room set up at the new location, where they are continuing to record while finishing the rest of the studio build.

"Studio design and building is something we find very fascinating, so the opportunity to design and build a new space that was bigger was too good to pass up—especially when you add the desire to have no immediate neighbors," says Kaj Falch-Nielsen, chief engineer/studio owner. "Our building now is a stand-alone rather than a shared building."



Artist Oliveye
working in
the studio's new
room.



The Lazys in the studio with Ian D'Sa, Eric Ratz and Kenny Luong.

OneRepublic was in Studio A (Neve room) and Studio B (SSL room) with producer Ryan Tedder and engineer Rich Rich...Jann Arden was in Studio A with producer Bob Rock and engineer Adam Greenholtz...Astronaut Chris Hadfield was in Studio A with producer/engineer Robbie Lackritz putting the final touches on Hadfield's major-label debut, which includes vocals and guitar recorded off-planet...The Lazys were in Studio A with producer Ian D'Sa, engineer Eric Ratz, and digital editor Kenny Luong...City and Colour were in Studio B with producer Dallas Green and engineer Karl Baram...Lights were in Studio B with producer Thomas Tawgs Salter and engineer Stephen Koszler.



Photo: Ian Martisius

(L to R) Victor Martisius from Ghost Town Orchestra and studio owner/producer Vic Branco

Ghost Town Orchestra was with studio owner/producer Vic Branco and engineer Gabe Gallucci. Vocal chain included a Telefunken U47 with a Retro 176 and a classic SSL E-Series mic pre...Danny Lamb was with engineer Tal Vaisman, with Black & Whyte Music producing. On the song "Goodbye," they used a distorted guitar amp in conjunction with a cranked SSL pre on a guitar D.I. and blended the two together... Producer/engineer Mike Oz worked on material using some of his favorite gear, including Chandler Zener and Curve Bender, UAD Shadow Hills Compressor, and a modded UBK Fatso...Andrea Gal was with engineer Vaisman, with Black & Whyte Music producing.



Lou Doillon

Lou Doillon (daughter of Jane Birkin) worked on new material, produced by Taylor Kirk of Timber Timbre and engineered by Howard Bilerman, Radwan Mounneh and Mark Lawson. Some of the equipment used on the project includes a Studer A820 2-inch 24-track machine, MCI JH15 2-inch 16-track machine, Pro Tools, and a Sytec Audio Systems Neotek Élite console...Other sessions of note include Ought (recorded by Mounneh), The Dears and Basia Bulat (recorded by Bilerman) and Big Brave (recorded by Efrim Menuck).



Studio 451's SSL 9000

Sophie Hunger was in Studio A with engineer Mark Lawson and assistant tech Alain Avon mixing new material. Hunger self-produced...Ubisoft was in Studio A recording new material with producer David Gossage, engineers Pdraig B. Schnirer and Tim Gowdy, and assistant tech Avon...André Gagnon was in Studio A with producer Audiogram and engineer Michael Néron mixing new material... Nuances was in Studio B with engineer Schnirer recording new material. Nuances self-produced...Agoodah Pictures was in Studio A with engineer Eric Romer recording and mixing new material. Agoodah Pictures self-produced.

THE ORANGE LOUNGE, TORONTO

Rush lead vocalist/bassist/keyboardist Geddy Lee was in the studio doing a promo shoot record for Fender...Nelly Furtado worked on material with John Congleton producing. Jerrod Bettis also wrote with Furtado for her upcoming CD...Ian Thornley was with mixing engineer Jason "Metal" Donkersgoed...Barenaked Ladies were with producer Gavin Brown...Tim Hicks was with engineer Spencer Sunshine...Jenny Mayhem

REVOLUTION RECORDING, TORONTO

OneRepublic was in Studio A (Neve room) and Studio B (SSL room) with producer Ryan Tedder and engineer Rich Rich...Jann Arden was in Studio A with producer Bob Rock and engineer Adam Greenholtz...Astronaut Chris Hadfield was in Studio A with producer/engineer Robbie Lackritz putting the final touches on Hadfield's major-label debut, which includes vocals and guitar recorded off-planet...The Lazys were in Studio A with producer Ian D'Sa, engineer Eric Ratz, and digital editor Kenny Luong...City and Colour were in Studio B with producer Dallas Green and engineer Karl Baram...Lights were in Studio B with producer Thomas Tawgs Salter and engineer Stephen Koszler.

IGUANA STUDIOS, TORONTO

Ghost Town Orchestra was with studio owner/producer Vic Branco and engineer Gabe Gallucci. Vocal chain included a Telefunken U47 with a Retro 176 and a classic SSL E-Series mic pre...Danny Lamb was with engineer Tal Vaisman, with Black & Whyte Music producing. On the song "Goodbye," they used a distorted guitar amp in conjunction with a cranked SSL pre on a guitar D.I. and blended the two together... Producer/engineer Mike Oz worked on material using some of his favorite gear, including Chandler Zener and Curve Bender, UAD Shadow Hills Compressor, and a modded UBK Fatso...Andrea Gal was with engineer Vaisman, with Black & Whyte Music producing.

HOTEL2TANGO, MONTREAL

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STUDIO 451, MONTREAL

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The Orange Lounge Control Room A



album recorded completely live off the floor with no overdubs in the studio's 1,500-square-foot live room, recorded directly from the 1968 Germanium Neve console to the Studer A827 24-track 2-inch. It was then bounced to Pro Tools for mixing...James Benjamin has just completed mixing the latest Live From Breakglass Premiere session with Montreal band Stars.



Fresco at Blue Bear Sound

was produced by Timothy Trieste and recorded and mixed by Valeriani...Acoustic band Fresco finished working on the *Live Off The Floor* album, with Valeriani recording and mixing. Fresco self-produced.



The Barenaked Ladies with studio manager Donny DaSilva and producer Gavin Brown.

Noble Street Studios, Toronto. Barenaked Ladies worked on *Silverball* in Studios A and B with producer Gavin Brown and engineer Lenny DeRose...Shawn Mendes worked on *Handwritten* in Studios A and B with producers Ido Zmishlany, Martin Terefe, Louis Biancaniello, Sam Watters, Craven J, Scott Harris, and Geoffrey Warburton, as well as engineer George Seara...The Tenors worked on *Under One Sky* in Studios A and B with producers Bob Ezrin, David Foster, Thomas "Tawgs" Salter, Drew Pearson, Asher Lenz, Bernie Herms, Walter Afanasieff, Marco Marinangeli, Biancaniello, and Keith Thomas, as well as engineer Seara...Noble Street also recently purchased a brand new set of Quedest Monitors for Studio B.



Cam Ainslie of Mindil Beach

new material for Shadow Queen, and will be co-producing Hanggai with Bob Ezrin this month. Richardson is also in the process of moving the studio to Gibsons, BC...Mindil Beach was in the studio working on new material with engineer Paul Boechler...Engineer Ben Kaplan worked with the following artists: Head of the Heard, Matt Mays, Five Alarm Funk, Willa, Wanting Qu, the Wombats, Daniel Wesley, and the Von Herten Brothers.

was with engineer Sunshine...Elyse Saunders was with mixer Donkersgoed...Tyler Shaw was with producer Ryan Kowarsky (formerly of b4-4)...Alessia Cara was with engineer Donkersgoed...OMAM was with engineer Donkersgoed and mixer Daryn Barry...Dean Brody was with engineer Donkersgoed and mixer Barry... Engineer Demacio Castellan put the finishing touches on Madonna's *Rebel Heart*.

BREAKGLASS STUDIO, MONTREAL

Producer Jace Lasek mixed the follow-up to the Juno Award-winning Esmerine album *Dalmak*. Lasek also completed the tracking and mixing for the new album by his band, The Besnard Lakes...David Smith and Tonio Morin-Vargas tracked and mixed of the new Bernard Adamus

BLUE BEAR SOUND, OTTAWA

Razvan Albu was with engineer Bruce Valeriani mixing his latest album. Albu self-produced...The Life Of Pearls Project track "A Flower In The Fray" (commissioned for the 70th Anniversary of Canada's Tulip Legacy and showcased at the Canadian Tulip Festival)

NOBLE STREET STUDIOS, TORONTO

Barenaked Ladies worked on *Silverball* in Studios A and B with producer Gavin Brown and engineer Lenny DeRose...Shawn Mendes worked on *Handwritten* in Studios A and B with producers Ido Zmishlany, Martin Terefe, Louis Biancaniello, Sam Watters, Craven J, Scott Harris, and Geoffrey Warburton, as well as engineer George Seara...The Tenors worked on *Under One Sky* in Studios A and B with producers Bob Ezrin, David Foster, Thomas "Tawgs" Salter, Drew Pearson, Asher Lenz, Bernie Herms, Walter Afanasieff, Marco Marinangeli, Biancaniello, and Keith Thomas, as well as engineer Seara...Noble Street also recently purchased a brand new set of Quedest Monitors for Studio B.

FADER MOUNTAIN SOUND/ THE FARM STUDIOS, VANCOUVER

Garth "GGGarth" Richardson, engineer/producer/The Farm Studios owner, worked on the following projects: producing the Von Herten Brothers, Head of the Heard, the Lazys, and Courage My Love. Richardson also mixed

BIG MOVE FOR DELUXE

Media Complex Decamps to New Location, Upgrades Facilities

BY BARBARA SCHULTZ



It's not an uncommon story: A landlord evicts a studio in order to convert a property into condos. But when the studio business is a media giant like Deluxe (Toronto, Ontario), relocating is a massive undertaking.

Deluxe provides a wide variety of audio and visual production, post, distribution and asset-management services. Recent projects include Atom Egoyan's *The Captive*, David Cronenberg's *Maps to the Stars*, Guillermo del Toro's *Crimson Peak*, as well as TV projects *The Expanse*, *Beauty and the Beast*, *Texas Rising* and many others. The company's facilities were previously situated in a mid-rise landmark building in downtown Toronto. When Deluxe lost its lease, management faced the daunting task of designing, rebuilding and fine-tuning all of its theaters, mix rooms, edit suites and more in about a year-and-a-half, while avoiding downtime that would delay projects.

"They examined more than 30 possible locations, and were led to using the three top floors of an existing office building," says Martin Pilchner, whose firm, Pilchner Schoustal International, was selected to design the theaters and audio portions of what, all told, would be a 62,000-square-foot project. "They had to work out a deal with the property manager of the building, to lift the roof off a portion of the building to make room for a 22-foot ceiling height required for the main theaters."

Working closely with Quadrangle (the base building architects) and Deluxe's technical team (operations VP Nick Iannelli, engineering VP Greg Hull, chief mix engineer Mike Baskerville, and techs Phil Seel and

Wayne Palma), Pilchner Schoustal re-created five film-mixing theaters, a Digital Intermediate suite, ADR studio and control room, a screening room (not yet built) and 24 varied edit suites.

"Their workflow and scheduling mean that projects move from space to space, so one of the key issues was, it had to be transparent, moving from room to room," Pilchner explains. "Our acoustic approach had to make big rooms and small rooms relate the same, so the mixers never have to second-guess anything. We calibrated everything to the scale of each room. The staff will experience the same thing whether they're in a small room or a large one." To accomplish this, the same acoustical solutions were used in rooms that needed to translate to each other—generally, diaphragmatic absorption assemblies in the rear of the room, low-frequency trapping in the front, and splayed wall panels/composite absorbers on the side walls.

Pilchner also addressed the need to isolate rooms from each other, and from other floors, without overtaxing the structure. "Every room is constructed as a room-within-

a-room," Pilchner explains. "In a perfect world, they would have six-inch-thick, floated concrete floors, but structural engineering said we couldn't do that. So we came up with a composite floor built from other materials, including dried sand. It adds weight to the allowed limit, but it helps damp the vibration when you have a limp mass instead of rigid."

Pilchner also consulted with Dolby on the design of Deluxe's Mix Theatre 1, which is the first Dolby Atmos mix room in Canada, and coordinated with JBL's engineering team to upgrade speaker systems in all of the theaters.

"At first they were going to repurpose all of the speaker systems from the old location, but they decided to change to the new JBLs," Pilchner says. "We tested M2s in their old Theater 1 and thought they weren't big enough, but then Deluxe worked with JBL engineering to release more power from the speakers, and now they're just phenomenal."

Some equipment from the previous location was transferred: The Harrison console was upgraded for Dolby Atmos panning, and a number of workstations came to the new facility, which went online in phases, starting in January 2014. Several theaters were completed by February, and Theater 1 opened in May.

"We did an AES presentation where I showed the response curves in the old Theater 1 compared to the new one, and it was dramatically better," Pilchner says. "And the old Theater 1 was a famously good-sounding room. Whether it's the Deluxe staff or outside engineers, everybody loves the sound of these rooms." ■

RobairReport

WHO'S KEEPING SCORE?



By Gino Robair

If there is one thing you can say about the digital age so far it's that there has been a remarkable level of indifference toward the basic information that surrounds a musical project. And I'm not just referring to the delivery side and the rush to make music consumption as convenient as possible.

There seems to be an equal amount of indifference about data collection and verification at the source—the session information gathered during the various stages of production, much of which is an important monetizing factor of a release.

These days, artists and engineers seem to take it for granted that the information about who contributed to a recording will be collected by somebody (the assistant engineer?) and located somewhere (probably in the DAW's project folder, right?), and that it can be easily retrieved when needed. The reality, however, is that the details are often cobbled together long after the fact, allowing for errors that can have serious financial consequences in the project's earning potential.

So who is responsible for gathering the information, and what should it be? (You can probably guess the answer to the first part of the question.)

In the video from a talk entitled "Recording Metadata, Credits, and Your Future" (available on GrammyPro.com), Maureen Droney, Senior Executive Director of the Recording Academy's Producers & Engineers Wing, reminds us that collecting the credits in the studio used to be an integral and important part of the assistant engineer's job. "Sometimes the assistant engineer was the only person who knew which solo got used because you were the one there logging all of that stuff; or who played on what and what was the final take."

These days, however, it's less likely that a studio's staff member will keep detailed notes of your session information unless you specifically ask (and perhaps remind) them to do so. And, unfortunately, the track names in the DAW do not provide enough information to fully meet your commercial needs because there is a lot more at stake than simply gathering names for posterity.

In addition to providing revenue for the composer, lyricist, publisher and label, among others, these important details—what I will refer to here as credits and recording metadata—are a potential source of earnings through SoundExchange for producers and engineers, as well as so-called "non-featured performers" (background singers and backing musicians). The information is also used when fulfilling contractual obligations between rights owners and labels or distributors, either now or in the future for reissue or licensing. And metadata allows for music dis-

covery—not just for consumers, but also between professionals. Moreover, it serves as a way for the Recording Academy to verify eligibility for its voting membership, as well as for Grammy nominations and awards.

Many find the term metadata intimidating, as if it alludes to an impenetrable set of numbers. But in this case, the information you need is similar to what you would find on a master-tape box or an album's liner notes: Every entity involved in the project should be correctly accounted for, as well as session details that are relevant to future monetization (for example, the use of high-resolution formats).

While there is no set standard for exactly what information should be included in the credits and recording metadata as of this writing, a consortium known as DDEX (Digital Data Exchange; ddex.net) is currently working toward one. Made up of music licensing organizations, media companies, digital service providers and "technical intermediaries," DDEX's primary focus is on digital distribution. The success of such distribution, of course, relies on accurate data collection from the beginning, and that's where we come in.

This spring, the Recording Academy's Producers & Engineers Wing released an interim set of recommendations for which credits and recording information should be collected for a given project. Much of it you would already have if you were using the Session Documents found on the P&E Wing's page "Tools, Tips, Guidelines and Recommendations."

For example, there are the basics—Artist, Song Title, Label, Project Number, Date, Studio(s), Engineers (recording, mixing and mastering), Assistant Engineers, Producer, Production Assistant, and source formats (recording, mixing and mastering). To this, you will also want to add the performers and their instruments, and the names of any arrangers, management, publishers and PROs related to the project. Other important details in the P&E Wing's recommendation include the country where the recording was made, whether the production contains samples, and the assignment of identifier codes (ISRC, ISNI, ISWC and PWC) when available.

Ultimately, all of these details would be entered into a document that is associated with the project and easily accessible by the participants, in a format that is universal (for example, xml). Until this becomes a reality, I encourage you to create your own credits and recording metadata form (whether in .txt, .doc, or Google Doc format) using the info above. Then, make it easily accessible so that you keep it up-to-date as your projects progress.

In the meantime, the Robair Report will visit this topic again as more specifics about credits and recording metadata are announced (hopefully around the time of the AES show this fall). ■

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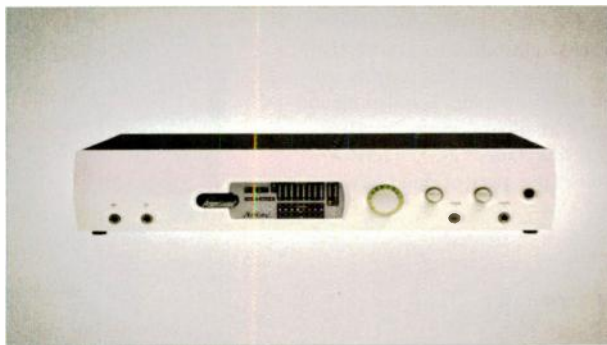
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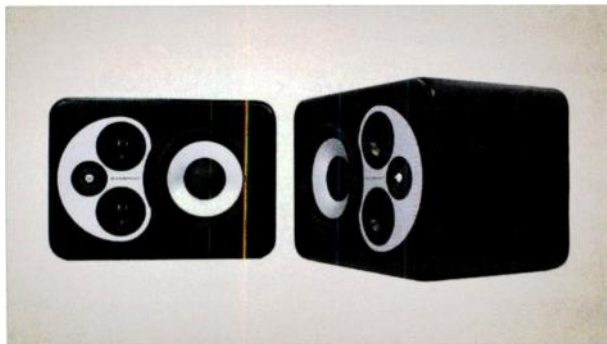
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SYNCPRO PRODUCTION RESOURCE FILE SHARING

Direct Access Without the Cloud

For those wanting to speed up their workflow, Get-Sync.com (\$39.99/year per user) offers peer-to-peer file sharing for production audio without file size limits. After installation, Sync will create a private user identity using a Public Key Infrastructure rather than email and password combinations. This identity represents you, and can hold your folder permissions and establish connections with other devices. Transfers

use the BitTorrent protocol, which allows devices to receive file pieces from several peers simultaneously. The service works on all platforms, and without using the Internet, you can share files at up to 16 times the speed of cloud services.



GIK ACOUSTICS EVOLUTION POLYFUSOR

Hybrid Diffusor/Absorber

The Evolution PolyFusor is a curved panel that smoothly transitions from a bass trap at 80 Hz to upper-bass/lower-midrange scattering device starting at 600 Hz. When properly used in multiples, in relation to boundaries or with absorption, the Evolution PolyFusor promises a neutral sound while providing a bigger psychoacoustic feel. Standard dimensions are 48x24 inches (HxW) with a narrow 5.25-inch profile that hugs the wall. The Evolution PolyFusor is packaged in pairs and, for a limited time, shipping within the continental U.S. is a flat \$25 per box.



STEINBERG NUENDO 7

New Features for Post and Game Audio

Nuendo 7 is a major upgrade that comes packed with features including a mixing console with up to 13.1 support, a Channel Strip, automatable mix buses, VCA fader support and a fully integrated loudness measurement and processing toolset. Other features include integrated re-conforming

solution for automatic audio-to-picture alignment, direct connection with the Audiokinetic Wwise game audio middleware, advanced multitrack audio-to-picture editing, and more. Customers who have activated Nuendo 6.5 or previous versions since April 20, 2015, are eligible for a free, downloadable update.



AKG C314 CONDENSER MICROPHONE

Four Polar Patterns, OL Detection LED, 414 Legacy

The C314 (\$399) multipattern condenser microphone features four selectable polar patterns, the C414 XLS gold-plated membrane, low self-noise, a -20dB attenuation pad and bass-cut filter, and an overload detection LED. It uses the same 1-inch dual-diaphragm capsule as the C414 XLS, offering an integrated capsule suspension that reduces mechanical noise and resonances. Accessories include a rugged carrying case, windscreens, spider suspension-mount and stand adapter.



PAU AUDIO 805 PREAMP

Four Pre/DIs in a Single Rack

The 805 preamp from PAU (\$1,680) boasts pure, undistorted amplification across the entire gain range. The single-rackspace unit features four preamps using Neutrik XLR rear inputs, plus four front panel DI inputs. Other features include microphone gain from +13.5 dB to +66 dB, DI gain from +6.3 dB to +60 dB, +13 dBu of input headroom, and +26 dBu of output headroom. Each channel features front panel LED toggles for polarity, phantom power, and an XLR or DI input priority.



ACOUSTIC GEOMETRY ROOM PACK

Scalable Absorbers and Diffusers

The Room Pack from Acoustic Geometry features a variety of ASTM E-84, Class-A solutions for taming room acoustics with wall- and ceiling-mounted diffusers and absorbers. The fabric-wrapped panel absorbers are made of 6-pound-density glass fiber with woven fabric and micro-perforated vinyl facings. Sizes include 2x2-foot/1-inch thick (Wall Panels), 2x4-foot/2-inch thick (Wall Panels), and 2x4-foot/1-inch thick (Ceiling Clouds). The diffusers feature a curved front section made of aluminum, a lining of bonded acoustic cotton (recycled) and a bass-control membrane (limp-mass). Bundle prices range from \$199.98 to \$1,999.98.



EASTWEST SOUNDS COMPOSER CLOUD

Subscription-Based Virtual Instruments

Composer Cloud from EastWest is designed to give composers, musicians, producers and songwriters instant access to the company's more than 9,000 award-winning virtual instruments—anytime, anywhere—for a low monthly cost (\$29.99/month and up). Users have access to everything EastWest offers, including new products as they are released, with some exclusive to members only. EastWest's virtual instruments include brass, woodwinds, classical and orchestral, guitars and bass, loops, strings, vocals and more.



SOLID STATE LOGIC LMC+ MODULE

Classic Module Ports to 500 Series

The LMC+ (\$649), a 500 Series redo of the famous Listen Mic Compressor from the SSL 4000E console, includes all of the characteristics of the original version but with a collection of new features: a pair of variable SSL High Pass and Low Pass filters to allow targeting of a specific frequency range, a filters-to-compressor sidechain option and a wet/dry blend control for instant parallel compression. Two additional superb new tools are added to give the LMC+ a distinctive sonic twist: the Scoop button phase inverts the wet signal to give unusual sound sculpting possibilities using the Wet/Dry blend control, and the Split button engages a band-pass subtraction mode that can compress certain frequencies of the signal and leave others untouched, to be blended back together at the output stage.

New Sound Reinforcement Products



POWERSOFT OTTOCANALI DSP+D AMPS

**Eight Channels Bring Up
to 12,000 Watts**

The Ottocanali Series DSP+D amplifiers offer a wide range of system control and monitoring functions, as well as sound shaping, for a total of up to 12,000-watt output power at 4 ohms over 8 channels for Lo-Z or distributed line systems. Other features include switchable main and aux signal inputs per channel, adequate GPIO, alarms, Lo-Z and Hi-Z output connections as well as mono-bridgeable channel pairs. These two-rackspace models incorporate two redundant universal switch-mode power supplies with PFC (Power Factor Correction) and patented SRM (Smart Rails Management) technology to maximize the efficiency of the system, while drastically reducing power consumption.

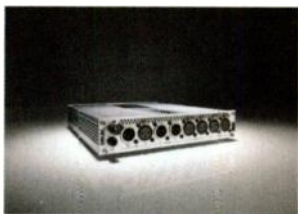
With two redundant Dante by Audinate digital streams, the Ottocanali 4K4 DSP+D, Ottocanali 8K4 DSP+D and Ottocanali 12K4 DSP+D are designed for multi-zone applications in mid-size to large-scale installs.



DANLEY SOUND LABS GO-2 SERIES

Affordable, Outdoor Loudspeakers and Subs

The Go-2 Series of speakers from Danley Sound Labs features injection-molded, weatherproof, and optionally waterproof cabinets with multiple rigging points. The series comprises the GO-2-28 (dual 8-inch woofer), the GO-2-8PR (8-inch woofer with a passive radiator), the GO-2-8CPR (8-inch coaxial with a passive radiator), the GO-2-6C8 (a 6-inch coaxial with an 8-inch woofer), and the GO-2-8C8 (an 8-inch coaxial with an 8-inch woofer).



DELEC AUDIO UNITO INTERFACES

Dante Network-able I/O Units for Installation

The unito Series from DELEC now incorporates a range of interfaces and bi-directional format conversion tools that offer solutions for public address, live sound reinforcement and paging systems (prices range from \$908 to \$7,975). The DELEC DIO (short for Dante Input/Output) provides a host of interfaces and conversion options for a wide range of installation scenarios. The DELEC NIO (Network Input/Output) NIO 1212 and NIO 1624 are each single-rackspace units, while the NIO o800 is a half-rackspace unit; these three units provide bidirectional format conversion of analog line signals and AES/EBU audio data to and from the Dante format, which features uncompressed, multichannel digital media networking technology with near-zero latency or synchronization delays. The new DELEC NIO o204 is a versatile half-rackspace interface providing four 1GB Ethernet ports (3x RJ45 and 1x SFP), two AES/EBU inputs and outputs, two high-quality 32-bit stereo microphone preamps, stereo line input and output capability, a stereo headphone amplifier, and an integrated audio mixer.

D&B AUDIOTECHNIK 10D AND 30D AMPS



Onboard EQ, Speaker Management and More

The 10D and 30D from d&b audiotechnik (prices available upon request) deliver 700W and 1,600W per channel, respectively, and share the same DSP platform and capabilities as the d&b D20 amplifier and the D80. Features include comprehensive d&b loudspeaker management and switchable filter functions via two 16-band equalizers comprising parametric, notch, asymmetric and shelving filters, along with up to 10 seconds of delay for each of the four channels. Other features include five programmable General Purpose Input/Output pins, and four analog and four digital AES/EBU inputs, all of which can be summed and routed to any of the four outputs.

Your search for a new microphone ends here.



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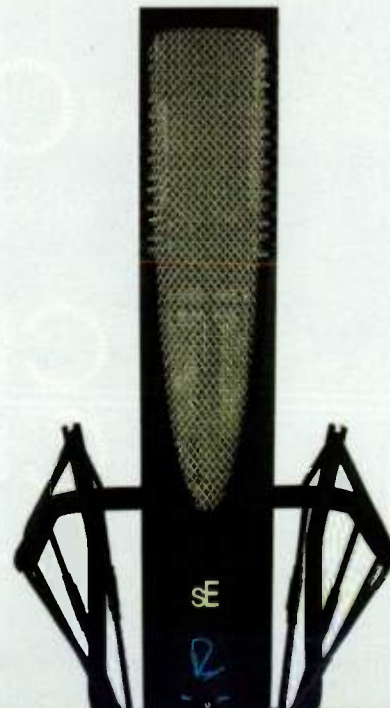
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JOSEPHSON E22S

Unique side-address condenser made to exacting specifications



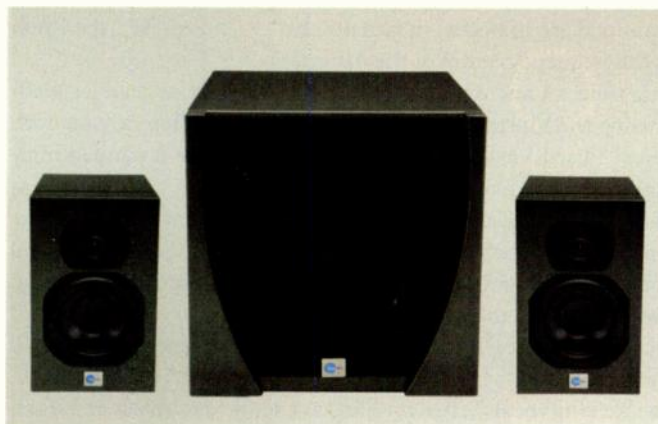
MOJAVE MA-300

Multi-pattern tube LDC promising warm, full-bodied sound reproduction



BLUE SKY STAR SYSTEM ONE

Scalable 2.1 to 7.1 Monitors With DSP



The SAT 6D features a Cirrus Logic sample rate converter and Burr-Brown 192kHz/24-bit converters.

Each year advances in audio technology bring us better equipment, even as prices continue to fall. One aspect of music production that remains constant is the listening environment. In fact, the democratization of high-quality audio gear means engineers often find themselves recording and mixing in less-than-optimum acoustic spaces.

While Blue Sky can't buy you a million-dollar control room, the company can help solve some of the issues in control rooms. That's the motivation behind Blue Sky's flagship Star System One Modular Monitoring System, which, in addition to offering an expansion path from 2.0 to 7.1 surround systems, includes software optimization tools and integrated DSP to analyze, identify and correct room anomalies.

There are two main components in the Star System One. The SAT 6D is a compact, two-way, bi-amped monitor featuring a 6.5-inch, high-excursion woofer and a 1-inch ring radiator tweeter manufactured by Scan Speak exclusively for Blue Sky. The SUB 12D subwoofer has a 12-inch high-excursion woofer, 400 watts of amplification and a response from 25 to 200 Hz, ± 1.5 dB. Looking at the cabinets from the front would lead one to believe that they form a "typical" satellite/subwoofer system, but a glance at the rear panels reveals that each unit has a USB connector, gain trim pot, DIP switches for setting input and crossover modes, and analog and digital inputs. The SAT 6D has a plate that may be changed to open its port. The SUB 12D has analog and digital outputs for feeding the SAT 6Ds.

UNDER THE HOOD

Software is the other major component in the Star System One. The SAT 6D and SUB 12D both feature onboard DSP including $\frac{1}{3}$ -octave graphic EQ, eight bands of parametric EQ, adjustable filters, time delay and a calibration noise generator. Initially, this scared me; I'd rather leave well enough alone than second guess the designer of a loudspeaker and start messing with the box's parameters. Blue Sky's Speaker Room Optimization (SRO) makes tuning the system easy and eliminates guesswork. Used in conjunction with Blue Sky Speaker Manager and Binary Organic Optimization software (BOO!), SRO measures each speaker's response, and calculates the DSP required for optimizing its performance in your room.

Two additional components are required to run SRO: a measurement microphone and a USB audio interface. Blue Sky recommends the ART USB Dual Pre (approximately \$80 street) and either the Behringer ECM8000 or Dayton Audio EMM-6 measurement microphone for the task (approximately \$50 each). I used the USB Dual Pre and the Behringer ECM8000. The instructions for using SRO are detailed but very clear, and address the required settings in Windows.

The first time I went through the process it took about 30 minutes; thereafter I was able to do it in half that time. The basic concept is similar to shooting the room "manually." Once the mic and interface are set up, you press Measure in SRO. The system plays calibration noise through the speaker and analyzes the response. On screen you see Target, Measured and Electrical response curves, so right off the bat you get an idea of the accuracy (or lack thereof) of your room's response based upon the differences between the curves.

Pressing Optimize starts the process, which displays a corrected curve as well as the complementary EQ curve. When Optimization is complete, the Speaker EQ screen is automatically shown and you can write that EQ into the speaker via USB, or you may modify the curve to taste using the 31-band graph or one of eight parametric bands (I did not). This process is performed for each speaker, and the resulting files may be saved and recalled.

My initial impression was that the SAT 6Ds were light in the loafers and exaggerated the low-midrange a bit. I then read the section in the manual describing the SAT 6D's various modes of operation. The SAT 6D ships in Mode 1: Sealed, 80Hz filter off, intended for use with the SUB 12D. I switched the SAT 6D to Mode 4 "Extended" (see the "Try This" sidebar). The difference in low-frequency response

was profound, almost like I had already put the subwoofer into the system. I could probably have lived happily with the two SAT 6Ds sans SUB 12D in Mode 4.

A REVOLUTION IN RESOLUTION

After a few days of listening to the SAT 6Ds alone I connected the outputs of my Dangerous Monitor ST to the analog inputs of the SUB 12D, and then fed the SUB 12D's analog outs to the SAT 6Ds. I moved the subwoofer around the control room a bit but settled on a spot under the desk with the cabinet a few inches closer to the listening position than the SAT 6Ds. (In this spot, the Measured and Target curves were "in the ballpark" of each other: if you find that Measured and Target Curves differ radically, you may need to reposition the SUB 12D.) With the nuts and bolts tightened up, it was time to track and mix.

During tracking I found that the Star System One 2.1 excelled at truly revealing the material I was recording—nothing added and nothing subtracted. This is a deceptively simple concept. If there's a hum from a guitar amp, or a squeaky kick pedal, I want to hear it and address the issue. I prefer accuracy rather than colored or flattering reproduction. Low frequencies (particularly bass synths) were produced with clarity and authority but never sloppy—even at loud volumes.

PRODUCT SUMMARY

COMPANY: Blue Sky International
PRODUCT: Star System One 2.1
WEBSITE: abluesky.com
PRICES: SAT 6D: \$1,695 each; SUB 12D: \$1,995
PROS: Excellent sound. Great resolution of detail. Solid construction. SRO software corrects room anomalies.
CONS: SRO software currently runs under Windows only; no power indicator on front panels.

Listening to mixes I had done in the past was a treat. I was able to hear more detail (especially in reverbs, delays and ear candy) but fortunately never heard something unexpected. In some of my mixes I could clearly hear layers of depth from front to back for kick, snare and hi-hat: The hi-hat was dry and up front on the left, the kick center and slightly behind it with a bit of the natural room sound, and snare behind the kick with a hall reverb. I had never before noticed that. The SAT 6D's sweet spot was very generous—in fact, when directly in front of one

speaker I could still hear a decent stereo image.

The Star System One 2.1 proved equally adept for the mixing process. It was easy to hear small changes in fader levels, or adjustments in EQ and time-based effects. Mixes translated extremely well to other systems.

The Blue Sky Star System One 2.1 does not come cheap, but quality tools for precision work seldom do. And don't forget that you're getting high-quality amplification, acoustic analysis and DSP in the package. If the 2.1 system is within your budget, I strongly recommend that you audition it, and if not, consider the idea of starting with a pair of SAT 6Ds and adding the SUB 12D when budget allows. You won't be disappointed. ■

Steve La Cerra is a New York-based recording and live sound engineer.



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“I can't think of dollars better spent than on the IsoAcoustics... the M2 stands are simply da BOMB!!!” —Frank Filipetti, Grammy Award-Winning Producer



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World Radio History

SONIC FARM BERLINER

Outstanding Pentode Preamp Reimagines Vintage Telefunken V76



Fig. 1: The Sonic Farm Berliner is a feature-packed mic/line/instrument preamp based loosely on the Telefunken V76.



Fig. 2: Latching, balanced XLRs for mic inputs and line I/O grace Berliner's rear panel.

Canadian manufacturer Sonic Farm used the design for the vintage Telefunken V76 mic preamp as a starting point for its superb new mic/line/instrument preamp, the Berliner. Among the changes made to the classic design were substituting EF86/EF806 pentode tubes for the V76's two cascaded EF804s, which are out of production. The 1RU Berliner's input transformer also has a 1:20 ratio (the V76's had a 1:30 ratio), resulting in more sparkly reproduction of transients. And while a second pair of tubes drove the V76's outputs, Berliner's Cinemag output transformer is driven by a discrete solid-state buffer; alternatively, you can switch Berliner's output transformer out of circuit and use the channel's solid-state, balanced line driver (an IC) for a clearer and less creamy sound.

Here's Berliner's signal path, in brief: Two Cinemag transformers serve each channel's front end, one for the mic input and the other for the balanced line input (bringing the total number of transformers per channel, including that at the output, to three). Each channel's mic, line and instrument inputs feed the tube gain stage, which is followed by an output-level control and the switchable output (transformer or IC) mentioned above. The preamp's standard issue features output transformers with a Ni-Fe (nickel-iron alloy) core, but you can order a pure iron transformer (which produces softer high frequencies, for a more vintage-flavored tone) for either or both channels. The unit I tested for this review had pure iron transformers on both channels.

ON THE FACE OF IT

Berliner's beautiful front panel is jam-packed with controls that are nevertheless very neatly apportioned (Fig. 1). The control set and layout share much in common with the company's superb Creamer Plus

preamp (reviewed in the December 2013 issue of *Mix*).

Each of the two channels feature pushbutton switches that respectively activate 48-volt phantom power, pad the mic-input signal 10 dB (before the input transformer), select transformer or solid-state output balancing, and flip phase (at the unit's output). LEDs light up to respectively indicate the unit is powered up, 48V phantom power is applied, and signal is present (green LED) or clipping (red). The preamp's power switch is conveniently located on the front panel.

Two large, plastic, chicken-head knobs control input gain and output level, respectively. The input gain pot by itself has a range of about 36.7 dB, but Berliner can provide up to 76 dB of gain for mic signals and 50 dB for instrument and line inputs in total—as much or more than you'll ever need for any application. The output-level pot attenuates gain before the output buffer and transformer; it doesn't affect tube gain, and it totally mutes the output signal when turned fully counter-clockwise. A three-way switch attenuates the output of the tube 0, 6 or 12 dB (before the output-level pot); attenuating the tube's output precludes your having to use the output-level pot near the bottom of its range—where its action is imprecise—when processing hot signals.

Depress the line/instrument pushbutton to receive signal from Berliner's ¼-inch unbalanced instrument jack (on the front panel) or line input (rear panel). The instrument input sees an input impedance of 3.9MΩ.

A Fat switch lets you select from two alternate corner frequencies for shelving-EQ boost for the bass band, while an Air switch does the same for highs; the three-way switches each have a center position for bypassing their respective filter. The exact corner frequencies aren't specified because they change as you adjust input gain: As gain is lowered, the currently selected Fat corner frequency is raised and

the Air corner frequency is lowered. The shelving filters have 6dB/octave slopes and use the tube gain stage, shunning an extra stage that would otherwise degrade the signal. You can adjust the amount of boost they each provide by adjusting trim pots—two for each channel, accessed by tiny holes in the chassis' top panel—using a mini-slot or hex screwdriver. (Gain knobs would be more convenient than slotted trims, but there is simply no room on the front panel for more knobs.)

A three-way impedance switch selects alternate impedances for mic input. Another three-way switch selects 160 Hz, 80 Hz or bypass for a 6dB/octave highpass filter.

On Berliner's rear panel, each channel sports a mic and line input and a line output by way of balanced XLR connectors (six connections in total for the two channels; see Fig. 2). A ground-lift switch, mains fuse and IEC power receptacle (for the provided detachable AC cord) round out the rear-panel's facilities. Measuring roughly five feet in length, the AC cord is fairly short.

Sonic Farm spared no expense in Berliner's specification: All I/O connectors are latching, all switches have a sturdy feel and positive action, and the chicken-head knobs have a glide that's as smooth as silk. Maximum output level is stated to be +32 dBu—blazing hot! The frequency response is 10 Hz to 50 kHz \pm 3 dB. Harmonic distortion is less than 1-percent below clipping level and decreases rapidly as the unit is driven progressively less.

IN THE STUDIO

Mix readers may remember my gushing praise for Sonic Farm's hyper-lush Creamer Plus preamp and wonder how Berliner's tone differs. Because Berliner includes a gain pot (feedback loop), it generally sounds less colored than the Creamer Plus. But Berliner sounds anything but clinical.

Berliner sounded outstanding on lead vocals: at once lush, three-dimensional, clear and precise. I generally preferred to use the solid-state output on vocals, as the sound was a little clearer and more focused compared to when using the output transformer. Just boost the input (tube

PRODUCT SUMMARY

COMPANY: Sonic Farm
PRODUCT: Berliner
WEBSITE: sonicfarm.com
PRICE: \$2,850 CAD (about \$2,337 USD) factory-direct
PROS: Sounds superb. Feature-packed. Accepts mic, line and instrument inputs. High maximum gain and headroom. Only one rackspace high.
CONS: Output-gain pot disguises clipping indication when cranked. Short AC cord.

gain to dial in the amount of velvet you want to add to the talent's vocals, and lower the output level as needed to prevent clipping downstream.

Next up was a palm-muted electric-guitar vamp, played with a '62 Strat. The amp was miked from two feet away with a Neumann U 87a set to bi-directional mode. Driving the tube gain stage once again delivered a gorgeous sound: lush, yet brimming with in-your-face detail. Berliner's output transformer helped mitigate the Strat's mild inherent glassiness, lending a more creamy tone.

The Fat and Air equalization circuits both sounded absolutely gorgeous: smooth and rich. The FAT2 setting lent a thunderous low end to electric bass guitar, recorded via Berliner's front panel DI jack. With the tube gain cranked and the solid-state output selected, the sound was huge but not at all boomy or mushy. Switching in the output transformer rounded the track's transients nicely, providing an alternative tone.

Berliner's line inputs handled my console's hot 2-bus levels (+26.5 dBu) with ease and grace. Just be aware that, like with using Creamer Plus, raising an output-level knob past roughly the three o'clock position disguises clipping indication by unjustifiably turning the overload LED's color from red to green. Running a full mix through the line inputs, the preamp added delicate luster, subtle top-octave sparkle and dimension. It sounded like an extremely light veil around 300 to 400 Hz was lifted and the lead vocal was moved ever so slightly forward. Otherwise, Berliner left the spectral balance perceptually unchanged; the overall effect was that it simply made the mix sound sweeter and a tad more open.

The solid-state outputs sounded best to my ears in 2-bus applications, fully preserving transient reproduction and giving a tighter bottom end than when using the transformer outputs. The bottom line? Whether processing mic, line or instrument signals, Berliner sounds absolutely phenomenal. ■

Michael Cooper is a recording, mix, mastering and post-production engineer and a contributing editor for Mix magazine.

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Cool, Cool, Summer



By Kevin Becka

I'm loving the hot months of 2015. For one thing, Mix Nashville is coming back on August 29 to the refurbished facilities of Clair Global Southeast and the brand new stages and production rooms of The Blackbird Academy Live. This time, we're building a one-day event, taking place on a Saturday, making it easy for more people to attend. There will be live sound, recording panels, demos, workshops, live performances and more. Learn about the program, sponsors, and registration at www.proaudioliveevent.com.

Summer NAMM just happened a few weeks ago, and while it may never see pro audio return as in the past, it had a lot more going on in that regard than I've seen since the move back. For the third year in a row, NAMM took place in Nashville's new downtown Music City Center, which is perfectly placed near hotels, restaurants, live music, touristy hot spots and more. The show was busy with lots of attendees and some new pro audio companies opting in. The downside is that in this one-hall show, pro audio is scattered far and wide, so you have to keep your audio radar engaged to scope out booths tucked amidst guitars, drums and other MI goodies.

The NAMM high point for me was the expanded education panels. NAMM TEC Tracks and the new A3E (Advanced Audio + Applications Exchange) bowing for the first time at the show. The panel area was on the show floor with audio delivered to the crowd over wireless headphones. While it looks odd, it works better than you'd think, giving listeners a way to isolate themselves from the constant NAMM din.

A3E on Saturday started with the keynote delivered by Pete Brown, head of Developer Experience and Evangelism at Microsoft. The main takeaway from Pete's address is that Windows 10, releasing as you read this, brings many new audio features that pros should love. For example, there will be codecs for FLAC and ALAC included, plus a MIDI application programming interface. This will allow third-party developers to address MIDI I/O directly to the OS, because it's now built-in.

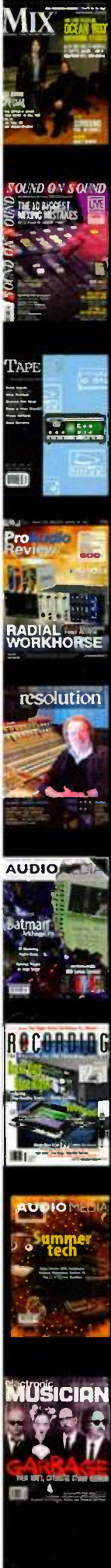
Another plus is how Windows 10 isolates audio on its own core. This eliminates audio glitches caused by DPC latency. DPC stands for Deferred Procedure Call, and it's what happens while Bluetooth and wifi, among other protocols, are doing their thing. While wireless features are great additions to any portable device, laptop or PC, they can wreak havoc with your DAW. So why not turn them off? What if you're interfacing with an app or device that has wireless features? Windows 10 lets you have it all by isolating audio on its

own core, eliminating DPC latency. Pete even talked about delivering MIDI wirelessly in a future build, which brings it all full circle. The new OS operates on everything from your Android phone, tablet, PC, laptop, Xbox, even your ATM, and is a free upgrade (for one year). This is pretty astounding if you think about it, but there is a reason. Microsoft's goal is to have the OS on a billion devices in two to three years—the free upgrade should help do it.

Just after the keynote I moderated an A3E panel with Tony Cariddi, marketing director, audio, at Avid, and mega producer, musician, songwriter Rhett Lawrence. Tony's first gig at Avid, was prompted by his desire to buy Pro Tools, and Rhett, along with engineer Dave Pensado, was the first producer to mix a record using the platform. The focus of the panel was the future of audio from the manufacturing side.

We touched on a number of questions, including "holes" in production and what Avid had in mind to fill them. Avid is big on a collaboration solution across all their gear, both video and audio. Tony mused on the ability to have built-in open collaboration between users on multiple systems on the same session, either in the same room, or across the globe, then being able to easily consolidate the changes much like tracking changes in a Word document. We also talked about the subscription model and how that would evolve, possibly including rental incentives and other add-ons that would make paying monthly for your DAW more likable. From the manufacturing side, this model means they can concentrate more on frequent upgrades with just a few features, rather than caching all the goodies for a massive yearly upgrade. Speaking of which, just three months after the launch of Pro Tools 12, 12.1 is out, offering some great enhancements for non-HD users including 128 Record channels and the Copy to Send shortcut—"Thank you," said I. All upgrades are free if you're on the Avid upgrade plan.

At the end of the panel we took questions, and Chris Knox from Oxford, Miss., asked if there were a way to help build some more backward compatibility into Avid devices (like ProControl), lost in the transition to Pro Tools 11, 12 and beyond. Rhett, a ProControl fan, chimed in, wondering if a third-party company could step up, writing new drivers, then giving Avid a piece of the pie? We never arrived at a conclusion but it was an interesting topic, and conversation. This is the quality of the conversation that will carry on to our upcoming event in August which will feature some of the top names in production from Music City and beyond. I hope to see you at Mix Nashville! ■



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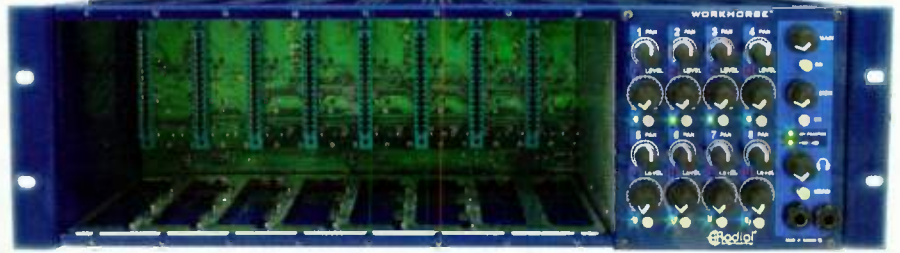
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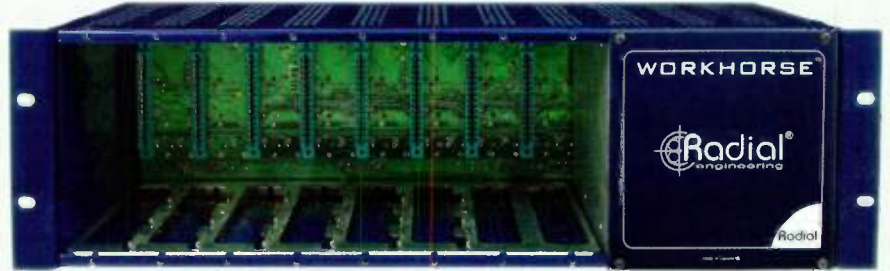
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