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**On the Cover:** John Davenport's Deep River Sound Studio featuring an API Legacy console and ATC monitoring. Photo: Wes Lachot.

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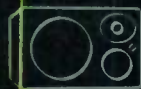
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# Current

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## From the Editor

### IN THE ROOM WHERE IT HAPPENS

**J**ohn Davenport, owner of this month's cover studio, is quite a character. I had the privilege of spending a few days on his property along the Deep River this past month, listening to playback in the studio, riding on an ATV through creeks and forests, flying a drone. And I got to hear his stories, the ones that led from an unplanned, unpaid internship at Chelsea Sound in New York City to, 35 years later, a Frank Lloyd Wright-inspired design of his home and studio.

The stories he tells from being in NYC studios from 1979-89 are a little slice from a magical time. Late-analog, pre-digital recording, with tape loops around a mic stand and kicking the 24-track to get one of the cards working. With utmost humility, he talks of riding with Michael Jackson in an elevator and working with Yoko Ono and the Rolling Stones. Bruce Springsteen. He's not a name-dropper at all. He was an assistant, he keeps telling me. Most of his credits are as an assistant; when he was on the cusp of a full-blown engineering career, he took off for the West Coast, and a slight detour.

But he got to work with the best of the best, he emphasizes. People like Michael Kamen, Chris Kimsey, Jimmy Destri, Phil Ramone, Chris Lord-Alge, Tom Lord-Alge, Bob Clearmountain, Frank Filipetti and Eric Thorngren, among many others. He was an assistant engineer at Secret Sound Studios and then The Hit Factory in its heyday. Living the job 24 hours a day. He learned maintenance from Gus Skinas.

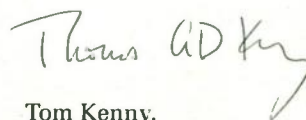
He "got to spend" two years in the studio with Bruce Springsteen, Chuck Plotkin, Toby Scott and the whole band and crew. They cut 75 songs, and he got an education in hard work and inspiration and creative genius. To paraphrase a song from the hit musical "Hamilton," he got to be in the room where it happens.

He loved being part of the whole experience. He lived his whole 20s for the experience, and he spent the decade soaking up the knowledge of New York recording, from the masters. And he speaks of them reverently. I have no doubt he was a great assistant engineer. And then he took off to live another couple chapters of his life. To gain other experiences.

Deep River Studios represents a culmination of a life well-lived. It was 20 years from concept to completion, working with designer Wes Lachot the entire way. It incorporates touches of Davenport's style and sensibility throughout, and it's built for the way he likes to work and live. Frank Lloyd Wright is an overriding influence, as is hexagonal geometry and the way it works with sound. The studio feels intimate and relaxed.

He wanted an old-school analog sound into Pro Tools, so he went with an API Legacy Plus console, customized for his needs, and ATC monitoring. There's a fireplace in the live room, made with bricks from a local kiln, and there's 20 feet of glass looking out over the river. He says people have told him that their blood pressure goes down when they turn into the mile-long driveway and take in the hills, pastures and winding river.

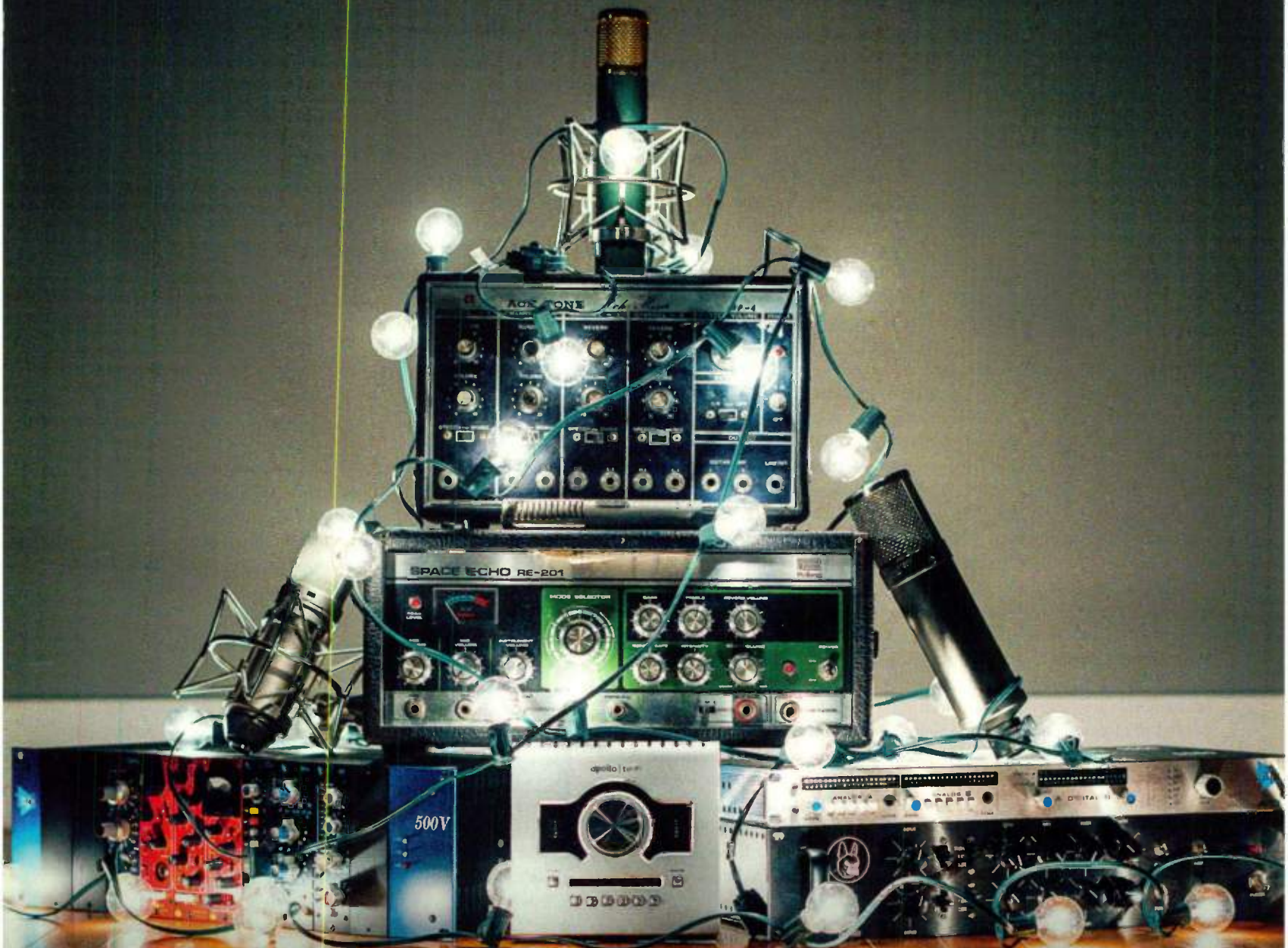
He's been blessed throughout the years, as he readily testifies, settling back into a family business that was later sold, allowing him to build a dream studio on a family property in the heart of beautiful North Carolina. But that's not really his story. He worked hard, he lived life, he made his own stories around the world. And when the time came, he returned to his first love, making music.



Tom Kenny,  
Editor



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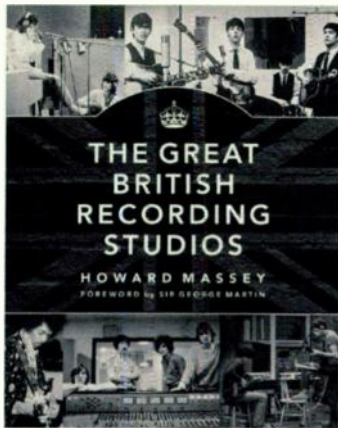
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## The Great British Recording Studios

Let's not mince words. As a touring musician-producer-engineer-author-music journalist, Howard Massey is uniquely qualified to do what he has accomplished in writing *The Great British Recording Studios* (foreword by Sir George Martin; 357 pages; Hal Leonard Books, 2015; \$34.99). He has documented the definitive history of the British recording studios that brought the art of sound recording to a level that spurred, and was spurred by, a breathtaking outpouring of musical creativity in the 1960s and '70s—led, of course, by The Beatles and their insatiable curiosity regarding sound and sonic effects.



Readers who are interested in audio technology will fully appreciate Massey's chronicling the breakthrough moments in the '60s when British studios caught up to and surpassed American facilities producing the bass grooves (Motown) and depth of ensemble sound (Stax) that many British Invasion-era artists lusted after. Massey is so skillful a storyteller that those who are unfamiliar with audio technology or the arc of its development will become hooked, as well. A passing reference to The Beatles wanting "a clean American sound" on "Penny Lane," for example, takes a reader willingly and seamlessly into a discussion of the respective virtues of tracking on 8- and 16-track recorders—which were then quite foreign to the Brits—and from there, on to hearing with fresh ears songs they've lived with almost their entire lives. This in turn leads to an engaging, often gripping narrative detailing British engineers' and producers' quests to close the technology gap with their own inventive workarounds and audio innovations.

Massey personalizes the story with ample insightful quotes from the likes of Geoff Emerick, Sir George Martin, Tony Visconti and other true Hall of Fame studio types. The quotes appear amidst copious technical data (in addition to beautiful color photos of gear and studio interiors, Massey also includes original architectural renderings of studio layouts), but always return to the music. To this end he includes a wealth of engaging sidebars, mostly about the recording of iconic songs, such as "Yellow Submarine," or the Kinks' "You Really Got Me," or the Sex Pistols' first single and album (and how producer Chris Thomas surmounted the band's limitations by developing a whole new sound he dubbed "Mono Deluxe"). And though The Beatles' achievements in sound rightly dominate the first half of the book (even when a section is not about the Fab Four, their name is invariably invoked when other artists and producers muse about breaching audio frontiers), Massey leaves no stone unturned in giving props to lesser but, as the section title says, "Other Important Studios of the Era" as well as mobile facilities (the Stones Mobile, the Pye Mobile, et al.). And yes, the unhinged but brilliant Joe Meek is the subject of a riveting, meticulously detailed chapter all his own ("304 Holloway Road," or, as Massey notes, "the original home studio").

Too much praise cannot greet *The Great British Recording Studios*. An invaluable historical document, and also one rousing ride through the most incredible musical era of the 20th Century. This book has it all. Mark it essential.—David McGee

## Airshow Opens ALLYWORLD



Photo: Michael G. Stewart

In early November, Airshow Takoma Park opened Allyworld, an 800-square-foot multi-use performance venue with 12-foot-high ceilings that has two functions: It expands Airshow's tracking room, using high

STC rated double-glass sliding doors that connect the original tracking room with Allyworld; it is also available for use as a stand-alone performance space with a focus on acoustic music. The original design of the Takoma Park facility includes two mastering rooms, a production/edit room, and Airshow's first tracking and control room recording facility.

Allyworld includes LED stage lighting and seating for approximately 50 audience members. It ties in directly to Airshow's tracking facility. Musicians requiring sound isolation may set up on the other side of soundproof sliding-glass doors.

Airshow co-founder and chief engineer Charlie Pilzer has an avid interest in acoustic and folk music, but also works in a wide range of non-acoustic genres. "Our primary goal with building Allyworld was to increase the amount of tracking space at Airshow's Takoma Park studio, which has now tripled in size," says Pilzer.

Sam Berkow and SIA Acoustics designed and acoustically treated Allyworld, which is nominated for a TEC Award in Studio Design. "I am thrilled to have been the acoustical designer for Airshow Mastering Boulder and Takoma Park," Berkow says. "The quality of work that Airshow does is mirrored by their attention to detail and desire to create relaxed, fun, quiet, accurate and tonally balanced spaces to work in."



### Shure President, CEO Sandy LaMantia To Retire

Shure Incorporated in Niles, Ill., recently announced that President and Chief Executive Officer

Santo (Sandy) LaMantia intends to retire, effective July 1, 2016. As part of a planned succession, he and Mrs. Rose L. Shure, Chairman, will appoint Christine (Chris) Schyvinck to succeed him as President and CEO. On January 1, 2016, Schyvinck will take on the added title of President, and will serve in this role until her appointment as President and CEO on July 1, 2016.

LaMantia joined Shure in November of 1995 as Vice President of Engineering and was later appointed President and CEO in May of 1996. Schyvinck joined Shure in 1989 and led the Operations Division before being named to lead Global Marketing and Sales in 2006. More recently, she was promoted to Executive Vice President of Global Operations, Marketing, and Sales and Chief Operating Officer.



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# MUSIC



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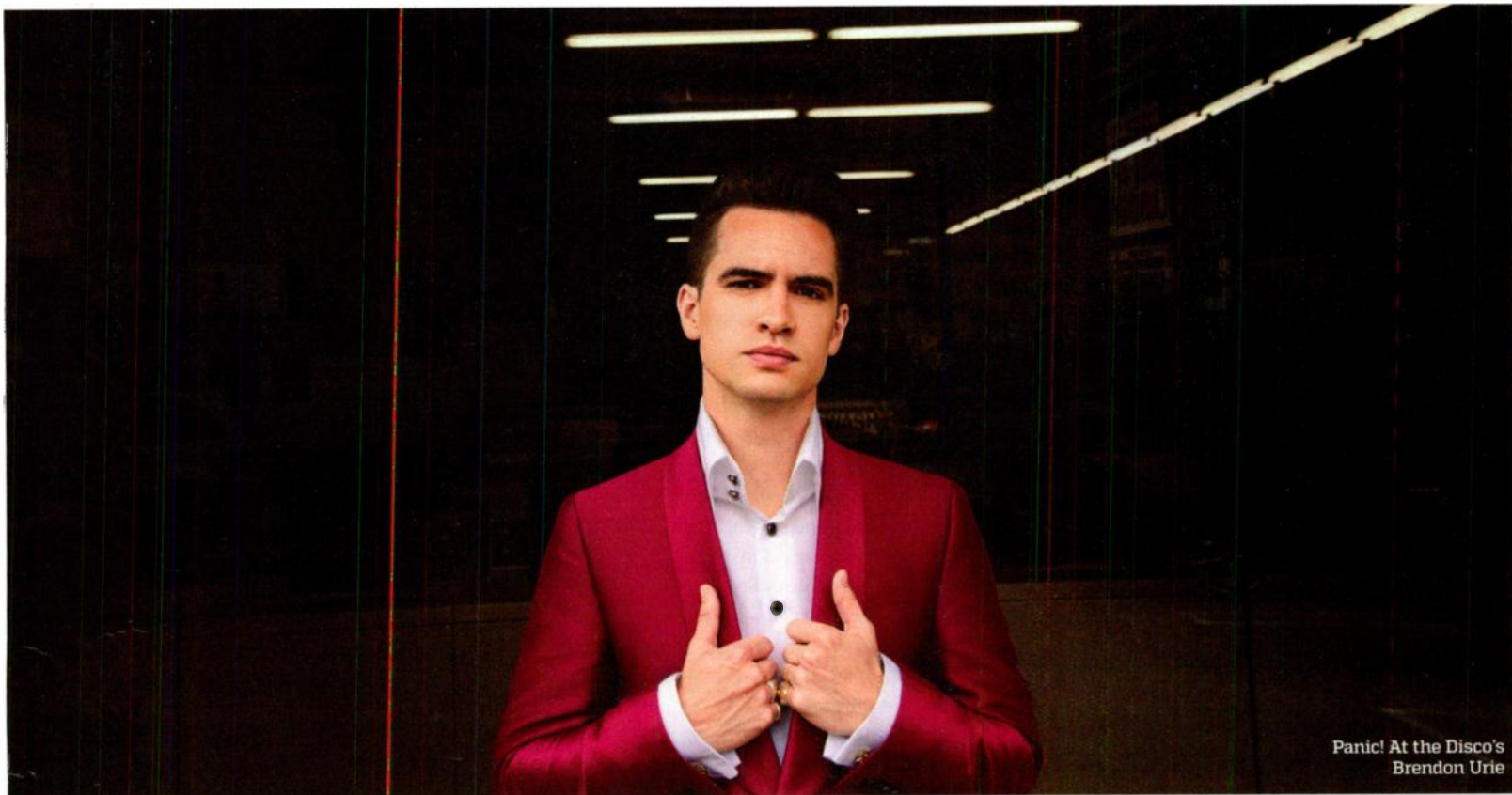
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Panic! At the Disco's  
Brendon Urie

## PANIC! AT THE DISCO

'Death of a Bachelor' By Lily Moayeri

**W**hile working on the latest Panic! At The Disco album, *Death of a Bachelor*, producer Jake Sinclair ended up in the psych ward. This occurrence wasn't strictly the fault of Brendon Urie, the sole remaining—and always central—member of Panic! At the Disco. Sinclair, who honed his chops engineering for Butch Walker for a number of years, and in the process became an in-demand producer in his own right (Fall Out Boy, Weezer), took on too many projects at the same time, ending up in a much-needed breakdown. Rescued by

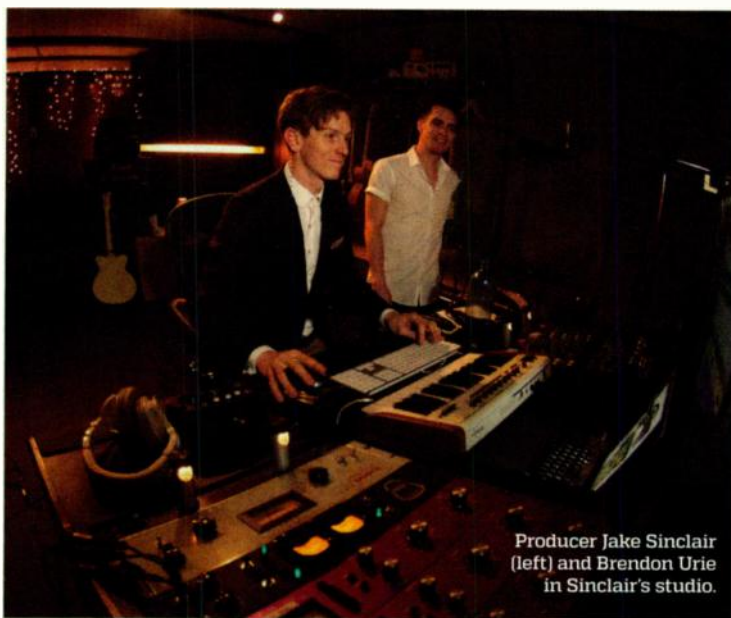
his engineer Suzy Shinn, Sinclair now sits in his very comfortable studio, a spacious room at Infrasonic Studios/Vintage King complex in Los Angeles' Echo Park neighborhood, and he could not be more jovial and relaxed. Sinclair makes sure to take weekends off, and the youthful producer is in bed by 10 p.m.

Sinclair's relationship with Urie goes beyond professional. As the engineer on the hugely successful modern-rock act's last two albums *Too Weird To Live, Too Rare To Die* and *Vices & Virtues*, the two have developed both a close friendship and a working shorthand over

the past six years. Sinclair made a number of good decisions for Urie: to set up his own, fully functioning home studio, to separate the songwriting from the production process, and to reformat Panic's sound—which, granted, changes with every album.

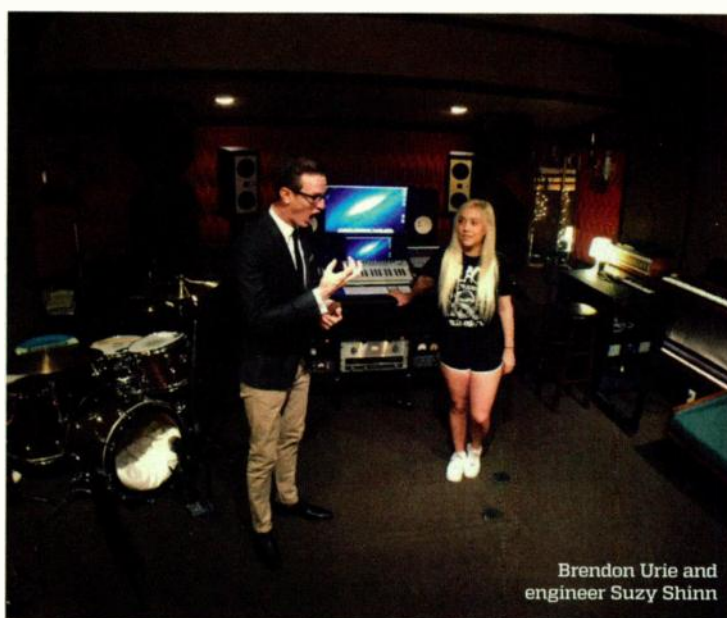
To this end, Sinclair put together a studio for Urie that mirrors his own as closely as possible, particularly in the vocal chain. This includes a Wunder Audio CM7 that in Urie's studio goes through an Undertone Audio MPD1-4 mic-pre into a UAD Apollo. At Sinclair's, the CM7 goes through BAE 1073, then into a Purple Audio

Photo: Suzy Shinn



Producer Jake Sinclair (left) and Brendon Urie in Sinclair's studio.

Photo: Suzy Shinn



Brendon Urie and engineer Suzy Shinn

MC77 limiter and Universal Audio LA-2A. The idea being, if there is anything exceptional captured on the demos, it can be used in the final version of the song. Urie can turn on the magic at any point in time, confirms Shinn, whose special area of expertise is vocals. Sinclair likens him to a Broadway singer, stating that the last take can be the final one, with no comps and tuning.

"The Beatles' recordings are what I'm about vocally," Sinclair says. "The vocal sits in a certain pocket in the midrange that's very translatable. With a big voice, it's always a good choice. When the voice has a lot of character [like Urie's], it doesn't sound good doubled. It's better to get everything else out of the way and turn that one thing up. You have less data in the way and there's nothing to hide behind. You can see the up-close shot of the person."

Before getting to this point, however, Sinclair and Urie spent a long stretch of time focused strictly on songwriting. Both melody-driven rather than lyricists, they made words their starting point. Writing themselves, as well as getting input from lyricists such as Morgan Kibby, Sam Hollander, and Lolo, among others, they thought of the lyrics as building blocks for the melodies. Recording voice memos with just a piano and vocals, the two would send it to their manager, whom they share, and go forward based on approval. The album was already picked out before it hit demo stage.

"I would have [Urie] start the demo with direction from me," Sinclair says. "I would then let him finish at home. He's very capable in Logic—more so than he gives himself credit for—so he did most of the programming and synths and sampling. It was a matter of completing whatever vision we started with at his place. He would send me files and I would reorganize what he did and replace sounds in Pro Tools."

A Frank Sinatra-style crooning—a sharp turn from the bright shouts of modern rock—proved an unexpected direction. Urie ably tackles the croons on the title track and the closer, "Impossible Year." The former, if the smooth vocals are removed, is essentially a hip-hop track with an 808-generated bass sound, plus programmed and sampled drums in Logic and Pro Tools. The latter, on which Urie starts low and changes key on

each verse, features only piano, bass and horns, once again withholding over-instrumentation.

In contrast, Sinclair incorporated Urie's love of hip-hop and his constant spitting of rhymes into the songwriting. Using a hip-hop track at the core of the song, the two wrote over the top with organic instruments, adding big-band horns—recorded by Rob Mathes at Avatar Studios in New York City—to every song. Says Sinclair, "A horn section adds an air you don't get with Arturia synths or samples. It was a way of taking some of the melodic ideas that we had and giving them an extra layer you can't get any other way."

Urie's noted multi-instrumentalism comes into good play on *Death of a Bachelor*. Once past the songwriting and demoing, the tracking happens in Sinclair's studio to Pro Tools. Here Urie is put to work on every instrument. A vintage Ludwig four-piece drum kit with an AEA R88 microphone on the overhead and an AEA R44cx for the room, both smashed to bits with a Chandler TG1 limiter. Sennheiser MD421 II on the toms, AKG D12 on the kick, Josephson e22S on the snare, and AKG D190 on the snare shell. All go through BAE 1073MP with the snare shell additionally smashed with a dbx 165a compressor, attempting to re-create a Tame Impala-like exploding drum sound.

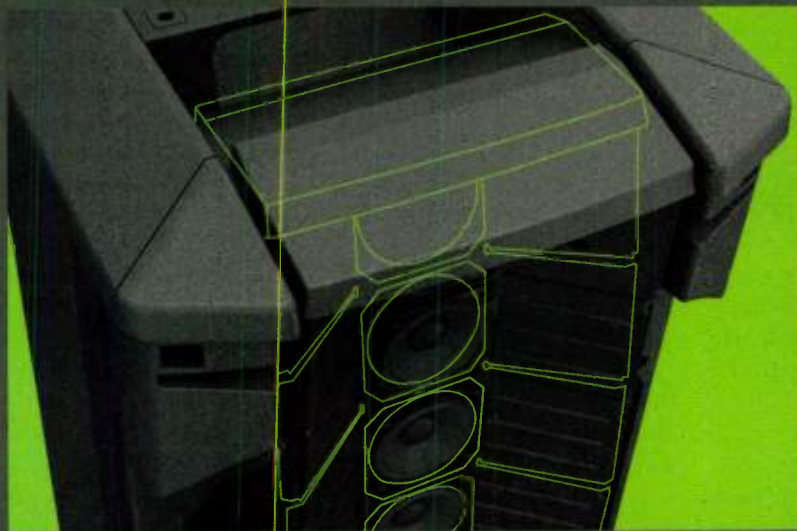
A Guild Starfire hollow body bass with flatwounds is used going through an Ampeg B-15 bass amp. The chain is not dissimilar to the vocals with a CM7 FET microphone through a BAE 1066 and Purple MC77. A Duesenberg guitar is used through a 1972 Mesa Mark amp—the only one Sinclair finds acceptable. ("It has this midrange crunch that just jumps out of the speakers.") The Road King 4x12 cabinet is miked using Josephson E22S and Royer R-121 placed side by side where the cone meets the paper. This goes through Sinclair's favorite preamp, Chandler TG2, summed to one track.

"[Urie] is the best instrumentalist at every instrument—anything he picks up sounds great," says Sinclair, who readily admits his jealousy of Urie's capabilities. "He's such a talent, such a force, but he's such a nice guy, always trying to please and keep everyone happy. If he is allowed to let loose, it's incredible. I felt like I was almost trying to trick him into being himself. I don't think [Urie] is trying to be pop; he is a pop star." ■



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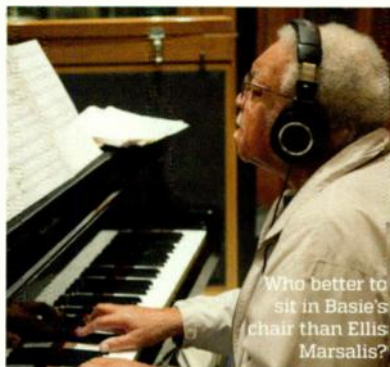


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## 'A VERY SWINGIN' CHRISTMAS' WITH THE COUNT BASIE ORCHESTRA

Music being one of the season's greatest gifts, we interviewed the seven-time Grammy-winning producer/engineer/musician who made one of this year's grandest Christmas albums: The Count Basie Orchestra's *A Very Swingin' Christmas*, featuring guests Johnny Mathis, Ledisi, Ellis Marsalis, and others. Gregg Field was the Orchestra's drummer from 1980 to '82. His production and performance credits include Sinatra's *Duets* and Ray Charles' *Genius Loves Company*, as well as *Ray Sings*, *Basie Swings*. Field's aim is to showcase orchestral soloists and vocalists, as well as capture the awesome power of the orchestra. Recording to Pro Tools 96/32-bit, he produced and co-engineered with Steve Genewick at Capitol Studios.

Photo: Bob Barry/lazzeography



### What makes this the Basie Orchestra now, more than 30 years after his passing?

Field: They carry on the tradition and the soul of the band, and it helps that many of the guys have been there a long time, including their new leader, Scotty Barnhart, who has played trumpet in the band for more than 20 years.

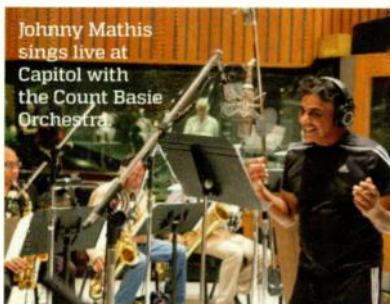
Knowing how to write material for this band also plays an important role in keeping its authenticity. Sammy Nestico, who wrote many albums for Basie, graciously agreed to return with a couple of arrangements for the new album ["Jingle Bells" and "Good Swing Wenceslas"], and I believe this was the first time Sammy has written for the band since Basie left us.

### What's your approach to miking the orchestra?

In addition to using the Royer SF-24 for the room, all the brass and reeds had spot mics. I love the way Royer R-122s sound on brass. For saxophones, I prefer [Neumann U] 67s, but often the problem with older mics is finding five in great shape. So, for the last few years I've used Mojave MA-300 mics on saxophones and woodwinds, and they sound great.

I set the band up with the trombones on the floor and the trumpets on

Photo: Bob Barry/lazzeography



risers behind them. The saxophones are opposite on the floor, facing the trombones and trumpets. So, the sax mics face away from the brass and the brass mics face away from the saxes. I put low gobos in front of the trombone and saxes. This gives me great iso, but they can easily hear and see each other.

The Basie guys aren't studio players; they prefer to hear things acoustically, and some of them don't wear 'phones. I put drums in the booth with the door open and bass and guitar baffled in the room. In this situation, a bit of leakage is a plus, as it expands the overall sound without creating uncontrollable ambience, which reduces the overall impact of all those horns firing up.

### You had Ellis Marsalis on piano. What was your miking scheme there?

First of all, who better to sit in Basie's chair than Ellis Marsalis? Under most circumstances for piano miking, I use a method that Phil Ramone and I came up with, placing a pair of (AKG) C12s just outside the piano about a foot back with the lid completely open; and then, immediately next to the C12s, a pair

of [Neumann] U 87s. Phil added a [Neumann] U 67 right over the middle C string. The combination of those mics, for me, gets as close to the experience of hearing a live piano as I've heard.

### Did the vocalists sing live with the band?

Absolutely! I picked this up from working with Sinatra and Michael Bublé: I start with the singers in the booth for two or three takes, which gives us an isolated vocal track as well as a clean band track. Once they've totally got it, we put a U 67 vocal mic in the middle of the band and go for it. By then, the singer is comfortable with the arrangement, and by putting them out in the room surrounded by the band, you're teeing up a great performance!

Field mixed in his personal studio, G Studio Digital. To learn about his techniques and gear, visit [mixonline.com](http://mixonline.com).—Barbara Schultz

## COOL SPIN SHARON JONES & THE DAP-KINGS IT'S A HOLIDAY SOUL PARTY



No one else working today makes real soul records like Sharon Jones & the Dap-Kings. And now, in the great tradition of the big Motown acts and Phil Spector-produced groups, Jones and company have made a soul- and funk-ified holiday record to spice up the season. This album echoes those old-school sounds and rhythms: the version of "White Christmas" has a very Ike and Tina Turner/"Rollin' on the River" feel. "Silent Night" has a smoky

Chicago blues arrangement, and the tune "Ain't No Chimneys in the Projects" channels the Hi Records Memphis soul sound. But Jones and band are a force in their own right. Every note and every moment on this record is for real, with Jones' high-octane, earthy vocal at the core. With the addition of the awesome original "8 Days of Hannukah," this release is a crowd-pleaser that should make the rotation at all the best holiday parties.—Barbara Schultz

Engineers: Gabriel Roth, Wayne Gordon, Simon Guzman. Recording Studio: Daptone Studios (Brooklyn, NY). Mixing Studio: Penrose Recorders (Riverside, CA). Mastering: JJ Golden/Golden Mastering (Ventura, CA).

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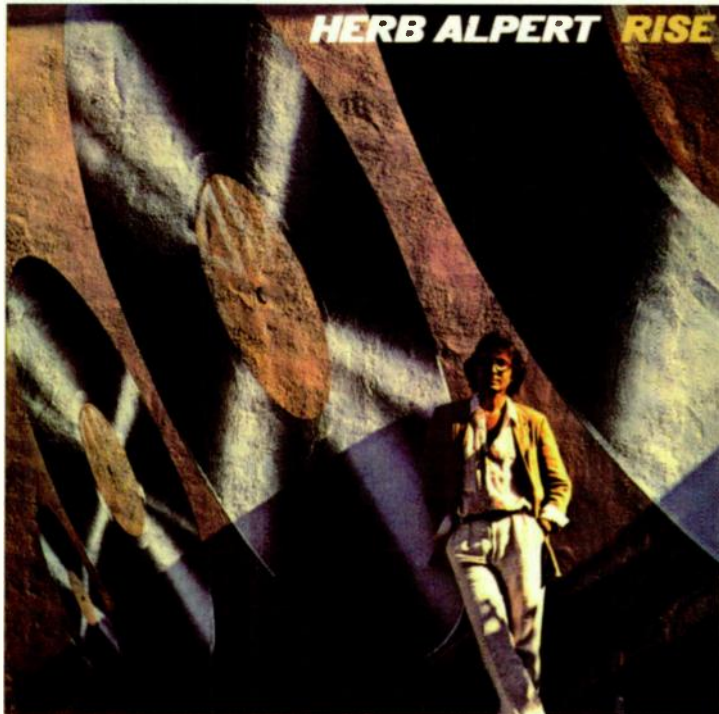
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# Classic Tracks

By Barbara Schultz



## "RISE" Herb Alpert

**R**eaders may recall that 1978 was the height of the Platinum-selling, *Saturday Night Fever*-fueled, aesthetically divisive disco craze. While rock and punk artists turned their anti-disco rebellion into money, major-labels scrambled for ways to capitalize on the success of the Bee Gees, Donna Summer and others. New and established artists alike were persuaded to give their records a disco feel.

This is the story of a song that grew from the notion of Herb Alpert cutting his own disco record, but ended up being something more sultry and groundbreaking: the Number One instrumental smash "Rise."

"One of our A&R directors at A&M Records mentioned to Randy that we should do some of our old Tijuana Brass tunes with a disco beat," recalls Alpert. ["Randy" is the famed trumpet player's nephew, Randy Alpert, aka Randy Badazz—an award-winning music producer in his own right.]

"That was in December of '78, and at that point, I had never worked with Herbie," Badazz says. "When I decided to pursue a career in music, I wanted to go my own way. That's why I changed my name to Badazz."

"At that time, I was cutting some funk records for Columbia, but one day Kip Cohen with A&M came to me and said, 'I'm trying to get your uncle to do a dance-type record,'" Randy continues. "I wasn't sure I wanted

to be involved, but that night I was working at the old Record Plant on Third Street, and I ran into my friend Billy Preston. I told him what was going on and that I wanted to do things on my own, but Billy said something that stuck with me.

"He said, 'Randy, there's only a few people who touch mass amounts of people with their music. When I worked with The Beatles—John Lennon and Paul McCartney—they touch people. Ray Charles is that way; he touches people. Your uncle does that with his horn. So, all you need to do is do *your* thing, which is make funk records. Change the frame around the picture."

The idea of recasting Herb Alpert and the Tijuana Brass' classic tunes as disco songs was instantly unappealing to both Alperns. "I thought, those things were evergreen and they had their place in history," Herb says.

Badazz adds, "Disco was not my favorite thing. But Kip said, 'Just try a couple of songs and see how it goes.' I had a studio in my house, and my writing partner, Andy Armer, and I thought let's write a couple of new tunes as well. We wrote one called 'Rise,' and another called 'Rotation,' and we worked up versions of [Herb Alpert and the Tijuana Brass' songs] 'Lonely Bull' and 'Spanish Flea.'"

"Randy mentioned to me that he'd been asked to do this, and he said, 'Hey, Unc, if you don't do it, somebody else is liable to do it,'" Herb recalls. "So we agreed to give it a try. One thing that made me glad to get into the studio to do this was, the 3M company had loaned us their new 32-track digital machine. I wanted to try that out."

In 1978, Herb Alpert's engineer was Don Hahn, a New York native who had come up in Phil Ramone's A&R Recording and then moved to L.A. to work at A&M at Alpert's request.

"I moved to L.A. to work with Herb in February 1977," Hahn says. "I drove across the country with my wife and three kids in a '60s Cadillac. I started at A&M as senior mixer, then I became director of operations, and then I became vice president and general manager."

Hahn knew A&M's rooms and equipment well by the time the "Rise" sessions took place in the Quad 8 console-equipped Studio D on March 6, 1979, but the digital recording technology was new as could be. A&M was one of only a few studios that had one of the new recorders.

"Giorgio Moroder had one of those machines, and I think maybe The Eagles, and Disney," Badazz says. "The machine sounded phenomenal—no tape hiss, no noise—but it was nothing but problems. When we were recording, there were three guys from 3M standing by in the control room."

"Amigo also had the 3M machine," adds Hahn. "When we had to make transfers, we had to go to one of those other studios, or they came to us, because we just had the one."

Alpert's "disco" sessions had begun a couple weeks before, with the jazz trumpeter and a band he and Badazz had selected—bass player Abraham Laboriel, drummer Steve Schaeffer, guitarists Tim May and Chris Pinnick, piano player Mike Lang, marimba and vibes player Julius Wechter,

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and Armer on Fender Rhodes—experimenting with a couple of disco Tijuana Brass tunes.

"I think we started by playing 'A Taste of Honey' or 'Tijuana Taxi,'" Alpert says. "And it just felt like the wrong approach. I didn't feel comfortable playing that way. We still had some time, so we decided to try cutting 'Rise.'"

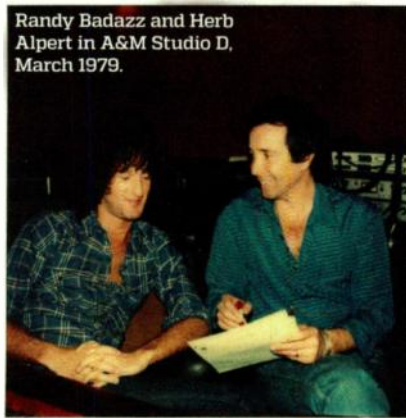
"He said he liked 'Rise,' so we started running it down at 120 beats per minute," Badazz says. "I was really happy with it, but Herb said, 'Let's try slowing this thing down. We went down to 100 beats per minute, and it was like magic. When it got slower, it got really funky.'"

Hahn says that rhythm tracks for "Rise" were laid down first, with Alpert playing trumpet live, as well. His go-to miking scheme at that time included Sennheiser MD421 on kick drum, Neumann KM 84 on hi-hat, AKG C12s as overheads, and Shure 57s on toms and snare. He used Neumann U 87s on Wechter's instruments. Laboriel's heavy four-on-the-floor bass—an essential ingredient—was taken direct.

"Abe's playing was really cool," Alpert says. "There was something about it that just made you move. I remember watching Abe in the studio, and he was dancing around while he was playing that incredible bass line."

Hahn's excellent record keeping indicates that further rhythm parts

Randy Badazz and Herb Alpert in A&M Studio D, March 1979.



were added on March 8. "That might have been when we did the slide sounds on the bass and those heavy boom boom booms on drums," he says. "Those drums—that's a case of working with something till you get it right. I don't remember what kind of mic I used or what the distance was, because you just keep trying it—at a foot, at three feet, at 10 feet—till everybody says, 'Yeah, that's it. Don't touch it.'"

Another hallmark of "Rise" is the reverberant handclaps. "I think we overdubbed those six or eight times," Hahn says. "I probably put one or two C12s up in the room, and we'd move the people around. It was like recording a vocal group. First you record them in one position, and then you switch them around

and back them up, so you get a different perspective each time.

"I think there were six or so guys to start with, but eventually we had everybody in the building clapping—maybe even Effie the cleaning lady. In the end, everybody was clapping but me and my assistant, Don Koldon, because we had to run the machine. Then later I used an Eventide Harmonizer on it."

"Originally when I suggested handclaps, Herb said, 'What do you want hand claps for?'" Badazz says. "Handclaps seemed like something old-fash-

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*"I love the way the control and tracking rooms sound now... and so does everyone that records here!" ~ Butch Walker*

ioned to him. But I said, 'No, let's do huge handclaps, like you're in a disco and 100 people are clapping their hands.' I don't think Herb had been in a disco at that point, but Herb has always been really cool about trying new stuff."

Alpert has always been an artist who keeps stretching, but he knows what will and what won't work for his sound. That is why he used the same type of mic—a Sony C37—for his trumpet for many years. It's why he brought Hahn from New York to run his studios. And, of course it's why he and Jerry Moss built the A&M label and studios to begin with:

"We had a great acoustician in Vincent Van Haaff," Alpert says. "Studio D had a very natural, musical, warm sound. All of our studios, the minute you walked in, you felt comfortable. That has to do with the acoustics, but it's also a fact that if you don't feel good in a place, that ends up translating into, 'I don't think this sounds good.'"

Alpert says he liked the Sony mic he used for years because it captured a mellower trumpet sound. "It didn't have those screaming high frequencies," he says.

All of the inputs on "Rise" were recorded through the mic preamps in the Quad 8 console, and before the track could be edited and mixed, everything was backed up to an MCI 24-track analog machine because, Hahn points out, "You couldn't edit in a digital machine. It wasn't invented yet. We'd do our edits, and then transfer it back to digital if we were going to do more overdubs."

During the mix, Hahn played with the sounds using what he says his

assistants used to call 'Don Hahn's toy store.' "They would put up a whole bunch of Harmonizers and tape delays and all sorts of gizmos. I know I probably used a Fairchild on the bass," the engineer says. "That was my favorite toy since I started in the business. We used dbx limiters, LA-2A compression. We may have had some outboard API EQs. On kick, I think I used an Orban, which you couldn't give away these days. And probably an EMT 140 reverb. We had a lot of toys, and it was just a fun session. Randy, Andy, Herb—they're really creative people.

"And now I have these plaques on my wall," Hahn continues. "I got a Gold record, and a Platinum record, and another one that 3M sent me that says, 'Presented to Don Hahn to commemorate the first certified Gold record ever recorded on a digital tape machine for the A&M hit single, "Rise."'"

"Rise" became Herb Alpert's first Number One record since the Tijuana Brass years and won a 1979 Grammy Award for Best Pop Instrumental Performance. It was actually the first all-instrumental song that Badazz had ever written—not bad for a first try.

Alpert points out that the song's success was bolstered by its use in the infamous Luke and Laura rape scene on ABC-TV's soap opera *General Hospital*.

"That was instrumental in moving it up the charts," Alpert says. "But that song never would have happened without Randy's involvement. The melody is beautiful, the changes are beautiful, and Randy's ideas for the handclaps and other things in the studio put it over the top." ■

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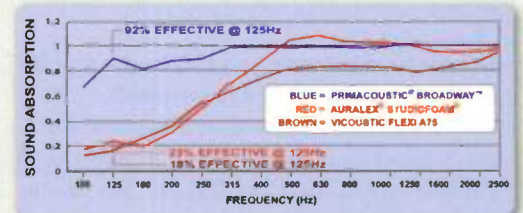
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# TWO WAYS TO LOOK AT THE SCORE

## Orchestrating with Norman Ludwin, Mixing With Joel Iwataki

By Gary Eskow



Norman Ludwin

bassoon and trumpet. This has given me knowledge of woodwinds and brass, which has proved immensely valuable. I tell all my students to try and get familiar with as many orchestral instruments as they have the time and energy to learn.

**As the orchestrator, are you present at recording sessions if you're not working as a player?**

Depends on the project. Often the main orchestrator will be expected to attend the recording session when they are scored in L.A. I'm fortunate when working for Michael to be playing on the session as well as orchestrating cues.

**What makes a good sketch score, one that makes it easiest for the orchestrator to implement a composer's thinking?**

I prefer as complete a sketch from the composer as possible, so that their intentions are crystal clear. It's also helpful to receive an MP3 of the sketch, which is almost always developed within a digital audio workstation.

**Do you also perform in concert?**

Yes. Making a living as a professional musician means trying to balance recording work with live playing as much as possible.

**What made you decide to write books on composition and arranging?**

I have been teaching orchestration for 15 years in the UCLA Extension Film Scoring Program, the Musicians Union, and at the Cornell School of Contemporary Music. I started conceiving the idea of putting my lessons into book format several years ago when I realized that there was a need for a more practical approach to orchestration than what was available. I also felt that my access as a working orchestrator to contemporary film scores was unique and gave me a rare insight.

**You worked as an orchestrator on the television show *Lost*, which used a lot of "modern" classical effects. To what extent are you as an orchestrator asked to come up with the proper notational devices when a composer wants, say, a Penderecki or Corigliano "effect" but doesn't know how to write it?**

Often I will be asked how to notate a certain sound, especially aleatoric effects. Fortunately, because most of these effects [glissando to highest pitch, for example] are so popular, there are established notation conventions. The TV series *Lost* was an excellent use of 20th century aleatoric effects. Partly because of the unusual instrumentation that Giacchino chose [strings, harp, piano, percussion and trombones], and the locale of the show on a desert island, the modern instrumental effects lent themselves perfectly to establish the mood director J.J. Abrams was searching for.

**I**f you plan on building a long-term career in the competitive L.A. recording industry, it doesn't hurt to wear multiple hats. Ask Norman Ludwin. A highly accomplished and in-demand double bass player whose musicality has helped bring to life scores for *Jurassic World*, *Star Trek Into Darkness*, *WALL-E* and dozens of other major motion pictures, Ludwin is an orchestrator who has fleshed out scores for Michael Giacchino and Christopher Young, among many others. He's also an accomplished composer in his own right. Throw in the fact that he's been teaching orchestration in the UCLA Extension Film Scoring Program for the past 15 years and has published six books in the last two years, and you get the point—Ludwin has carved out a unique place in the Hollywood film industry. *Mix* spoke to him about his skill set, and also had the opportunity to chat with mixer Joel Iwataki, with whom Ludwin worked on several important projects.

**When did you begin to augment your work as a session player with orchestration gigs?**

Ludwin: I began to work as an orchestrator about 10 years ago on student projects, and started working for Michael Giacchino in 2012.

**Does your experience as a player give you insights that you wouldn't have if you hadn't played in sessions?**

Definitely! Having played in orchestras since I was a kid gives me so much background on what will be effective in the recording sessions. I'm also very lucky to not just play the bass in orchestras, but also the

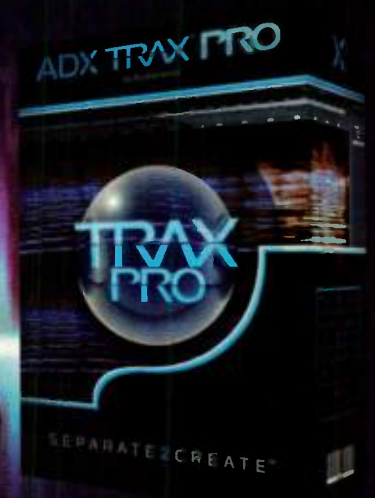
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#### Two-way monitor

Switching to FOCUS mode reconfigures Trio6 Be in two-way mode. This configuration provides the perfect compromise when checking the quality of the mix for playback systems with limited frequency response, such as TVs, PCs, cars, and portable speaker systems.

#### Beryllium inverted dome tweeter

Just like the SM9, a 1 inch pure Beryllium inverted dome tweeter.



# All Access

Photos and Text  
By Steve Jennings

## FLORENCE + THE MACHINE



Mix caught the Florence + The Machine tour when they performed two sold-out shows at the Greek Theatre in Berkeley, Calif., in late October. The universal package and P.A. for Florence comes from Firehouse Productions in the U.S. Adlib is providing the system in Europe, and JPI Audio in Australia.



**FOH engineer Jim Warren**, left, with **systems tech Marc-Olivier Germain**, is mixing on a Venue D-Show console, his board of choice for some time. "I use a few plug-ins, although the majority of EQ and compression on the inputs is done using the built-in console tools," Warren explains. "I'm using McDSP DE555 on Florence's vocal and their ML4000 limit-

er across the mix. I drive the console, and Marco [Germain] monitors and looks after the system, making sure that day to day there is as much consistency as possible between different systems in different venues. He can walk around during the show and assess the changes that are necessary once the venue is full of people, or weather conditions have changed.

"I have been trying some new things to get the best low-end coverage I can, and the results have been pretty good," says systems tech Germain. "We've been using three flown hangs of subs L/C/R. Subs on the ground are set up in a cardioid pattern—two rows front and back, three wide, two high. I won't reveal all my tricks, though!"

The system for arena shows consists of 12 L-Acoustics K1 and six K2 on the main hang per side. Three hangs of K1-SB are flown. Side hang consist of 14 L-Acoustics K2 per side. We are carrying 26 SB28 subs for the ground. Front fills are L-Acoustics KARA and Arcs. We scale down when we do venues like the Greek, which still required side hangs. But no subs were flown for this one. We had to respect some strict noise limitations for this venue, which was quite challenging."

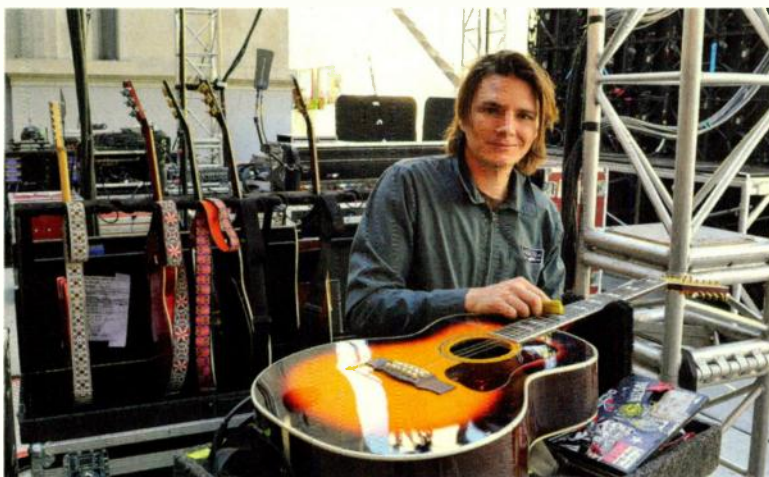




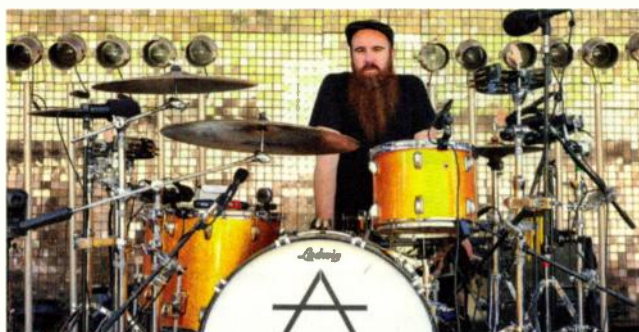
"I mix on a DiGiCo SD7, using about 77 inputs and 32 outputs before any effects—no plug-ins, just whats in the board," says **monitor engineer Jon Ormesher**. "Florence uses a Sennheiser 5200 radio mic, the two backing vocalists use Sennheiser e945s and the three vocalists use Shure B58A for vocals and Beyer M88s for their brass instruments. The glockenspiel is miked using a pair of Shure MC 508Bs that are Y-split. The harp is miked up then processed and DI'd. In-ears for all band members are Ultimate Ears, a mixture of UE 7s and UE 18s with the bass player on UE 11s. Ross Anderson mikes up the stage and co-ordinates all the RF for the show and is an invaluable member of the audio crew. I could not do this without his assistance."



"She is truly a great front woman," Warren says of Florence. "People are always impressed with her energy on stage, and she has the most powerful voice I've ever had the pleasure to mix. It's never a problem keeping her vocal right up front in the mix, and there is never an issue with spill down her mic." Florence sings into a Sennheiser 5200 wireless mic.



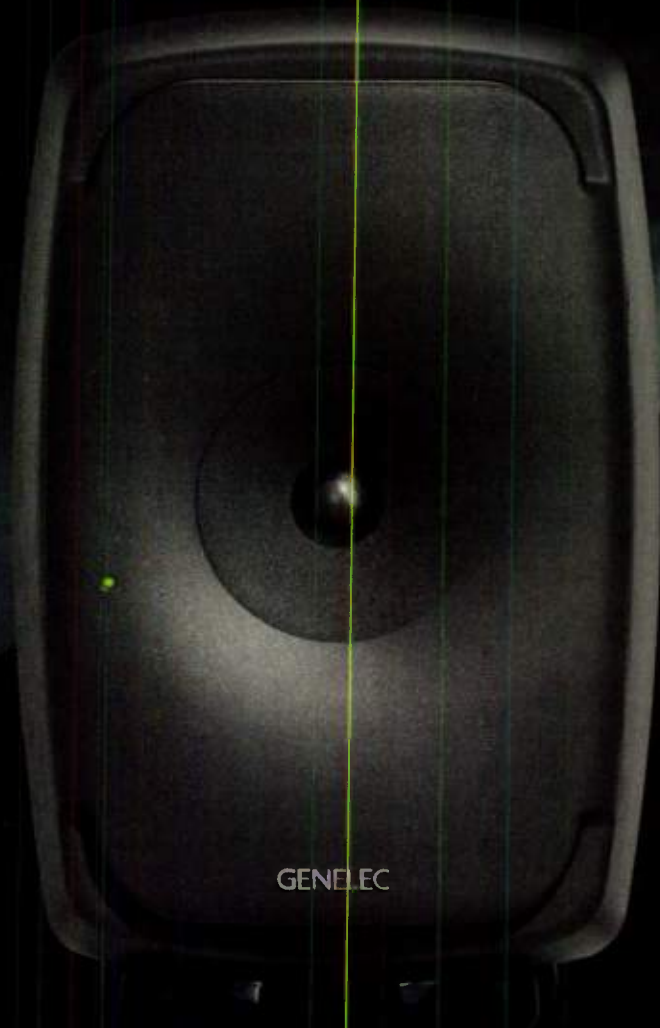
**Guitar/bass/harp tech Justin Garrick** says: "Guitar player Rob Ackroyd uses a Hot Rod Deville 2x12 Fender amp and a Vox AC30C2X amp, both miked with Shure SM 57s. Bass player Mark Saunders uses a Mark Bass amp miked with a Sennheiser MD421 along with two TTE 500 heads."



**Drum tech Michael Noonan** says, "For drummer Chris Hayden, we have on the kick drum a Shure B91 and a Shure B52a, snare mic is a Sennheiser 604 on top, Shure B57a on bottom, a Beyer 201 as a side snare mic, overheads are Audio-Technica 4050s, and toms are Sennheiser e904."



**Keyboard tech Toby O'Pray** says that Rusty Bradshaw is using a Nord Stage 2, Hammond Xk-3c, and a MacBook Pro running Apple MainStage using Native Instruments Kontakt with Komplete 10 Series pianos. Isabella Summers is using a Nord Stage 2, Roland JUNO-Di and Akai MPC 2500.



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## THE DARKNESS

### 'Last of Our Kind' Tour

Through 15 years of existence, UK-based rock band The Darkness—Justin Hawkins (lead vocals and guitar), Dan Hawkins (guitar and vocals), Frankie Poullain (bass and vocals) and Rufus Tiger Taylor (drums, who joined in June 2015)—has maintained a reputation for staging charismatic live shows infused with nonstop energy, audience interaction and a degree of spontaneity.

*Mix* caught the band in Seattle at the Neptune Theatre in mid-October and spoke with veteran front-of-house engineer Andy Shilito, who has worked with The Darkness since early 2003, first as a monitor engineer, then moving to FOH.

During this recent North American leg, the band and crew relied on house-provided sound reinforcement, including P.A. systems, consoles (seeing mostly Avid and Soundcraft Vi Series boards), microphones and monitors. “We are carrying some lights and five vocal mics,” Shilito says. “For club shows I find it just as quick and easy to work with what is already there as it is to bring in a whole new system.

“We have two guitar techs, a rhythm section tech and an LD,” Shilito continues. “They are all excellent and experienced and work as a team. Things happen fast on a Darkness stage—so timing, awareness of everyone else, and confidence is everything. I EQ the monitors and supervise the stage audio environment before addressing the FOH situation. Although this sounds time-consuming, it’s actually extremely beneficial as I have control of, and—



Photo: Todd Berkowitz

more importantly—complete knowledge of where any sound is originating from and behaving as it enters the room, venue or festival site.”

According to Shilito, the key to mixing The Darkness live is getting the instruments and the vocals “to sit together nicely. It takes me about half of the first song to get the mix where I want it. I never fight the crowd noise with volume; it creates too many issues and doesn’t sound nice. I mix at around 104 dB.” Shilito sends Justin Hawkins’ vocal through a BSS DPR-901 Mk I dynamic equalizer into a dbx 160. “I like to hear my compressors so I like his vocal to have attitude,” Shilito notes.

Shilito says that where he places guitars in the mix “depends on the size of show, but Justin’s is always up the middle and Dan’s is slightly panned when the situation requires. I don’t apply any effects—great musicians [are] giving me great sounds. I just make sure the right things are heard and that it all sits nicely.”—*Matt Gallagher*

## BRANDI CARLILE



Photo: Todd Berkowitz

Singer-songwriter Brandi Carlile is known among her fans for a vocal character that translates seamlessly into blues, pop and R&B while rooted in C&W. In March of this year, *New York Times* music critic Jon Pareles wrote, “Her voice encompasses the full spectrum: quiet and clear, tremulously tearful, decisively rasping or reaching to a scream. She can yodel, too.”

Carlile’s power and range is further reinforced and complemented by her longtime collaborators: Tim Hanseroth (guitar) and Phil Hanseroth (bass), also known as “The Twins”; drummer Brian Griffin; and cellist/pianist/keyboardist Josh Neumann. Carlile’s fifth studio album, *The Firewatcher’s Daughter* (ATO Records), released earlier this year, charted Number One on *Billboard’s* Top Rock Albums, Folk Albums, and Independent Albums charts.

*Mix* was in the house at The Paramount Theater in Carlile’s hometown of Seattle to see the final show of her fall 2015 tour, which included stops at the

Ryman Auditorium and Radio City Music Hall. Beginning on November 28, Carlile and The Twins will embark on a winter acoustic tour in the Northeast.

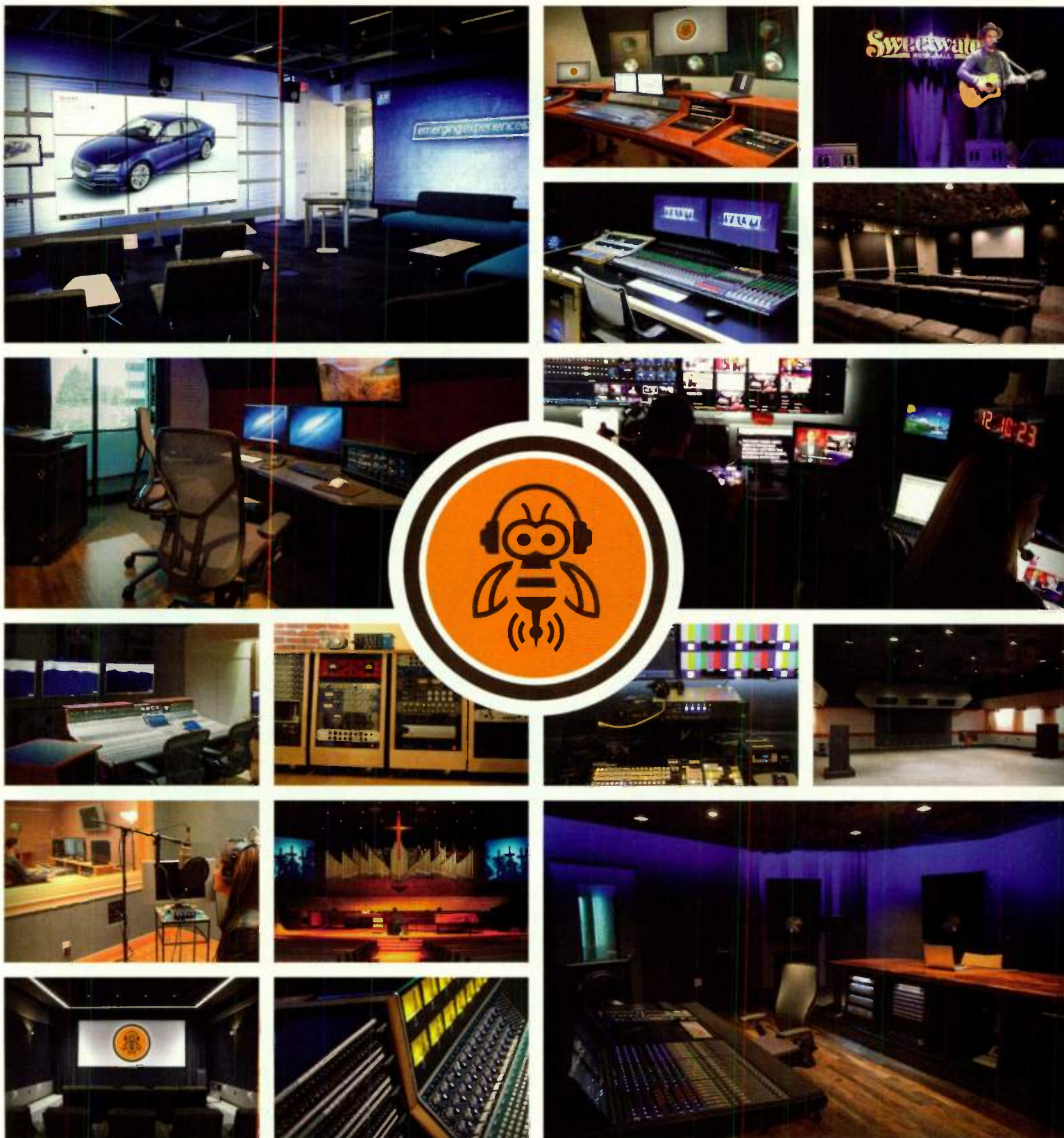
Front-of-house engineer Alex Gardner and monitor engineer Jesse Turner traveled with the band this past fall. “We carried backline and a small supplemental lighting package, but the only audio that we carried was a mic package and the two consoles, both Avid SC48s,” Gardner says.

Neumann and Sennheiser mics take care of the vocals. “Brandi uses a Neumann KMS 105 vocal mic for both her downstage center and piano positions,” Gardner says. “She has actually been using the 105s since before I was around, and we have had great success with them over the years. The guitar and bass players each use Sennheiser e865 vocal mics.”

“My goal is just to amplify her vocal,” Gardner explains. “She has an amazing voice; I’m certainly not trying to alter it. The only thing that I insert on her vocal channel is a Waves C6 multiband compressor. She does have very dynamic range and when she really lays into the mic there are a couple of frequencies that tend to jump out. That’s why the multiband compressor works so well. It allows me to control those troublesome frequencies without having to compress the whole vocal. Compressed sounding vocals are not what we want.

“I use a hall reverb on all of the vocals throughout the show and tap delay on particular songs,” Gardner continues. “I also have a couple of other reverbs and another delay that are used at different moments in the show for big dramatic effects, making something stand out, adding different textures, etc.”

Gardner reveals he is retiring from touring at the end of the year: “I’d love to say thank you to everyone that I’ve ever toured with, or worked with locally, for making the last 17 plus years of my life so incredible.”—*Matt Gallagher*



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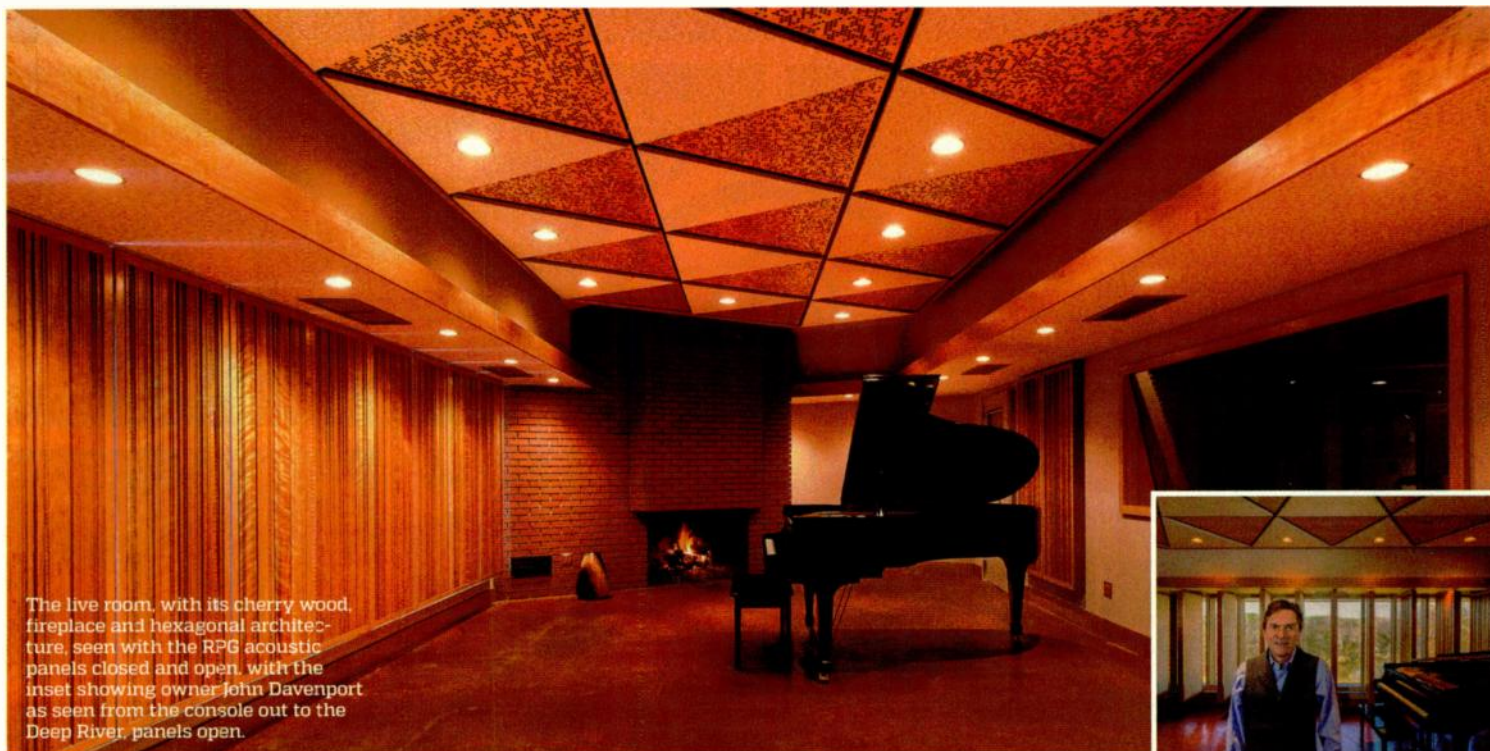
Pronounced [bug-eyed] — Established 1997

# On the Cover

By Tom Kenny

## DEEP RIVER SOUND STUDIOS

John Davenport's Intimate Space in a Beautiful Land



The live room, with its cherry wood, fireplace and hexagonal architecture, seen with the RPG acoustic panels closed and open, with the inset showing owner John Davenport as seen from the console out to the Deep River, panels open.

Photo: Wes Lachut

**I**n order to truly “come back home again,” in a manner celebrated in story and song, you have to first truly get away. You have to make a big break, not a parallel move. You have to challenge yourself and the way you live, to find the way you want to live. Then you can go back home at peace, whether personally or professionally, metaphorically or literally. For producer/engineer John Davenport, “coming home” meant all of the above, and he now sits, in his mid-50s, in his dream studio on 10 acres of a 500-acre family farm, along the Deep River in beautiful North Carolina.

From the time he left home at age 18 until he returned and eventually built this month’s cover studio, Davenport lived a Walter Mitty-esque life that began in the heart of the 1980s New York City recording scene. At the time he had just gradu-

ated from a military academy and was debating enrolling in the U.S. Air Force Academy. He took a two-week trip to New York that summer to stay with his sister and he stayed for 10 years.

“On my second day of visiting my sister, she said that she and some friends were going to a studio that night at 10 o’clock and asked if I would like to come along,” Davenport recalls. “That was Chelsea Sound, and I was just smitten. I kept coming back, and then they started using me as a gofer, and I eventually was asked to plug stuff in. I was taught by a great engineer, Bradshaw Leigh. I stayed the summer and just loved it.”

Chelsea Sound did jingles and voice-overs, as well as music, and one night, when the engineer had to leave at 1 a.m., they threw Davenport into the hot seat on an Elliott Randall session. Around 5 a.m., he accidentally erased half the tracks. “That

was the night I became an engineer!” he laughs.

When that summer ended, Gus Skinas offered Davenport a job as an assistant maintenance engineer at nearby Secret Sound. He taught him to solder, work with transistors and align tape machines. He assisted on sessions, too, using tape loops for delay, learning the MCI console. The studio was busy, with the likes of Spyro Gyra, Evelyn “Champagne” King, The Spinners. It was the height of disco, and he was trained old school, making \$180 a week having a ball. Then they had to let him go—he was making too much as an assistant. Skinas told him to call Ed Germano at The Hit Factory, who was looking for an assistant.

“What an incredible time,” Davenport says. “Eddie and Troy Germano were very nice to me. There were artists coming in and out every day.





The studio building, foreground, with main house in the background and Deep River to the right, was styled after a Frank Lloyd Wright residence in Oak Park, Ill. "sitting in the hill, not on the hill," Davenport says. Inset: An aerial view of the Deep River property, taken from Davenport's newest favorite toy, a DJI drone with hi-def capability.



I was 21 in New York City and riding up the elevator with Michael Jackson. John Lennon was doing *Double Fantasy* there when I was hired. Every day and week was a new thing. I was an assistant for guys like Chris Kimsey, spent a lot of time with Michael Kamen. He was a genius. I worked with him and Jimmy Destri from Blondie. Chris Lord-Alge, Tom Lord-Alge, Bob Clearmountain, Ed Stasium, Frank Filipetti, Eric Thorngren on a Robert Palmer record—I was in the room with the best of the best."

He spent two years as an assistant on Bruce Springsteen's landmark *Born in the U.S.A.*—75 songs over the course of two years, with Chuck Plotkin and Toby Scott and the hardest-working man in show business. It is a time he treasures. Then, just as he was getting more engineering work, including a co-credit on the Rolling Stones' "Undercover of the Night," he up and left New York and headed to San Francisco.

What followed was a seven-year odyssey that took him from the Bay Area down to a ranch in Big Sur, over to Hawaii for a while and some work in a dive shop, a year-plus as an independent engineer in Japan, a month-long trip to Belize that turned into a year, before he finally decided to come back home in 1997 and take care of the family farm, while helping his brother run the 100-year-old family food distribution business. He was there during an explosive growth period. He still dreamed of his own studio, an intimate creative getaway.

The idea for the studio was actually born in 1997 while Davenport was building his Frank Lloyd Wright-inspired home on the property. All 60-degree angles, local materials, "part of the hill, not on the hill." He had been doing some engineering in nearby Chapel Hill at Wes Lachot's studios, and asked the engineer/studio designer to come out. Their design aesthetic was completely in sync. Lachot drew up plans based on a hexagonal, honeycomb geometry.

But it was too soon. Davenport took some time off to raise his son and grow the business. When his family sold the company in a few years ago and he got his first check, the first thing he did was call Lachot and revive the project. Lachot went back to his original hand-drawn designs, spent a week trying to come up with something different and better, but couldn't.

"He had built this house on a honeycomb geometry, and it was really the start of the hexagonal geometry I base a lot of my studio designs on to this day," Lachot says. "I had a Eureka moment about 20 years ago, when designing this studio. It all begins with the equilateral triangle at the listening position. Then you try different angles for the walls to get the widest

sweet spot. I found that the hexagonal geometry works best, a series of six 120-degree angles, where all the reflected sound is angled to the back wall. You don't have to get rid of that sound, you don't have to over-dampen it. You don't want to soak it all up or the room will sound sterile. The rear three sides of the hexagon are diffusive at high and mid-frequencies and absorptive at low frequencies. That's where we go to the slotted Helmholtz resonators, in addition to the full-range basstrapping overhead. Then behind the Helmholtz resonators there is a system of tuned membrane traps that are tuned to specific frequencies based on the engineer's position."

The studio is not large, roughly 1,200 square feet in total. But it has an intimacy and relaxed feel, with a 20-foot-wall of glass overlooking the river, which is meant to inspire. The control room employs ear-level monitoring out of ATC SCM 200 mains and ATC SCM 450 nearfields, and it's centered around a custom API Legacy Plus console with Vision software, selected for its analog punch (and because Davenport remembers the API on the sixth floor at Hit Factory with fondness) and configured for the way Davenport likes to work, including a patch bay to the right of the 24 faders. He asked for graphic EQs on 1-8, and parametrics the rest of the way. "It just sounds great," Davenport says. "You start out with an analog microphone, why not have the best analog console."

The ceiling clouds of the control room and live room are also based on equilateral triangles, employing trapping and absorption. "Every other triangle is fabric-covered, just standard fiberglass bass traps," Lachot explains. "The wooden ones have a series of holes developed from the math RPG developed for their BAD panels. Peter [D'Antonio] developed them about 1999, and we use RPG BAD panels extensively, in all of our studios. But they are usually square panels, and I didn't think it would be aesthetically appropriate in the room to use the square pattern of holes. We took Peter's math, and I skewed it to the hexagonal geometry, so it's something of a collaboration."

Both rooms also have a soffit ringing the area, which serves as a bass trap as well as practical and aesthetic purposes. The live room includes a fireplace made from bricks by a local brick company three miles up the road. Lachot likes a combination of reflective and damped surfaces, which leads to the windows.

Ten 2-foot windowpanes run nearly the entire length of the studio, offering a one-of-a-kind view. A series of 10 rotating acoustic panels, absorptive on one side, diffusive on the other, allow for variable acoustics—quadratic diffusion via RPG FlutterFree T, with fabric on the reverse. An iso booth fills one corner. A couple of echo chambers sit in the basement. The acoustic build-out, as usual on Lachot designs, was by the master Tony Brett of Brett Acoustics in Durham; the A/V wiring, BNC and Cat-5 throughout was by Thom Canova of Canova Audio.

While the studio is for hire, there isn't really a rate card. It has accommodations and amenities to rival any four-star hotel, but it isn't really a residential facility. It was built with Davenport's aesthetic in mind, for the way he likes to work. It's for friends and family and those looking for a creative getaway. He has produced local bands and hosted artists who won a spot from fundraisers he helps to organize. He also has produced three short films directed by Monica Tidwell and has an eye on multimedia production.

But most of all he likes to get away from the stress of the city life and the notion of a sterile studio. He likes to ride his ATV on the property and fly his drone over the river. He is a rancher, a farmer, a businessman, a studio owner, a producer, an engineer and a dad.

And he couldn't be happier at home. Making music. ■

From left: Piper Payne, Michael Romanowski, Jessica Thompson



# COAST MASTERING OPENS

## Building Community at the Fantasy Studios Complex in Berkeley, Calif.

BY MATT GALLAGHER

**M**ichael Romanowski is excited about the future of the music industry. Taking into account what he has experienced and observed as a mastering engineer for more than two decades, he is convinced that the quality of production, manufacturing and distribution can only get better. He recalls the emergence and decline of trends such as gated reverb in the '80s, and over-compression, as well as the shortfalls in quality inherent in lossy compression, listening devices such as earbuds, and streaming technologies in recent years.

"Convenience has momentarily taken a foothold," he notes. "But I think that we're a little bit past that now, which is encouraging. It makes me feel good about the future."

In the summer of 2015, Romanowski and mastering engineer Piper Payne were faced with moving their operations to a new location when the building housing their San Francisco facility, Coast Recorders (a tracking, mixing and mastering facility with a live room originally designed by Bill Putnam in the 1960s), was put up for sale. Perfectly illustrating the adage, "When one door closes, another one opens," in his search for a new workspace, Romanowski cast an eye across the San Francisco Bay and discovered an opportunity to move into the Fantasy Studios complex within the Zaentz Media Center in Berkeley.

Romanowski invested in his optimism in the future by developing two new studios designed and tuned by acoustician Bob Hodas, expanding his staff and opening Coast Mastering in Fantasy Studios' Suite 101C on October 1.

Romanowski's stereo and surround room features Focal Grand Utopia EM and Stella Utopia EM front speakers; analog gear from EAR, George Massenburg Labs, Knif Audio, Maselec, and more; Bricasti conversion; and sound-blade mastering software. Payne works in a stereo room with Focal Scala Utopia speakers, and including analog equipment from EAR, GML, Rupert Neve, Manley and

Maselec. Coast Mastering also recently added mastering engineer Jessica Thompson, who specializes in archival and restoration. Thompson also works in Payne's room, which has a Basis turntable with custom VTL phono stage and an ATR tape machine. Drew Zercoe is currently a mastering apprentice at Coast, Jonathan Rego is the studio manager, Gabe Horn is the studio tech, and Nigel Brown is an assistant engineer.

"I really feel like there's a need for the services that we provide, to help artists be the best that they can," Romanowski says. "A lot of people think that you can just put a plug-in on something, or the mix engineer can do the mastering, but I wholly disagree with that. Once you put your music out there in the world, there's no taking it back. You have one chance to put your best foot forward, and I feel like you should always put your best foot forward. I'm in because I think that there is a future. I think expanding is the right thing to do. This was a perfect opportunity to say that it's not about me, it's about something bigger."

"Michael has been so supportive and so amazing, and such a fantastic mentor," Payne says. "He's gotten me up to speed and to be able to call me his studio partner is pretty awesome." Payne began her career as a recording engineer specializing in recording classical music, as well as tape transfer and archival, and discovered a passion for mastering. While working for mastering engineer Bob Katz in Florida, Payne attended the AES Convention in New York and met Romanowski. They remained in contact, and eventually she moved to San Francisco to work with him at Michael Romanowski Mastering, which became Coast Recorders.

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"I love the detail and the precision of classical recording, but I also really love all kinds of music," Payne says. "I love Top 40, jazz, rock, metal, electronic, everything. In mastering I can work on every type of music you could think of."

I still do a lot of classical recording around the Bay Area, probably every weekend—but Monday through Friday, from 10 to 6, I'm here, mastering records."

Thompson joined the team at Coast following six years as mastering engineer and audio archivist at The Magic Shop in New York City. "I'd had my eyes on the Bay Area scene for a while," she says. "When I met with Michael to talk about joining Coast Mastering, I could tell right away I'd found my new studio home. Michael and Piper are passionately dedicated to quality in mastering, as well as education and advocacy for musicians and engineers, and I wanted to join a studio that was invested in the music community, not just a room with some gear. All the better that we landed in the vibrant Fantasy Studios complex!"

At the Zaentz Media Center, Coast Mastering is joining a creative community that, in addition to Fantasy, includes Avid on the second floor, as well as several sound, media and film production and distribution compa-

nies. "I like a facility," Romanowski says. "That was a big draw for me. I've always wanted to be around creative people. It feels like home right away."

"We've been working on supporting the Bay Area music community," says Jeffrey Wood, Fantasy Studios' studio director, "but also the idea of building community in the building, and making this the creative hub of Northern California. Michael really got it about forming a musical complex here again, and so it made sense for them to be in the building. And it's a beautiful space, with the high ceilings, especially. We love having them here, we love their energy level."

Coast Mastering occupies the corner space that was formerly Fantasy's long-dormant Studio C, originally constructed in 1971 as a recording studio for Creedence Clearwater Revival, with a separate entrance. Following the band's departure in 1974, it became a Foley room for film and commercial productions, and eventually a private band rehearsal room and warehouse that was sealed off by Wareham Development, the property owner since 2007. The space became available for repurposing while Romanowski was searching for a new location. He and Wood held discussions; Romanowski says he opted for a 10-year lease with a 10-year extension, and Wood facilitated the transaction with Wareham.

Renowned mastering engineer George Horn continues to work in his own room at Fantasy. Wood and Romanowski affirm that the two mastering businesses within the complex coexist in harmony. "I kept George in the loop about the possibility of Michael moving in," Wood says. "He's been totally supportive and positive about it."

"Our clients don't overlap," Romanowski says. "There's no competition. To me, he's the godfather of mastering in this area. He taught Paul Stubblebine, who is my mentor. Again, all the benefits of community." ■

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## Large New Stage Greet Renowned Foley Artist

BY LARRY BLAKE

The stats would seem to lead to retirement from a long career in filmmaking: your IMDB listing has more than 450 features, and you've been at the top of your craft since the early 1980s, when you helped to virtually reinvent it. Such might be the case with many people behind the camera and in post-production, but not with Foley artist John Roesch. Last year he was offered the chance to help design and work on a new Foley stage at Lucasfilm Ltd.'s Skywalker Ranch, and he undertook that assignment after working for Warner Bros. for over 23 years. The stage went online in October.

Roesch started in Foley in the late 1970s, first at Gomillion Sound and then a stop at Warren Sound West before settling at Samuel Goldwyn Studios at their fabled Sawyer Sound facility right around its changeover to Warner Hollywood. He recalls that period at Goldwyn as "Camelot," working directly with beloved engineer John Bonner, and with many of the top re-recording mixers who, because of the contract guarantees of the day, would often work as Foley mixers.

In these early days he worked on such films as *The Black Stallion* and *Star Trek: The Motion Picture*, and he credits his collaboration with sound supervisor Gordon Ecker on *The Long Riders* and especially *The Ninth Configuration* (aka *Twinkle, Twinkle, "Killer" Kane*) as turning points in his creative evolution. "Gordon was not only interested in sync, obviously, but much more so. How's this person's Foley sounding as a character," Roesch says. "These were the marching orders from director William Peter Blatty, and Gordon worked hard with me to do that. I didn't realize it at the time, but that was the genesis of much that I have learned and was a workshop."

His next step was a nine-year run at Taj Soundworks, which became



Photo: Steve Jennings

Foley artist John Roesch in his new Foley stage, with easy vehicle access, at Skywalker Sound.

famous in the Los Angeles post-production community since its opening in early 1983 as the place to go to for Foley. The name was an acronym from the first names of its principals, mixer Tim Sadler, facility owner Allan Goodman, and Roesch. Another important part of the equation was chief engineer Ed Bannon.

Roesch credits Sadler (whom he had met at Warren Sound West) with "repurposing off-the-shelf multitrack recording studio technology in a way that had not been done in the film industry, which was lagging behind about 10 years. His music recording background gave him a good sense of how you could layer elements on a multitrack where, combined, they had a nice roundness to them. "What I've learned over the years is that it's not what I bring to the table, but what everyone, collectively, brings," he says. During much of the time at Taj, his Foley partner was Joan Rowe. Since then he's worked with Ellen Heuer, Hilda Hodges, and, for the past 14 years, Alyson Dee Moore.

Taj used an Audio Kinetics Q.Lock synchronizer to lock the MCI 24-tracks with Betamax industrial video decks. (This was at a time when digital audio workstations were a distant dream, and all serious sound editing was done on 35mm mag against 35mm black and white dupes.) On occasion, Taj was also used for special ADR, such as the voices in *Gremlins*, many of which were recorded in sync against picture at half speed, doubling the pitch and speed in playback.

While Taj became famous (some industry vets might say infamous) at the time for its use of Monster Cable, Roesch notes that it was in fact replaced at Taj by cable made by Bruce Brisson of Music Interface Technologies. "I heard an A/B of his cable and normal cable, and, boy, it was the differ-

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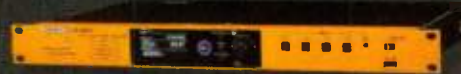
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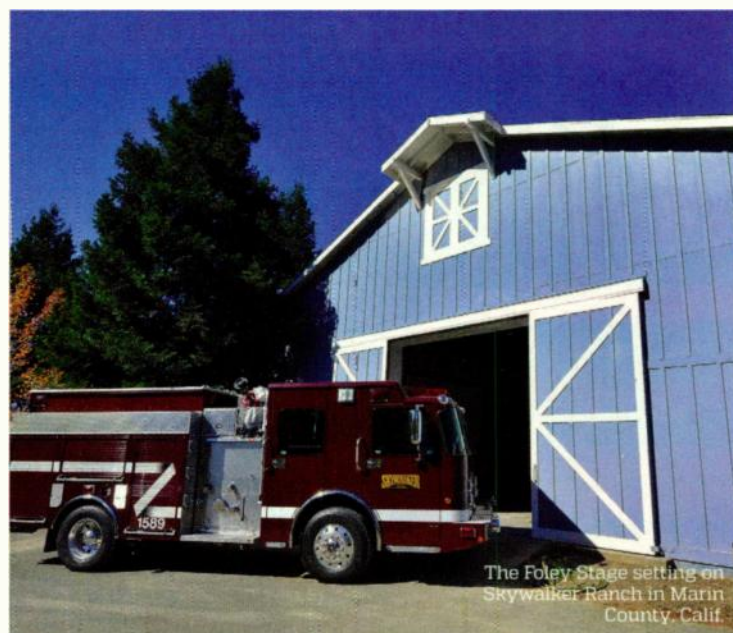
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Roesch, left, with Foley mixer Scott Curtis in the Avid S6/Pro Tools-based control room.



The Foley Stage setting on Skywalker Ranch in Marin County, Calif.

ence between talking with your hand over your mouth and taking it away." Roesch believes that recording digital on Pro Tools HD partly removed the need for special cable, but he's open to a demo at his new stage.

When he parted ways with Taj in 1992, Roesch went back to Warner Hollywood, where he stayed for eight years, before moving to the Warner Bros. Burbank lot since 2000. The genesis of this latest move started with informal talks with Josh Lowden and John Null, general manager and director of production, respectively, at Skywalker Sound, and then in 2014 they said that they were seriously thinking about building a new stage. Roesch talked to his family and the Skywalker staff and "all the answers came back 'yes,' and I was able to be involved in the design. It's a culmination of all the years of experience, especially at Taj, which I designed with Tim Sadler and Ed Bannon." During the building of the new room, Bannon has been consulting with Roesch and has been "a huge help."

One important, shared design feature between the two facilities is a dirt pit being directly connected to earth, with no concrete foundation in the middle. "I believe in having a huge dirt pit that goes down to mother nature, which reduces pit 'thumpf,'" Roesch says. "I don't believe in smaller dedicated pits for sand and gravel, and would much rather sprinkle them on a larger dirt pit so I can naturally move to and from them as I see the character do on screen." Adjacent to the 7-by-9-foot dirt pit are surfaces that make sense for transitions.

The water tank is also a bit of a lift from Taj, where there was not one small tank, but a way to make one tank bigger. "Here at the Ranch, because the physical space is bigger, we have two tanks and a 'runway' which we can fill up leading up to the smaller tank. Think of it as a 'slip 'n slide' that we can modify the depth to create various splash surfaces. In front is a bathtub-sized tank, adjacent to the main tank that holds over 300 gallons, perfect for ocean effects."

Insofar as acoustics are concerned, Roesch is happy that the "resting state" of the stage is very good. It has to have some sense of room, but not so much that it is obnoxious or 'boingy.' It has to feel pleasant. The attention to detail from an acoustic standpoint is crucial." While Roesch still generally favors the Neumann KMR 81, the longtime Hollywood ADR/Foley standard microphone, he's looking forward to experimenting with the "pleth-

ora of microphones that Skywalker has to see what makes the most sense. Because it's so much of a clean slate, I'm open to anything."

Roesch says that designing the stage, and the location of its pits and surfaces, from scratch gave him a "blank sheet of paper. I threw out ideas and Jim [Austin, Skywalker Sound engineering supervisor] gave me some alternative ideas which, combined, made the most sense." Prop storage is always a crucial consideration on Foley stages, and in this room Roesch has his two U-Haul trucks full of props stored behind the stage, pulled out in restaurant carts as needed.

This is the fourth Foley stage at the Ranch, and occupies what was previously the Archive Building. The first was also very large (1,600 square feet vs. the new room's 1,260; the largest Foley stage in North America is probably C5's in New Jersey, which is 1,800 square feet), occupying in the Technical Building what is now known variously as Mix A or the Akira Kurosawa Stage. (The great Japanese director's signature, made during the original construction, remains in the concrete foundation of the room.) When this room was repurposed, Foley was moved to the Carriage House, and then finally to a smaller area in the first floor of the Tech Building. This room is still in use with its longtime Foley artists Sean England, Dennie Thorpe and Jana Vance. Roesch doesn't have a new Foley partner on the stage yet, but is working with mixer Scott Curtis.

The archive building was storage for "all things George," and the specific area used by the Foley stage was where his cars were housed. As you can see by the photograph, the side door can be opened to allow not only cars to come in, or trucks carrying large props, but also Skywalker Ranch fire trucks, if needed.

Roesch, who is 61, says that he is "having too much fun to retire. Someone asked me, 'Why did you do this?' It's almost as if we're running a marathon, and you're coming into the 'finish chute' with your running partner, where you go across the finish line. You can do one of two things: you can go across the finish line talking, or you can drop it into first gear and give it your all, huffing and puffing across the finish line, knowing that you really gave it your all. That is exactly what I'm doing here. This is the final chapter in my career and it's reenergized me to be with all the wonderful people. I feel I'll be good 'til I'm 70, to work on a new stage with all of these possibilities and capabilities. I'm grateful for the chance." ■



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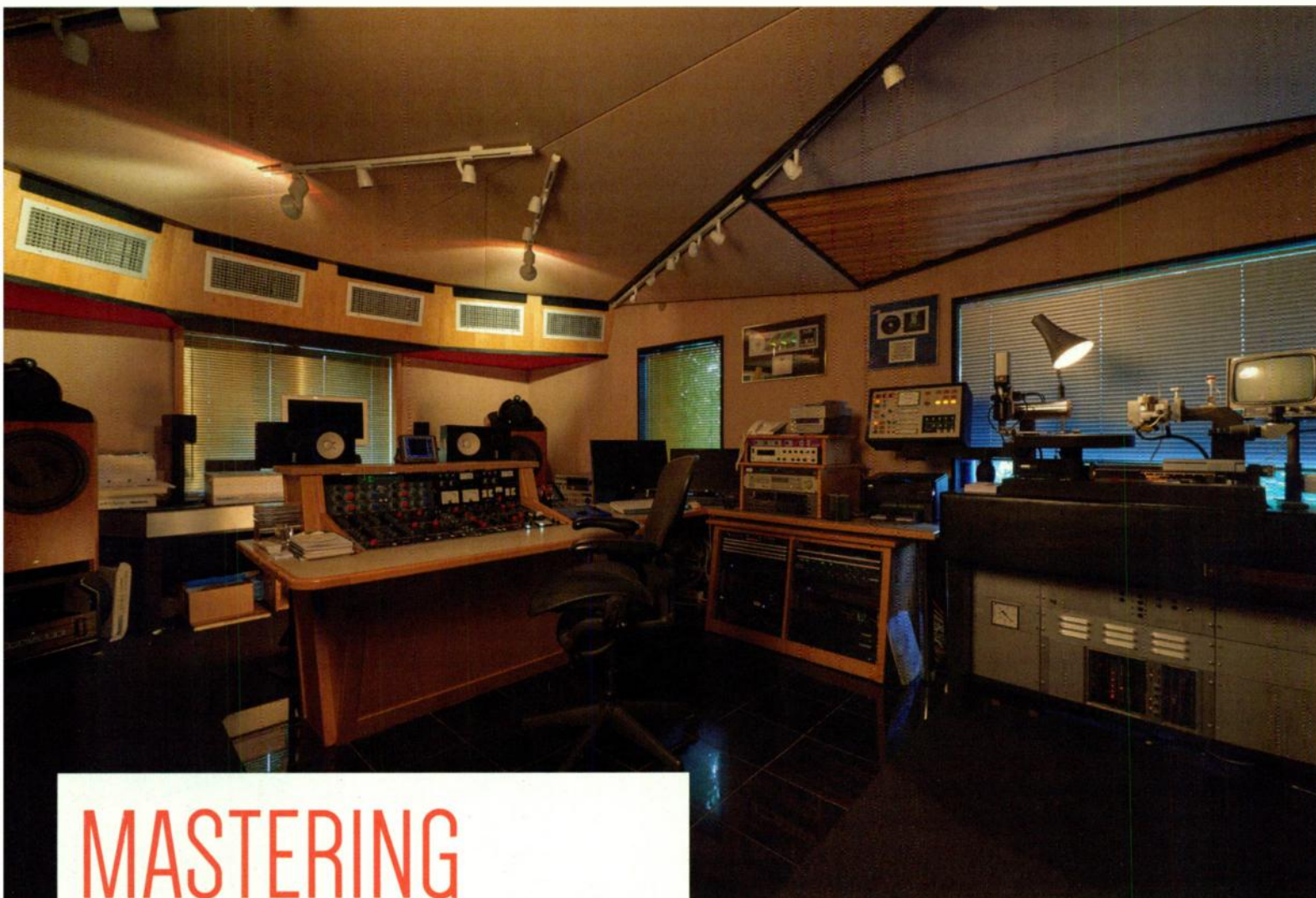


Photo courtesy Abbey Road Studios

# MASTERING ONLINE AT ABBEY ROAD STUDIOS

BY ERICA BASNICKI

**T**he reality of the modern audio industry is that most mastering sessions function the same way: a finished mix is uploaded remotely to the studio and left in the capable hands of an engineer—with guidance on how to proceed. So-called “attended sessions,” where the artist and/or producer sits in during the process, are becoming less commonplace as recording budgets continue to shrink.

Abbey Road online mastering has been available since 2009, allowing anyone in the world access to the experience of its senior mastering team—

and the benefit of the legendary studio’s equipment. And now the Website has been revamped to improve communication via a direct-chat interface.

“We really believe communication is key,” says mastering manager Lucy Launder. “People do want interaction. They want to have their say, but they also want to feel that the person who is mastering their project is mastering their project individually, and producing the result specifically for them.”

“We live in a ‘fast-upload’ world,” says Abbey Road mastering engineer Christian Wright. “Everyone—including major labels—sends us their tracks remotely. That’s the wonderful side of online mastering. But I also think it’s really important to have that understanding of what the artist is trying to achieve. What’s right for one person isn’t necessarily right for another, particularly with music. One person might be concerned about volume, another might be very concerned about keeping the dynamics there as much as possible. With that, I think having the connection with the artist is really important.”

Fellow mastering engineer Alex Wharton agrees: “Every job is different, and it’s very subjective, so we really want to work with the client and know exactly what they want. It’s just better to connect with the actual music, and

the artist behind it. If I were to smash out something really loud thinking that's what [the artist] wanted, they might come straight back and say, 'Why have you done that?' It's good to know what people want."

Our "fast-upload" world has led to many mastering services being offered online. In choosing which one to use, Abbey Road's Geoff Pesche explains that, "Experience is key in mastering. People don't care if you wear Air Jordans or your baseball cap sideways. They're into your perception and your experience about how stuff should sound. The [engineer's] experience is huge."

Like the majority of the mastering team at Abbey Road, Pesche has racked up well over 25 years perfecting his craft. That knowledge is being passed down to the more "junior" members like Wharton, who has actually been with Abbey Road for more than 16 years.

Pesche adds: "Mastering is the link between the studio and the factory. It's the last port of call before you can change anything and raise a flag before the record's on Amazon, or the CD is out there. Sometimes you have to be a bit of a brave person and say 'this mix is great' or 'this mix is unusable,' otherwise a robot could sit here and do this. That's where the experience comes



Mastering engineer  
Alex Wharton



Mastering engineer  
Christian Wright



Mastering engineer  
Geoff Pesche



Marketing manager  
Lucy Launder

Photos courtesy Abbey Road Studios

Photo: Ian Klos

in. The rest of it; what sort of gear you have or what sort of converters you use, that's personal."

Gear is personal. But let's face it, we all have a wish list. Music is about connection. We connect a song to a moment, a sound to a feeling. Inevitably, the discovery that a certain piece of gear created a certain sound—which in turn gave us a certain feeling—creates a desire for that piece of gear. Or at the very least, access to it.

"That's one of the exciting things about the online mastering," says Wright. "People know that the outboard their favorite album has gone through is the same outboard their album is going through as well. It's an exciting thing."

It's not just the outboard gear either; most online mastering tracks go through the legendary TG12410 analog desk, specifically developed for Abbey Road by EMI.

"It has an amazing warmth to it and is a really musical desk, so all the EQ is musical and it's lovely for when you want to get a nice, broad sound," says Wharton. Of course, a nice broad sound might not work for your music. Point being, says Wharton, just get in touch: "We're engineers with a lot of experience and all the best gear you can get. It's not a computer (doing the work). We're here, with ears." ■



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# ‘AN AMERICAN IN PARIS’

## A Less Amplified, More Analog Period Sound

BY ERIC RUDOLPH

The new hit adaptation of *An American in Paris* is a unique hybrid of a big, brash Broadway musical and an energetic ballet performance.

Based on the 1951 dance-centric Hollywood film starring Gene Kelly and Leslie Caron, *An American in Paris* originated onstage in Paris in late 2014 and came to Broadway in April. Rapturous reviews and full houses followed, even though the lead actors, Robert Fairchild and Leanne Cope, are ballet dancers with scant theatrical experience.

“*An American in Paris* weds music and movement, song and story with such exhilarating brio that you may find your own feet fidgeting...longing to be swept up in the dance,” raved *The New York Times*. The show won four 2015 Tony Awards (scenic design, lighting, choreography and orchestrations; there is no longer a Tony for sound design).

Directed and choreographed by ballet luminary Christopher Wheeldon, *An American in Paris* is indeed a big-budget Gershwin spectacular that’s staged in one of the largest theaters on Broadway: the 1,740-seat Palace. Only a few of Broadway’s 40 theaters are larger.

The size of the room, while a boon for producers with a major hit on their hands, presented serious challenges to sound designer Jon Weston. Keeping the audience connected for two-and-a-half hours to a complex love story in such a big room is somewhat daunting for all involved, he says, adding that in a smaller theater, holding an audience’s attention is not as much of an issue.

And when you’re pumping out audio power in a loud show, it is also less of an issue, but with a period piece that is trying to be somewhat subtle and retro, such a large room can be a real challenge, “especially if you want to keep the show sounding somewhat acoustic and give the last row the same audio scale as the front row,” Weston notes.



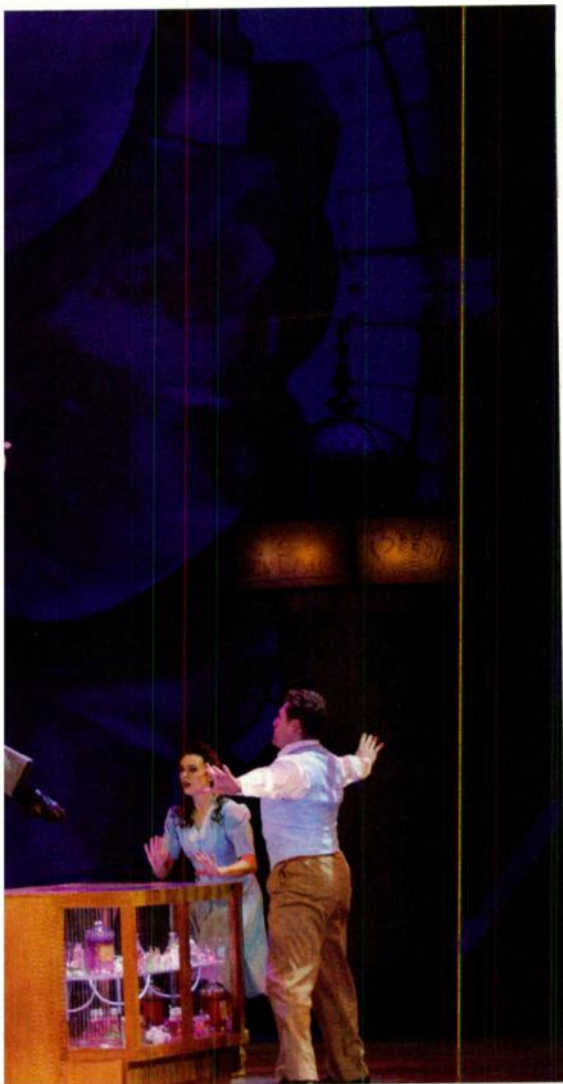
Photo: Angela Sterling

Weston comes at theater sound from the idea that it is indeed sound reinforcement, not “obliteration” through amplification and effects. Notably, most of Broadway’s theaters were built long before sound reinforcement emerged (in the case of *The Palace*, 1913). Audiences long heard performers completely unamplified, via a theater’s acoustic properties alone. Weston’s plan for *An American in Paris* was to work with those acoustic properties, not against them, as befitting a show with its origins in the pre-amplification era.

“The whole job is to just do enough to excite the room; a good room will do a lot of the work for you,” he says. “In a bad room you need a hammer. If an actor onstage can’t be heard three feet away, it won’t work well. Then the voice is coming from the speakers, and the audience knows this and they may start disconnecting from the stage.”

“Subtle reinforcement” is the phrase Josh Millican, associate sound designer, uses. He says they walk a delicate line in reinforcement level in a story-dense period show staged in such a big theater.

Today’s audiences, of course, have entrenched expectations about clear, present sound, so, “You have to move a lot of air to make a person 80 feet away feel connected, Millican says. “If you’re under-reinforcing,



and not moving enough air in a big room, people will be missing things, not getting it. If you're over-reinforcing, people are leaning back, having things thrown at them. You need the audience to lean in a little bit in order to keep people involved in the intimacy of the piece. There are five major characters, each with their own story. We have to have the audience involved and following all the storylines."

A key to keeping the sound natural and somewhat appropriately retro was to present the 20-piece orchestra as acoustically as possible, to create the impression that the sound was all coming from the pit. "The orchestra is in the sound system, but the baseline is what we can hear out of the pit," Weston says.

To make that work in the big theater, he

consulted closely with the music department on pit design, even choosing the finish for the wood floor because of the different tonalities wood coatings create. They also elevated the small six-piece string section on the upstage wall, "to help them, naturally, sound as big as they could."

In keeping with the somewhat retro nature of the show, "Nothing is really close-miked in pit, there is air everywhere, which to me is great," Weston says. "The minute an instrument stands out, we have a problem." (Orchestra mics are a combination of Neumann, Sennheiser and Schoeps.)

However, as with many Broadway shows today, there's a musician who's not in the pit. "The biggest handicap is that the percussionist is in another room," Weston says. "A lot of nice sounds would pop out into the room if he were there. So we ran speakers into the pit, fed with percussion. They're not on very loud, there's just enough to get out into the house."

To further help excite the room's acoustics, Weston mounted four Meyer UPA-1P speakers in a truss overhead, fed with orchestra. The Palace has what he calls a "minimal dome ceiling," and so "the sound from these speakers reflect and rain down on front rows of the orchestra seats. It works nicely. When you get the big moments, the room itself wraps its arms around you musically, and you might think there are 28 musicians in the pit."

There is only one electronic keyboard in the pit, to emulate a celeste (the small keyboard instrument that sounds like a glockenspiel). Eschewing most electronics, of course, went with the vintage feel of the show. "Modern shows all have electronic keyboards, not pianos. We have a real piano, a Steinway upright—this is Gershwin! We wouldn't do it any other way."

A quest for audio authenticity is also why they're mixing on analog console, a Cadac J-Type (58 inputs on the main frame, 46 on a sidecar). "Nothing else sounds like it," Weston asserts. "I've been on Cadac since the A-Type. No one who mixes on a Cadac says, 'I don't like the way it sounds,' ever. And I don't want my mixers thinking about numbers. I want them painting every night."

"In Paris we were required to use the house system, and the console was digital,

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which doesn't have the life that an analog console does—the soul, the breath," Millican says. "Digital consoles are incredibly flexible but, in most cases, a bit sterile—it's like the difference between a Pro Tools session and cutting to 24-track tape. An analog board is real and allows things to work more naturally. The analog Cadac has dynamic range that completely supports all the highs and lows. When a flute is just barely trickling, it will sound as good as a trumpet going full out."

Weston also goes old school for onboard effects, using Lexicon 480L reverbs, "as everything else sounds cold to me; we're certainly not using any plug-ins. The low-res converters in older gear add this delicious second order that we humans really want."

Audience members in the front orchestra may notice one bit of modern tech that's quite visible, however: RF mics on at least two characters that hang down to nearly mid-forehead.

"We always try to hide the mics," Millican says. "A lot of shows require that the mic be quite low, you'll see a mic literally between the eyebrows. The convention has been es-

tablished that you can put a mic on someone's forehead on Broadway. However, we try quite hard to keep the mics as hidden as possible." Mic placement is all a compromise based on physics, he notes, and visible mics are another aspect of working in a bigger theater. The bigger the house, often the lower the mic has to be placed, for gain.

In fact, the center of forehead a half-inch below hairline often results in perfect sound, Millican says. RF mics are Sennheiser MKE 2 Gold, with SK 5212 transmitters and EM 3532 receivers.

Weston and Millican agree that the mixer's role is especially important in a complex show with an orchestra of 20 and a cast of 32.

Sound designer Weston states flat out that, "The mixer is far and away more important than I am, absolutely. Mixing is not engineering—it's not a slide rule and ones and zeroes, but a performer making decisions just like a conductor or an actor."

He gives head sound engineer/FOH mixer Carin Ford tremendous credit. "Every breath a singer takes is hundreds of decisions in brain, ear and finger of mixer. My

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An American in Paris' head sound engineer/FOH mixer Carin Ford at the Cadac J-type console (with sidecar, at left), at the cavernous Palace Theater on Broadway, with the stage being prepped for a performance behind her (the bicycle is part of the show). Sound designer Jon Weston says the mic is far more important to the show than he is.

Photo: Eric Rudolph

baseline is for the mixer to stay out of the way. If the performer one night chooses to be quiet, let them; don't dig them out. And if they want to soar, let them soar."

"On a night-by-night basis it is all up to Carin," Millican agrees. "We rely on her consistency to land every cue. We need that reliability to deduce where any problems may lie. Problems can be small things, so she'll just push up a fader, or larger issues, requiring physically moving the mic position on an actor in the middle of the show. She does whatever she needs to do to maintain the sound."

The show uses a mostly conventional proscenium speaker setup in an A/B design.

The A/B approach—where the mics of actors who are scene partners are run through entirely separate audio systems, including separate, identical speakers—was especially appropriate for the slightly retro, more natural sound of *An American in Paris*. A/B "results in a much smoother, cleaner vocal sound," Millican explains. "Because you hear less of the electronic properties of the sound system, it makes everything more transparent, which helps the story infinitely." (The A/B approach avoids the phase cancellation that happens when a single sound takes two electronic paths, via the actor's mic and that of their scene part-

ner. Instead of being combined electronically, the signals from the scene partners combine only acoustically, in the air.)

Even with the doubling of vocal speakers necessitated by the A/B approach, the speaker total is on the lower end for a big Broadway house in 2015. The proscenium has four Meyer UPA-1Cs and four Meyer MLS-2s; the center cluster has three Meyer UPA-1Cs and three Meyer MSL-2s. The balcony truss has four Meyer UPA-1Ps.

Front fills are 12 EAW JF60; orchestra and mezzanine delays are eight EAW JF60s and 24 EAW UB12s. Surrounds are EAW JF80s. Subs are two Meyer USW-1Ps and two d&b QSubs.

Weston says he's not a minimalist when it comes to inputs, but is considered so when it comes to output. "I did a lot of concert work, and you'd have situations where the monitors were too loud and you can't get FOH over it," he says. "The best way to attack that is to turn everything off, then play, and address the imbalances directly. Once you're in balance onstage, you just ask, 'What does anyone need to hear?' instead of piling all this reinforcement on. It is too easy for the air to get full of reinforcement info we do not absolutely need. That's my philosophy on it." ■

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# OUTBOARD STUDIO PROCESSORS

## EIGHT EXCELLENT CHOICES ON THE HIGH END

BY STROTHER BULLINS

High-quality outboard processing continues to be a notable part of what defines a professional recording rig, despite the fact that nearly all basic processing tools now reside within even the most affordable (or free) DAW on the market.

Here are eight units that I've found incredibly useful: true facility-defining pieces any competitive engineer couldn't go wrong with in their

racks. While there are many more in the marketplace than listed below, these units well represent the range of pro-grade rackmount processing available in this product category. Most importantly, these processors are "evergreen," unlike most CPU-based plug-ins operating at the mercy of a chosen CPU and DAW, though many are regularly improved via continued firmware updates, where applicable. All prices are what buyers can expect to pay at retail.

### BRICASTI MODEL 7 (M7) DIGITAL REVERB PROCESSOR

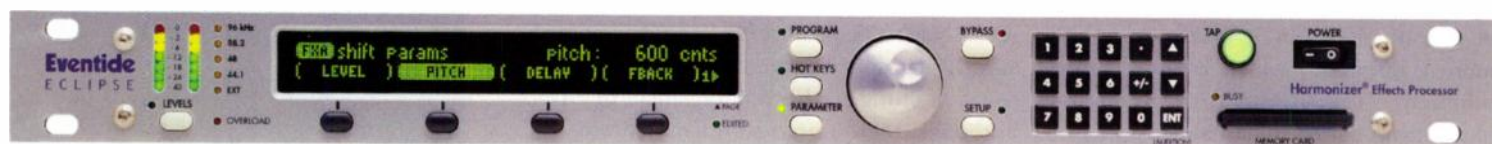
Though reverbs abound within DAWs, there's arguably no better reverberation source on the market than Bricasti's Model 7 (\$3,695). Designed by former Lexicon personnel, the stereo M7 delivers truly realistic, lush and adjustable reverberant acoustic environments. Built within a rigid 1U chassis, the unit includes 100 factory presets and 100 user registers with



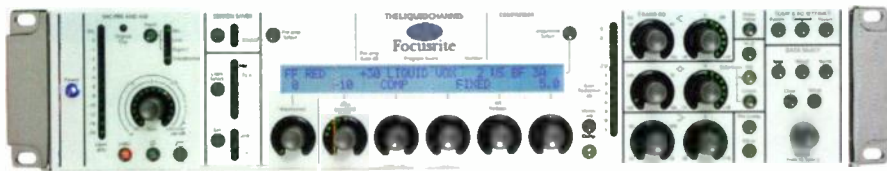
Bricasti Model 7 (M7) Digital Reverb Processor



Empirical Labs EL8X Distressor



Eventide Eclipse V4 Effects Processor



Focusrite Liquid Channel



Kush Audio Clariphonic Parallel Equalizer



Lexicon PCM92 Reverb and Effects Processor

Favorites, accessible by the unit's front panel or optional M10 Remote Console. Its presets use three independently adjustable reverb engines: the first covers early reflections, the second covers late decay tail, and the third handles early reverberation below 80 Hz. Together, they comprise a very realistic acoustic space, yet one completely sculpted by the end user's taste.

Years ago I worked with Nashville-based engineer Russ Long on a review of the M7, and it remains largely unchanged due to its appeal among top mixing engineers around the world. Russ found it intuitive, diving right in, "only occasionally having to refer to the manual," he explains. "After several days of use, the first thing I noticed about the M7 is that it doesn't have an obvious sound of its own, like other reverbs; rather, it puts sound sources in controllable and realistic-sounding spaces."

especially those within rock, pop and hip-hop genres.

The digitally controlled analog Distressor utilizes harmonic distortion for flavor and classic knee compression for a wide variety of edgy, attention-getting tonalities. Its second-order harmonics setting adds tube-esque characteristics to the signal, while its third-order harmonics settings closely resemble the sounds of tape saturation.

Today, most tracking facilities have at least one Distressor in their racks, and preferably a pair. I could quote engineers' ravings about the Distressor into the tens of thousands of words, but I'll just sum it up like this: if there's any essential rackmount outboard, it's the Distressor.

#### EVENTIDE ECLIPSE V4 EFFECTS PROCESSOR

Eventide has long been a premium source of digital multieffects, and the

Russ also noted its "amazingly real" characteristics. "The parameters can be tweaked from one extreme to another, and the result is always a truthful-sounding space. Other reverbs have a margin of realism, but once a parameter is adjusted in either direction beyond that margin, the result is an artificial-sounding space."

Even as a predominantly in-the-box mixer, Russ typically digitally loops the M7 into his Pro Tools rig. "While it's a bit pricey by project studio standards, the M7 is built to last for decades and is a worthwhile investment for any studio, engineer or post-production facility."

#### EMPIRICAL LABS EL8X DISTRESSOR

While compression isn't exactly an "effect," legions of Distressor (\$1,499) fans depend on the unit for just that. The production effects of using excessive, stylized compression on drums, guitars, vocals and even entire stereo mixes continues to be a signature tool of many engineers,

Based on the extremely successful Zen Studio, the new member of the Orion family, Orion Studio offers 12 class-A mic pres, unparalleled AD/DA conversion, Thunderbolt™ interface, 18 analog outputs for summing, DSP effects and re-amping capabilities.

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SPL Transient Designer



TC Electronic Finalizer 96K

Eclipse (\$1,995) is a most affordable entry into the Eventide world, offering the same effects algorithms as the company's most expensive Harmonizer processors. The fact that the Eclipse is now on its fourth version and has been available since the turn of the century speaks volumes on its longevity. It not only features Eventide pitch change, reverb and special effects patches, but V4 provides all TimeFactor and ModFactor Stompboxes effects, too—making it an ideal multiprocessing tool for true pros. The fact that all these Eventide algorithms are built within a bullet-proof chassis for even less cost than V1 makes it a no-brainer, in my opinion.

#### FOCUSRITE LIQUID CHANNEL

If you can find an increasingly scarce Liquid Channel (\$1,995), it's a truly unique front-end processing unit packed full of desirable microphone preamps and compressors gleaned by dynamic convolution techniques. It comes complete with 40 classic microphone preamp settings, as well as 40 classic compressors, giving users an out-of-box experience with digital emulation of

analog front-end processing. Also included is digital EQ, allowing the unit to be a complete front-end solution for recording and post-recording processing.

Across the board, the Liquid Channel has generally taken end users within 95 percent of the original units it emulates, making it a great processor for those who may lack stacks of often requested (and expensive) outboard microphone preamps and compressors. Used deftly, the client likely won't even know the real deal wasn't in the signal chain.

#### KUSH AUDIO CLARIPHONIC PARALLEL EQUALIZER

Kush Audio is becoming a well-recognized source of high-end analog processing goodness, and the 2-channel Clariphonic EQ (\$1,599) is an ideal example of the company's appeal. Built primarily for mastering purposes, the Clariphonic is a unique shelving EQ matrix that lifts both the top and the bottom of any signal's frequency spectrum. As explained by its inventor, Gregory Scott, it is "artistic and right-brain in nature, to get you to think about sound in terms of textures and colors rather than numbers."



## AX-SERIES

"Excellent performance across the entire audio spectrum."  
*Sound on Sound on A7X*

"An outstanding monitoring solution."  
*Audio Technology Magazine on TEC-Award-Winner A77X*



A7X  
Two-time SOS  
Award Winner



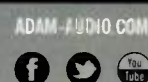
A77X  
TEC Award Winner



A3X  
Future Music  
Value Award



A8X  
Audio Test  
Reference Class



The Clariphonic provides two “engines” per channel, the Focus Engine and the Clarity Engine. “I call them engines because they work on both ends of the spectrum despite being a single band,” Scott says. “Essentially it’s a dual-channel 2-band EQ that behaves like a 4-band hi/low EQ, with eight available filter shapes per channel, which, because of the switching network, can be configured in 16 possible combinations.” Reported results are a smoothed, lifted and open top end with a tightened, defined low end on whatever the Clariphonic touches.

#### LEXICON PCM92 REVERB AND EFFECTS PROCESSOR

The Lexicon LARC has long been the effects user interface found atop large-format consoles, and for good reason: Lexicon has been the go-to source for fine reverbs for decades. Nurtured from the attributes of the PCM81 and PCM91 effects units, the PCM92 (\$1,799) offers 28 mono and stereo reverbs, delays and modulations with useful routing features centered on 1,200-plus presets incorporating time-proven classic patches from the Lexicon library. Its Hall, Concert Hall and Random Hall algorithms have reportedly been used on “more than 80 percent of all recorded music,” offers Lexicon promotional materials. Other features include multivoice pitch shift, HiQnet System Architect compatibility, and foot-controlled preset/parameter adjustment for live sound use, and much more.

#### SPL TRANSIENT DESIGNER

Though it’s now available as a plug-in, SPL’s venerable Transient Designer (\$699 or \$1,299; 2- and 4-channel versions, respectively), whether in its 4-channel or stereo version, remains an invaluable tool to shape the dynamic response of any signal—notably useful on percussive sound sources, acoustic guitars and pianos.

How does it work? Well, the Transient Designer processes dynamic characteristics, emphasizing or smoothing attack and/or extending or shortening sustain times. Its processing is not dictated by signal level, so all material is processed equally, whether loud, soft or somewhere in between. With its simple two-knob user interface per channel—attack and sustain adjustments—the Transient Designer is the tweak-happy kind of outboard processor that you just have to use to understand its appeal. I’ve rarely run drum sound sources through it without receiving something more desirable than what was originally there.

#### TC ELECTRONIC FINALIZER 96K

Since the early aughts, I’ve often used some incarnation of TC Electronic’s Finalizer (\$2,550 for 96K version) to bring a mastered-like sheen to self-recorded projects. I found the unit in many studios, from project/home facilities to commercial spaces, surely purchased for its easily applied master-

ing and multiband compression tools best described as “magic” on most modern pop mixes. I’d guess that many of today’s “instant” in-the-box mastering processes (and even those cheap online mastering services) employ a Finalizer or something closely resembling it. Features include 5-band, 24-bit stereo digital EQ for signal shaping; dynamic EQ, stereo adjust, Lexicon’s own Digital Radiance Generator, and spectral stereo image enhancements; real-time Gain Maximizer for normalization; variable slope multiband expander; multiband compression; multiband variable ceiling limiter; a manual or auto-fade tool; and more. ■

*Strother Bullins is Technology Editor for NewBay Media’s AV/Pro Audio Group. sbullins@nbmedia.com*

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**AWARDS**  
technical excellence & creativity

# NAMM TEC AWARDS: Vote!

Presented by the NAMM Foundation, the 31st Annual TEC Awards will be held at The NAMM Show in Anaheim, Calif., on Saturday, January 23, 2016.

and voted upon by members of various professional organizations and audio industry media, including NewBay Media publications. A special TEC Awards Voter's Guide will be distributed digitally to eligible voters in early December.

The TEC Awards recognizes the individuals, companies and technical innovations behind the sound of recordings, live performances, films, television, videogames and other media.

The 31st Annual NAMM TEC Awards is presented by the nonprofit NAMM Foundation, which, as the charitable arm of the NAMM organization, seeks to advance active, lifelong participation in music making by supporting scientific research, philanthropic giving and public service programs of the music products industry.

TEC Awards nominations are made by a panel of industry professionals

## NAMM AND THE TEC AWARDS WOULD LIKE TO THANK THE FOLLOWING SPONSORS:

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<b>TEC ADVOCATE</b>			<b>BRONZE</b>			<b>FRIENDS OF TEC</b>		

## LIFETIME ACHIEVEMENT AWARDS

The TEC Awards Hall of Fame was created in 1988 to recognize those individuals whose careers have best exemplified the spirit of creative and technical excellence in professional recording and sound.



### HALL OF FAME: JEFF "SKUNK" BAXTER

Jeffrey "Skunk" Baxter has had a long and successful career in the music and entertainment field, earning numerous Gold and Platinum albums and two Grammy Awards. He was a founding member of the group Steely Dan, a member of the Doobie Brothers and produced records for such artists as Carl Wilson, Nazareth, The Stray Cats and Billy Vera. He has toured with artists such as Elton John, Julian Lennon and Linda Ronstadt. He has been a studio musician for over 40 years, recording with such artists as Donna Summer, Dolly Parton, Ringo Starr, Barbra Streisand, Carly Simon, Bryan Adams, Richie Havens, Roy Orbison, Beach Boys, Little Feat and Rod Stewart, and has composed music for movies and television including co-authoring the original theme for *Beverly Hills 90210*, music for *King of the Hill* and scoring for movies like *Bull Durham* and *Roxanne*. He has been a design engineer/consultant for Akai, Audio-Technica, Allen & Heath, Fender and Roland for more than 35 years. He is currently working on his first solo project with long-time friend and associate CJ Vanston.



### HALL OF FAME: GARY KELLGREN & CHRIS STONE

Gary Kellgren (1939-1977) was an American audio engineer and co-founder with Chris Stone of the Record Plant recording studios, which transformed the studio into a new, creative and collaborative environment and, at the same time, introduced the newest multitrack, acoustical and mixing technologies. Kellgren was an early user of "phasing," a studio technique which simulates the sound of a jet engine. He is also credited with pioneering the "flanger," the U.S. version of the Beatles' ATD (automatic tape doubling), also known as ADT (automatic double tracking), for that memorable psychedelic sound.



Chris Stone is an American music industry businessman and writer, and the co-founder with Kellgren of the Record Plant. Stone founded Filmsonix in 1987, sold the Record Plant in 1989, and is the founder and CEO of World Studio Group. He co-founded the Society of Professional Audio Recording Services (SPARS), and served as president and chairman of the board. He also co-founded the Music Producers Guild of the Americas, serving as executive director. The MPGA developed into the Producers & Engineers Wing of the National Academy of Recording Arts and Sciences. He has lectured online for the Berklee College of Music as well as in person for the USC Thornton School of Music where he was an associate professor.

## OUTSTANDING TECHNICAL ACHIEVEMENT

AMPLIFICATION HARDWARE —  
STUDIO & SOUND REINFORCEMENT

Antelope Audio Satori Monitoring Controller  
d&b audiotechnik D20 Amplifier  
Hafler HA75 Tube Head Headphone Amplifier  
Mytek Manhattan DAC/ Preamp/Headphone Amp  
Powersoft Ottocanali DSP+D  
QSC GXD Series

## ANCILLARY EQUIPMENT

Audio Precision APx555 Audio Analyzer  
DiGiCo Orange Box Format Converter  
Meyer Sound MAPP XT System Design Tool  
Radial Engineering JDx-48 Reactor Guitar Amp Direct Box  
Rupert Neve Designs RNDI Active Transformer  
Direct Interface  
Triad O2x Dual Boom

## AUDIO APPS FOR SMARTPHONES &amp; TABLETS

Allen & Heath Qu-Pad App V1.7  
JBL SRX Connect  
Meyer Sound Compass Go  
PreSonus Notion 2 for iOS  
Shure ShurePlus MOTIV Mobile Recording App  
TC-Helicon VoiceJam Studio

## HARDWARE/PERIPHERALS FOR SMARTPHONES &amp; TABLETS

iConnectivity iConnectAUDIO4+  
RØDE iXY-L  
Sennheiser ClipMic Digital  
Sennheiser MKE 2 Digital  
Shure MOTIV MV88 iOS Digital Stereo Condenser  
Microphone  
Studio Six Digital iPrecisionMic

## COMPUTER AUDIO HARDWARE

Antelope Audio PURE2 AD/DA Converter & Clock  
Apogee Ensemble Thunderbolt  
Dangerous Music Convert Series Reference D to A  
Converters  
Focusrite Clarett 8Pre  
Universal Audio Apollo 8p Thunderbolt 2 Audio Interface  
Universal Audio UAD-2 Satellite Thunderbolt DSP  
Accelerator  
Waves Audio DiGiGrid iOS

## HEADPHONE/EARPIECE TECHNOLOGY

AKG K553 Headphones  
Audio-Technica ATH-R70x-Pro Reference Headphones  
Doppler Labs DUBS Acoustic Filters  
Jerry Harvey Audio Siren Series "Layla" In Ear Monitors  
Shure PSM 300 Stereo Personal Monitor System  
Ultimate Ears UE Pro Sound Guard

## MICROPHONE PREAMPLIFIERS

AMS Neve 1073DPX  
Antelope Audio MP32  
Chandler Limited REDD.47  
Focusrite RedNet MP8R  
Manley Labs Manley FORCE  
Millennia Media HV-35P

## MICROPHONES — RECORDING

AEA Nuvo N8  
Audio-Technica AT5045  
Blue Microphones Hummingbird  
Neumann U 47 FET  
Royer Labs R-122 MKII Active Ribbon Microphone  
Sennheiser MK 8

## MICROPHONES — SOUND REINFORCEMENT

AKG D5c Handheld Dynamic Mic  
Audio-Technica BP40 Large Diaphragm Mic  
Countryman Associates 12 Instrument Mic  
DPA d:screet Miniature Podium Mics  
Earthworks High-Definition 40kHz Flexr mic  
Shure 5575LE Unidyne 75th Anniversary Vocal Microphone

## RECORDING DEVICES

Aaton Digital Cantar X3  
Cymatic Audio uTrack 24 Recorder + Player + Interface  
iZ Technology RADAR Studio  
Sound Devices 688  
TASCAM DR-70D 4-Track Recorder for DSLR Video  
Zoom F8 MultiTrack Field Recorder

MUSICAL INSTRUMENT  
AMPLIFICATION & EFFECTS

Eventide H9 MAX  
Grace Designs Felix Studio Quality Instrument Preamp/EQ/DI  
Hughes & Kettner TriAmp Mark 3  
Kemper Profiler w/Remote  
Moog Music MF Chorus  
Moog Music MF Flange

## MUSICAL INSTRUMENT HARDWARE

Arturia BeatStep Pro  
Dave Smith Instruments Sequential Prophet-6  
Korg ARP Odyssey  
Moog Music Modular Recreation  
Roger Linn Design LinnStrument  
ROLI Seaboard GRAND

## MUSICAL INSTRUMENT SOFTWARE

Arturia V Collection 4  
EastWest Sounds Composer Cloud  
iZotope Iris 2  
Native Instruments Session Guitarist Strummed Acoustic  
PPG WaveMapper 2 For Mac and PC  
Spectrasonics Omnisphere 2

## SIGNAL PROCESSING HARDWARE

Bettermaker EQ232P MKII  
Drawmer 1978 Tone Shaping Compressor  
Kush Tweaker  
Lexicon QuantumLogic QLI-32  
Sonic Farm Creamliner II  
TC-Helicon VoiceLive 3 Extreme  
Tube-Tech HLT 2A Equalizer

SIGNAL PROCESSING HARDWARE (500 SERIES  
MODULES)

BAE Audio 1073MPL  
Bettermaker EQ502PR  
Heritage Audio 2264JR  
LaChapell Audio 5835 mk2  
Radial Engineering Space Heater 500 Tube Overdrive and Filter  
Solid State Logic 500-Format LMC

SIGNAL PROCESSING SOFTWARE (DYNAMICS/EQ/  
UTILITIES)

Focusrite Red 2 & Red 3 Suite  
iZotope RX4 Complete Audio Repair & Enhancement  
Plugin Alliance Millennia TCL-2 Plug-in  
Sound Magic DSD Tools  
Universal Audio Neve 88RS Channel Strip Collection  
Waves Audio Butch Vig Vocals

## SIGNAL PROCESSING SOFTWARE (EFFECTS)

AMS Neve RMX16 Digital Reverb Plug-in for UAD-2 Platform  
Audio Ease Altiverb 7.2.6  
McDSP McDSP Futzbox Rack Extension Plug-in  
Softube Mutronics Mutator  
Soundtoys Little AlterBoy  
Waves Audio H-Reverb Hybrid Reverb

## STUDIO MONITORS

Amphion Onet8  
ATC SCM45A  
Augsburger Monitors Duo 8 MiniMain System  
Barefoot Sound MicroMain45  
Genelec 8351A SAM  
JBL 7 Series Master Reference Monitors

## SOUND REINFORCEMENT LOUDSPEAKERS

EAW OTTO Subwoofer  
Electro-Voice EKX Series  
JBL VTX V25-II  
Meyer Sound LEOPARD  
Powersoft M-System  
TurboSound iQ Series

## WIRELESS TECHNOLOGY

AKG DMS800  
Audio-Technica System 10 PRO Digital Wireless  
Lectrosystems SSM Micro Bodypack Transmitter  
Line 6 Relay G70/G75 Series  
Sennheiser evolution Wireless D1  
Shure QLX-D Digital Wireless System

## WORKSTATION TECHNOLOGY

Apple Logic Pro X 10.2  
Avid Pro Tools 12  
PreSonus Studio One 3.0 Professional  
Sound Magic Serenade DSD/DXD/Hi-res Workstation  
Steinberg Cubase Pro 8/Artist 8  
Waves Tracks Live

## SMALL-FORMAT CONSOLE TECHNOLOGY

Allen & Heath GLD Chrome Series  
Avid Pro Tools | S3  
DiGiCo S21  
Mackie DL32R  
Radial Engineering Space Heater Tube Summing Overdrive  
Yamaha TF Series

## LARGE-FORMAT CONSOLE TECHNOLOGY

Midas Pro X | Neutron Audio System Engine  
Roland M-5000  
Solid State Logic XL DESK  
Soundcraft Vi7000  
Stagetec Aurus Platinum  
Studer Vista V Infinity

OUTSTANDING CREATIVE  
ACHIEVEMENT NOMINEES

## RECORD PRODUCTION / SINGLE OR TRACK

"Bad Blood," Taylor Swift (ft. Kendrick Lamar)  
"Baltimore," Prince  
"Bloodstream," Ed Sheeran and Rudimental  
"Dreams," Beck  
"Stretch Of The Highway," James Taylor

## RECORD PRODUCTION / ALBUM

*Before This World*, James Taylor  
*Smoke + Mirrors*, Imagine Dragons  
*How Big, How Blue, How Beautiful*, Florence and the Machine  
*Toto XIV*, Toto  
*Wallflower*, Diana Krall

## TOUR / EVENT SOUND PRODUCTION

Foo Fighters—Sonic Highways World Tour  
Grateful Dead—Fare Thee Well  
James Taylor—Before This World Tour  
Rolling Stones—Zip Code Tour  
Taylor Swift—1989 World Tour

REMOTE PRODUCTION / RECORDING OR  
BROADCAST

*2015 Rock and Roll Hall of Fame Induction Ceremony*  
*57th Annual GRAMMY Awards*  
*A Great Night in Harlem, 2014*  
*Carnegie Hall's Opening Night Gala: Berlin Philharmonic—Sir*  
*Simon Rattle & Anne Sophie Mutter*  
*Foo Fighters Sonic Highways*

## FILM SOUND PRODUCTION

*American Sniper*  
*Birdman*  
*Jurassic World*  
*Mad Max: Fury Road*  
*Whiplash*

## TELEVISION SOUND PRODUCTION

*Game of Thrones*  
*House of Cards*  
*Nashville*  
*The Tonight Show Starring Jimmy Fallon*  
*The Late Show with David Letterman*

INTERACTIVE ENTERTAINMENT SOUND  
PRODUCTION

*Assassin's Creed: Rogue*  
*Batman: Arkham Knight*  
*Call of Duty: Advanced Warfare*  
*Destiny*  
*Middle-Earth: Shadow Of Mordor*

## STUDIO DESIGN PROJECT

Allyworld, Takoma Park, MD  
Beltway Recording Studio, Houston, TX  
Paul Epworth's Church Studios, London, UK  
Converse/Rubber Tracks, Boston, MA  
Dream Asylum, Miami, FL  
Jukasa Media Group, Caledonia, Ontario, Canada  
Shochiku Mediaworx, Tokyo, Japan

# MIX REGIONAL: SOUTHEAST

## RICKIE LEE JONES, GALACTIC & JOEY COOK AT MUSIC SHED STUDIOS

Legendary songwriter/vocalist/musician Rickie Lee Jones headed to New Orleans to work on her latest album, *The Other Side of Desire*, at Music Shed Studios. This is the first release of new songs in a decade for the two-time Grammy Award-winning artist.

Producer John Porter says they tracked everything live except for one song, "Haunted," where he kept the original demo and then overdubbed on it. They also settled on using an AKG C414 mic for Jones, and a Shure Beta 87 on the upright bass. Porter says he wrapped the mic in foam and then stuffed it under the bridge so the bass player didn't have to maintain a constant position relative to the mic.

Porter ended up having to do a bit of editing on this particular project. "RLJ wanted to change the keys of two or three songs—in some cases, quite considerably—and also wanted to change the tempo of a couple of those—one faster and one slower—after they'd been recorded and we no longer had the musicians around," Porter says. "I was able to do it using assorted bits of technology: Beat Detective, Elastic Time, Pitch 'n Time, et cetera, and also by then replacing acoustic guitars and vocals. I then mixed it at my home studio in England at Independence Street West."

Engineer Michael Dorsey says they used an assortment of microphones to track the drums, each of which captured a certain aspect of the sound that, when summed together, creates a larger sound than a single mic could. "This process took more time to dial in each mic, as well as making sure the electrical and acoustical phase was correct," Dorsey says. "I also tracked the drums with little to no EQ, as well as not compressing while going to the converters."

For the horns, Dorsey used a combination of an RCA 77-DX, a Royer R-121, and Cascade Fat-head II ribbon mics. All Ribbons ran through the Grace Design m802 preamps. "For me, capturing brass instruments with ribbons is essential," Dorsey says. "Ribbons provide such a natural and pleasing listening experience. Coupling these ribbons with Grace preamps provides the articulation and clarity that we have come to expect. This combination really makes the listener feel like they are in the room with the musician."

New Orleans jazz-funk-jam group Galactic was also at Music Shed working on *Into The Deep*, the band's eighth full-length release. The album, produced by Ben Ellman and Robert Mercurio, features guest appearances from Brushy One String, Macy Gray, JJ Grey, Maggie Koerner, Ryan Montbleau, David Shaw of the Revivalists, Mavis Staples and Charm Taylor.

Engineer Ben Lorio chose a Royer SF-12 for overheads, and an AKG D 112 and



Music Shed Studios house engineer Ben Lorio in the Studio A drum iso booth, which sports a 24-foot-high ceiling.

a Subkick were used on the bass drum. "On the snare, we used a Telefunken M80 for the top and an AKG 414 on the bottom," Lorio says. "We went pretty standard on the toms with [Sennheiser] 421s. We used a pair of AKG C12VRs in front of the kit in an ORTF pattern, and a pair of Coles 4038s went into miking drummer Stanton Moore's percussion world. We also used a Shure SM57 in the center of the kit, heavily compressed with a UA Bluestripe 1176 for a bit of 'trash' as an option."

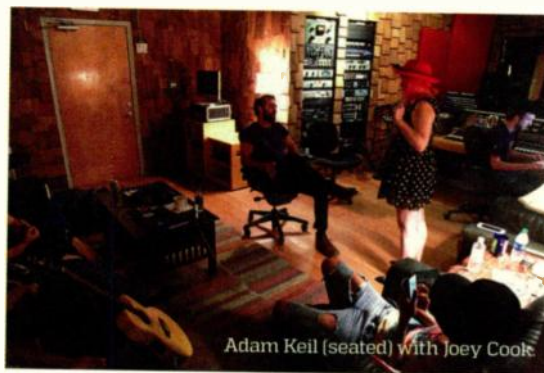
Bass went direct through an API preamp, and the amp was miked with a Neumann TLM 103. Electric guitar was an SM57 and a Royer R-121 through Chandler Limited TG2 preamps. The Wurlitzer went direct through an API preamp, and also a Vox AC30, which was miked with a beyerdynamic M88 to "give it a little crunch," Lorio says. Ben Ellman's baritone sax was miked with an RCA 77-DX. Lorio used the Coles 4038 on Corey Henry's trombone because "I like how it rounds off the edges on brass instruments."

*American Idol* season 14 finalist and Postmodern Jukebox artist Joey Cook worked on new material with Music Shed engineer Adam Keil, who engineered and produced (with others) the project. "Joey's session turned out to be very interesting because there ended up being many producers," Keil says. "Since Joey is still exploring different sounds with a full band, she decided to give the album a variety-show type of theme, letting certain musicians who played a big role on a song take over the production."

Cody Bowers from Mammoth Indigo did two songs, Zach and Megan Moats from The Dharma Initiative did two songs, Keil did two songs, and the rest was mostly

Cook. "We tried a few different mics for her vocals," Keil says. "She ended up liking the C12VR the most, but we used an 87 on a couple tracks and the RCA 77 on one track. I used Glyn Johns' technique for overheads on drums, since she wanted a couple of the songs to have a sort of retro, soul feel to them."

Keil used the 77 for most of her ukulele tracks. Cook played electric ukulele on a couple songs, as well, through a Fender Bassman 135 amp. "We tracked everything one instrument at a time, starting with Joey setting the form of the song on ukulele or accordion with vocals, and we built everything up from there," Keil says. "There is a huge range of instruments throughout the album, including pianos, guitars, several vocalists, melodica, organ and all sorts of drums and percussion." — *Lori Kennedy*



Adam Keil (seated) with Joey Cook



# SESSIONS: SOUTHEAST



John Curley, Jon Skibic, Patrick Keeler, Rick Nelson, David Rosser, Greg Dulli, and Sharon Van Etten and friend.

new album. Nelson engineered and Greg Dulli (of the Afghan Whigs) was the producer. During the sessions, they also collaborated with singer-songwriter Sharon Van Etten. One interesting piece of gear they used was Pete Seeger's custom-made baritone 12-string guitar. Nelson has the guitar at the studio on loan from Seeger's grandson, Tao Seeger.

## MARIGNY RECORDING STUDIO, NEW ORLEANS

Studio co-owner/producer/engineer Rick Nelson just finished up two weeks of sessions with the Afghan Whigs for their

design, and creating audio mixes took place in Studio G for the Adult Swim TV show *Squidbillies* (season 9), with Adult Swim producing and Shawn Coleman (on staff at Doppler) engineering. Singer-songwriter Neko Case stopped by the studio in the midst of her tour to record a version of the *Squidbillies* theme song, and singer-songwriter Kelly Hogan added her vocals to the project, as well.



Recording the orchestra for the film *Our Brand Is Crisis*

new record. He was in the studio for five days, primarily writing and tracking song ideas. Misha Kachkachishvili is the recording engineer...

Joe Jackson was in the studio working on his record *Fast Forward*. Kachkachishvili was the recording engineer...Snarky Puppy recorded and videotaped *Family Dinner 2*. David Crosby contributed vocals to the album. It was produced by Michael League and engineered by the late Erick Hartman...Crosby and Snarky Puppy then collaborated on Crosby's solo record. The project was produced by League and engineered by Hartman...Rickie Lee Jones tracked and mixed the second half of *The Other Side of Desire*, which was produced and engineered by Mark Haward...Kachkachishvili was also the scoring/recording engineer for music for the Warner Brothers *Our Brand Is Crisis*, which included a 52-piece string and brass orchestra.

## ESPLANADE STUDIOS, NEW ORLEANS

Trombone Shorty has been in the studio writing and tracking song ideas for a

## PARHELION RECORDING STUDIOS, ATLANTA

Brandy was in Studio A with producer



De La Soul at Parhelion

Oak and engineer Ralph Cacciurri working on production and tracking vocals for an upcoming release...De La Soul was in Studio A with engineer Morgan Garcia (De La Soul produced) working on production and tracking vocals for an upcoming release funded by Kickstarter...Indigo Girls were in Studio A with producer Jordan Brooke Hamlin and engineer Brian Joseph mixing the *One Lost Day* album (Indigo Girls also produced)...Parhelion has also opened its B room with an iMac 17 with 1 UAD Apollo 16 and Pro Tools 10. The room is about 400 square feet with the vocal booth, and also has a Soundelux U99 mic with API 512c pre, API 550a EQ and API 525 compressor.

## DOPPLER STUDIOS, ATLANTA

Casting Crowns tracked several songs in Studio E with producer Mark A. Miller (Sawyer Brown)



L to R: Neko Case, Shawn Coleman and Kelly Hogan at Doppler Studios

and engineers Steve Lowery and Will Thrift...Rick Ross worked on writing and recording in Studio E with Island Def Jam Music Group producing and Leo Sibily and Brandon Oliver engineering...Mary J. Blige did some writing and vocal recording sessions in Studio E with Jerry Wonda/Capitol Records/Matriarc 1 Entertainment producing and Jacob Curtis engineering...Recording, composing, sound



Gebre Waddell at Stonebridge Mastering

design, and creating audio mixes took place in Studio G for the Adult Swim TV show *Squidbillies* (season 9), with Adult Swim producing and Shawn Coleman (on staff at Doppler) engineering. Singer-songwriter Neko Case stopped by the studio in the midst of her tour to record a version of the *Squidbillies* theme song, and singer-songwriter Kelly Hogan added her vocals to the project, as well.

## STONEBRIDGE MASTERING, MEMPHIS

Studio owner/engineer Gebre Waddell recently mastered the

following projects: The Blues Music Awards (an annual show hosted by the Blues Foundation) CD project, which features artists such as Keb' Mo', Charlie Musselwhite, Elvin Bishop, Kenny Wayne Shepherd and others. The project was mixed by Mike Wilson at Ardent Studios...Singer Tina Harris' album *Free to Love* (engineered by Kerry Kernan)...Indie-rock band Boyscott's album *Goosebumps* (mixed by Scott Hermo)...Metal band Roses Unread's album *The Silver Lining*...Blues band The Bushleague's album *Didn't See This Coming* (mixed by Ari Morris)...Country artist RT Scott's album *Life and Death* (mixed by Kevin Houston).

## THE GREYHOUNDS, YOUNG DOLPH AND THE WEEKS AT ARDENT STUDIOS



Jody Stephens (Ardent CEO, Big Star drummer), Andrew Trube and Anthony Farrell (The Greyhounds), and Reed Turchi (Ardent Music Label Director)

Young Dolph (left) with engineer Ari Morris



L to R: Jody Stephens, Cain Barnes, producer Paul Ebersold, Cyle Barnes, Sam Williams, Damian Bone and engineer Josh St. Moblo

The Greyhounds, from Austin, Texas, have been working on their second album for the Ardent Music Label in Studios B and C at Ardent Studios in Memphis. The duo tracked material for this album over the past two years at many different studios (at Ardent, at their studio in Austin, in Atlanta—wherever they were on tour), so one of the major challenges was creating a sonically cohesive album, highlighting the oddball sounds and effects the band produces with their recording style, while still putting together solid, album-ready mixes. The Greyhounds and Reed Turchi are producing the material, and Adam Hill is engineering. They used Spectrasonics channel strips (mic line, amp, and 2-band EQ) from the original Ardent console installed at the early National Street Ardent location in the 1960s, now rehoused and refurbished as floating gear. They also used Fairchild compressors (two 660s and one 670), EMT Plate Reverbs and Ardent's Echo Chambers.

Memphis-based rapper Young Dolph (Paper Route Empire), who has worked with Juicy J (Three 6 Mafia) and 2 Chainz, was at Ardent working on his mixtape *Shittin on the Industry*, which features production from Mike Will Made-It, DJ Squeaky, Cassius Jay, Zaytoven, Izze the Producer, TM88 (of 808 Mafia), and Reazy Renegade. They worked in Studio B with engineer/mixer Ari Morris, who used Neumann mics to capture Dolph's dynamic vocal performances in the booth.

The Weeks, an indie rock band from Jackson, Miss., are currently at Ardent working on their third studio album with Grammy Award-winning producer Paul Ebersold and engineer Josh St. Moblo in Studio A.

# The Original Muscle Shoals Sound

## Rebuilt by Cronin, Backed by Beats

BY JIM BEAUGEZ



Michael Cronin outside the famed Muscle Shoals Studios

Photo: Keith Sims

It's all there—the booth where Mick Jagger cut vocals, the toilet where Keith Richards finished writing “Wild Horses,” the original insulation tiles that heard a generation’s worth of landmark music.

Now, Muscle Shoals Sound is coming back to life at its original location, 3614 Jackson Highway in Sheffield, Ala., thanks to a grant from Beats By Dre and the expertise of skilled acoustician Michael Cronin.

Since the documentary *Muscle Shoals* debuted in 2013, more than 25,000 people from 42 countries have made the pilgrimage to the studio where The Rolling Stones, Bob Dylan, Lynyrd Skynyrd and many others cut iconic recordings. The interest sparked Judy Hood, wife of “Swamper” bass player David Hood, to team up with Fame Recording Studios principal Rodney Hall to establish the Muscle Shoals Music Foundation.

The nascent group raised the first funds to purchase the 3614 Jackson Highway building and adjacent properties while the movie screened at Sundance. Beats got involved this year to help the foundation restore the historic building to its 1969-71 period and preserve it as an active studio.

“We see the recording studio as both an engine of sound production, as well as a center of community where creative people come together to

make music,” says Beats President Luke Wood. “It is important that Muscle Shoals continues to be a vibrant, living studio that can help shape the next generation of players, producers and engineers.”

The Muscle Shoals Foundation plans to continue its tours—led by head “Swampette” Hood—and open the studio to musicians during off hours, similar to the model Sun Studios in Memphis uses to stay open. In fact, Jerry Phillips, son of Sun Studios founder Sam Phillips, serves on the foundation’s board.

“Clearly it has to be open because of the music heritage,” Hood says, “but we also have the analog recording equipment. We feel like we have a moral obligation to keep it open. This is a pilgrimage for a lot of people.”

Beats brought in Cronin, the veteran studio designer whose credits include Blackbird in Nashville and many more studios around the world, to study and re-create the acoustical environment of the original studio.

“Barry Beckett [original Swamper] used to tell me about this place, about Aretha Franklin, and I never thought I’d be standing here,” marveled Cronin. “I had just watched the *Muscle Shoals* documentary, and a week later I got a call from Beats.”

Cronin’s strategy relied on documenting the entire building, inch by inch, including the size and shape of the room and isolation booths, as well as the materials used in the studio—some of which were still attached to the walls nearly 50 years later.

“The original acoustic material was ceiling tiles and burlap with insulation behind it, which was typical of the time period,” Cronin says. “Fame Recording was the same, like Sun Studios and RCA Studio B in Nashville. They added it until it sounded good and then stopped there.”

If anything, Cronin is sweating the details. According to Hood, the place was “crawling with architects” gathering every detail of the space before reconstruction began. Even the original air duct and electrical outlets and conduit will remain in the building, although the crew will pull new wiring and install a modern central air and heating system.

The main recording room takes up most of 3614’s street level, with add-ons like the vocal booth, drum isolation booth, control room and a closet-size bathroom jutting into the space. The versatility of the room’s appendages is apparent today, even as the studio is undergoing renovations. Standing in the vocal booth and turning toward and away from the tiles, Cronin shows how the space was used. “You’ve got more of a live

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Michael Cronin stands by the studio's original acoustic tiles, which balanced the concrete-block building.

Photo: Keith Sims



end and a dead end, so if you're recording this way or that way, acoustically, sonically, it's a different sound."

New soundproofing challenges that didn't exist when the building was originally an operating studio also came into play. For example, the formerly sleepy Jackson Highway is now a busy, four-lane thoroughfare with traffic night and day.

The team is mediating the noise issue caused by passing vehicles by adding insulation walls to the front two rooms of the building, which served as the reception area and guitarist Jimmy Johnson's office in the old days.

"Thirty years ago there was a highway, but it wasn't like this—it wasn't a racetrack," Cronin says. "We're isolating the perimeter to a point where it doesn't affect the interior acoustics of the room. We're isolating from the outside, all through here, but the interior of the room is original."

The building, which closed in 1978 when Muscle Shoals Sound moved across town, has lived many lives since its heyday. Most notably, it was a casket shop that served the reluctant customers of Oakwood Cemetery across the street. Through all its uses, though, the original layout survived without major modifications.

"It's amazing that for years, with all the other uses, none of this stuff got ripped out," Cronin says. "The paneling, everything was on the walls the way it was."

That goes for the angled glass on the control

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Cronin tracked down this period-accurate API console with help from Danny White. Photographed at Sixteen Ton Studios in Nashville.



Members of Lynyrd Skynyrd (including Ronnie Van Zant, third from left; and Allen Collins, second from right) listen to playback through the studio's Altec Voice of the Theater speakers with Jimmy Johnson (Johnson is second from left).

room, as well as the drum and vocal isolation booths, which somehow survived 35 years of mixed use without being ripped out and replaced with something more functional for the tenants. Even the ceiling bow created by sagging roof beams is exactly the same, although as part of the renovation the roof was raised and properly supported to restore structural integrity.

"We've added this LVL system of structural members to take all of the weight," Cronin says. "The original beams aren't bearing the weight, but the room will have the same shape."

Walking over to the drum booth, Cronin says, "This would have been like any booth from the Westlake era. It was a semi-enclosed area. There wouldn't have been any glass back in the '69-'71 era. Later, when techniques changed, they added glass to get more separation.

"It was completely different then," he continues. "It was one room. If you were doing this today, you'd be isolating everything from each other. Those things weren't important back then."

Acquiring period gear, including pieces that were actually in the studio, has been part treasure hunt and part pure luck for Cronin and the foundation. Once word of the project began traveling through the industry, Cronin's phone started ringing.

"We had just had a board meeting and picked the time period to focus on re-creating," Cronin says, "and then just by serendipity, Danny White, who had Sixteen Ton Studios, said he had this API that was ordered in 1969 and installed in 1971 in RCA Studios in Nashville, which later went into Chet Atkins' personal studio. It was perfect for what we wanted."

Producer Dave Cobb (Jason Isbell, Chris Stapleton), who had owned the console before White, was also a key ally in the gear hunt. He still owned the original Altec Voice of the Theater speakers that were used for playback in 3614's main room.

"Dave just said, 'Hey man, come get them.' He was excited that they were going to come back to this room," Cronin says.

The team also found one of the studio's 8-track tape machines that had never even left the area code. When the local studios bought new equipment, often other nearby studios bought the old gear. The studio's one-inch Scully deck was found just across the Tennessee River in Lexington, Ala.

Downstairs in the basement were offices for the musicians and where the publishing company was run, plus a secret lounge behind a false wall where they kept a keg in formerly dry Colbert County. At the rear of the basement are two echo chambers where the Swampers created reverb and delay with a microphone and a raw speaker, relying on physical distance to calculate the time.

For the foundation, acquiring the building felt like a coup—but that quickly faded as the financial reality of renovating the space set in. Luckily, Beats arrived on the scene at the right time.

"We thought we had to spend the next 10 years raising money to do something with it," Hall says. "Then we got a call from Rafferty Jackson who was with Beats, and she said, 'I think I can help you with your studio project.' And they did."

Muscle Shoals Sound is scheduled to fully reopen in March 2016. ■

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with six drive units housed in sealed enclosures spanning 30 Hz to 45 kHz with vanishingly low distortion, remarkable dynamic range and ultra-fast transient response. The ring radiator tweeter is exceptionally detailed and produces very wide dispersion out to its highest frequencies. MM26 provides four modes: a revealing «Flat» response, a warmer and sweeter “Hi-Fi” setting, an “Old School” setting that emulates an NS10M nearfield, and a “Cube” setting that emulates the mid-centric sound of classic mix cubes.



#### GENELEC 7040A SUBWOOFER

The 7040A Subwoofer features Genelec's acclaimed Laminar Spiral Enclosure technology. This unique enclosure design allows the 7040 to achieve a high sound pressure level (an essential property for a subwoofer) and move high volumes of air without distortion. With external dimensions of 16.125 x 13.75 x

8.125 inches, the 7040A has a footprint that is smaller than that of a small practice guitar amplifier. Calibration of the Genelec 7040A subwoofer to the listening environment is done using DIP switches located on the subwoofer connector panel.



#### AUDIO TECHNICA BP40 LARGE DIAPHRAGM MICROPHONE

The BP40 is a dynamic vocal microphone with rich, clear, natural condenser-like sound for a variety of applications including radio, overdubs, post-production and more. The mic's hypercardioid polar pattern provides isolation of the desired

sound source, and maximum off-axis rejection when working in close production environments. Its optimized capsule placement helps maintain a commanding vocal presence even at a distance, while the multi-stage windscreen provides superior internal pop filtering. It also includes a switchable 100Hz highpass filter to provide even more pop protection.



#### ANTELOPE AUDIO 10MX CLOCK

The 10MX combines the atomic precision of the legendary 10M with the sophisticated Acoustically Focused Clocking algorithms of the Trinity into a 1U enclosure. The Antelope 10MX is perfectly suited to recording, mixing and mastering environments and is an ideal companion to a variety of live sound applications in delivering refined clarity and three-dimensionality. The new, smaller and more efficient Rubidium oscillator demands less power consumption and therefore emits less heat radiation.



#### BURL AUDIO B26 ORCA STUDIO MONITOR

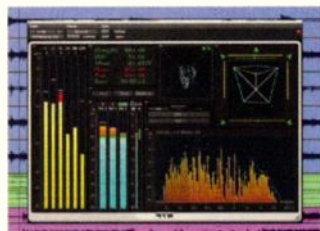
Burl's B26 ORCA features direct coupled, discrete, Class-A signal path, three stereo mix inputs, two stereo tape return inputs, RCA stereo input, and two stereo speaker outputs. Features include audiophile 0.1 percent matched resistors, stepped attenuator for control room level, independent studio/phones send and level, external meter output, and control room and Studio headphone outputs.



#### PMC QB1-XBD-A MONITOR

To create the QB1-XBD-A, PMC has re-engineered its flagship QB1-A Active main studio monitor adding a further cabinet (the XBD) per channel. This contains four identical piston drivers, each driven by four 1,000W independent, Class-D power amplifiers, which gives a total of a staggering 8,825W of ultra-clean power per channel. In keeping with the QB1-A, the QB1-XBD-A features wired RJ45 desktop control, which provides user-friendly access to EQ settings via its backlit display and jog wheel, and

the ability to store up to four user setup presets.



#### RTW LOUDNESS AND MASTERING TOOLS

RTW unveiled its new plug-in version 3 for its popular Masterclass Plug-ins, Mastering Tools and Loudness Tools. RTW's Masterclass Plug-ins provide RTW meters as standard-format plug-ins for Windows and Mac OS.

With this new update, the software now adheres to SAMA and TASA cinema loudness standards, and its window and instruments are modified to be freely scalable. In addition, Mastering Tools now supports a 12th octave RTA. Version 3 also comes with RTW's newly developed USB connect software, which allows users to feed audio directly out of a DAW application via USB from any channel to a TM3-Primus hardware device.

#### YAMAHA TF MIXER



The TF series (which stands for Touch-Flow Operation) comprises three compact, performance-packed digital mixing consoles, the TF5, TF3 and TF1, which feature 33, 25, or 17 motor faders, respectively, along with 32, 24, or 16 rear-panel analog inputs. Each console includes recallable Yamaha D-PRE preamplifiers

for the first time in a digital console, which facilitates support for live music and events where full-setup changes need to be made on the fly. ■

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# Tech // reviews

## BLUE MICROPHONES HUMMINGBIRD

Small Diaphragm With 180-Degree Rotating Capsule



**T**he Hummingbird is Blue Microphones' new small-diaphragm condenser microphone that was designed to provide perfect positioning in hard-to-reach places. The solid, all metal mic is 6.5 inches long, 1 inch in diameter, and features Blue's B1 cardioid capsule

Monitoring was done through a Mytek Stereo 192DSD D/A feeding Neumann speakers.

Miking a drum kit has always been a challenge due to the limited placement options around hardware. The Hummingbird's swiveling head and swiveling body allows you to sneak it in un-

base on their Blue Bottle microphone capsules. The silver grille is an anodized aluminum design that resists corrosion and the occasional drumstick hit. The maximum sound pressure level is listed as 130 dB, which should handle even the hardest driving transients.

The Hummingbird does not have a built-in highpass filter or pad. It employs a Class-A, fully discrete circuit with no ICs in the signal path, adhering to the company's penchant for offering state-of-the-art technology with the purest possible signal. The mic ships with a hard-shell, foam-lined case with a rubber mic clip and foam windscreen inside. Unlike most small-diaphragm condensers, the Hummingbird is designed to be just big enough to fit securely in a normal-size mic clip should the provided clip be lost or unavailable.

### INTO THE STUDIO

The majority of testing was done with a pair of Hummingbirds sent through a stereo Great River MP-2NV preamp along with GR's EQ-2NV, then an Ashly SC-55 compressor feeding an Apogee AD16 at 96k recorded into Magix Sequoia.



der hi-hats and cymbals and reach snares and high toms at virtually any angle, and focus the head of the mic toward each drum's sweet spot. I used the Hummingbirds on toms, congas, hand percussion and snare, but my favorite use was on toms, which sounded full and natural with plenty of extension into the lower frequencies. I tested the microphone's transient response with a set of egg shakers and found the response to be good, tight and realistic. I also used them as room mics and found that the hot output is an added benefit for this sort of setup. While recording congas and other percussion instruments, the body and fullness of the instrument was always present without losing the delicateness of the hands on the drum skins. Capturing this detail and clarity while still sounding natural is a hard combination and tall order for any mic.

While recording a Gibson jumbo acoustic, I placed the Hummingbird next to an sE5 microphone and aligned them together about 9 inches out from the 12th fret facing the sound hole. The two mics sound very different. While the sE5 captured the sound with a nice sheen to the highs and an up-front type of presence, the Hummingbird sounded big in the bottom end. The highs and mids were natural. The sE5's sound would be better suited in a dense mix to cut through, whereas the Hummingbird is the mic you want when the acoustic is the main instrument in a mix or solo.

Next, I listened to the mic spun around in different positions. I rotated the head toward the neck, toward the sound hole, up toward my chin, and down at the pick guard. In all the swiveling and twisting, there was just a slight change to the frequency response but not to the timbre.

## PRODUCT SUMMARY

**COMPANY:** Blue Microphones  
**PRODUCT NAME:** Hummingbird  
**WEBSITE:** www.bluemic.com  
**PRICE:** \$299  
**PROS:** The swivel head makes placing the mic a breeze.  
**CONS:** No built-in pad as mic has a very high output level.

## TRY THIS

When having trouble miking snare drum or tom because of the proximity of cymbals or other hardware, place the Hummingbird's body vertical and parallel to the shell of the drum, then swivel the head at an extreme angle down toward the head. Use the available vertical space near the drums and the double-jointed design of the head to perfectly place the capsule every time.

While tracking a Taylor Baritone acoustic, the Hummingbird had much more body than the sE5, with slightly less highs and a little more of a natural response. The Hummingbird captured about 3 dB more between 90-160 Hz and a few dBs less in the 5-7kHz range. In comparison to an Audio-Technica 4050, not only did the Hummingbird exhibit a more rounded and natural tone with slightly more bottom end, but it was also faster on the transients. I was truly surprised at how this little mic had such a big sound.

The proximity effect of the Hummingbirds is strong. Within a few inches the bass response really increases, more than most small-diaphragm condenser mics I have used. Also, the side and rear rejection yields a different sound with a nice scooped mid and a high sheen that is more than usable in some situations. The "rejected" hi-hat sound while the Hummingbird was positioned for miking the snare drum was very nice sounding, nicer than I have ever heard a hi-hat end up sounding on a snare drum track.

## BIG SOUND

The Hummingbird's sound is as wonderful as its design and positioning abilities. I wish the stereo pair had come with a stereo mounting bar and was in a single case. I highly recommend the Hummingbirds, and the pair I used have found a new home here at my studio. ■

*Tim Dolbear is an Audio Engineer and Producer at Eclectica Studios in Austin, Texas.*

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## MOTU DIGITAL PERFORMER VERSION 9.01

### Flagship Soft Synth, New Plug-Ins and Workflow Enhancements

**M**OTU has released a major upgrade to Digital Performer, and it's actually a twofer, as it includes the company's flagship soft synth, MX4 MultiSynth. Five additional plug-ins and a multitude of great workflow enhancements add to the workstation's allure. I reviewed DP Version 9.01 (\$499; upgrades begin at \$195) on an 8-core Mac Pro running OS X 10.9.5.

Most of DP9's new plug-ins are oriented toward keyboard players or processing guitar and bass tracks. The obvious exception is the MasterWorks FET-76, which models the vintage 1176LN Limiting Amplifier (a FET compressor). Separate controls are provided for I/O gain, compression ratio, and attack and release times. Option-click the button immediately below the 4:1-ratio switch to emulate the 1176's all-buttons-in mode. Turn the Attack control to Off to defeat compression but retain the 1176's classic coloration. The virtual VU meter can be switched to display either gain-reduction amount or output-signal level.

Another new plug-in, MultiFuzz, emulates Craig Anderton's vintage QuadraFuzz 4-band distortion kit. You can apply pre-gain at MultiFuzz's input, add distortion to taste in each band and shape the global tone at the plug-in's output. Raising the Attack control changes the tonal character of the distortion, making it sound peaky (less smooth).

The chameleon-like MX4 provides several forms of synthesis, including subtractive, wavetable, frequency modulation and amplitude modulation. Analog emulation and the Signature EDM sound bank (120 new presets programmed by Erik Norlander) sweeten the pot.

Three new plug-ins—MegaSynth, MicroG and MicroB—use subtractive synthesis and are targeted primarily at processing guitar and bass tracks. All three can generate a square wave and octave and sub-octave pitches at once from input signals (creating four voices, including input); you can mix the four voices together using a separate gain control for each. MicroG (intended for guitar) and MicroB (for bass) can also produce level-triggered filter sweeps, with separate controls provided in each GUI to set the trigger threshold, sweep range (lowest and highest frequency), sweep rate and filter resonance.

Each of MegaSynth's four voices can be connected to a single destination: one of two tunable filters (resonant LPFs) or an amp section (which, depending on the channel configuration, controls gain, panning and stereo width); multiple voices can connect to



Fig. 1: As seen here in the bottom half of the center of this view, DP 9 can display audio tracks as a waveform and in a spectrogram at once. Separate lanes show automation data directly below each audio track.

the same destination. MegaSynth also provides three envelopes (two ADSRs and an envelope follower), two LFOs (each offering a selection of four waveshapes) and a 16-stage, tempo-synched pattern modulator—all of which can modulate the four voices' gain controls, the LPFs' cut-off frequencies and Q controls, and the amp section's gain and stereo width parameters. Macro knobs can be set up to control multiple functions at once over user-defined ranges, creating outrageous transitions in the composite sound.

### FASTER & MORE USER-FRIENDLY

Many new workflow enhancements make life easier for engineers. One of my favorite additions is a new Preferences checkbox that floats all plug-in windows above other windows by default when they are first opened. The window for any plug-in can be independently prescribed to always float—even after closing and reopening it—by checking an item in its window's mini-menu. These two thoughtful features work in concert to let you, for example, navigate to different markers or work in DP's mixer without specific plug-ins disappearing behind the Consolidated Window.

You can also enter text in new search fields for Markers, Chunks or Plug-in Preferences to find items

### TRY THIS

To make your pristine acoustic guitar sound like an overdriven electric, instantiate MicroG on the track. Turn the Guitar (dry input) control all the way down and set the Square Wave knob to about 57 percent to add gobs of grit.

having, wholly or in part, the same name. On a lengthy post-production project, this let me quickly find all the dialog cues for a specific person I had previously placed markers for. A great feature!

The new Create Tracks command (in the Project menu) expedites adding multiple tracks of different types—audio, MIDI, instrument, aux and master fader—to your project. From drop-down menus, select each type of track in turn along with its I/O and any insert settings (custom plug-in preset chains) you wish to apply to it. Checkboxes let you automatically assign consecutive I/O for each new track and add a new MIDI track for each new instrument track. Once you've finished listing the new tracks you want, click OK to add them all at once to your project. You can still use menu commands or keyboard shortcuts for adding different tracks in piecemeal fashion, but the Create Tracks window provides a more integrated approach.

Audio tracks can be displayed in the Sequence Editor using the legacy waveform display, a new spectrogram display (with a choice of around a dozen different color schemes) or both. Use the track settings' new View Mode submenu to set this up (see Fig. 1). For both audio and MIDI tracks, selecting Show Lanes in the track settings' Edit Layer submenu selectively displays numerous automation data in separate lanes directly below the track. Toggling a tiny disclosure arrow at the bottom of the track settings pane provides an alternative way to show and hide the automation lanes.

Click on a tiny keyboard icon in the bottom-left corner of a plug-in's window to enable MIDI Learn. Then click on a plug-in's control and actuate a control on your MIDI device (in that order) to link the two controls together (allowing you to control the plug-in using your MIDI controller). This process creates a MIDI Custom Console in which you can modify how the linked plug-in parameter will respond to MIDI, such as specifying its minimum and maximum values and polarity.

The Mute tool can now mute not only soundbites (audio regions) but also MIDI notes. And scores you create in the QuickScribe notation window can be exported as a MusicXML file, for import into Finale, Sibelius and other notation applications. DP 9 also supports the full resolution of Retina displays.

You can type an unlimited amount of text in the new Project Notes window, which opens from the Project menu like any other window in DP's Consolidated Window. Album liner notes are just one use.

### NEW PLUG-INS

MX4 is a musical, versatile and highly programmable soft synth, and its new Signature EDM soundbank sounds great. Soaring leads, ambient pads, big bass—it does it all. What's more, upgrading to DP 9 from an earlier version costs less than buying MX4 by itself. Especially if you're a keyboardist, upgrading is a no-brainer.

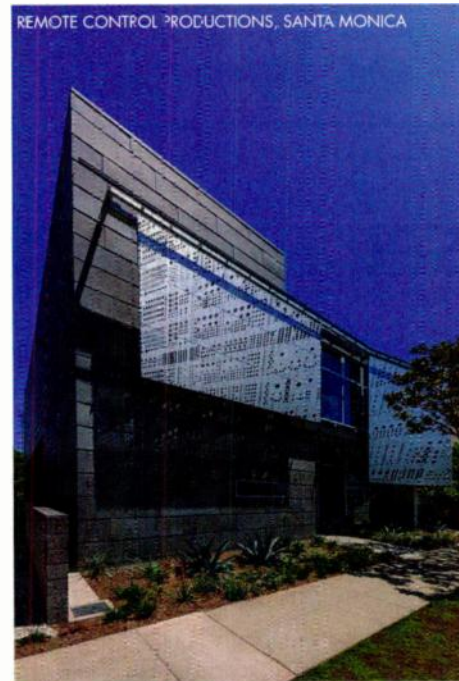
MultiFuzz produced some very good guitar tones. I found myself wishing it had a wet/dry mix control, but instantiating on an aux worked around that deficit.

MegaSynth, MicroG and MicroB greatly expand the ways you can process tracks in DP. While I didn't like the octave and sub-octave generators for all three plug-ins—they didn't produce discrete pitches and sounded distorted—MegaSynth's bountiful filter modulators produced sounds that were at once highly musical, complex and unusual. (Very few third-party plug-ins have comparable modulation capabilities; FabFilter Saturn comes to mind.) And the square wave generators for all three plug-ins produced a colorful type of distortion that I was happy to add to my toolkit.

Using single ratio settings, I felt the MasterWorks FET-76 fell short of re-creating the vintage 1176's sound: I couldn't jack up the leading edge of notes on an electric guitar vamp much (a common 1176 application), and drum tracks didn't pop the way they would've if processed by a real 1176LN. All-buttons-in mode, on the other hand, sounded phenomenal, exploding drum-room mics with all the hyperventilating excess you could hope for.

I found DP's spectrogram display to be of limited practical use, as it lacked a frequency scale and readouts. But that's a minor point. Most important, the new workflow enhancements make DP 9.01 the fastest and most effortless version yet. ■

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



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## SPL IRON MODEL 1520 MASTERING COMPRESSOR

Sonically Superb Smasher for Any Audio Job

**S**ound Performance Labs' Iron Model 1520 Mastering Compressor is a tube-based stereo compressor/limiter that pays homage to classic units of yesteryear by way of a whole new design and fresh approach in appearance, operation and sound. Weighing in at 11 kg, Iron comes in a 4U-high steel cabinet that's available with either a matte black or red, machined-aluminum front panel. There are two large 42-step (1 dB steps) Threshold controls for channels 1 and 2, two large custom VU meters, and two large lighted hardwire bypass buttons. All other controls are either rotary or toggle switches for precision recalls.

Both of Iron's Input and Output controls are ALPS rotary switches with six positions each. By using a combination of the three-position C&K toggle switches with +, - and 0 (unity) positions, there is up to a  $\pm 12$ dB of gain range in 2dB calibrated steps. I liked that the VU meter always reads gain reduction or output level even while in hardwired bypass. The VU meter switches between GR and either VU 0dB, or VU +10dB ranges—which is perfect for setting hot levels to pro DAW interfaces.

After setting input level (Iron is strapped for 0 dB not +4 dB), the incoming audio signal is "monitored" by a Perkin-Elmer VTL5C1 Vactrol opto-isolator feed-forward peak limiter that's not in the audio path. When input levels exceed +15 dB, the VTL5C1 reduces by shunting the signal to ground. Then a custom-made Lundahl transformer splits the signal to feed the cathodes of a variable- $\mu$  remote cutoff 12AU7 connected in parallel with a carefully matched, sharp cutoff 12AX7. Called a variable-bias limiter/compressor, there are two tubes per channel, with the control voltage applied to their grids simultaneously.

The control voltage is derived from a combination of Threshold setting, Attack and Release time setting, the Side-Chain EQ section (if switched in), one of three Tube Bias voltage toggle switch choices, and one of six Rectifier choices.

Audio signals must be first rectified into DC to be turned into a control voltage, and Iron allows a choice of the rectifier diode and smoothing capacitor value (required for DC rectification) to set the style, shape, response time and character of the control signal and therefore compression.

The Rectifier section has six rectifier diode/capacitor combinations in this order: two Germanium choices with 1mF or 2mF caps; an LED with 3.3mF; Silicon with 330nF, another Germanium with a 220nF cap; and a Silicon/Germanium combination with a 100nF capacitor.

The first five choices have response curves that go from 0.1



SPL Iron features six Rectifier settings and specially conceived Mu-Metal iron transformers.

ms to 5 seconds. The last position uses a Germanium and Silicon combination for the fastest response time of 0.2 ms to 300 ms. SPL recommends the middle LED rectifier as a good starting position; I found faster rectifier Attack/Release characteristics when switching toward the right and slower rotating to the left.

### SIDECHEIN EQ

There are five sidechain EQ positions: Off (actually a 20Hz HPF is in circuit all the time), EQ1, EQ2, EQ3, EQ4 and Ext. Designer Wolf Neumann came up with the four sidechain equalizer curves empirically during his mastering sessions using Iron over the last three years. I referred often to the included curve drawings in the manual; they are not typical sidechain curves.

The Ext position switches to a rear panel 1/4-inch TS unbalanced sidechain input for connecting your own sidechain EQ or introducing any signal to cause gain reduction. I tried this path by connecting a bus output from the studio's console to cause Iron to duck down a backing track for a voice-over and it worked well, with the ability to control the fade-up time using the Release control.

I found it odd that the sidechain circuit is an unbalanced path over a single TS jack. There is also no ability to link multiple

### TRY THIS

You can do parallel compression SPL Iron-style by feeding the same signal to both channels at the same time. I unlinked them and sent a direct Fender bass track to one side with typical light compression settings. But the other side I cranked right up with max Input and the Threshold dialed "flat out" maximum using the Silicon/330nF rectifier. By blending the two outputs, I was able to get any combination of bass sounds from clean to crazy.

Iron compressors for surround mixing. If nothing is plugged into the rear jack, switching to Ext offers a way to pass audio through Iron for its sound without any compression.

For stereo linking, Iron's Channel 2 controls Channel 1. All settings are linked except for the Input and Output rotaries. Iron uses a single toggle for choosing either of two output EQs. AirBass is a smooth "smiley curve" with gentle shelving boosts starting from 5 kHz up to 15 kHz and from 200 Hz down to 50 Hz. The Tape Roll-Off filter is a subtle rolloff of -1 dB by 25 Hz and -2 dB by 15 kHz. These EQs are placed after the Lundahl output transformers and before SPL's 120-volt DC Audio Rail SUPRA output op-amps.

Auto Bypass is for "hands-free" A/B'ing between hardwire bypass and Iron in circuit. Automatic bypass is adjustable from 2.5 to 12 seconds, and, once engaged, it continues to cycle back and forth until you turn it off. I think that the large bypass buttons should also light up when in/out of circuit just as when manually toggling Iron in/out.

## USING IRON

In the beginning, arriving at a compression setting involves some experimentation, but in time I gained an understanding of how all the different parameters interact and affect the sound.

I found when auditioning the sonic differences between the Rectifiers, it was easier if I set the unit's Attack time to position 2 or 3 (1 being fastest) and the Release time to 1. Starting this way, the compression action is mostly dependent on the Rectifier's time constant. The manual has a chart of approximate time values using any of the six rectifiers along with each of the six, Attack/Release time positions.

The first three Rectifier positions produced a clear attack with the main differences being the 1 mF being the fastest recovery and the slowest at 3.3 mF for the LED. Generally for program compression, the LED rectifier emphasized the low frequencies in a very solid and flattering way.

By juggling and auditioning different combinations of Attack, Release, Rectifier, Side-Chain Filter, Threshold, and Tube Bias settings, I had a whole range of compression styles, colors and variations, from very subtle to extreme. Tube Bias arbitrates the final degree or range of compression. With the rest of the controls kept the same, higher bias causes more gain reduction. I would start on High to dial in compression and generally back it down.

My first use was for a drum bus compressor. Even with extreme squashes, it is hard to get Iron to distort audibly. Iron fattened up the size and width of the drums in a super Hi-Fi way using 1 to 10 dB of compression using Side-Chain EQ1 preset. This preset is flat in the low frequencies, but its 700Hz peak caused more compression of the boxy part of the (drum) room, and the dip at 2.4 kHz going to nearly flat by 5 kHz kept the high frequencies open and transparent. Amazing!

## PRODUCT SUMMARY

**COMPANY:** Sound Performance Labs  
**WEBSITE:** [spl.info/en](http://spl.info/en)  
**PRODUCT:** Iron Mastering Compressor  
**PRICE:** \$4,999 MSRP  
**PROS:** Super top-notch, precision sound and infinite adjustability  
**CONS:** An expensive and large unit, unbalanced sidechain input

Iron inserted across the stereo mix bus in Pro Tools | HDX 12 set as a leveling amp was a perfect fit for a hip-hop track that already had minimal dynamics. I set the Attack time to position 2 or 3 and Release time to position 3 or 4 and used the Germanium/2mf rectifier. Using sidechain EQ3 that boosts the sub bass but has a dip at 175 Hz, I went with as much as 9 dB of gain reduction and the track pumped like it was going to burst at the seams! Awesome!

I tried it on a lead vocal. Sidechain EQ4 has a lift in the bass causing a little more compression overall (and sometimes necessitating a new Threshold setting), but it also has a broad dip at 3 kHz followed by a shelf boost starting at 4 kHz. This curve caused Iron to compress more whenever the singer got shrill and reedy-sounding, yet kept the sound open and transparent. Iron would be my first choice for compressing any singer.

SPL's Iron allows sculpting compression at the circuit design level. I could customize this compressor very specifically to produce the perfect style and amount of processing for any job. Iron is a powerful instrument for mastering, mixing or recording, and it's difficult to get a bad sound on any source, from full stereo mixes to vocals to drums to acoustic guitars. Incredible kit! ■

*Barry Rudolph is an L.A.-based engineer and educator. You can visit his website at [www.barryrudolph.com](http://www.barryrudolph.com).*

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## RADIAL SPACE HEATER ANALOG SUMMING MIXER

8 Channels of Tube Flavor for Your DAW



the eight channels can treat individual mono sources in a tracking or mixing scenario, each pair of inputs shares a basic set of controls, while still having individual input drive and level controls. For each pair, there is an On button that turns on or bypasses the gain circuit. The circuit can be engaged as a

**T**he Radial Space Heater is a box designed to impart warm, tube-based analog flavor across the inputs of cold, sterile, digital interfaces. Without being a compressor or equalizer, it provides tube-based gain or full-on drive, enriching the harmonic content of signals prior to A/D conversion.

While the Space Heater performs this function impeccably, theoretically it could also be used to flavor signals leaving a DAW, heading to a mixing console, and appropriate I/O to serve this purpose is provided. For those preferring to avoid a mixing console but still experience analog summing, the Space Heater provides an integrated analog stem mixer that can combine four stereo stems into a single stereo result. So, tube flavor can be imparted during tracking, and then more tube saturation can enhance the mix stems before they are combined with clean, voltage-based summing.

### ON THE SURFACE

A wealth of I/O fills the back panel. The eight inputs of the unit can be fed by either a DB-25 connector or a set of eight female ¼-inch TRS balanced connectors. Each channel can be “warmed up” and addressed individually when taking advantage of the DB-25 output connector. Alternatively, the combined signal from all of the inputs can be outputted through a pair of XLR connectors, with oddly numbered inputs summing to the Left output and even-numbered inputs summing to the Right. This summed signal redundantly feeds a front-panel headphone jack with a dedicated volume control. Each channel has an individual ¼-inch TRS insert send and separate ¼-inch TRS return, which sits after the tube gain in the signal path. This allows external processing across each channel before summing, or before being discretely fed to the recorder.

The front panel controls are divided into four sets, corresponding to each of the odd/even stereo input pairs. Though each of

solid-state gain control, effectively working as a line amp. However, a separate On button engages the tube drive circuit, allowing the signal to be selectively saturated with tube gain.

Whether working with the solid-state or tube-based gain, the same set of knobs adjusts the amount of drive. Two pairs of continuously variable, co-centric, black plastic knobs each have a small, slender center knob extending out that controls input gain, while the lower-sitting outer ring controls output gain. To that end, the inner knob controls drive, while the outer ring can back off the level to avoid clipping the input of the next circuit down the line. Accompanying the drive controls is a switch to adjust plate voltage of the single 12AX7 tube, wired in stereo, for each input pair. Thirty-five, 70 or 140 volts can be applied, altering the character of the saturation. As lower voltages seemed to result in a near-immediate breakup, especially in the presence of abundant low frequencies, each input pair is also conveniently outfitted with an optional highpass filter, which is centered at 40 Hz.

### OUTSIDE OF THE BOX

While the channels can be used completely independently, one of the most exciting features of this eight-channel Space Heater is the summing amplifier. To use it, each stereo pair has a Bus button, which will add the signal to the bus feeding the summing amp. Keeping in mind that summing circuits like this one use a passive resistor network when combining signals, they generally produce a low-level end result, which must be gained back up to line level. There are a number of these types of passive summing amps out there that require an external preamplifier to do the job, allowing the user to impart the flavor of any particular gain structure that they desire.

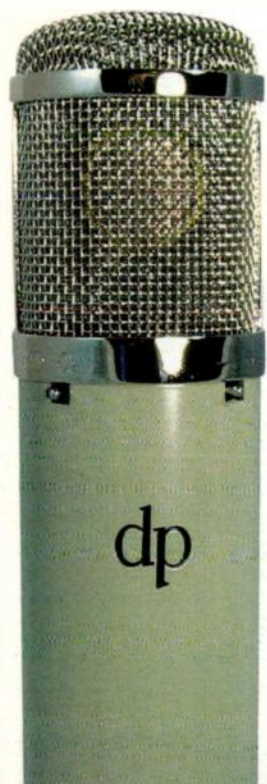
The Space Heater, on the other hand, includes its own clean-sounding, high-headroom amplifier circuit. If you have

# Your search for a new microphone ends here.



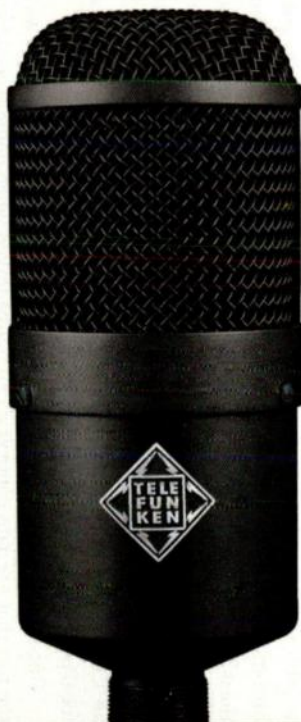
## PEARLMAN TM-250

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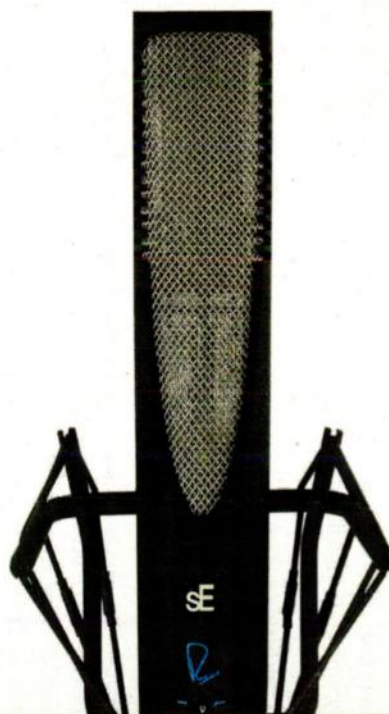
## TELEFUNKEN M82

A fresh new take on the kick drum mic, suitable for a multitude of sources



## SE/RUPERT NEVE RNR1

Meet the RNR1 ribbon - the world's first mic from Mr. Rupert Neve



## MESANOVIC MODEL 2

Passive ribbon microphone pushing modern design to its limits



## MOJAVE MA-300

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



heard Radial's mic preamps, you are familiar with their combination of low noise floor, tight bottom end, low distortion, and clear, detailed top end. Without being too bold, they do offer a welcome touch of personality. The gain circuit of the Space Heater certainly adheres to these expectations with a clean, full sound.

## IN THE STUDIO

When it came to getting connected, I really appreciated that there was a DB-25 input, so cabling it up for use as a summing amplifier was a snap. That said, when it came to tracking, the DB-25 output and individual TRS inputs couldn't have been more welcome, so that different preamps could feed each input without the need for a breakout snake.

I started out by recording individual sources through the Space Heater, just to get a sense of its tube drive characteristics. When running a DI'd bass through a preamp and then feeding it through the unit, the sound was fantastic. I have heard a lot of mic preamps with DI inputs and tube circuitry that have added a subtle bit of warmth to electric bass, but haven't come anywhere near the pleasant distortion of a bass amp or overdrive pedal. By contrast, the Space Heater brought nice crunchy distortion without compromising the intelligibility of the signal, resulting in a signal that benefitted from a little bit of EQ after the fact but required little additional processing.

Whether adding drive to bass and electric guitar or more subtly enriching the sound of acoustic instruments, the Space Heater always sounded fantastic. I spent the most time using it as a tube-driven summing amp for mixing purposes. In general, mixing music through analog components, even if it was just combining stems, awakens a mix and allows certain elements to pop and blend in a way that is just decidedly different than mixing in the box. The Space Heater took this to a whole new level, to the point where its tonality would inspire entirely new creative decisions and lend new insight into a composition. In every case, mixes took on this incredible sound that truly evoked the character of a vintage desk.

Feeding a drum stem through the tube drive circuit with the voltage set to 140V, the result was perfect. Cranking the drive more and more, the bottom end of the kick drum got fuller, the snare and cymbals got crisper, and the whole kit sounded wider and just all around bigger. Incorporating these drums into the track, they went from merely being a solid foundation to something that could cut through anything. When mixing a track with an okay-sounding electronic drum loop, this effect was particularly powerful as it injected new life into the once lackluster component and made it a focal point in the track.

One slight hindrance when dealing with elements like drum stems was the fact that the gain controls could not be linked when doing true-stereo processing. This was compounded by the fact that the controls had no detents, and thus no certain points to match between the left and right controls. Considering that I had the unit in a rack off to the side of the sweet spot, I found myself soloing the drum stem, reaching over to the controls and eyeballing them, while looking back to the stereo mixdown meters and adjusting accordingly. Then, as I would return my head to the center I would have to re-tweak it. After a while, I started to embrace this method, double-checking on headphones and just appreciating that my subjective perception was as good as any other tool for judging whether the sound was balanced. Radial explains that not having detents was no accident, the

## PRODUCT SUMMARY

**COMPANY:** Radial Engineering

**PRODUCT:** Space Heater

**WEBSITE:** www.radialeng.com

**PRICES:** \$1,699

**PROS:** Good amount of options and features that sound fantastic.

**CONS:** Continuously variable controls make for challenging recalls.

two elements in the tube are impossible to predict so left right matching must be done by ear (see the "Try This" sidebar for the workaround.) As with all things tube, there is no such thing as perfect, there is only what sounds good.

Building a mix with a drum/bass stem, electric guitar stem, acoustic guitar stem, and a vocal stem, each thrived in different amounts of saturation, but was able to find a comfortable place in the mix created by the Space Heater. For acoustic guitar, the

subtlest twist of drive at 140V seemed brighten up the buzz and resonance of the strings, making it pop and enhancing the stereo width of the panned, double-tracked performance. On the distorted electric guitar stem, the signal could be added to the mix with no additional saturation imparted, and this seemed entirely appropriate. At the same time, a subtle bit of extra drive took to the sound as well, with either option being very usable.

Given the option of lower plate voltages, I couldn't help but toggle through all of the choices before settling into a sound on any source. That said, I never found a really good use for the 35V setting. With the slightest twist of the drive control, the signal entered brutal distortion. There are probably genres of industrial music or punk that would welcome the way that this utterly destroys bass, drums, or guitars, but in every case, it went far beyond subtle coloration or even conventional drive. The 70V setting, on the other hand, was far more practical, and when used in conservative amounts it seemed to clear signals up while adding a little bit of bite on top. For vocals, this was actually a pretty good choice. It seemed to warm the chest without muddying it, and enhance consonants.

The 140V setting was always a safe bet, however. In subtle amounts it could simply make a vocal pop in the track, almost like a frequency-dependent expander, hyping any frequency that made a significant contribution to the overall sound. When throttling the drive control, it could crank out great, gritty, garage-rock vocal sounds. At the end of the day, any direction the track wanted to go, there was a sound to suit it.

## A MUST-HAVE?

Aside from buying a large format-console, it is hard to imagine any single piece of gear that could have a more profound influence on all of your recordings and mixes than the Space Heater. If you need to get out of a rut, or take your tracks to the next level, this is a surefire way to breathe new life into your work. If you are shopping for an analog summing mixer to finish off your in-the-box mixes, keep in mind that while the detent-less controls will slow recalls and skew their accuracy, the Space Heater's drive controls can be completely bypassed, and all four stems can run at unity gain for speedier operation. One other note is that the pairs can only run in stereo with no mono-splitting or summing options. That said, multiple units can be chained together using the "link" connectors to create a larger summing system.

If you are looking to warm up your tracks prior to A/D conversion, the price of eight channels of Space Heater are half the price of two channels of Culture Vulture and only slightly more than a pair of single-channel Space Heater 500 Series units, plus you get the bonus summing amp. To that end, it seems like a smoking deal that you surely won't regret. ■

*Brandon T. Hickey is an Arizona-based audio professional.*





Joel Iwataki with his co-mixer on *Dawn of the Planet of the Apes*.

### MIXING WITH JOEL IWATAKI

Joel Iwataki has been recording and mixing music for films since the mid-1980s, having begun his career by arranging for singers and composing music for documentaries and educational films. Iwataki always mixed his own scores, and over time other composers would ask him to mix their projects. After meeting film composer Elliot Goldenthal, Iwataki decided to make film score mixing his career.

To date, Iwataki has mixed more than 100 scores, including Elliot Goldenthal's *Alien 3*, *Batman Forever*, *Titus* and the Oscar-winning score for *Frida*. He was behind the desk for John Corigliano's Oscar-winning score for *The Red Violin*, and more recently *Star Trek Into Darkness*, *Dawn of the Planet of the Apes* and the recently released *Tomorrowland* and *Jurassic World*, which was scored by Michael Giacchino.

### Do you work exclusively in commercial studios, or do you have your own place, too?

Iwataki: I usually work in studios that can accommodate large orchestras, sometimes over 100 musicians. Among these are the Fox, Sony and Warner Brothers scoring stages in L.A., Manhattan Center in New York, Abbey Road and Air Lyndhurst in London, and Tel-dex and Funkhaus Nalepastrasse in Berlin. At home I only have a small writing setup.

### What is your preferred recording medium and console setup?

I prefer working with the Neve 88R. It has a warmer sound for film scores while still being able to hit the big dynamics in an action score. The 88R with the Film Scoring panel can handle 96 tracks of orchestra with a big orchestral percussion section, as well as close-miked

hand percussion and drum kit, electric and acoustic keyboards and guitars, 70-voice choir, and sometimes more than 100 tracks of synthesizers, samples and pre-recorded elements.

### Do you prefer any one set of monitors for film mixing?

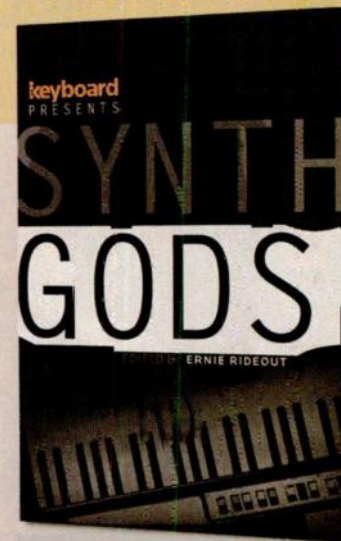
I use three ATC 100 A self-powered midfield monitors for my LCR. I've always liked their accuracy and evenness across the frequency range, and they have lots of punch for big action or for contemporary grooves and can sound as smooth and lush as the most enraptured adagio requires.

### What is the main difference between mixing music for records and mixing for film?

Film scoring is a collaborative process where several elements—story, dialog, picture, sound design and music—are all working together to create a piece. Music for film needs to help tell the story and to fit in with the other elements that are also helping in their own way, all at the same time. Sometimes the music works overtly like in a rousing theme as the hero rides to the rescue, or when some dreadful thing is about to happen to a character we care about. And sometimes it works in a subtle way, unnoticeably whispering to the subconscious to heighten the emotional impact of what's happening on-screen.

Over the years I've worked on a dozen film scores that Norman [Ludwin] has played on. He is one of a select group of musicians who can be counted on to play any style of music from classical to jazz to rock, make it sound real, make it real good, do it in tune, and do it in one or two takes. And Norman does it with a smile and good cheer—one of the most welcome assets in the studio. ■

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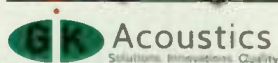


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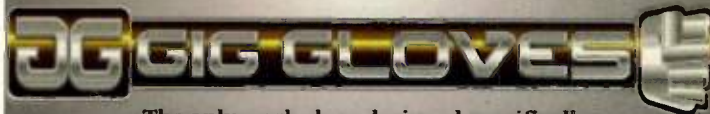


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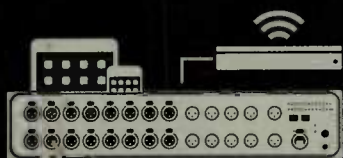
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Learn more at [motu.com/stage-b16](http://motu.com/stage-b16)



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## Favorite Gear From 2015



By Kevin Becka

**A**udio pros are passionate about gear, and our tastes tend to be broader than most. We're more like food and wine lovers who relish the nuance of taste rather than sports fans who stick to a single team. But it's tough to keep up to speed with everything in the audio universe. So, in this last issue of *Mix* for 2015 I thought I'd poll friends, *Mix* reviewers and other pros to see what's made them happy, new or old, in 2015. I'll start.

Three standout products I had the opportunity to review and use this year are the Audio-Technica AT5045 microphone (*Mix*, November), Revoice Pro 3 from Synchro Arts, and the Fredenstein 500 Series Bento Box (*Mix*, May). These products took something common and made it extraordinary. The AT5045 is a side-address condenser mic with a rectangular capsule and is the most versatile mic I've used in a while. It's easy to place, has the best mic mount in the industry, sounds natural and excels across a wide range of applications. Synchro Arts took VocAlign to infinity and beyond by pairing rock-solid performance with the best interface to a free-standing app outside of Pro Tools that I've seen. Once you set up your presets, you can easily align, pitch change, and even create a very convincing double from a mono source with just a few button clicks. Fredenstein's Bento Box 500 Series rack comes with a small LED screen that offers an instant read on whatever Fredenstein 500 unit parameter you're adjusting, in real time. I reviewed the F609 preamp, and F600A solid state and F602 tube compressors, which all sounded great. This year, Fredenstein added designer Hutch Hutchinson (Manley, Rupert Neve Designs) to their R&D team, meaning we can expect to be impressed again.

Writer Joe Hannigan has been a busy guy so he didn't write much for *Mix* in 2015, but his favorite gear includes the QSC TouchMix-16, which he installed for clients. Joe was impressed with the sound, interface and the additional iPad software. Joe also liked the frei:raum software from Sonible.com. It's a problem-solving plug-in featuring three EQs, each with a unique approach—a smart EQ for spectral balancing; proximity EQ for controlling ambience; and entropy EQ for modifying tonal and inharmonic components.

Engineer and reviewer Barry Rudolph loved the Exponential Audio Excalibur Multi-Effect plug-in that he reviewed in August. It leans

toward sound design in its approach using a 4-voice model for creating effects. Barry also tagged the SPL Iron Mastering Compressor. Read Barry's review in this issue; SPL went deep on this one.

Live sound and recording engineer Steve La Cerra recommends the Blue Sky Star System One 2.1 monitor system. It features two active mains with 6.5-inch woofers and a 200-watt, 12-inch sub. Steve gave 5 stars to the Shure PGA181 side-address condenser microphone, which by the way costs under \$100.

Engineer producer Jacquire King has been busy this year using some of the best gear on the planet, which includes the UTA (Under-Tone Audio) MPEQ-1. He found the mic pre/EQ combo to be tonally flexible plus completely unique in its approach. Jacquire says, "What is possible with the EQ in terms of correction and shape of frequency

manipulation is totally unique to this piece of gear and found nowhere else." Also in Jacquire's Yes column is the newly improved Empirical Labs Fatso EL7x. He likes the added compression ratio (11), emulating the 1176LN and how the control buttons now allow for back stepping when you hold them down. Jacquire also picked the BURL

Mothership, which he says are "hands down the best sounding converters and made switching away from my Apogee converters that I had used for 20 years an easy upgrade." P.S., it's not just Jacquire who loves the BURLS; Nashville engineers Justin Neibank, Vance Powell, and F. Reid Shippen all have them in their racks.

Engineer Michael Cooper tagged the Sonic Farm Berliner pre-amp and FabFilter Pro-Q 2 plug-in as his favorites, while Brandon T. Hickey loved the Apogee Ensemble and UAD Satellite Thunderbolt. UK engineer Wes Maebe brought some very interesting flavor to my poll, adding the Schaffer Replica Tower to his list. You can get the whole story at [solodallas.com](http://solodallas.com) but to quote the creator, "Much of the lead guitar tone of Angus Young from that magic era is due to the Schaffer-Vega. The SVDS sported a clean boost, a compressor and an expander in its audio circuitry, allowing it to further overdrive the amplifiers and add a unique signature to the sound." Enough said!

I hope you've enjoyed reading *Mix* in 2015. Thank you for your support and we are all looking forward to bringing you the best in audio through print, online resources and events like *Mix* Nashville and our Sound for Film event on the West Coast. Here's to a happy, healthy, and prosperous 2016 for us all. ■

**The AT5045 is the most versatile mic I've used in a while.**



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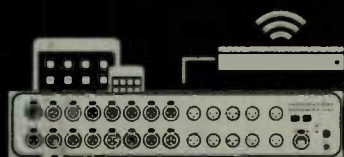
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