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On the Cover: The core team at The Village, in the Moroccan Room, from left: Seth Present, Concord Records, Private Client; Julie Jurenas, executive assistant; T Bone Burnett; Alex Williams, senior engineer; Frankie Romo, maintenance; Kelsey Worley, executive assistant; Jeff Greenberg, owner; Spencer Fuller, chief tech; Tina Morris, studio manager; Ghian Wright, senior engineer; Jeff Gartenbaum, senior engineer; Ed Cherney, Private Client; Will Wells, Private Client; Noel Zancanella, Private Client; Vanessa Parr, senior engineer; John Alagia, Private Client. **Photo:** Chris Schmitt.

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

ADVERTISING

SENIOR ACCOUNT EXECUTIVE, WESTERN REGION
Janis Crowley jcrowley@nbmedia.com
EUROPE/EASTERN SALES DIRECTOR
Tara Preston tpreston@nbmedia.com
SPECIALTY SALES MANAGER
Zahra Majma zmajma@nbmedia.com

ART & PRODUCTION

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

CIRCULATION

GROUP DIRECTOR, AUDIENCE DEVELOPMENT Meg Estevez

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From the Editor

SAME DRIVE, DIFFERENT PERSONALITY

In putting together this month's issue, I had the opportunity to interview two of the pivotal forces in L.A. recording over the past several decades, each in their own way: Jeff Greenberg, owner of The Village, pictured on this month's cover with his extended studio family; and Allen Sides, who has graced this cover before as a producer/engineer and owner of Ocean Way Studios, and is now founder of Ocean Way Audio, where he has circled back to his teenage roots in speaker design.

Greenberg is a force of nature. He's the P.T. Barnum of the studio scene, with an innate sense of sales and marketing that served him well as a promoter back in the 1970s and '80s, followed by a stint at ICM, on into running The Village for Geordie Hormel starting in 1995, by all accounts rescuing it from the verge of liquidation and building it back into one of the world's top studios, with a unique business model that reflects the industry's technological and financial changes.

He's built rooms for in-house composers, producers and engineers in a way that no other studio in North America can match; he's picked up more film score tracking and mixing dates than any music studio in town; he's pioneered live-to-radio and now live streaming broadcasts with KCRW and any number of labels and tech companies. He hosts a huge range of industry events, from ad shoots to the P&E Wing party during Grammy Week. And he doesn't do anything halfway.

He talks fast, he moves fast and he could be a poster child for adult ADHD—in a good way. It works for him, and if you talk to him, no matter who you are, you feel special. Just a few weeks back, he saw a young banjo player busking and brought him in

immediately for a day of recording. He said it was amazing. His speed dial for top artists, worldwide, would sell for top dollar at auction. On one of the first nights Jeff and I went out, to dinner on Melrose about 20 years ago, he pulled his Porsche up in front of the restaurant, in a red zone with a fire hydrant, gave the valet the keys, and the car didn't move for two hours. No ticket. No worries. It wasn't pretentious, by any means; it just felt normal. That's Jeff.

And Allen? He is the recording engineer's engineer. And he owned and operated one of the world's leading studios, Ocean Way, for nearly four decades. He has the mind of a mad electronics tinkerer, the business savvy of a venture capitalist, and the creative, musical bent of a big-band leader. He's a collector of esoteric, quality, vintage audio gear, both because he loves the sound and he wants to find what makes something tick, and he wants to sell the rest.

He's tall and lean, and he looks much, much younger than he should. Perhaps it's from the 2,000-foot elevation run he does up a hill each morning, or the time on the tennis court. He's a bit socially awkward, yet completely charming at the same time. He has, for his next audio career, returned to his roots and is building speakers out of his still-young company, Ocean Way Audio. He lives for sound. Quality sound.

Jeff and Allen couldn't be more different in personality and approach, and yet they remain two of the pillars of the L.A. recording scene decades after they entered. Why? They share a love of music. You can't beat that.

Tom Kenny,
Editor



AES Los Angeles

The 141st AES International Convention is taking place in the Los Angeles Convention Center from September 29-October 2.

Of particular note, Sound for Picture Track events include "Production Sound," "Music

Scoring for Film and TV," "Dialog Intelligibility," "Film and TV Sound Design," "Sound Mixers" and "Immersive Sound Design with Particle Systems." Plus, the Networked Audio Track will explore the AES67 standard for audio-over IP interoperability. In the Convention Center's West Hall, the inaugural conference on Audio for Virtual and Augmented Reality is a two-day program of technical papers, workshops and tutorials, along with a manufacturer's technology showcase.

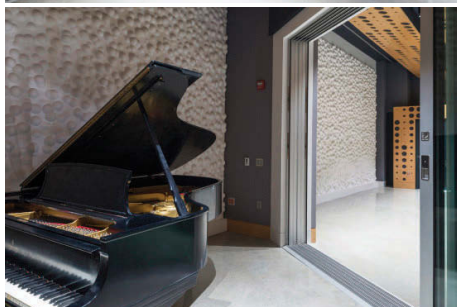
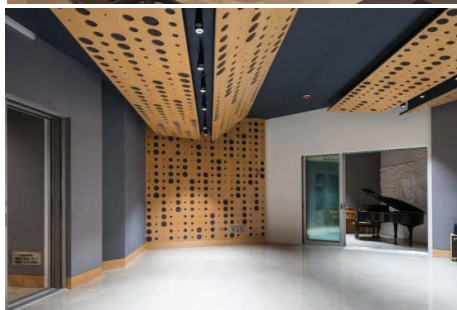
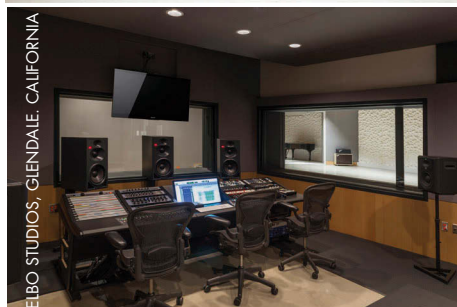
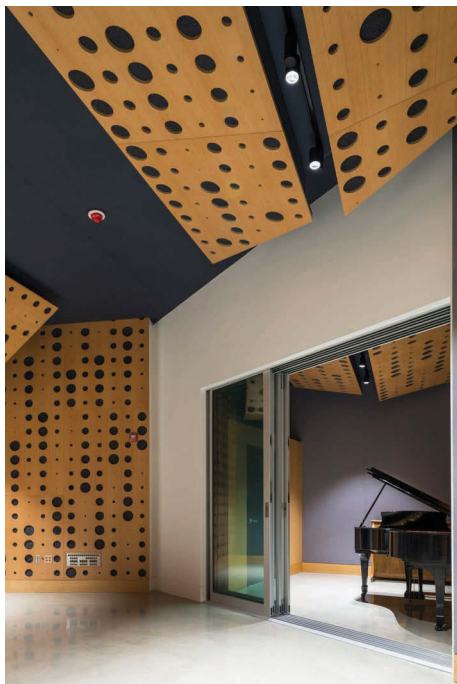
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Christopher Stone, 1935-2016



Photo: Mr. Bonzai

Chris Stone, a founding partner in the legendary Record Plant recording studios and a leading figure in the music recording industry for nearly 50 years, suffered a heart attack and massive stroke and died on September 10 at the age of 81. Stone was an innovative music industry executive with a list of credits that included hit records, films, and leading music service businesses and professional associations.

Stone was born in 1935 in San Francisco, the son of a fourth-generation Gold Rush entrepreneur. After earning his MBA at UCLA, he worked his way up to a top marketing position with Revlon in New York City where he and recording engineer Gary Kellgren met by chance. With a \$100,000 investment, in 1968 they built the first Record Plant Recording Studio on West 44th Street in New York City. Record Plant Los Angeles followed in 1969 and Record Plant Sausalito in 1971.

Kellgren was the visionary designer and engineering force behind the partnership; Stone was the business-brains of the operation. Stone sold the facility in 1989 to Beatles producer Sir George Martin/Chrysalis Records, and today, under new management, the Record Plant remains one of the leading facilities in the world.

Stone is survived by his wife, Gloria, son Matt, daughter Samantha, and grandchildren Jessica, Zachary and Zoe. For more information about Stone's career accomplishments, and about Record Plant, visit mixonline.com. — David Goggin

Rudy Van Gelder Remembered

Engineer Rudy Van Gelder died on August 25, at his home in Englewood Cliffs, New Jersey; he was 91, and is survived by his brother, Leon.



Photo: Courtesy of NAMM

Van Gelder recorded some of the most important jazz artists of the 20th century, capturing classic albums by John Coltrane, Miles Davis, Donald Byrd, Thelonious Monk, Sonny Rollins, Wayne Shorter and many others.

Born November 24, 1924, in Jersey City, N.J., Van Gelder was drawn to electronics at a young age as a ham radio hobbyist; by the mid-1940s, he had begun recording musicians in the living room of his parents' house in Hackensack. Throughout the 1950s, he recorded sides for independent labels in New York City, including Prestige, Vox, Savoy and Blue Note. Even though he was capturing classic performances, recording was still something he did on the side at the time, spending his days working as an optometrist.

In 1959, he finally leapt full-time into recording and moved to a new studio that he designed in Englewood Cliffs. During the later 1960s, Blue Note began working with a wider variety of engineers, but Van Gelder, too, shifted with the times and through the 1970s worked mostly with smooth jazz label CTI Records.

In the early 2000s he re-mastered many of his best-known efforts for Blue Note as a specialized series, the *Rudy Van Gelder Editions*; similar series for CTI and Prestige soon followed. He was awarded the Audio Engineering Society's highest honor, the AES Gold Medal, in 2013, following his being named as a fellow of the Society in 2009. — Clive Young

Error Log

In *Mix*'s September 2016 issue, the interview with supervising sound editor Michael O'Farrell states that O'Farrell "worked as a film editor with Bob Clark on *Porky's* and *A Christmas Story*" in Toronto. O'Farrell actually worked as an assistant to Film Editor Stan Cole on those two films. In addition, the published photo credit for the story's opening photo is incorrect; O'Farrell's assistant, Bill Burns, took that photo on O'Farrell's iPhone. *Mix* regrets the errors.

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On the Cover

By Tom Kenny

THE VILLAGE, LOS ANGELES

Creative Community of Producers, Artists and Engineers



Photo: Chris Schmitt

The Village staff, in Studio D. Front row, L to R: Dina Ayala, CFO; Noel Zancanella, Private Client; Ed Cherney, Private Client; Julie Jurenas, executive assistant; Jack, studio dog; Jeff Greenberg, Owner; Tina Morris, Studio Manager; John Alagia, Private Client. Back Row, L to R: Gabe Burch, engineer; Alex Williams, senior engineer; Bryant Lewis, assistant engineer; Jeff Gartenbaum, senior engineer; Frankie Romo, maintenance; Vanessa Parr, senior engineer; Karl Wingate, tech and assistant engineer; Ghian Wright, senior engineer; Kelsey Worley, executive assistant; Spencer Fuller, chief tech; Matt Dyson, engineer; Billy Centenaro, engineer.

Today, it's simply known as The Village. There is no Recorders, Recording or Studios following the name, as there has been since Geordie Hormel opened a 24-track studio in a former Masonic Lodge in 1968 in West Los Angeles. Over the ensuing decades, studios were added, hundreds of hit records were made, new markets opened up and all three stories were filled out. But the name got shorter; the brand stands on its own. Simply The Village.

And there couldn't be a more apt moniker for what Hormel and, starting in 1995, Jeff Greenberg have created. The studios, particularly A and D, speak for themselves, having host-

ed sessions for the likes of the Rolling Stones, Steely Dan, Frank Zappa, Neil Diamond, Moby, Guns N' Roses, Coldplay and so many others. It's where Eric Clapton wrote "Tears From Heaven." But behind the scenes, built into the bones of the building in a series of private rooms, is an in-house collection of producers, artists and engineers that form the lifeblood of the operation. Lots of studios have played with the model of resident artists and creative talent, but nobody in the world has made it work like The Village. For many, many years.

"It was really Geordie Hormel, the founder of the Village, who started the idea of resident clients," says Greenberg, now the owner.

"Way before me there were people like Skunk Baxter, Robbie Robertson, Pat Williams and Mark Hudson in-house. When I got here there was already a tradition, and I certainly saw the benefit of having all of these creatives in the building. And then I have to give credit to Mike Knobloch, who for the music on *Master and Commander* came in and rented five rooms at a time for composers to work. We developed these spaces for that film, and that was followed by Keb Mo, then Jimmy Jam and Terry Lewis from Minneapolis, and now so many others we've had through the years.

"But even before that, I have to give credit to Al Schmitt," Greenberg continues. "When I



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came on in 1995, the studio was on the verge of liquidation. It needed a resurrection. Al came over and spent two years with us, picking out equipment, finding the 8048 in Studio A, then working with Neve on the development of the 88R. He really made it professional. Then there is Thomas Newman, who really helped us develop in film music, starting with *Shawshank Redemption*. T Bone Burnett is a member of the family and has pushed me over the years to create new spaces. The Moroccan Room [pictured on this month's cover] was his inspiration and it's now one of the great live rooms in town. Then Ed Cherney, John Alagia—these guys demand the highest level of expertise. We feel very blessed. It's a small family. And now we have a waiting list of people who would like to call The Village home! There's a real energy in this building."

The advantages for the in-house producer and engineer are apparent: a professional infrastructure, the opportunities for collaboration and free Starbucks. "I first set up my writing room at The Village in the mid-'80s," recalls Robbie Robertson. "I think I was the first one to have my own space there. I felt that it would be really efficient if I could write and record whenever I wanted to, and have easy access to the great techs and engineers. If I wanted to record a song, all I needed to do was go downstairs to work in one of their great studios. Jeff Greenberg has really transformed the place and taken this concept and run with it."

"I think the thing about The Village that fosters such a sense of community is Jeff," adds engineer/producer Ed Cherney. He is warm, smart, funny, and very giving and generous. In many ways the whole

scene at The Village is an extension of his personality. He supports the up and comers—artists and producers, engineers, managers and anybody else that has the desire and is willing to work hard. We had built a mix room in our house. It was cool for a minute, but then got lonely. I was mixing an album, Rolling Stones, I think, and Rose [Mann Cherney] asked me how many times I was going to listen to the song that I was working on. That's when I knew it was time to move the studio. I happened to be doing a date at The Village soon after, and Jeff mentioned

he had a room available—the Dixie Chicks had been using it as a nursery while recording an album. It had bay windows that opened with a beautiful light and sea breeze. I moved in and I hope nobody's going to move me out."

Meanwhile, for the Village, perhaps the biggest advantage of having in-house talent is in the exposure to new artists and extension of the community. Tina Morris, studio manager, joined the staff as a runner/tech in 1996, out of Berklee. She says, "The in-house residents are constantly bringing in new artists to see the place, sort of like with our special events. They're inspired, and they'll go back to their label and say they want to record at the Village. The vibe that these residents bring, and the way they develop these new artists, is a huge part of The Village day to day. I always assure them that we have the right staff to really nurture a new artist, with the same consideration we give to more seasoned artists. You never know who is going to walk through your door. Every artist is special."

To run a multi-room professional studio today, there has to be a regular influx of new artists, many of them from a generation that hasn't been exposed to facilities like The Village, and what they bring to a recording project. Besides benefiting from relationships with in-house clients, The Village has reached out actively through special events and broadcasts, pioneering the concept for radio and now taking up with streaming.

"I'm a promoter, so one of the first things we did

IN-HOUSE CLIENTS, OCTOBER 2016

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Concord Music Group
- T Bone Burnett, producer
extraordinaire
- Ed Cherney (Rolling Stones,
Bonnie Raitt, Queen Latifah)
- Will Wells (Imagine Dragons,
Hamilton the Musical)
- Noel Zancanella (Taylor Swift,
Ellie Goulding, One Republic,
Maroon 5)
- John Alagia (Dave Matthews,
John Mayer, Lukas Nelson)
- Jamie Hartman (Conrad Sewell,
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Music



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THE EMOTIONS
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The return of the Descendents! Pictured (L to R): Bassist Karl Alvarez, drummer and co-producer Bill Stevenson, singer Milo Aukerman, and guitarist and co-producer Stephen Egerton.

SEPARATE BUT TOGETHER

A Dozen Years and Many Miles Can't Stop the Descendents

By Anthony Savona

If age mellowers, then the Descendents are punk music's Dorian Gray. It's been 12 years since they last released an album, and their latest LP, *Hypercaffium Spazzinate*, explodes into headphones as though the quartet could no longer keep it in. They continue their progression of writing scathing anthems of their (current) age, so now, with the band members in their early 50s, they cover real-life issues such as infidelity, divorce, loneliness, high cholesterol, and failing health in both poignant and humorous ways.

From their playful early days to first

"real" jobs and adult relationship issues, the Descendents have grown with their audience, both lyrically and sonically, proving that you can move forward and not lose your punk pedigree. Crafting the sound on this hyperactive new release are musicians and co-producers Stephen Egerton (guitar) and Bill Stevenson (drums), and mix and mastering engineer Jason Livermore.

The bulk of the tracking and mixing work took place at The Blasting Room, Fort Collins, Colo., a studio owned by Stevenson and Livermore, but that doesn't mean that the band played there. Over the years, the band members dispersed

around the country—singer Milo Aukerman now lives in Delaware, bassist Karl Alvarez and Stevenson are in Colorado, and Egerton is settled in Oklahoma. Each member of the Descendents is an accomplished songwriter, and each had their own tunes to share across the miles.

BLAST OFF

That is how the process started more than three years ago—with each member sending locally recorded demo tracks to Stevenson and Livermore at The Blasting Room. "We tracked the songs in three different sessions," says Livermore, who also



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 **AKG**
by HARMAN

worked on the Descendents' previous two releases, *Everything Sucks* (1996) and *Cool to Be You* (2004). "We did Milo's songs first in one session, then Karl's and Stephen's in another, and then Bill's in the third."

Stevenson would take the demos and record his drum parts over them, with these drum tracks intended for use on the final recordings. Producing as he drummed, he sometimes upped the ante as he played: "On some of the songs Milo gave us the tempo felt too slow, so Bill upped the tempo when laying in his tracks. Bill usually speeds up the drums a lot after he has too much coffee; the tracks start to get really fast."

Livermore confesses to being a fan of the Descendents, with the band's classic debut LP *Milo Goes to College* (1982) being one of the first records he ever bought. "I love the drum sound from that album, so I tried to get the sound to be similar to that," Livermore says. "It is a tight, dry drum sound on Milo. Crazy dead. And we went for that. Our Studio A is medium-live, and I encased the drums in baffles and then we deaden them up further with Moongel damper pads. That was the technique we used to get them to sound how we wanted before we even put mics on them."

Once miked, the drums were fed into an Endless Analog CLASP that let them record to tape and to Pro Tools simultaneously, "so you get the tape saturation," adds Livermore. "It is like working in Pro Tools, but using the tape machine as an effect. I track the drums to our Otari MTR90 III. Most of the close mics went to UTA MPEQ-1 channel strips, which have a magical EQ. You can go really surgical or really wide. I EQ'd the drums pretty heavily during tracking." The hat/ride and room mics went to Classic Audio VP28 mic pre's.

BRINGING IT TOGETHER

Despite the physical distance, the Descendents remain a tight-knit band (the bonds that tie them together are nicely described in the Stevenson-penned "Beyond the Music" on *Hypercaffium Spazzinate*). So, with the drum parts done, it was time for some togetherness. Next up: Karl Alvarez's energetic bass lines.

Alvarez went to Stevenson's house to track his parts. "Bill and Karl tracked the bass to DI through a Chandler Channel with no compression," says Livermore. "But Karl has a really dark tone, naturally. So Bill put close to 10 plug-ins on it before he gave it to me, so it is essentially 30 to 50 dB brighter. He used three separate de-essers to attack the spots that got unruly, and he put in a SansAmp plug-in, as well. It was close by the time it got to me, so that, when I mixed it, I used no compression—just a little EQ per song." The bass was re-amped through an Ampeg SVT-4 PRO.

Rhythm and lead guitars were primarily handled by co-producer Egerton in his own studio, where he tracked all his parts DI using the Eleven Free plug-in that comes with Pro Tools. "He's really fond of that," offers Livermore.

When the guitar tracks arrived back at the Blasting Room, Livermore and Stevenson re-amped his guitar through a 50-watt EVH 5150, which, according to Livermore, sounds "less metal-y and more Marshall-y," and a 1969 Traynor Bassmaster YBA-1, which provided the cleaner *Milo Goes to College* tone.





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GROUP EFFORT

For Auckerman's distinctive vocals, the singer rented a small house near where he lives and set up a recording space in the basement. There he sang through a Shure SM7 into a Neve Portico 5015 single-channel pre/compressor. He tracked it there himself and sent the files to Egerton.

However, as Livermore states, "Bill is pretty picky, and he flew out to Milo's place and helped him with the tunes that Bill wrote, and re-did a few of the others. Milo has few vocal personas, so if he sings too soft, it doesn't sound like it is supposed to. Bill encouraged Milo to sing harder to get more edge."

With all the tracks recorded, Livermore started mixing, passing versions along to the producers for feedback until everyone was pleased. Mixing was done on Studio A's Solid State Logic SL6000E (which once belonged to Babyface, but has been a fixture in The Blasting Room since 1997). Then he tackled the mastering of the project by using an IGS Tubecore, API 550M EQs, and a Hendyamps Michaelangelo EQ. All this was connected by Dangerous Audio's Liaison, before being captured to Soundblade via Prism ADA-8XR converters.

BUT WAIT, THERE'S MORE

The Descendents' decision to work at their own pace—and in their own style—provided a wealth of material for the band to choose from. They tracked and mixed 36 songs in total, so, in addition to the 16 tracks on the standard edition of *Hypercaffium Spazzinate* (named after biochemist



Auckerman's desire for a super-potent form of the band's beloved caffeine), and the five more on the extended edition, there are another 15 songs that are finished and that have not been released.

"I feel like this album is great," says Livermore. "And I think it helps having a big chunk of songs to choose from."

Livermore is not wrong—*Hypercaffium Spazzinate* delivers on the Descendents' reputation for fast-paced, thoughtful and oftentimes fun punk, and, in listening, it's hard to believe that it wasn't recorded with the four friends sharing coffees and staring at one other across Studio A.

With 15 finished songs at the ready, here is hoping we won't have to wait another 12 years for a fresh dose of the Descendents. ■

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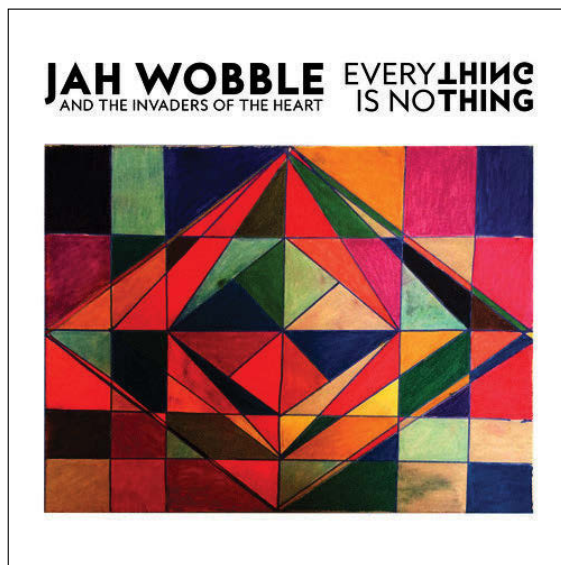
JAH WOBBLE AND THE INVADERS OF THE HEARTS OF THE HEARTS

BASS BATTLE ON 'EVERYTHING IS NO THING'

Jah Wobble and the Invaders of the Heart's latest album, *Everything Is No Thing*, started out as unedited, one-take jams. Wobble, one of the most revered bass players of his time, brought in another noted bassist, Martin "Youth" Glover (Paul McCartney, Pink Floyd), to mix the album. Hugely influenced by Wobble since his teenage years, Youth went beyond the call of duty to push Wobble in the jazzy direction he has been hinting at but not committing to, keeping all but one of the songs as instrumentals.

The evolution and mixing of *Everything Is No Thing* happened at Meridian, Youth's home studio in London. Bringing in rhythm tracks, which he then overdubbed and built into bigger arrangements with strings and brass, Youth also enlisted additional musicians to let loose on some solos. Says Youth, "We did radical rearrangements and processing, but with the firm intention of making it a performance album. The early jams were fluid and sparse, so it was a great canvas to develop and experiment.

"As a bass player I'm so in awe of and learn so much from Wobble. It's like having a very intimate master class," he continues. "I will sometimes play a Fender VI, which is six-string bass guitar. He drives a deep anchor and doesn't move at all, and I can go into a tenor part, put a bit of reverb, give that Joe Meek/Phil Spector-y atmosphere and be even more melodic. It's subtle. I'm still playing bass with him, but I'm not interfering with his frequencies."



Youth records Wobble's Ovation Magnum bass DI going through the TL Audio preamp into RME converters and then Logic X. Even though he has Ampeg B2s and Ashdown amps "coming out of my ears," Youth prefers to keep the recording of the bass as process-free as possible. The idea is to make *Everything Is No Thing* super hi-fi but with '50s analog precision, by recording all the musicians separately and going deep in the mixes to achieve the slick sound heard on the album.

"I wanted the album to sound contemporary," says Youth. "There is a zeitgeist in London with jazz, afrobeat, afro-centric funk fusion, '70s rare funk exploding in popularity. Even though the album is informed by old music, the beats are groove-based and not indulgent in terms of their abstract expression. And Wobble, he is the Miles Davis of this generation for bass."—Lily Moayeri



COOL SPIN: HUNGER: 'FOR LOVE'

For Love, the debut album from Austrian trio H U N G E R, fits easily into the synth pop-based modern rock bracket. All the elements of that hybrid style are covered. Lucas Fendrich's bright vocals have just a hint of keening to them that is so distinctive of Hot Topic shopping music. References to '80s new wave-y hooks abound, as do splashes of synthetic EDM-y breakdowns, exemplified by the fleshed out "Gold" and the percolating refrains of "Evermore." *For Love* has an interlude of echo-y electro-ballads, including the boy band-shaped "Taste," before returning to the highly charged power anthems. It ends on a quiet but strong note with the spare but fully realized "Magic"—at least in comparison with the rest of the album.

The wide-screen nature of *For Love* could very well have something to do with the fact that H U N G E R started out wanting to score movies and ended up with more hooks than they could fit into background music for pictures. Still, the cinematic feel of the album is yet another one of its attractions. *For Love* ticks so many obvious boxes that enjoying the album seems both too easy and a guilty pleasure. Compounded together, that's a pretty irresistible blend.

All songs written by H U N G E R: Lucas Fendrich: vocals, Daniel Rumpel: guitar, and Johannes Herbst: bass/keys; and co-written by Dan Weller. Produced by Dan Weller,

co-produced by Hunger, engineered by Johannes Herbst at The Castle, Austria and a home studio in Beverly Hills, Calif. Mixed by Jeremy Wheatley at 4DB Studio, London, England. Mastered by Joe LaPorta at Sterling Sound, New York City.—Lily Moayeri

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Classic Tracks

By Robyn Flans



"BEST OF MY LOVE"

The Emotions

If The Emotions' hit single "Best of My Love" sounds like a female version of Earth, Wind & Fire, that's because it almost is. After Stax Records closed its doors in 1975, leaving sisters Sheila, Wanda and Jeanette Hutchinson—The Emotions—without a record deal, they became reacquainted with Maurice White, whom they had met in the 1960s. He was, of course, having success with his band Earth, Wind & Fire, and through his collaborator, Charles Stepney, the girls got back in touch with him.

White signed the band to his Kalimba Productions, and after their first album, *Flowers*, did well, he set about to produce the second album, *Rejoice*, which spawned "Best of My Love."

The hit—which stayed at Number One for five weeks—won the Grammy Award for Best R&B Performance By a Duo or a Group With Vocal.

The sound was steeped in all things EW&F. Not only was it co-produced by White, but the song was also co-written by him and member Al McKay. The musicians on the track were all EW&F members, and it was engineered by George Massenburg, who engineered all their early hits. So there ya go.

Clarence McDonald, meanwhile, might not have gotten the call to co-produce this track had it not been for a dark piece of fate. At the time, McDonald and writing partners Deniece Williams, Fritz Baskett and Lani Groves

had a couple of cuts on *Flowers*, the album prior to *Rejoice*. Then one day he got a call from one of his heroes, Charles Stepney, White's co-producer on all of his projects, including The Emotions, asking to meet with him.

"We got to talking and walking," McDonald recalls. "He was doing the strings for the [EW&F] *Spirit* album here in Burbank that Thursday, and then going back home to Chicago on Saturday and coming back on Monday. We were going to start writing songs together. For me, that was as good as it gets. We were like two young kids who said, 'Come Monday, the world's in trouble.' He went home on Friday and had a heart attack and died on Saturday." Soon after, McDonald got the call from Maurice White to work on the *Rejoice* album in Stepney's absence.

"I flew to Chicago to meet with Maurice and the Emotions, and I got there the day Mayor Daley died," McDonald recalls. "I think I know why he died—I saw a polar bear trying to buy a sweater. I came in with my Hollywood overcoat and my Hollywood loafers."

Not a fan of the chilly weather, McDonald told White that he would do the record, but only if they would record it in Los Angeles. To start things off, everybody came to his house, where McDonald had a piano and a Hammond B3.

"I'm a believer in this: It's called a recording studio, not a practice studio, not an I'm-going-to-get-my-act-together studio," McDonald says. "When you go into a recording studio, you're going in for one reason: to record. I can be somewhat of a hard-nosed guy about that."

They worked songs up at the house. Wanda, Sheila and Jeanette tried out various tracks for the album; some worked, some didn't, McDonald says.

It was also a very busy time for McDonald, who was simultaneously writing horns and strings for the Memphis Horns at Wally Heider's studio, recording *Gorilla* with James Taylor at the Sound Factory, and cutting "Best of My Love" at Hollywood Sound. He says that when they went into the studio, some days he was running back and forth between facilities.

That wasn't always easy, since McDonald was also playing piano on The Emotions' track along with the EW&F musicians at the time—Fred White on drums, Larry Dunn on synthesizer, Verdine White on bass, Al McKay on guitar, Don Myric on sax, Louis Satterfield on trombone, and Rahmlee Davis and Michael Harris on trumpet.

"With one of us in the booth and one of us in the studio, we had the best vision from both sides," McDonald says, singling out the contributions of Massenburg as engineer in particular. "George Massenburg, who is an absolute genius, was always coming in with limiters and compressors that he had just developed with wires hanging out the sides and plugging it into the board and getting an unbelievable sound."

Massenburg says the "Best of My Love" track followed much the same course as most of the EW&F projects he engineered. If his memory serves him, the board was a Bushnell.

"They were all kind of the same," Massenburg says. "I could go in and replace things, replace a lot of the summing cards with things that I had

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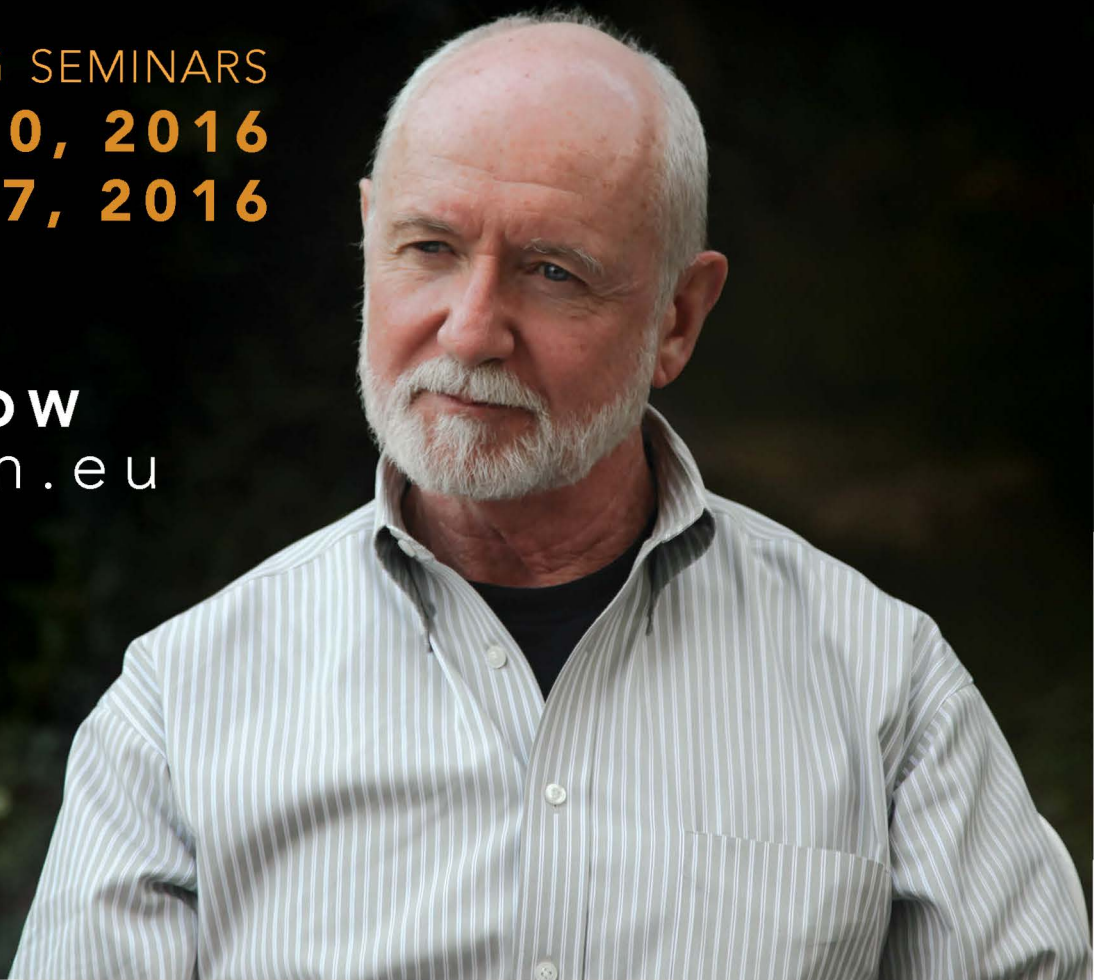
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built. I had all this stuff that I would put on top of consoles for processing. The early version of my compressors, what would become the GML 8900, were all kind of beta tested in sessions. Every overdub I used a prototype compressor on. That's how we got these big sounds. Gluing them together was all about mixing and EQ."

Later on with EW&F, to compensate for the need for more tracks, Massenburg started using an early noise-reduction system called Telecom CD4. "We were stuck with 24 tracks, and my gig was to figure out what to do when these guys would fill up all the tracks and say, 'Say, give me another track.' And there weren't any. The gig was to figure out track-usage strategy. And producing the vocals. The system was four bands and a wide-range compander. So I bought cards."

Hollywood Sound had a 3M Model 79 24-track at the time, which Massenburg says "would just eat up tape. If you kept running things, your sound would get duller and duller. It was long before we had good synchronizers." He says they ran 30 ips 24-track Dolby.

As for the actual recording, Massenburg praises Freddy White as a drummer and says he used a modified Neumann KM 84 on top, Schoeps CMC 4s with pads as overheads, and an AKG D12 on kick. "That was before I started using two mics," he says. "Later it was a Neumann U 47 FET on the kick. But I have to say the sound of that stuff had very little to do with the mics and more to do with processing, arrangement and mixing."

Tom Washington arranged the horns, and Massenburg recalls that the trumpets had a Neumann KM 84, the trombones had U 67s, and reeds

had AKG C12s or AKG C414s.

McDonald says that they cut the song from beginning to end with reference vocals. Reportedly, when they cut the final vocals, White had requested Wanda to sing in a higher register, which she felt was a strain, but it worked for the track.

"We probably used a Schoeps CMC5, but the capsule we would screw on was a Schoeps MK4," Massenburg says. "I tried to use KM 84s but they weren't bright enough. I had a modified Neumann KM 84. I did a thing with the electronics where I reduced the gain and increased the headroom and flattened the response and it was a lot cleaner—just removing a component rather than adding anything. So we used a modified KM 84. I didn't use large-diaphragm mics because we wanted the vocals to be bright. To make them bright, it couldn't be muddy. People used to criticize me in Los Angeles because an EW&F track didn't have any low end. It wasn't until much later that we did mixes with low end."

Massenburg says all those records, including "Best of My Love," did not have bus compression. "We would mix to a 3M M79 track and that would be it," Massenburg says. "We never—or very seldom—used stereo bus EQ, or limiting/compression. A lot of these tracks we did were incredibly punchy."

Massenburg recalls the last time he saw White at Harry Grossman's funeral in 2005. Grossman was one of Massenburg's oldest friends dating back to the second grade; he later became manager of Massenburg's The Complex recording studios. The last words White said to Massenburg were: "Man, that was a hell of a mix on that Emotions track, 'Best of My Love.'" ■

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TIPS & TECHNIQUES

From the Pros

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2 Use a Reference Track

Save yourself time and frustration by using a Reference Track when mixing. A reference track is a commercially mastered track that is similar to the track you are mixing. It's difficult for your brain to remember the relationship between Kicks and Bass, as well as other instruments. Start your mix session by listening to 60 seconds of your reference track to "reorient" your brain.

3 Take Breaks Often

It's important to give your ears and mind a break during long mixing sessions. Every 45 to 60 minutes, you should take a 10- to 15-minute break. Walk around, stretch, or grab a snack. After your break, remember to listen to your reference track for 60 seconds before getting back to work.

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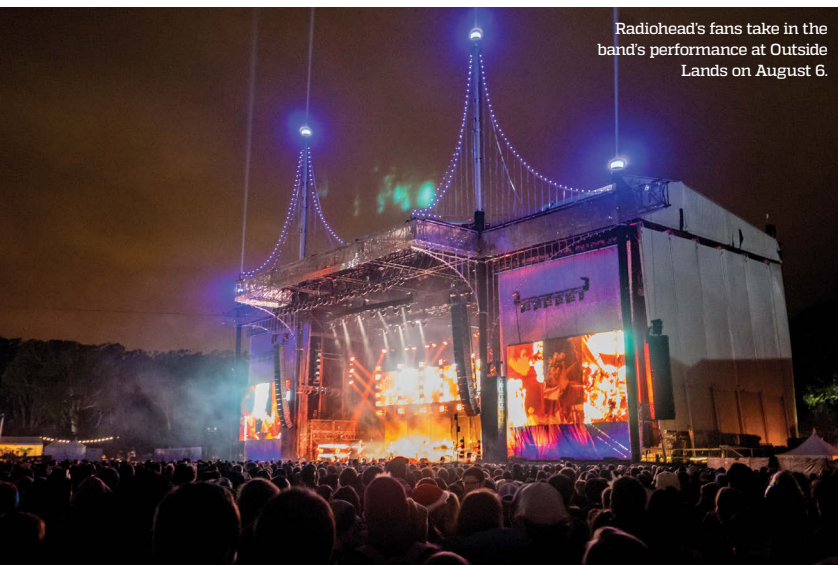


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OUTSIDE LANDS 2016

PHOTOS BY DAVE VANN // TEXT BY AMANDA MORRIS



Radiohead's fans take in the band's performance at Outside Lands on August 6.

True to the spirit of the city itself, San Francisco's 8th annual Outside Lands Music and Arts Festival offered its usual, but not at all typical, mix of eclectic, edgy and alternative artists. The festival took place August 5-7, 2016, featuring headliners Radiohead, LCD Soundsystem and Lionel Richie; with dozens more acts, including Duran Duran, Sufjan Stevens, Lana Del Rey, Air, Major Lazer, Ryan Adams, J. Cole, E-40 and Warren G, The Claypool Lennon Delirium, and The Muppets' very own band, Dr. Teeth and the Electric Mayhem.

This year marked Radiohead's return to the festival for the first time since the festival's debut in 2008, when the band experienced a major sound outage during their set. This year, fans were more than pleased with the impeccable sound, as Radiohead played a flawless two-hour set that drew heavily from their newly released *A Moon Shaped Pool*, and finished with a sing-along to their crowd-pleasing classic, "Karma Police."

The folks at Another Planet and Superfly curate a first-class event that offers something for just about everyone. Sound was provided by Pro Media/UltraSound of Hercules, Calif., under the supervision of Systems Engineer Tom Lyon, while Nathan Harlow was the festival's

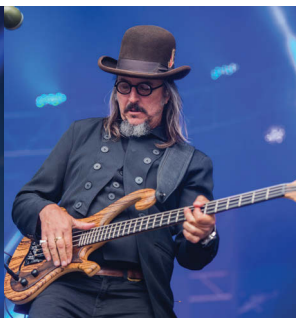
FOH Audio Tech. The P.A. on the main stage was a Meyer Sound LEO system comprising 14 LEO/three LYON-W per side; 11 1100-LFC L/R subs per side; 12 700-HP subs in the pit; 10 LEO sidefills per side; and 12 LEOPARDS across the deck as front fills. Delays were two sticks of eight LYON-M (near) and two sticks of LEOPARD with six 900s (far). Galileos and Callistos provided drive using the Callisto starting point presets. ■



Funk band Vulfpeck performed on the opening day, August 5.



Sean Lennon of The Claypool Lennon Delirium



Les Claypool of The Claypool Lennon Delirium



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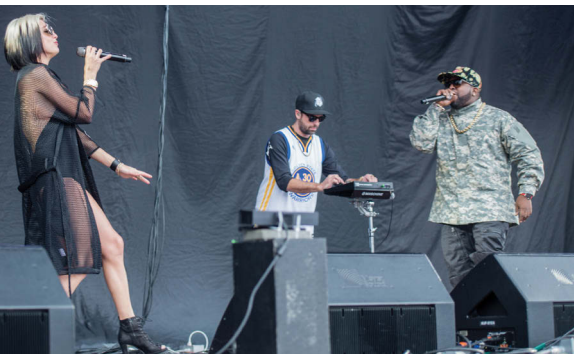
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Lettuce



The Oh Hellos are led by Maggie and Tyler Heath.



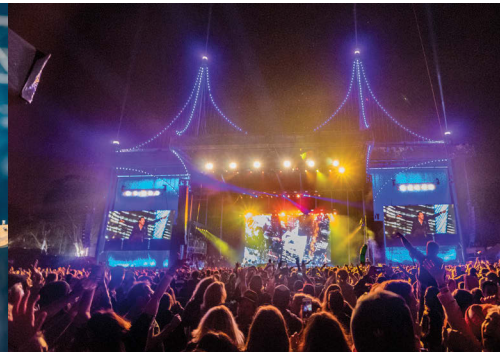
The crowd responds to Major Lazer's performance on August 7.



Chance the Rapper



Jason Isbell



Lionel Ritchie closed out the 2016 edition of Outside Lands on August 7.

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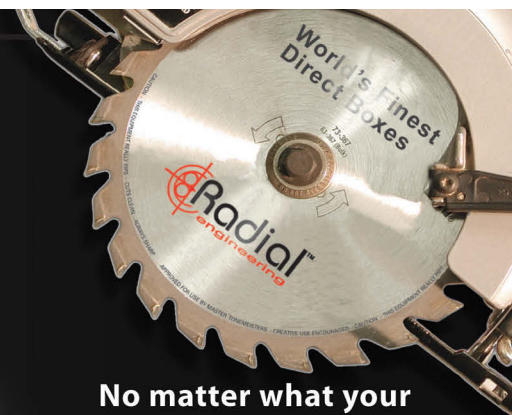
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ALABAMA SHAKES



Alabama Shakes recently played two nights to sold-out crowds at the Greek Theatre in Berkeley, Calif.



FOH engineer and production manager Shane Haase, right, with systems engineer Matt Grabe at the Solid State Logic Live L500 console, chosen after a test drive at Spectrum Sound in Nashville. "I chose to stick with the console because I feel it has the best-sounding head amps, A/D and D/A conversion, and summing, on top of being reliable in various

environments. I think that today's engineers and technicians need a customizable workspace that sounds incredible.

"My outboard rack gear consists of a Tube-Tech Compressor CL 1B, GML 8200, Chandler LTD TG12413 Zener Limiter, Neve 33609C Limiter/Compressor, (3) Chandler Limited LTD-2, Thermionic Culture Vulture Super15, (2) Transient Designer SPL effect processor, (2) Teletronix LA-3A leveling amp, Distressor EL8-X, (2) BSS 901 Dynamic Equalizer, (2) Chandler Germanium compressors and (4) Bricasti M7 with M10 controller.

"I only use plug-ins when we're doing a one-off or if we have international dates that don't allow us to bring a full package overseas. I use the L500 delay for a slapback and the onboard compressors and gates. They sound great, have phenomenal versatility, and are easy to use.

"I'm very fortunate to work with a band that cares about their sound. The outboard rack is beautiful and I'm blessed to work with quality gear. I strive to create a sound that is intrinsically specific to the Alabama Shakes. Transparency is key to my role as a FOH engineer, and my hope is that people relate to something that inspires an emotional response."



Monitor engineer Justin Tamplin is mixing on the Avid VENUE | S6L-32D control surface. "I'm really liking the new surface and the added flexibility in terms of channel count and routing options. I'm using a variety of the stock Avid plug-ins like the Pro Multiband Compressor, Pro Compressor, BF-3A compressor, Impact compressor, and the Re-Vibe II reverb. Third-party plug-ins are Crane Song Phoenix II and Plugin

Alliance SPL Transient Designer Plus and Maag EQ4.

"The only outboard gear I have is the Rupert Neve Designs 5045 Primary Source Enhancer on Brittany's vocal channel, which helps me get a few more dB of gain before feedback in the wedges. Her dynamics are so wide that I can't be too dramatic with it, but it definitely helps."

The band is on a combination of in-ears and wedges: Shure PSM1000 with UE 7 Pro and UE 11 Pro IEMs, d&b M2 wedges and d&b V8/VSub sidefills.



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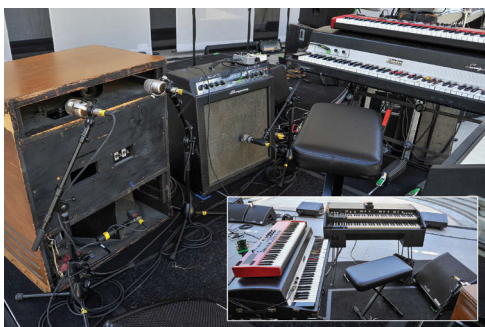
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Drummer Steve Johnson, left, and **drum tech Kenny Bozich**, at the kit, miked by an AKG D12 mic on kick, Shure SM 57 snare top with beyerdynamic M201 on snare bottom, Sennheiser e 904s on toms, and RCA BK5 ribbon mics for overheads.



Keyboardist Ben Tanner's mic setup consists of two Electro-Voice RE 38s on his Leslie top with an ATM 23HE on bottom. The microphone on the Ampeg Gemini 5 is a Telefunken M80, which was chosen for its warmth and expressive midrange.



SL keyboardist Paul Horton has a Shure SM7 on his Nord and Wurlitzer amps and an Electro-Voice RE38 on congas.



Guitar tech Andy Jones says that Brittany's guitar amps, Sears 1484 2x12-inch and 1x15-inch, are miked with a Beyerdynamic M88 and an Audio-Technica AT-4040, while guitarist Heath Fogg uses an AEA N22 ribbon mic and Shure SM57 on his amp.



Brittany Howard sings into a Telefunken M81. "For Brittany's vocal, I hit the BSS 901 first to tame some of the changes in her voice when she reaches different dynamics, ranges, and emotional excitement," FOH engineer Haase says. "Second, I hit the CL-1B followed with GML8200. Gentle compression allows me to keep Brittany's vocal focused and dynamic. In parallel to this channel I have a distorted vocal channel that is blended in equally. Bricasti reverbs are the key to creating the spaces that everything sits in."



"We brought in an L-Acoustics rig for the two nights at the Greek Theatre in Berkeley," says systems engineer Grabe. "The L/R arrays consists of 16 K2 per side supplemented by eight Kara per side as out-fills and six ARCS Wide as front-fills. The nine SB28s per side are increasingly delayed to widen the coverage."



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Billy Bragg and Joe Henry

Photo: Jacob Blickenstaff

PLAY A TRAIN SONG

Billy Bragg and Joe Henry Ride the Rails to Record 'Shine a Light'

BY BARBARA SCHULTZ

Taking a train trip feels like going back in time, to an era when travelers had the luxury of taking days, not hours, to journey from the heartland to the Wild West. The romance of train travel, and reverence for the music inspired by those rolling engines, inspired Billy Bragg's conception of the new album *Shine a Light: Field Recordings from the Great American Railroad*.

The ever-authentic Bragg broached this idea to artist/producer Joe Henry: The two of them would ride the rails together, playing train songs along the way—in railroad cars and stations, and on platforms.

"The concept came from Billy, and it would have just about had to be envisioned by a foreigner—someone with the aerial view of our country's evolution, and the way that the mythology of the railroad has so informed our culture," says Henry. "The concept was in no way driven by nostalgia—for trains, or a disappeared America—but by a desire to see anew the authority and viability of something that has become invisible to most of us."

"We chose the route—Chicago to Los Angeles, by way of San Antonio—because it is the longest single journey offered by Amtrak, and because the route itself is fundamental to our national character and development," Henry explains further. "The line from Chicago to San Antonio, called The Texas Eagle, traces the migration from the Deep South into the industrial Midwest. From Texas, we picked up The Sunset Limited, which originates in New Orleans, heading west to Los Angeles and the Pacific Ocean, which evidences the hard migration west from the dust-bitten scrub of the Depression."

"Those two seminal journeys alone represent the evolution of so much American folk music, and how it was tempered and transfigured by a collision of cultures. And we picked songs we believe reflect that intersection, as well—the deep longings we all experience to move our lives forward."

The baker's dozen songs Bragg and Henry chose will be familiar to

Photo: Jacob Blickenstaff

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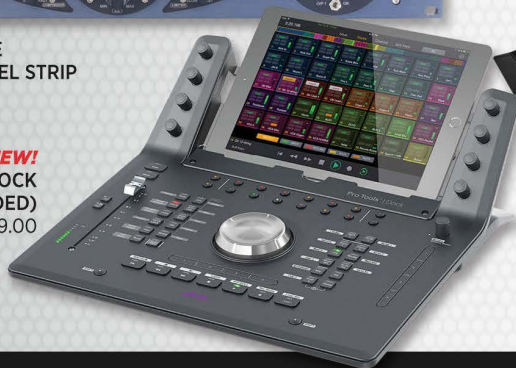
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many: “The Rock Island Line,” “The Midnight Special,” “In the Pines” and “Gentle on My Mind,” to name a few. But not many listeners will have heard these well-loved folk songs performed in Chicago’s Union Station, for example, accompanied by low whistles and announced arrivals.

Tasked with managing the technical practicalities of this original notion was Grammy-winning engineer Ryan Freeland, who has worked on numerous Henry projects,

Photo: Mark Lindsay



including Bragg’s 2013 studio album *Tooth and Nail*.

“Ryan is a musician first, and thus is a musical problem solver,” Henry observes. “He never lets the technical eclipse the romance of music in articulation. I knew we needed a recording that lived both as a vivid document of a moment, but would also be robust and

beautiful enough to work purely as music—even without the backstory providing context. And Ryan knows how to hold those sometimes-conflicting desires.”

For planning purposes, Bragg sent Freeland an itinerary, complete with photos of some of the historic train stations, and guesstimates of the time windows they would have for recording:

MONDAY

We’ll do our first recording before we board the train, in the Grand Hall of the Union Station in Chicago. The acoustics are good there and a number of stair wells offer us different recording environments.

Once we’re on the train, our first opportunity to jump off and record will be at St Louis, on Monday evening at 7.21pm, where, as you will see from the schedule, we should have 40 minutes to do get things done.

The pace of the trip west would be leisurely in a way, but the recording process would be anything but. Freeland knew that setup and teardown would sometimes be like a race against time, and he could only take what he could carry, much the way a field recordist works.

“This wasn’t exactly field recording, though,” Freeland says. “It was more like a combination field recording/record. That combination really appealed to me. I got to use all of the studio-world thoughts I have, plus all this interesting live-location recording [knowledge].”

“The idea I had was to get as much of the noise as possible: the sounds of train stations full of hustle and bustle, people and luggage carts, and announcements over the P.A. I came up with this plan that was mostly mobile but still needed quite a bit of setup.”

Freeland packed two Pelican cases with four AEA Nuvo ribbon mics—two N8s and two N22s—plus two Apogee Duet interfaces, a backup battery system, and a custom, collapsible Latch Lake mic stand that the manufacturer designed specially for this

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project. He explains the considerations behind his selections:

"The Duet runs on batteries, which I needed, and I matrixed two of them to get four channels, running off my laptop. The Nuvo's had windscreens, and there were a couple of songs where the wind was tough to deal with. And that mic stand was one of the most useful things; it collapsed small enough to get into a carry-on, but it's sturdy and extends to seven feet tall.

"I could get everything into those cases in about a minute-and-a-half," Freeland continues. "And I knew I could get it set up in a minute-and-a-half. But it turns out that a minute-and-a-half is an eternity when the guy is about to call, 'All aboard!'

"But oddly enough, I would say I did things about the same as I would in a studio where you listen during take one and then make adjustments. The question always becomes, should I move my microphones or ask the musicians to do something a little differently, and usually I default to moving the mics.

"But in a case like the station in San Antonio where we recorded, for example, we really wanted to get the sound of this beautiful, reverberant hall, so I kept asking Joe and Billy to move farther back from the mics so that the mics would pick up more of the room, and their voices slapping around the room."

Other challenges that Freeland and the musicians met: uncooperative security officers, USB power issues, and unannounced schedule changes—all part of the extremely evocative adventure set forth in Bragg's itinerary.

TUESDAY

Our next recording spot will probably be Dallas at 11.30am where the train is scheduled to stop for 20 minutes. There is a nice mural depicting John Henry at the station.

Next stop will be Fort Worth at 1.25pm where the train is scheduled to stop for 45 minutes.

We will then get off the train at 6.30pm in Austin and record at the station once the train has left. SXSW is on, so there may be some other stuff to do in Austin. We'll then hook up with our driver, Alex Penrose, and drive 80 miles to San Antonio. We're staying in the Gunter Hotel, where, in 1936, Robert Johnson recorded a session for Brunswick Records in room 414.

Freeland says that their visit to the Gunter



A map of the journey.

Hotel is one the memories he treasures most from a weeklong "session" where the terrain was part and parcel of the music.

Henry recalls: "As this train departs El Paso heading west, it runs for miles along the U.S./ Mexico border; and you can't help but muse—as you look to one side of the train at the sub-

urban sprawl of El Paso, and out the other to a Juarez that seems to exist in another century altogether—at the self-created and self-fulfilled divisions between us. For me, this view alone was worth the trip." ■

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ALLEN SIDES AND OCEAN WAY AUDIO

BACK TO WHERE IT ALL BEGAN—BUILDING SPEAKERS

// BY TOM KENNY



Producer Rickey Minor, left, with Allen Sides showing the Ocean Way Audio HR4, introduced at the 2015 AES.

Ocean Way is the name of the street in Los Angeles where Allen Sides grew up. It's where he first started experimenting with speaker designs in the early 1960s, in the garage, learning what made them sound the way they did. He would negotiate with theaters that were closing and buy the Altec A7s for pennies, haul them home and take them apart. He scoured for amps. He taught himself electronics and soldering and began to match components for optimum highs, mids and lows. He would visit Capitol and Warner Bros. through friends of friends to learn more about recording because he was also building a studio. He was 15.

Of course then Allen Sides went on to own and operate Ocean Way Recording, one of the world's finest studios, for nearly 40 years. Later, the Ocean Way name would be franchised and branded, from Nashville to St. Barths, and there would be microphones and more studios and

five Grammy Awards and a list of studio and live-to-broadcast engineering credits the envy of any engineer over the past years. He has one of those rare brains where the left and right halves work in harmony. He's musical engineer, with the mind of a tinkerer. He's also a shrewd businessman, dating back to when he would load up on cheap small candy items at home, then bring them to summer camp on Catalina Island. A Tootsie Roll is worth a lot to a kid on an island.

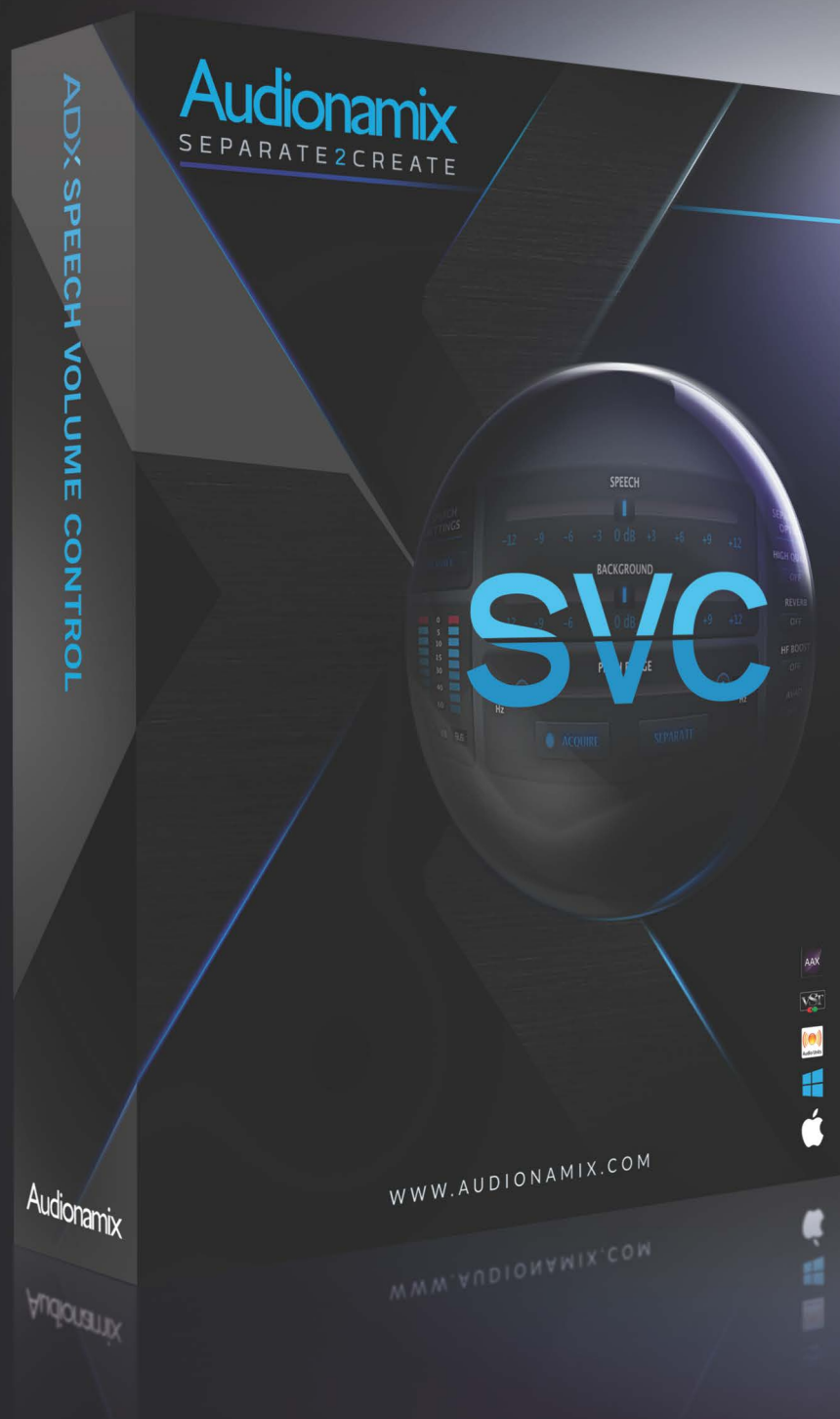
Then, about a decade ago, Sides started to slowly move away from the recording studio business. He sold off Ocean Way L.A., which he had purchased from mentor and friend Bill Putnam, and a few years back he sold Record One to Dr. Dre. The Ocean Way name remains in Nashville and St. Barths, and Sides remains an active producer and engineer, but for all practical purposes he was out of the studio business.

Still, this is a guy who runs up a 2,000-foot hill behind his Monte-

cito home every morning, and remains an avid tennis player. He had no intention of sitting still, and so two years ago, he launched Ocean Way Audio. Back to designing speakers.

Sides has actually been designing speakers, audiophile and studio, his entire life and had already developed the Model HR2, the massive free-standing 3-way system, while still at Ocean Way. That provided his real introduction to pro audio. At last year's AES Ocean Way Audio introduced the more affordable HR 4, a stunning near- to mid-field model that encapsulates all of his philosophies. There are also Pro 2As, the Montecito, the HR3 and the 4-way HR1, to go with mics sounds and all things audio. For the past few years he has been working with the legendary electro-acoustic designer Cliff Henricksen. He hired industry veteran Rick Plushner to run the operation.

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Sides with the Ocean Way
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So while there are a lot of topics that could be covered in an Allen Sides interview, a wealth of wisdom over five decades, here we talk about speakers. Starting with when he was 15 and building his first tri-amped systems with mix-and-match parts.

***So this really did all start with speakers in a garage?
Most kids picked up a guitar.***

Well, I knew a hi-fi guy in the neighborhood, and one day he played me a Nelson Riddle Overture from Robin and the Seven Hoods. On vinyl. And Lee Hirschberg had recorded it in what would become my studio. And I thought, 'Wow! This is amazing!' And I remember being very young and seeing the Oscar Peterson Trio. Ray Brown. Listening to the way they sounded. How you as a musician make your instrument sound, that's what I wanted to do with speakers.

I wanted these speakers I was building to sound a certain way, and I did all this experimentation until I got what I wanted. These were tri-amped. I had all these RCA, Western and Altec theater speakers to experiment with—every kind of crossover, the horn, the driver. I would pick a particular tube amp with a particular type of output tube. I liked the Marantz 9, which had a very low-distortion tube that sounded very good in the highs. But I didn't like it in the bass. So I would use another amplifier on the low end, super fast, with 8-gauge welding wire to the woofer so I lost nothing in the line. But that 8-gauge wire did not sound good in the highs. I would optimize each amplifier for a specific range because I could. It's my system. I would try four amps on my tweeter, crossing over at 10k and above. Which sounds the sweetest?

After a few years, as my speakers got better and better, I would

invite musicians back for playbacks, and that was my moment in time. I wanted them to be shocked. Harvey Mason, Nathan East, Greg Phillinganes—they would hear playback and say, 'That is ridiculous!' I live for that. If I have a joy, that's what it is.

Ultimately, the end result is what matters. The process is not as relevant to me as the end result. I don't mind being unorthodox. All I care about is what I hear at the end.

So what do you want in a speaker?

What I'm looking for as an engineer and musician is a completely accurate reproduction of what I'm doing that has fantastic dynamic range. I like punch and impact, and when I'm mixing something I need to know that I have that. And it has to go low enough—even in a small speaker, at minimum down to 40Hz flat, for me to be happy with it and make an accurate judgment. I tend to like things a little bit bigger than life. And I can't stand harsh sound.

The last thing I want is hype. I'm looking for something where I can hear *into* it in such a way that if I'm EQ'ing the bass or kick, or the inside mic and the outside mic, I need it to be accurate. I'm not really big on having subs somewhere else. I like all the arrival times to be together. I like super clarity, to hear the arrival times. All of our speakers, in general,

are physically time aligned. So we don't need to correct electronically; they're aligned mechanically.

Also, I record digitally but I like to mix analog. The last thing I want is a digital speaker with a converter I wouldn't even consider mixing through.

***You have expressed a fondness for low end, and you played bass,
What about the low end in your speakers?***

The big problem is that subs and main speakers are often misaligned. It's just about quantity, not definition. You have to match the mid-bass and low-bass components so that their transient performance and definition matches—so that the quality of the bass from 400 Hz down to 50 Hz is the same type of sound. The attack, if you hit a big bass note and pop it, all those frequencies arrive at the same time, with the same clarity. I've always been about, 'It's gotta be low and it's gotta be tight.' To get down to 40 in a small speaker is a big deal. And then my big system goes down to 18 Hz, almost entirely flat.

What else? Imaging? Depth?

On our HR2 and HR 3 systems, from a symmetry standpoint, typically I want my left and right speaker to be within 1 dB from 15 kHz to 400 Hz. I want them to be symmetrical, a little bit of equalization to be dead-on. Every single speaker we sell, we measure to determine if there are any flaws. It takes time, but I'm a perfectionist. Then you go to the room and make minor tweaks. We make a custom passive equalizer, with individual hand-wound toroids for every frequency. Super-simple analog signal path and ultra-fast slew rate. So we do have an EQ to calibrate for the space. It's custom for every sale.



The Ocean Way Audio HR3.5.

You mentioned dispersion earlier today.

The most important aspect to me and the one probably the most lacking in most studio speakers is how wide the dispersion is. Most speakers have pretty narrow dispersion and a small sweet spot. In a lot of conventional horns, the high frequency is no wider than the widest part of the throat before it expands. As the horn expands, the information below, say, 6k, conforms to the curve. The high frequency stays thin. It might be only 20 degrees of dispersion. To me, that's almost useless.

If you use a waveguide with a very fast flare rate, you can linearize these differences and get very uniform dispersion over a fairly wide area. You also pick up efficiency and the dome doesn't have to work as hard. If the waveguide is fast and the flare right, you don't get that nasal quality. The better the dispersion, the less sound the horn has. So our HR2 has 120 degrees of horizontal dispersion, and you can measure the response at 0, and you can go 50 degrees off of 0 and it's identical. To my knowledge, there's no speaker that does that. You can walk around the room and it sounds great!



The Ocean Way Audio HR4

You have introduced a whole range of speakers over the past two years. What else do you have planned?

Well, we're right down the street from West Coast Custom in Burbank, and we've built some pretty cool large custom systems lately—Steve Aoki just got BMW blue.

And one of the speakers I'm working on is a replacement for line arrays that have 120-degree dispersion and incredibly low distortion. One of the problems when you're sitting at, say, The Hollywood Bowl and you're 20 seats off center, well, half the audience hears mono. With a speaker that can deliver 120 degrees, you can be in the far right row and hear everything. Cliff Henricksen is designing a system that does just that. The prototypes have been phenomenal. It's a way to produce staggering levels with extremely low distortion. So there's another approach, but we haven't announced it yet. ■



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THE SOUNDS OF GEORGE PETIT

Master Guitarist, Engineer, Producer on His 'Emergence'

BY GARY ESKOW

George Petit is a multiple-threat artist of the highest order. A superb guitarist, his original compositions are deft and intriguing. He's also a skilled mix engineer who produces his own recordings. *Emergence*, Petit's latest release, was recorded at Applehead Recording in Woodstock, N.Y. The CD features Petit's guitar work and the playing of several close friends, including bassist Phil Palombi and keyboardist Matthew Fries. Justin Flynn contributed horn work, and Mark Dodge played drums, percussion and marimba. Petit tracked and mixed the entire album.

If you're a fan of the guitar, music that sways gently at times and burns elsewhere, you need to check this guy out. Petit's bio, and examples of his music, can be found on his Website, petitjazz.com. We spoke about his playing and engineering philosophy.

Can you tell us about some of your main influences? I hear a lot of Larry Carlton, particularly the work he did with Steely Dan in your playing and sound. I also hear some Chet Atkins, some Cornell Dupree...

I've been listening to countless players since I was about five—stuff seeps in through the cracks and finds a place to hang out. I have always been a big fan of Steely Dan; the playing and writing, of course, but also the production. Elliot Scheiner is one of my favorite engineers based on the clarity, the perfect balances, and the way he avoids "ornamental" effects. But a lot of the Steely Dan sound is Fagen and Becker's writing and in-studio arranging—what goes "to tape."

Carlton? You bet. A master of the guitar who delivers the right part for the right tune. He has taste, sound and touch. Larry has a special place in my heart, not only his work with Steely Dan, but with Joni and others. He's a master's Master. Then again, I know there is a lot of Metheny, Stern, Duane Allman and many others in what I do. Someone once told me that if you are a jazz guitarist over 50 and you say you are not influenced by Wes, you're a liar. So whether it's Wes, or Jim Hall, or Pat or Benson...or Frisell or Sco...it's all in there!

Chet? Love me some Chester. One of my tunes from the previous release [*End of August*], "Aldo," was actually written for an Alitalia Airlines advertising campaign. And yet, most folks hear it and suggest that I wrote a tribute to Chet.

How would you describe your overall skill set?

Well, I started out as a musician, then started writing music and working with bands in London pubs at the age of 13 or 14. I've played in reggae bands,

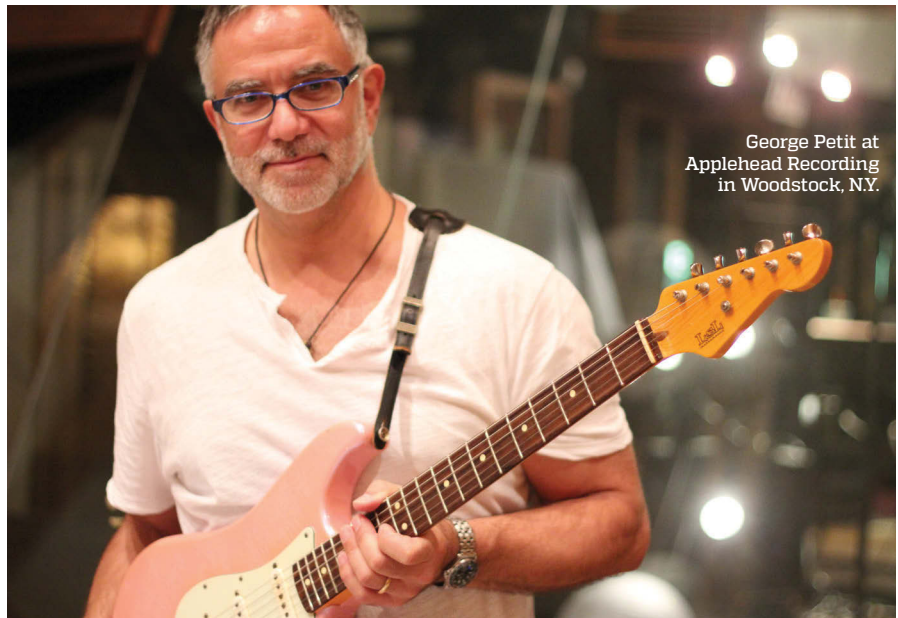
jazz big bands and trios, rock bands, country bands, done solo jazz festival concerts, tours with my own groups, and I continue to gig and play at festivals in the U.S. and abroad. I just returned from 11 gigs in 10 days at the Discover Jazz Festival, and I have a rock gig in New York City tomorrow night!

I became interested in engineering in 1978 as a way to try to get what I was hearing recorded. I started out using 4-tracks with two reel-to-reel Tascam machines, with "push the buttons sync quick!" Then moved onto 8-track, 16, 24, 48 analog, to digital ADAT and DASH formats to Pro Tools the first year it arrived. My love of engineering and arranging goes hand-in-glove. As I got deeper into engineering, I researched the sounds of great engineers; how they did their thing and how not to do their thing! I listen way deep into a recording; it's something I love. How was this tracked? What is the overall style of the mix and how does it support the music? How does it take what the artists are doing and get them to realize their goals...and then some? Communication and listening are so important in production, easily as important as technical skills. The lines between all the skills tend to vanish. I love everything I do and I draw from all the decades as a musician, guitarist, bassist, writer, engineer, mixer and producer each day, on each project. I am lucky to speak the many languages needed in our industry, and I am constantly learning.

What is your signal path today, including amplifier, for your main electric guitar?

I tend to think of every link in the chain as a means to an end. So if I am after a certain Telecaster vibe, I'll try to think in terms of the right guitar and amplifier followed by the right mics and pre's, and then sculpt everything to find that certain sound I need on a track. Could be an old Fender Vibroverb; or, these days, my amazing Fuchs ODS 100 amp, which I adore. That said, I also turn to direct recording at times if the song calls for that. Direct has a purity and immediacy that is compelling and useful at times. My recent favorite DI has to be the Rupert Neve Designs RNDI. Amazing box. As we know, different mic preamps will or will not color a sound, so I try to think of that link in the chain, as well. I guess I tend to visualize or hear the sound first and then choose the right instrument and signal path to get close to what I am hearing in my head. And then the tweaking begins!"

Photo: Julia Jordan



George Petit at Applehead Recording in Woodstock, N.Y.



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Richard Chycki

Producer/Engineer - Dream Theater,
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George Petit at the console in Clubhouse Studios in Rhinebeck, N.Y., with Conor Milton assisting in the background.



Photo: Julia Jordan

Do you have a favorite electric guitar for tracking?

I love too many to pick a fave, but Gibson's L-5 CT and ES-335 are go-to instruments, as well as the Sadowsky LS-17 and Semi-Hollow, which are magnificent. I also play three LsL Instruments Solidbody guitars, much in the old Fender tradition; certainly the best for those particular sounds to me. My acoustics are all Santa Cruz. The Sadowsky Nylon is my go-to for anything Brazilian or "gentle." That's a particularly wonderful instrument. I like LDC mics on acoustic instruments, or the occasional Schoeps. Amps get SM57s or MD 421s, plus a Royer 121 ribbon as the first setup choice. Then I change things up with other mics as needs be.

Some make room for the guitar by simply pushing up the assigned stereo fader, or adding EQ. You seem to have arrangements that leave space for the instrument.

I think I carve out spaces with "rooms," ambience and placement more than EQ or levels. EQ to me should be correction, and subtractive in nature, somewhat subtle. If one is careful to capture a great performance with quality sounds that are well thought out, EQ should be something that is subtle. I also don't EQ to tape. A microphone placement change, preamp change or in fact a mic change should do the trick. My arrangements come to my mind throughout the entire process of producing a record. It's all a part of the painting in sound. Again, the way Joe Ferla, Elliott Scheiner and Al Schmitt approach a mix have had great impact on what I go for. A tiny splash cymbal, well placed and subtle, can truly create a great moment in a song. Or a subtle hand shaker tucked into the panorama and just given the right level. One hears these things subconsciously; without them, the mix would be lacking. Same with guitars: The arrangement and

right part played well and then put into the right place in a mix. It's all part of creating an end result that is three-dimensional, emotional, serves the composition and the intentions of the artist.

Can you describe your basic approach to the recording process and tell us about some of your favorite studio tools?

I like to track as full a band as possible with the end result in mind, hearing a mix direction from the start of tracking. My favorite studio in the East for doing this sort of recording is The Clubhouse in Rhinebeck, N.Y. It's a true laboratory with fantastic-sounding spaces, a super great desk, and every piece of gear your imagination can ask for, all in great shape, and an owner who cares. Plus, it's in the countryside. I love working in a country setting! I mix these days in my own mix room, alone. Having tracked, I know where the artist is going. I don't like to work with a clock ticking, so I tend to sit with the music and try things. This takes time, my time. I send mixes to clients for revisions; usually minimal stuff is requested.

Favorite studio tools? Depends on the material, of course, but Neve or SSL desks, a wide range of mic and mic pre choices, instruments that are well maintained in rooms that complement their sound, a great headphone system to enhance my artist's performance and monitors that I "know." I love Dynaudio, HotHouse and ATC. Following that, ProAc Studio 100s, although the HotHouse have a better low end. I also use headphones a lot—Grado only, with SPL Phonitor 2 as my choice amp. I mix now only in the box, mostly in my barn in northern Vermont.

You're now in Vermont? Is that where you mix?

My wife and I recently made a big move north, to Stowe, Vermont. We're really excited about it; we met here about 20 years ago. The mix room is up and running, as is evident by the early morning I just had doing rough mixes for Bill Block's new project. I won't be building a tracking studio here, though, just the mixing end of things in a lovely barn. There are a couple of studios that I really love to track work in here. I just visited a lovely new studio called Meadowlark a couple of days ago. Fantastic piano and live room, a couple of isos, all Walters-Storyk designed. The owner, Yasmin Tayeb and I have had a great meeting of the minds. She is really cool and gets it; I'm bound to be bringing my clients to her studio and probably will be doing some freelance engineering for her clients, as well. It's such a great room. With a bunkhouse for clients as well! ■



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MIX REGIONAL: LOS ANGELES

United Recording Brings Back Mastering, Launches Archiving Division



Pictured in United Recording's new mastering suite are (L-R) Studio Manager Rob Goodchild, Executive Consultant Steven Miller, and mastering engineers Warren Sokol and Erick Labson.

United Recording in Los Angeles has launched its new mastering division. United was founded in 1957 by recording engineer, studio designer and electronics inventor Bill Putnam mastering is a key element of the studio's heritage.

"Mastering was always a key aspect of Bill's predominance in the recording studio world," says Studio Manager Robin Goodchild. "We are simply bringing it back as a convenience to our clients, but also as a re-imagined service operating in today's Internet world market."

United's new mastering engineers are Erick Labson and Warren Sokol, formerly with Universal Mastering. Their combined discographies include decades of major albums from top artists in virtually all musical genres.

"When you've produced your masterpiece in the studio, and recorded it impeccably, sweetened it with overdubs and mixed it to perfection, there is only one final step before manufacturing and distribution: mastering. This is when your work is finalized so that it sounds the very best to the listener. Mastering needs the latest technology and a gifted engineer to deliver the best music possible," says Steven Miller, United's executive consultant on the new mastering studio.

Located in the specially designed acoustic space, formerly the home of JVC's mastering suite, United's new studio features Lipinski L-700A monitoring with JL Audio Fathom subwoofers, as well as a wide selection of headphones and earbuds. For computer playback and recording, the studio uses the SADiE system running Prism Sound's latest SADiE 6.1 audio



Pictured in United Recording's new archiving suite are (L-R) Studio Manager Robin Goodchild and Head of Archiving Dan Johnson.

recording and editing software across its mastering platform. Analog processing includes the Pendulum ES-8 Compressor, Dave Hill Titan Compressor/Limiters, SPL Passeq, Manley Massive Passive EQ Mastering Version and Sontec Mastering EQ.

"We've done our research and are offering the very latest technology in mastering," Miller says. "United truly is a temple of sound and has been for almost 60 years," adds Goodchild. "It's known worldwide as a place where recorded music has been ultimately refined and represents the biggest records, not only recently, but in every decade since the '50s. It is that attention to perfection that goes into every aspect of our new mastering division."

Meanwhile, United also launched its new archiving division. "United has a 60-year history of uncompromised audio excellence and innovation," Goodchild says. "We have assembled a vintage treasure trove of virtually all modern recording machine formats and the ancillary equipment crucial to accurate archiving to insure the new masters will be preserved for the ages."

United's new suite is a secure, climate-controlled suite that features such attention to detail as a specially built anti-static floor to prevent any electrical mishaps. A full-time dedicated maintenance staff means the gear is well cared for and running correctly at all times.

United's new Head of Archiving, Dan Johnson, spent the past five years as a dedicated audio preservation engineer working with priceless masters by such artists as Led Zeppelin, Jimi Hendrix, The Doors, The Eagles, Prince, Red Hot Chili Peppers, The Ramones, Van Halen, Rod Stewart and Otis Redding. Prior to that, Johnson was a recording engineer at Capitol Studios and Ocean Way (now United).

"I started my engineering career at United almost 20 years ago, and opening an audio archiving facility here is a timely decision," says Johnson. "The studio's high standard of quality and excellence, as well as the commitment to an unparalleled legacy provided me with the foundation that I have built my career on. It's good to be home."

For the archiving process, tape condition is checked precisely and processed accordingly. Formats are correctly determined and documentation checked regarding speed, noise reduction, etc. All tape boxes, notes, and track sheets scanned at 300 dpi. Tape preparation includes baking when necessary, as well as replacing damaged splices and bad leader tape. Multitrack tapes are transferred in real time and synchronized to Pro Tools. Final assembly of recorded assets are transferred to archival DVD or Blu-ray discs and WAV files. ■

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SESSIONS: LOS ANGELES



Deana Martin's session at Capitol Studios, from left to right: Steve Genewick, Joe Solido, Deana Martin, Patrick Williams, Chris Walden, Al Schmitt, Jason Lee, Rick Krive, and John Griffeth.



Capitol Studios staff engineer Steve Genewick accepting his award at this year's Pensado Awards.

ing. Gökna HD mastered at 192 kHz/24 bits from original analog tape source and employed a purist mastering approach, with no peak limiting to preserve dynamic range and image. He primarily used a Sontec MES-432C Parametric Equalizer, a Manley SLAM! and the Dangerous Master and Liaison for the signal path routing... Mastering engineer Robert Vosgien mastered Sabastian Kole's self-titled EP (produced by Kole and ClickNPress, engineered by Kaleb Rollins and Adrian "A-Hawk" Melendez, and recorded at Savage Sounds, ATM Studios)...Vosgien also mastered BJ the Chicago Kid's *In My Mind*, produced by Ethiopia Habtemariam (executive producer), BJ the Chicago Kid, Mike & Key, DJ Khalil, Cornelio "Corn" Austin, Sean Cooper, DJ Reflex, Matthew Edwards, District 9, Aaron Renner Jaius "JMo" Mozee, Joe Syring, LaMar "MyGuyMars" Edwards, Da Internz, Aaron Michael Cox, and David "Dae Dae" Haddon; engineered by Rex Rideout, Joe Syring, Steve Olmon, and Jazz Sommers; recorded at 17 Hertz Studio)...In other Capitol Studios news, staff engineer and three-time Grammy Award nominee Steve Genewick took home the coveted Tracking Engineer award at the third annual Pensado Awards. This year, some projects Genewick worked on include *Grease Live* and with artist Michael Bublé.

CAPITOL STUDIOS

Ryan Adams is working on a new album in Studios A and B, with engineer Beatriz Artola (Adams self-produced). Blue Note president Don Was is also working on the record...Deana Martin worked on her forthcoming album *Swing Street* in Studios A, B and C, with producer John Griffeth, recording and mixing engineers Al Schmitt and Steve Genewick, and with Patrick Williams and Chris Walden arranging and conducting. *Swing Street* was also mastered at Capitol Studios Mastering by Ron McMaster...Michael Bublé worked on his forthcoming album *Nobody But Me* (Warner Bros. Records) in Studios A and C with producer Alan Chang (Bublé also produced), recording engineer Genewick, and mixing engineer Schmitt. They used a Neve 88R... Mastering engineer Evren Gökna HD remastered the Beastie Boys' *Licensed to Ill* album at Capitol Studios Mastering.



Kelly Rowland singing at Serenity West Recording during the taping of her TV show, *Chasing Destiny*.

SERENITY WEST RECORDING

Wiz Khalifa worked on a new album with engineers E. Dan and Ricky P, as well as second engineer Alex Pavone... Post Malone worked on a new album with engineer Louis Bell and second engineer Pavone...Travis Scott worked on a new album with engineer Blake Hardin and second engineer Alberto Chee... The band Walk the Moon recorded the closing theme song for the new *Ghostbusters* movie in the Neve 1 studio (using the Neve 8048) with producer/engineer Tim Pagnotta and second engineer Micheal Peterson...The Cult recorded their album *Hidden City* in Neve 1 with producer Bob

Rock and second engineer Peterson...Several episodes of the BET TV show *Chasing Destiny* with Kelly Rowland were recorded at Serenity West.



Alicia Keys

RECORD PLANT

Alicia Keys was recently in Studio SSL3 working on new material with engineer Ann Mincieli and assistant engineers Jon Schacter and Tim McClain.



Mastering engineer Bernie Grundman is seen in his two-lathe cutting room with Blue Note Records President Don Was.

BERNIE GRUNDMAN MASTERING

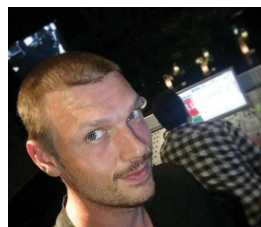
Mastering engineer Bernie Grundman mastered Kandace Springs' new album *Soul Eyes*, as well as more than 80 Blue Note vinyl reissues from the legacy catalog. Grundman also recently mastered albums for Steve Vai, Pink Floyd and Jacob Collier...Chris Bellman mastered new releases from Ryan Adams, John Mellencamp, and Phish...Pat Sullivan mastered works by John Williams, Hans Zimmer, and Dawes...Mike Bozzi mastered *SchoolBoy Q*, Andra Day, and Lonely Island.



The members of Animals As Leaders, with Sphere Studios owner/engineer Francesco Cameli (center) and assistant Phil English (far right).

SPHERE STUDIOS

The Pretty Reckless was in Studio E with engineer/producer Kato Khandwala...Toto was in Studio B with engineer Niko Bolas and producer Steve Lukather...Steel Panther was in Studios A and B with engineer/producer Jay Ruston...Animals As Leaders was in Studio A with owner/engineer Francesco Cameli and assistant engineer Phil English...CeeLo was in Studio C with engineer Sean Phelan...The Dukes was in Studio B and E with engineer Khandwala and assistant engineer English...Mac Miller was in Studio B with engineer Vic Wainstein.



Nick Carter and the Backstreet Boys in Studio A at NightBird.

NIGHTBIRD STUDIOS RECORDING STUDIOS

Nas tracked his voice-over and narration for the Netflix hit show *The Get Down* in Studio A... PartyNextDoor, Jeremih, and Lil Wayne recorded the track "Like Dat" in Studio A with a Sony C-800G, Avalon Vt-737sp, and a Teletronix vintage LA-2A...Backstreet Boys tracked vocals for a feature on Florida Georgia Line's latest album in Studio A, with a Cathedral Pipes Notre Dame U 47, an AMS Neve 1073, and a Urei 1176LN...Sting visited Studio B to work on new projects...Dr. John rehearsed for his Hollywood Bowl performance in Studio B...LL Cool J spent a week in Studio B working on new material...Cutfather brought in Kylie Minogue and Bonnie McKee for writing sessions in Studio B.

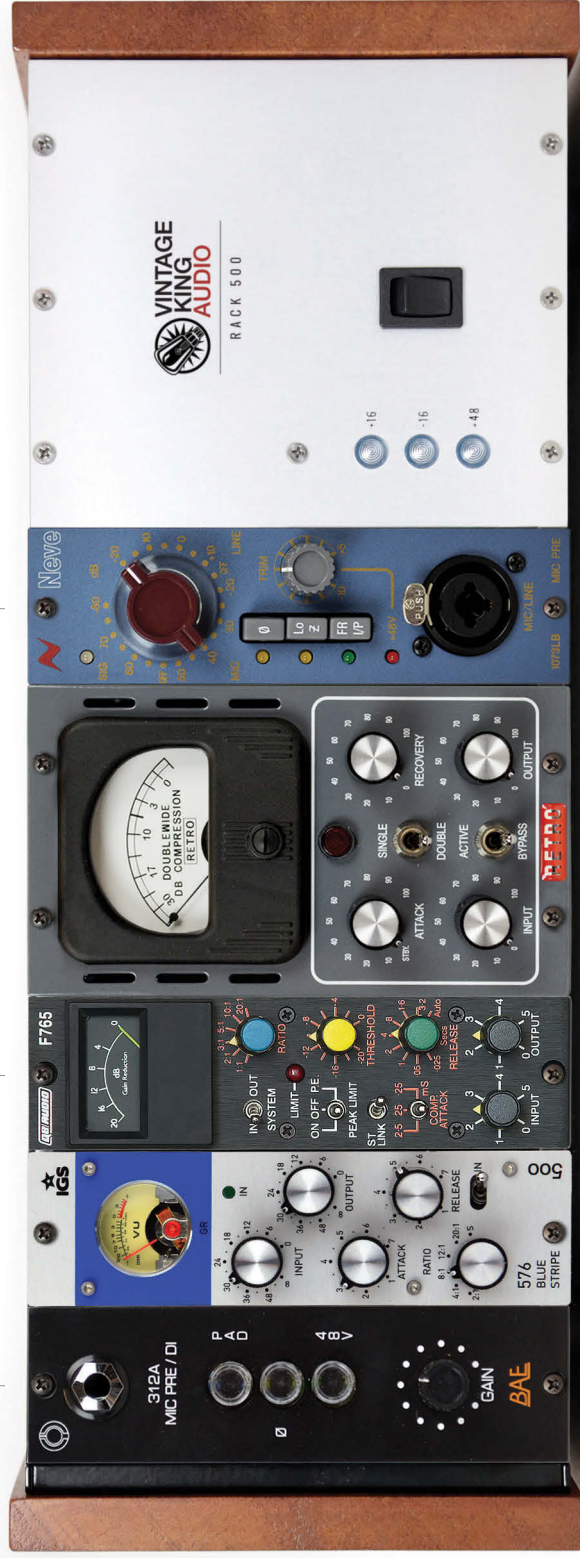
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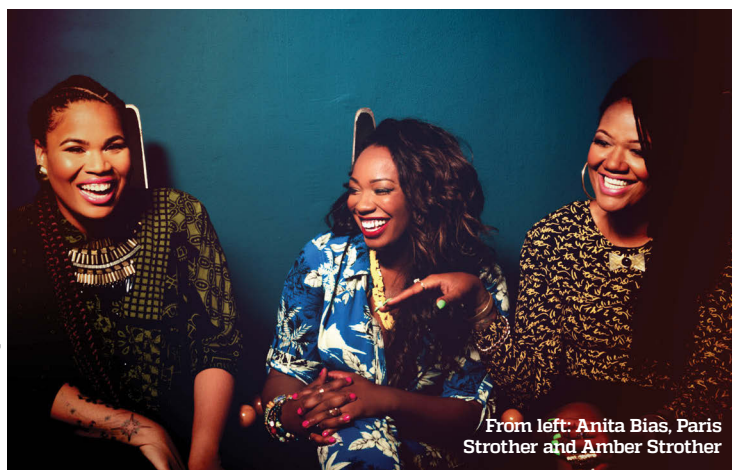
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KING at the Top of L.A.'s Electro-Soul Music

BY JENNIFER WALDEN



From left: Anita Bias, Paris Strother and Amber Strother

As kings of their creative castle, L.A.-based electro-soul group KING has free rein to make music their way, and that's just how musical icon and pop legend Prince wished it to be. KING opened the final, sold-out show of Prince's 21 Nite Stand in Los Angeles concert series, which was part of his "Welcome 2 America" tour back in 2011. But KING's involvement with Prince was more than just a one-night event.

"We didn't just open for Prince; he really took us into his home and became our mentor," says Paris Strother, music producer in the KING trio. "He gave us advice and directives on the business. He was always into being independent, and not having anyone own you or your intellectual property. He just wanted us to be ourselves, to grow up in the music and be comfortable. He said he wanted to emancipate us from the pressure an artist usually receives when they come out and they're trying to figure things out on their own."

Prince's enthusiasm inspired confidence within KING. They shared with him their demos and, later, the final mixes as they were being done for their debut album *We Are KING*, released in February 2016 on record label KING Creative, LLC. "The way that he enjoyed our songs made us so excited about releasing them. It made us really glad that he was around when we released the album," says Strother, noting that Prince's passing in April was a huge blow to the music industry, but the loss was perhaps felt most acutely by KING. "He was really warm and welcoming and super generous. He was somebody we knew would always be there for us and so it's been a really hard few months."

KING is a collaboration of writer/producer Paris Strother, and writers/singers Amber Strother (Paris's twin sister) and Anita Bias (the Strothers' musical sister). KING's sound blends atmospheric swells from vintage synths

with lush vocal layers. Classic analog drum machines by Linn Electronics, Roland and Maestro Rhythm King provide the head-nodding groove. The result is a retro dreamy pop sound that's mellow but by no means sleepy.

Strother says, "For many of the songs, the foundation comes from the vocal arrangement. It's been so much fun pushing boundaries and getting creative with different ways to use the voice as an instrument. We're always trying to use different elements and synths in unconventional ways as well."

Strother's studio is populated with synthesizers, both old and new. Among her favorites are a Select Series Minimoog Voyager, a Nord Stage Classic and a Stage 2 Compact, a Dave Smith Instruments Tempest (a hybrid drum machine and synth), a Dave Smith first-generation Mopho and a Mopho X4, a Fender Rhodes Mark I Seventy Three, a 1980s Hammond home organ, a Hohner Bass Synthesizer, a Korg R3, a Moog Little Phatty, an ARP String Ensemble SE-IV Electronic Music Synthesizer, and an RMI Electra Piano beloved by Ray Charles.

"I need to stay off of eBay," she laughs. "I'm always looking to buy rare, cool synths that I know aren't being produced anymore. I feel like if I can find it now, then I should get it because I might not be able to find it so easily again. I'm trying not to become a hoarder, but it's hard. Each new sound introduces a new song almost, so we have a lot of fun in here."

That spirit of fun comes through on *We Are KING*. Background elements and accents on the track "In the Meantime" are reminiscent of retro videogames. Strother explains: "My sister and I are obsessed with Nintendo and SEGA, and so we're always joking that if our album was like *Super Mario World*, then 'In the Meantime' is the underwater level. Also, I'm obsessed with Disney films, so I was trying to channel how I felt the first time I watched *The Little Mermaid*, without being too cartoony. That was a very loose influence on this track."

Growing up, the Strother sisters took piano lessons together at age 4, along with their brother and cousins. Of the group, Paris was the only one to stick with it. Her sister Amber had an affinity for singing, but Paris felt comfortable at the keys. "I was sounding things out and playing by ear when I was barely able to walk, so I think I was about two years old when I started playing piano," she says. "I'm not sure exactly when I knew I wanted to make music seriously, but I just found an essay I wrote in fourth grade that said, 'I want to write songs. I love Stevie Wonder.' It's been the only thing that I've ever really wanted to do."

Strother attended Berklee College of Music in Massachusetts, at first majoring in Music Business but eventually switching to Contemporary Writing and Production. One of her first pieces of recording gear was a MOTU 828 audio interface, which she used to record vocals. While that particular piece of gear is still in her studio, it's been upgraded to a more

current iteration, the MOTU Traveler, which she paired with Shure KSM44 mics for tracking vocals on *We Are KING*.

Working at KING Creative Studios in Los Angeles, Strother records, edits and premixes in Apple Logic 10, and is also exploring Ableton Live for the group's live shows and future albums. She says, "Much of the album was started five years ago when I was just learning the ropes. The way that I was doing it just worked for us and so we kept that going through the album. For the next album, though, we're going to want to expand the studio."

While at Berklee, Strother met singer Bias briefly during a rehearsal. "I was the music director for another singer and Anita [Bias] was a background singer. I was just getting ready to leave as she was arriving and I heard her sing for a second. I stopped her and said, 'You're amazing! Who are you?'" recounts Strother. Years later, after graduating and moving to California, Strother met Bias again at a jam session. "I saw her and remembered her voice. We started hanging around each other and being friends. She and I both love music so much, so we were making music. Then Amber came into the picture. The sound of the three of us together was something really special."

When it comes to writing songs, Strother says ideas can start with a keyboard part, lyric, or even a drum part. If the trio isn't sitting down together creating the songs, then they're collaborating remotely, emailing samples and ideas back and forth. "The songs evolve and are born from this very layered process," Strother explains. "Three songs from our 2011 EP made it onto the album: 'Hey,' 'Supernatural' and 'The Story.' Those three songs happened together, but the rest of the songs on the album were born in pairs."

We Are KING was mixed by Neal Pogue and mastered by Brian "Big Bass"

Gardner at Bernie Grundman Mastering in Hollywood. Strother notes, "Every favorite song you've ever had, Brian probably mastered it. By the time we finished mastering our album, it was his last day. He retired right after. So that's a really cool piece of history. It was such an amazing experience to work with people who are so seasoned and who knew exactly what we wanted to hear."

In addition to producing music for KING, Strother collaborates with other artists. For Corinne Bailey Rae's 2016 album *The Heart Speaks in Whispers*, Strother was a co-writer, producer and keyboardist on "Tell Me," "Green Aphrodisiac" and "Been To The Moon." Additionally, she co-wrote and played keys on "Horse Printed Dress" and performed on "Laserbeam." Of her experience in working with Rae, Strother says, "Some people play instruments, and some people sing, and then some people are music, and I feel Corinne is one of those people. Whatever instrument she is around, she uses. It's such a cool thing to be around an artist that you really respect."

Strother's other credits include producing and performing on Bilal's "Right at the Core," from his release *Love Surreal*, co-writing and vocal producing "Move Love" on Robert Glasper's Grammy-winning album *Black Radio*, and a songwriting credit on Jill Scott's "So Gone."

"Anytime you work for someone else, it's about working for someone else," she says. "You want to get their sound out there. All life experiences that come into your orbit come out in the music. The KING sound is still very much the KING sound, but just hanging around people like Corinne and experiencing how she records, I've definitely learned a lot. Some songs I co-wrote and some songs I played keys on. It was like us getting together and sharing in any way. She and her producer Steve Brown were a really great team to work with." ■



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From the minds of producer/engineer/mixer Tony Shepperd and designer Paul Wolff, A-Designs' new Mix Factory (\$2,750) accommodates up to 16 audio channels, which come into the

device on two D-Sub inputs and sum to stereo XLR outputs. All 16 channels feature a continuous gain control, pan pot with center detent, and mute that doubles as a multi-function LED indicator. Each of the two 8-channel groups on the Mix Factory has an insert for a compressor or EQ, and there is also a master insert for all 16 channels, along with three mute buttons for each insert. Other features include custom-made Cinemag output transformers and the ability to link 64 or more channels.



LAUTEN LA-120 AND LA-220 MICROPHONES

New Small- and Large-Diaphragm Models

The LA-120 (\$349 a pair) and LA-220 (\$249) microphones from Lauten offer a range of features at an affordable price. The LA-120 is a small-diaphragm FET condenser that has interchangeable cardioid and omni capsules, ultra-low-noise JFET amplifier, lowpass filter (switchable between 10 kHz and 15 kHz) and high-pass filter (switchable between 50 Hz and 150 Hz). The LA-120 ships in a wooden box and includes the capsules and stand mounts. The phantom-powered LA-220

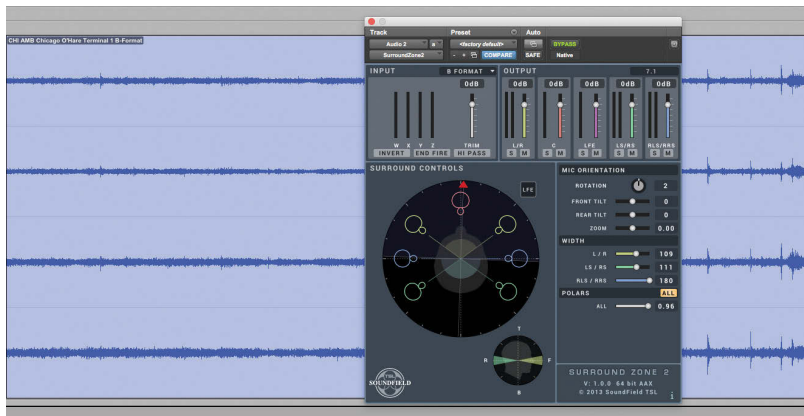
features a fixed cardioid polar pattern, 120Hz highpass, and 12kHz lowpass filters, and includes a shock-mount.



SANKEN CU-51 MICROPHONE

Cardioid Condenser With Dual-Capsule Design

The CU-51 from Sanken (\$2,090 plus mounting options) has a unique dual-capsule design that provides an exacting cardioid pattern and promises the ability to maintain uniform response in both on-axis and off-axis positions. The CU-51's double capsule has one diaphragm optimized for low frequencies, while the other captures the higher frequencies. To achieve this overall wide dynamic response, the capsules are individually positioned within the body of the microphone. The unique capsule mounting arrangement guarantees phase coherency between the two capsules. The PPS (Polyphenylene) membranes are immune to the effects of humidity and temperature change, resulting in consistent response regardless of the recording environment.



PRO SOUND EFFECTS CHICAGO AMBISONICS

14GB Collection of Ambient Urban Spaces

Chicago Ambisonics (\$79 lifetime license) from Pro Sound Effects includes software that allows sound editors and mixers to point “virtual microphones” in any direction with a variety of polar patterns for greater control and creativity. The 24-bit/96kHz broadcast WAV library includes 35 immersive Ambisonic recordings with average recording length of 6 minutes; SurroundZone2 software by TSL Products; 32-bit and 64-bit AAX, VST and AU compatibility; 100-percent royalty-free license with single-user and multi-user options; and a free sampler available for download.



ANTELOPE ORION32+ MODELED EQS

Vintage Emulations of Hardware Classics

Antelope Audio has launched four new classic hardware-based vintage EQs, designed expressly for its best-in-class Orion32+ Thunderbolt interface (free to existing/new users). VEQ-1A models the EQP-1A, a legendary 60-year-old passive tube EQ. Unlike the original, the VEQ-1A can be used in stereo-link mode to reproduce a tight stereo image. The VMEQ-5 features two peak bands and a dip control. The VEQ-55 EQ can emphasize details in the mix while adding body and sheen to instruments like guitar, bass or drums. And the BAE 1073 models the classic Neve 1073, promising an instantly recognizable warm and punchy sound.

Mojave



MA-1000 SIGNATURE SERIES

“Thanks for letting me test out the new microphone - it was spectacular. When expectations are so high for a product you always hope for the best and Mojave delivered!”

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PRESONUS CONVOLOGY VINTAGE REVERBS

Add-on Library for Studio One

The new Convology Vintage Reverbs collection from PreSonus (\$79.95, all three) features 36 reverb effects that have been modeled from many hard-to-find plate reverbs, spring reverbs and digital reverb processors. The Vintage Reverbs library combines three collections, which are also available individually: Vintage Digital Reverbs (\$29.95), Vintage Plate Reverbs (\$34.95), and Vintage Spring Reverbs (\$39.95). All sounds were sampled at 24-bit/96kHz resolution. The Convology Vintage Digital Reverbs collection conjures the sounds of early 1980s EMT digital reverbs such as the EMT 245 and EMT 248. The Vintage Plate Reverb collection covers such classics as the Ecoplate, and EMT 140 and 240, while the Vintage Spring Reverbs collection brings back the sound of 26 famous spring reverbs, sampled in England, Scotland, Canada, the Netherlands, New Zealand, and the U.S.

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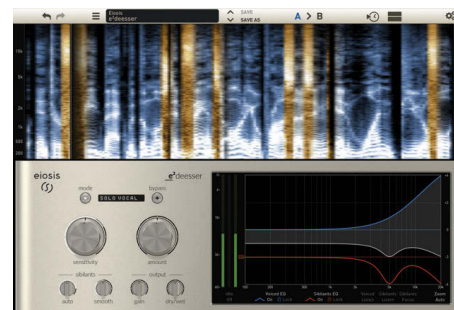
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EIOSIS E2DEESSER

Versatile Sibilance Killer

The e2deesser from Eiosis (\$149) promises power and reliability required for the most demanding mixing and post-production engineers. The simple interface features two main parameters: Auto and Smooth. Auto adjusts the frequency response of the sibilants, dynamically and intelligently, while Smooth brings a gentle and natural smoothing saturation to remove peakiness and high amplitudes from the sibilants. For advanced users, the equalizer allows precise adjustment of the sibilant and voiced sound. You can notch unpleasant resonances in the sibilants, add some Air on the voiced signal only, or gently boost high frequencies to balance midrange-heavy sibilance.



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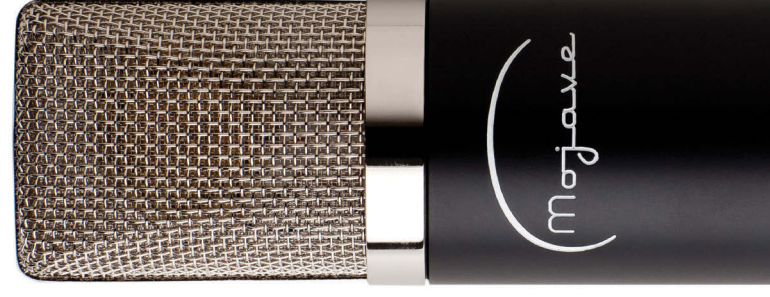
TELEFUNKEN CU-29 COPPERHEAD

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MOJAVE MA-300

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



New Sound Reinforcement Products



CAD AUDIO STAGESELECT 1600 SERIES WIRELESS SYSTEM

Affordable Bundle Brings High-Dollar Features

The StageSelect system from CAD Audio (\$399 MSRP) includes the WX1600 Handheld System with the acclaimed CADLive D90 capsule and the WX1610 Bodypack System featuring the Equitek E19 Broadcast and Production miniature condenser ear-worn mic, Cardioid Lav and Guitar Cable. Features include frequency-agile UHF operation for maximum operating range, along with CAD ScanLink technology to precisely scan, select and link to the optimum channel in any RF environment. The system also includes True Diversity operation to minimize multipath interference, along with CADLock Automatic Tone Encoded Squelch, which eliminates unauthorized transmissions in the signal path. Optimized XLR and 1/4-inch TRS outputs on the WX1600 receiver provide greater user flexibility. Audio performance has been optimized with a dynamic range greater than 110 dB.

MIPRO 7 SERIES RECHARGEABLE TRANSMITTERS

ACC-Compliant Units Recharge in 20 Minutes

The new ACT-70HC UHF Rechargeable Handheld Microphone (\$570) and ACT-70TC UHF Rechargeable Miniature Bodypack (\$540) transmitters from MIPRO operate at 72MHz bandwidth with a frequency range that extends from 482 to 554 MHz. The ICR 18500 rechargeable lithium battery powers the handheld transmitter, resulting in versatile and extended-operation characteristics. The battery provides 20-minute fast-charge capability that delivers up to 1-hour of operation and a minimum of 13 hours of operation with a full 4-hour charge. The result is class leading operational flexibility.



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UNIVERSAL AUDIO APOLLO 8P THUNDERBOLT 2 AUDIO INTERFACE

16x20 I/O with UAD Quad Plug-in Processing



The Apollo 8p includes the UAD Analog Classic Plug-in Bundle

Universal Audio is synonymous with pioneering audio quality on the highest level. We're all familiar with the company's extensive hardware outboard range and the groundbreaking work Universal Audio has done on the DSP and plug-in side of our industry. The Apollo 8p is the latest in the company's I/O range, breaking new ground while maintaining the quality users now expect.

ONBOARD APOLLO

The Apollo 8p sets itself apart from other Universal Audio interfaces by re-focusing the I/O setup. The original four mic inputs have been upped to eight digitally controlled Unison mic preamps.

Inputs are handled by eight combo XLR/TRS sockets on the back, and a pair of hi-Z unbalanced TS JFET inputs on the front panel. Digital I/O includes eight channels of ADAT/SMUX Optical Lightpipe, which can be switched to S/PDIF. The two Thunderbolt 2 ports allow for daisy-chaining third-party devices and also allow for four Apollo units and six UAD devices to be cascaded on a Mac.

The output section has undergone some change, too. The unit offers analog outputs, two monitor outs, and, on the front, two headphone outs—all on balanced TRS jacks. Word clock In and Out BNCs complete the back of the unit. The processing under the hood features the UAD-2 Quad Core DSP on four SHARC processors. UA has also improved dramatically on the original design of the original Apollo A-D/D-A conversion algorithm, resulting in an improved dynamic range (3 dB) and lower Total Harmonic Distortion figure.

FRONT AND CENTER

The 8p front panel has that classic Universal Audio look and feel. In addition to the dual hi-Z inputs and the two, independently controlled headphone sockets, there are the mic preamp controls and the monitor section. The preamp encoder sets the gain for

each of the eight mic pre's. You can scroll through the channels by pressing down on the encoder knob. Inputs can be switched between mic and line with a single button press. Five more backlit buttons give the user access to +48-volt Phantom power, phase reverse, a second-order coincident-pole highpass filter

with a cutoff frequency of 75 Hz (12 dB per octave), a 20dB pad, and a link function to pair up adjacent channels.

The metering comprises eight 10-segment LEDs that monitor either input or output. Selected channels are illuminated, and the panel also displays mic/line/hi-Z status, Thunderbolt connection, and whether the unit is clocking internally or is being fed external clock. Next to the cool and brightly lit UA logo is info on sample rate, while another pair of 10-segment LED meters display the signal peak output levels of the D/A converters, independent from the monitor level control.

The monitor section comprises the Monitor Level encoder and three switches that allow In/Out metering switching, an ALT monitor switch that toggles between the main monitor outs, and the ALT1 outputs, which are fed by the 1 & 2 line outs. Finally, a very handy assignable soft Function switch can be customized. The FCN switch can either engage an alternate set of monitor outputs fed to outs 3 & 4; it can be a Mono switch, summing the left and right channels; or the user can set it as a Dim switch to reduce monitor output by a desired amount of decibels.

APOLLO'S SOFTER SIDE

You can pretty much do everything you need from the front panel of the Apollo 8p, but it's the revamped Console Version 2 software that gets you under the hood. This is where you can get to all the powerful routing features that will make this interface perform exactly how you want it to. The main function of Console 2.0 is to offer hardware control for the input monitoring and real-time UAD processing, and it's also where you access the

TRY THIS

Using the same mic on each channel, insert a different Unison preamp on the Console strips and record your source to compare sounds and character.

If you can get hold of the hardware versions of the preamps, use similar settings from the same source and compare them to the Unison recording you made. You will be amazed.

amazing Unison plug-ins. Unison is UAD's breakthrough way of inserting its classic preamps right at the start of the signal chain. This technology allows the user to track with the sound and behavior of the legendary Universal Audio 610 A and B, API Vision, Neve 88RS and 1073, a handful of guitar pedals, and most recently the classic Manley VOXBOX. And all of these flavors come without any noticeable latency.

If you're not convinced yet, here's the deal maker: the Console Recall plug-in. This plug stores all the Apollo's Console settings and routing used for the session. Simply load the plug-in into your session, hit the sync button and all the information will be stored with your DAW session.

LIGHTS, CAMERA, ACTION!

I got to use the Apollo on a few mix and simple single-track recording sessions at RAK Studios in London. The first thing that hit me was the vast improvement in the overall sound compared to its siblings—so much so that I really wanted to see how it performed in a high-pressure location setup.

We were running a multiple-camera set up with two people demonstrating at a counter. The microphones have to be out of shot of several cameras, so they are never in an optimal situation and therefore require a substantial amount of gain. This results in fairly noisy recordings because of the preamp. In addition to the room mics, we also have two lapel mics, one going to my rig and another one going straight to the wide-angle camera for sync purposes.

I brought my usual interface just in case. It had already been set up with this particular rig and I wanted a fallback scenario. Well, that was not necessary because Apollo 8p wiped the floor with the previous systems. Setup couldn't have been more straightforward. Just load the software, downloaded from the UAD site, plug in the Thunderbolt, and voila—every input shows up on Console 2.0 and the DAW. You then have the choice to monitor via the DAW or through the Console software,

PRODUCT SUMMARY

COMPANY: Universal Audio

PRODUCT: Apollo 8p

WEBSITE: uaudio.com

PRICE: \$2,999

PROS: Ultra-clean preamps, low latency, Unison preamp modeling, dual headphone outs

CONS: No separate line inputs on the back. FireWire protocol has been removed, so it only works on Thunderbolt-enabled workstations.

and you're ready to go.

These days everybody tends to show up with his or her own pair of headphones, and of course there's the constant impedance mismatch. The two headphone volume-controlled outputs dispense with the need for splitters, and it gave me the option to deliver a separate output and mix tailored to the producer's needs without affecting what I was monitoring.

Having test driven and been convinced by the Unison pre's, I wanted to hear how the interface's preamps performed in this particular situation.

The material comprises a lot of dialog between two very different voices and a good dose of dynamically varied noises.

The first thing that hit me was the absolute clarity of the preamps. Even with the gain extremely high on certain channels, I could not make out any of that fizzy self-noise you get on certain interfaces. As the session is time sensitive, there are no re-takes, and some of the louder impacts can't be anticipated, so occasionally there will be a dreaded red-light peak on the input. This is another area where the Apollo's preamps rescued the day. Even the odd clip still sounded pure and clear, without discernible distortion. One more cool feature to be aware of is the ability to bypass the 8p's gain control and fix the Line In and Outs, turning the unit into a straight I/O box.

IN A NUTSHELL

The Apollo 8p is a superb interface. If you're looking for a box that will give you crisp and clean microphone preamps with the ability to turn them into classic and vintage sounding ones, look no further. Eight preamps, multichannel outs, super low latency, onboard processing and the best of the analog world combined with ahead-of-the-curve digital technology make Universal Audio's Apollo 8p a true winner. Oh, and if you haven't tried those UAD plug-ins yet, do so today. They'll blow your mind! ■

Wes Maebe is a UK-based recording, mixing, mastering, and live sound engineer.

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DYNAUDIO LYD 7

Active Monitor With Built-in DSP

The LYD 7 is Danish manufacturer Dynaudio's mid-sized model in its new LYD Series of near-field monitors. Featuring a 7-inch woofer and 28mm (1.1-inch) soft-dome tweeter, the monitor's small footprint—7.32x12.6x11.65 inches (WxHxD)—makes it well suited for use in home studios, edit rooms and other small setups where space is at a premium.

Separate 50-watt Class-D amps power the monitor's tweeter and woofer. A switch-selectable standby mode shuts down the amplifiers when audio is not detected at the monitor's input. The woofer's aluminum voice coil has a relatively low mass to enhance transient response; it surrounds a ferrite magnet system with vented pole piece. Notably, the woofer's diaphragm and dust cap are molded into one piece from Dynaudio's proprietary magnesium silicate polymer; its construction reportedly optimizes the woofer's stiffness, weight and dampening. The monitor's crossover frequency is 4.3 kHz.

On the LYD 7's back plate, a flared bass slot augments bass extension. The analog inputs are non-latching XLR (accepting either balanced or unbalanced connections) and unbalanced RCA. The three-way Sensitivity switch should be set to -6 dB when using the LYD 7 with pro audio gear, +6 dB when interfacing with consumer equipment, and 0 dB for use with gear using intermediate operating levels. The monitor's max SPL per pair is stated to be 109 dB at 1 meter—plenty loud.

THAT'S A SWITCH

On the back panel, onboard DSP—implemented using three switches—lets you adjust the LYD 7's frequency response for the desired bass extension and to compensate for the speaker's room placement and the room's degree of acoustic dampening. The three-way Bass Extension switch adjusts the low-frequency cutoff ± 10 Hz from nominal response. The nominal "0 Hz" setting provides a frequency response that's down 6 dB at 55 Hz and 21 kHz. The +10 Hz setting raises the monitor's bass cutoff to 65 Hz, while the -10 Hz setting lowers it to 45 Hz (all bass-extension specs reference the same -6dB limit).



The LYD 7's distinctive white baffle is beveled on its sides. The 11-inch soft-dome tweeter and proprietary 7-inch woofer are powered by separate 50-watt amps.

The two-way Position switch adjusts the LYD 7's response for freestanding placement (Free setting) or for situating the speakers within 50 cm (20 inches) of a wall (Wall setting). The free-field frequency response, when using the -10Hz Bass Extension setting, is 55 Hz to 19k Hz ± 2 dB. Dynaudio's frequency-response plots show unattenuated response well over 10 kHz when listening up to 20 degrees off-axis on the horizontal plane. The vertical sweet spot is much more narrow for accurate reproduction of frequencies between 5 and 6k Hz; if you orient the LYD 7 vertically (which Dynaudio recommends for the best time-alignment of bass and high frequencies), you should ensure that the monitor is angled so that the tweeters are aimed directly at your ears.

The LYD 7's three-way Sound Balance switch provides for either a neutral frequency response or one that respectively

mitigates an especially damped or live room. The Bright setting—for use in a heavily damped room—boosts the monitor's response 1.5 dB at 20 kHz while simultaneously cutting the same amount at 20 Hz. The Dark setting inverts the Bright setting's spectral tilt, boosting 1.5 dB at 20 Hz and cutting 1.5 dB at 20 kHz. To prevent phase problems from arising, both the Bright and Dark settings use tilt filters—with a 1kHz midpoint—instead of shelving equalization.

A power switch, power-status LED and IEC power receptacle (for the detachable six-foot AC cord) finish off the back plate's feature set. I wish the status LED were mounted on the LYD 7's front baffle, so I could tell whether the monitor was on without squeezing behind my mixing console for a look. On a positive note for itinerant engineers, the LYD 7 will sense the incoming voltage and automatically adapt to 120V or 220V.

POWERING UP

For my listening tests, I placed a stereo pair of LYD 7s in a vertical orientation on a pair of Primacoustic Recoil Stabilizers, which were in turn placed on the shelves of my console's furniture. An ASC Attack Wall at the front of my control room tightens imaging and impulse response. RPG Skyline Diffusers at the rear of

my room scatter reflections off the back wall in a de-correlated hemispheric pattern, preserving the perceived phase response of direct sound at the mix position.

With the LYD 7s' rear-panel switches set up for freestanding placement, neutral Sound Balance and the deepest bass extension, I went to work. I immediately noticed the monitors' outstanding depth and imaging, including a rock-solid phantom center. The transient response was also awesome, and not because of peaky high-frequency reproduction; the highs sounded smooth and were non-fatiguing. Bass extension was good for such a small monitor, but you'll want to pair the LYD 7s with a sub to get the bottom octave-and-a-half in proper perspective while mixing.

Now for nitpicks: With the Bass Extension switch set to -10 Hz to produce the deepest lows, the bass band sounded quite tubby and muddy. The "0 Hz" setting sounded better, but still not flat and tight enough for my liking. The "+10 Hz" setting sounded the flattest to my ears, but middle- and upper-bass frequencies still sounded a little muddy with that setup. I don't want to overstate this issue, as the LYD 7's bass reproduction—using the +10 Hz setting—sounded better than with most ported near-fields. It just didn't sound as good as with the best models I've reviewed (including monitors from Yamaha and JBL that cost considerably

PRODUCT SUMMARY

COMPANY: Dynaudio

PRODUCT: LYD 7

WEBSITE: Dynaudio.com

PRICE: \$1,778/pair list

PROS: Outstanding depth, imaging, and transient response. Built-in DSP. Solid build-quality.

CONS: Bass reproduction could be tighter and flatter. A bit pricey. Power-status LED is located on the back plate.

less). Orienting the monitors horizontally—with tweeters positioned to the outside—didn't help clear up the bottom end. Using the Wall setting was also of no benefit; it attenuated the bottom end too much, which was predictable seeing as each monitor was positioned about three feet from the nearest wall.

No matter how I set the LYD 7s' DSP switches, the upper-midrange band also sounded slightly understated. While using the Bright (Sound Balance) setting made the monitor's bottom end sound more balanced, it also made the LYD 7 sound a bit top heavy and the mild upper-mid-

range deficit a little more apparent—electric guitars, for example, sounded very detailed but slightly thin.

THE BOTTOM LINE

The LYD 7 sounded better than most of the ported near-fields I've heard over the years. However, its relatively high price (in a crowded market for monitors) makes me expect near perfection. Even after tweaking the DSP settings every which way, it still suffers—if just slightly—from the muddy bass reproduction that is all too common in its product category. Still, the LYD 7's performance is positively outstanding in so many other regards that it's well worth an audition. ■

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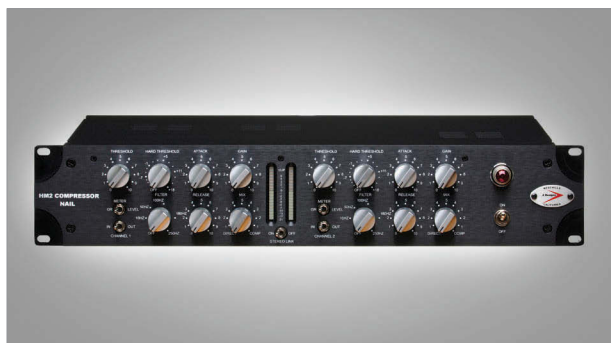
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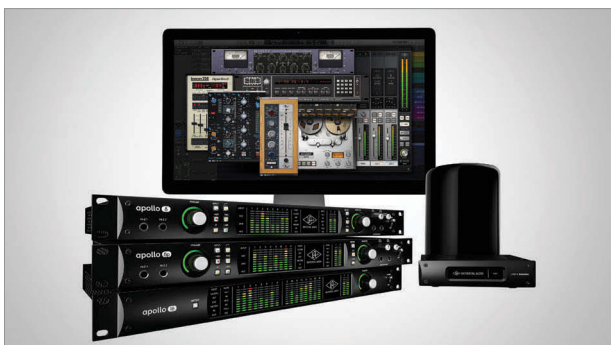
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CEDAR DNS 2 DIALOG NOISE SUPPRESSOR

Portable Ambience Reduction for Post and Live

When recording production sound or interviews in the field, background noise is a constant reality. Most of the go-to modern solutions to audio repair and restoration are either CEDAR Audio products, or they can trace their roots back to CEDAR Audio. Since the late 1980s, the company has been creating revolutionary products, which have unveiled the beauty of historic archival recordings and rescued problematic contemporary audio alike. With a focus on efficiency and ease of use, one of the hallmarks of their real-time repair tools has always been near-zero latency processing, even in the early days of digital audio processing.

A few years back, CEDAR introduced the DNS 8 Live, a streamlined, 8-channel “dialog noise suppressor.” The product was designed for live sound, theater, broadcast or any application where the quick and clean removal of persistent background noise would be beneficial. CEDAR’s DNS 2 employs this technology, borrowing from the DNS 8 Live’s design while providing an ultra-portable 2-channel noise removal solution. The small size and compact form factor make it a welcome addition to a production mixer bag, while its sonic quality and variety of I/O options make it right at home in a studio environment.

ON THE SURFACE

The DNS 2 processor is housed in a sturdy steel chassis about 4.5 inches wide, 6.5 inches deep and just over 1.75 inches tall. All of the connectors are mounted on the left and right edges of the unit. There are no connectors on the back panel, so when it sits in your mixer bag, everything is readily accessible. A pair of XLR inputs on one side of the unit receives input signals, while a pair of XLR outputs on the other side pass the processed audio. AES3 digital I/O is possible through an XLR input and output.

Because production mixers rarely have insert points across their inputs, it is only logical that the DNS 2 has its own mic preamps—and they sound superb, providing up to 78 dB of gain. They are clean, fast and quiet. The low end is full, and the midrange detail is right on par with the Sound Devices preamps that I am used to. Phantom power is provided and can be switched on individually between the two preamps.



The DNS 2 borrows technology from CEDAR’s DNS 8 Live.

The front panel provides a good amount of control and visual feedback while maintaining a simplicity that is desirable when working on set. Each channel has three dedicated controls and an LCD display showing important feedback. Each channel has a button that engages and disengages the noise removal process. There is also a “learn” button that, when engaged, collects background information to build its

noise-removal algorithm. The last control is a rotary control with an integrated push-button. In one status, it can operate as the mic pre-amp level control, while flipping to another page of metering allows this control to adjust the noise suppression effect.

While the visuals are very slick and responsive, there were two little things that bothered me regarding controls. First, when no buttons were pressed for three or four seconds, the unit would default back to primary status, where the meters display attenuation and the rotary controls it. I often felt like the control would flip back to this status too quickly. If I took a second to listen to a change in settings, and then went to make another move, it would already be back to the default setting. It would be nice if the user could set the delay or bypass this function altogether.

The other subtle thing that bothered me was that the “learn” and bypass pushbuttons don’t latch or depress. Instead, each is backlit with a blue OLED indicating their two-way status. In bright sunlight, it was sometimes difficult to tell if they were illuminated or not. The LCD was always clearly visible, but sometimes I guessed on the “learn” control.

IN USE

Taking the DNS 2 out in the field, it is important to keep expectations realistic. There are no internal batteries or onboard power. There are a variety of portable options providing 12V DC power through a four-pin XLR connector, such as an NP-1 battery cup or a Bescor power pack. However, you’ll need to pick one of them up to take the DNS 2 out without relying on a tap from the generator.

While the two inputs of the DNS 2 could be used for boom and lavelier, for example, the preferred method was to take advantage of the DNS 2’s linked-mono mode. There is an option where one microphone can be gained by a single mic preamp, and its signal can be split and fed to both channels of noise reduction processing.

One channel can be processed more aggressively than the other, or one can even be bypassed. This way, the dialog editor has the choice of using the processed version or using noise reduction on the unprocessed signal.

When shooting in a typical suburban location with light, distant traffic wash and audible air conditioners, the DNS 2 performed very well. Using a Sennheiser shotgun closely placed in a tight frame and feeding a Sound Devices mixer, the steady ambient noise could be stripped to near non-existence. It was remarkable how clean the birds in the trees remained even while the rest of the environment disappeared. When one particular air conditioning unit with a higher, buzzy character would run, the DNS seemed to have trouble removing that sound. Aside from that one particular problem, it was like magic.

In a lot of locations, airplane fly-bys were a recurring problem. Just to see what would happen, I learned the sound of an airplane as it flew by, and the DNS 2 locked onto that sound, no problem. The only issue was that when the actor would speak, it was almost like a frequency-specific gate would open, and there would be a little trace of the airplane after each word, as if the gate didn't close back up fast enough. Maybe I could have fiddled with the bias control a little more and solved this because it was close to being useable.

I was never expecting full spectral repair given the simplicity of the operation. I would say that there are obvious benefits to capturing the cleanest possible production sound, rather than just expecting to repair the audio in post, and the DNS 2 is a positive step in that direction. When the pattern of noise was steady, and particularly when it was in the lower frequencies, the DNS 2 was eerily good at removing the problematic audio.

Many studios, meanwhile, appear to be really clean and quiet, but you never realize how loud their air conditioning is, or their proximity to traffic, until you try to record Foley. When recording cloth, for example, preamps will be gained up to really high levels, and you are recording layers upon layers in the same environment, so any small

PRODUCT SUMMARY

COMPANY: CEDAR Audio

PRODUCT: DNS 2

WEBSITE: www.cedaraudio.com

PRICE: \$3,999 (street)

PROS: Compact, great-sounding mic preamps, clean processed sound.

CONS: Requires external 12V power supply. Unit returns to the primary status too quickly.

amount of noise doubles and triples and becomes more exaggerated with each layer.

The DNS 2 was designed for dialog, but because the iZotope RX Dialog Denoiser has served me well for real-time noise removal on Foley tracks, I was willing to give the DNS 2 a shot. Again, the preamps sounded great in the first place, and then the processor's ability to strip away the light AC hum that had been magnified by the preamp was very impressive.

One frequent problem when de-noising Foley is that it is very difficult for these processors to distinguish between clothing movement (which sounds essentially like pink noise at times), and hissy background noise. Obviously, when cranked to the point that noise was completely gone, there were serious artifacts, but I was able to remove a substantial amount of noise before the garbled digital sound crept in. In this regard, the DNS 2 performed at least as well as I've come to expect from RX, but the added convenience of having a cleaner signal from the onset allowed me to get a better sense of how things were sounding stacked together. If you have been dealing with noise issues recording Foley in your facility, I'd highly recommend checking out the DNS 2 to solve those problems.

A MUST HAVE?

If you are a production mixer or recordist who works on projects with quick turnaround times, the DNS 2 is your unit. Recording room tone is a courteous move and helps dialog editors match the sound between angles. Eliminating background noise altogether makes it even easier, and if the editor doesn't have to take the time to do it, they can move a lot faster. If you are stuck doing Foley in studios that have loud AC or other noises, the DNS 2 will be your best friend. I could see equipment rental houses getting a return on this investment in no time. While the DNS 2 does still leave opportunities for full-on spectral repair in post, it greatly improves upon the most common and irritating problems that frequently occur on set. ■

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WARM AUDIO WA-2A TUBE OPTO COMPRESSOR

Affordable Unit Revisits a Gain Reduction Classic

The WA-2A Tube Opto Compressor/Leveling Amp is Warm Audio's rendition of the classic Teletronix LA-2A Leveling Amp, developed in the early 1960s by engineer Jim Lawrence who wanted a way to automatically "level out" widely varying audio levels at the broadcast station where he worked.

Under a single control knob, a leveling amplifier is a compressor with a medium attack time, a medium to slow release time, and a high compression ratio. For program broadcast audio sources, a leveling amp's threshold is set low enough so that it is in a constant state of varying amounts of gain reduction.

The WA-2A copies the Teletronix LA-2A with the same attack time of 10ms and a release time of 60ms for the first 50 percent of recovery and then, depending on the depth of compression, 500ms to 5 seconds or longer for complete recovery back to unity gain. Total release time relies heavily on the duration of compression and level of the incoming signal.

Like the LA-2A, the "engine" for controlling gain in the WA-2A is an optical attenuator. Warm Audio has chosen the Kenetek T4B module that's capable of up to 40 dB of gain reduction. The T4B module plugs into an octal tube socket and is a pin-for-pin direct replacement for the original LA-2A's module.

The nonlinear release timing and gentle, almost lazy operation of the WA-2A are caused by the "memory effect" of the photocells inside the T4B. It takes time for them to recover depending how bright the panel glows and for how long it has glowed.

SIMPLE FRONT, BACK PANELS

The WA-2A is built on one main circuit board and packaged in an all-steel 2U cabinet with the built-in 120/ 240-volt power supply that uses a large toroidal power transformer in a shielded enclosure. It features a regulated B+ power supply and uses DC on the filaments—two things the LA-2A never had.

The front panel has a center-mounted lighted VU meter and large toggle switches for power and Limit or Compress—different compression ratios. There are both Output Gain and Peak Reduction controls and a VU meter switch for reading +4 or +10dB output



For tweekers, the WA-2A offers a 7-pin ceramic socket wired in parallel with the 6PJ1 to accept the 6AQ5/6005 originally used in the LA-2A.

levels and gain reduction. I liked the +10dB scale for measuring the unit's hot output levels and for calibrating it.

The back panel has controls for Stereo Link calibration for chaining two WA-2As via a short TRS cable, VU meter zero-adjust, and a variable Pre-Emphasis control for boosting high frequencies in the sidechain signal.

Pre-emphasis dates back to the LA-2A's use as a limiter at broadcast stations. For noise reduction purposes, FM broadcast audio uses a 75-microsecond pre-emphasis curve—a +6dB/octave boost starting at 1.5 kHz and reaching up to +17 dB or more by 15 kHz. FM home receivers reverse this curve or de-emphasize it. But, if not well controlled with a limiter, this massive high-frequency boost may over-modulate the transmitter, causing side-band "splatter" interference to adjacent radio channels.

The WA-2A's Pre-Emphasis control, at full clockwise, offers a flat sidechain response; turning it CCW starts to compress more in the high frequencies.

However, with the WA-2A installed in my outboard rack, meter zeroing, adjusting stereo linking and using pre-emphasis for creative purposes are impossible to do easily. I plan to move all three of these controls to the front panel on both of my WA-2As.

TRY THIS

Warm Audio has thoughtfully provided an extra 7-pin ceramic socket wired in parallel with the 6PJ1; it will accept the no longer reliably available 6AQ5/6005 as originally used in the LA-2A. I substituted a 6AQ5/6005 in one of my WA-2As and compared the sound difference using the same source fed to both units at the same time. After re-zeroing the VU meter, I had to turn the Peak Reduction knob three detents higher to achieve the same amount of gain reduction (indicated) as the other stock WA-2A. I preferred both units with the 6AQ5/6005. I found the sound closer to an original LA-2A, plus I found the units to operate at cooler temperatures.

LEVELING WITH THE WA-2A

I used the hardware inserts in Pro Tools for each of my two WA-2As, as I wanted different settings for the verse and chorus lead vocals on separate tracks. Inserted after a touch of gentle midrange EQ from a plug-in, the WA-2As provided a finishing touch with a hard-to-describe presence and color only a quality tube opto-compressor gives to vocals. Both WA-2As were set to no more than 3 to 5 dB of indicated gain reduction, and both were in Limit mode. I found these well-recorded vocals to sit in the track perfectly, always heard but never too loud.

Next, I inserted the WA-2A on the song's fretless bass guitar track, where the lyrical and solo-like up/down octave playing style required major leveling out to work in this pop song. Using a single WA-2A, I compressed heavily with gain reductions of over 10 dB. I did not pick up any additional distortion, and I noticed and liked the loud attacks at re-entry moments after long note sustains finished and when the bass came back in on downbeats. I had to edit out a few fret pops and other noises that became much more audible, but it was worth it for the cool, organically smooth and musical bass sound.

Using pre-emphasis fully CCW on two WA-2As on a parallel stereo drum bus (without the kick drum) opened up the overall drum sound by compressing less on the snare hits and tom fills. Compressing all of

PRODUCT SUMMARY

COMPANY: Warm Audio Inc.

WEBSITE: www.warmaudio.com

PRODUCT: WA-2A Leveling Amp

PRICE: \$899 MSRP

PROS: Classic tube leveling amp sound.

CONS: Important controls are on the rear panel.

the top kit tracks usually brings out the cymbals excessively, but using maximum Pre-Emphasis caused the cymbals to level out and the snare and toms to come forward.

When setting stereo-linked compression, I used 1kHz tones and pink noise to set the Stereo Adjust control for matching and calibration. Once fully warmed up, I found little drift in this setup throughout the session—something I cannot say

for some of the LA-2As I've used in the past.

I often found that using the Pre-Emphasis control is a great way to refine the leveling action—particularly on bright sounds or bass-heavy sources. Like the LA-2A, the WA-2A is an archaic electronic design that uses tubes and optical attenuators that both age and change over time. So while the WA-2A is a vast improvement in reliability and stable operation over the LA-2A, you won't find the super-precision, exactitude and repeatability of modern processors or DAW plug-ins. What I found was a lovely organic, smooth color that sounded awesome on vocals, bass and stereo drum overheads. There is nothing in my outboard rack or plug-in folder like this. I own two, and I highly recommend that any engineer get one or two of them! ■

Barry Rudolph is an L.A.-based engineer and educator. Visit him at www.barryrudolph.com.



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Continued from p. 14

when I came on was live broadcasts, with organizations like *Morning Becomes Eclectic* at KCRW," Greenberg says. "I think we're known for having new bands coming to town and playing live on the radio, or streaming. I don't think anybody has done as many as we have. We blow their minds with how good it sounds, and many of the projects we do live end up being released as records. That's one of the reasons we're getting so many great new artists."

The Village continues to thrive. The film score tracking and mixing is now a big chunk of the business, with composers, producers and engineers like T Bone Burnett, Thomas Newman, Harry Gregson-Williams and John Kurlander as regular clients. And last week two rock bands, Mel Brooks and an audio book project were all in working in the main studios. Morris has seen an increase in lockouts over the past several years,

for month-long bookings, while at the same time juggling the occasional "couple of hours" for a vocal fix. Same as it ever was.

The difference is in the sense of community, and the constant flow of talent in the doors. That takes a long time to develop, with deals done on handshakes and a nod, and nobody does it better than Jeff Greenberg.

"It's a familial, collaborative, collegial and creative relationship," says Greenberg in summary. "There's more great music coming out today than at any time in my life. And they are coming out of garages and bedrooms, too. I love it. But after the initial move to go home, I think professionals like to be with other professionals. And they like to work in professional spaces. Everybody is here because they love music. The people still here, the people coming up, we all love music. How lucky are we all to be doing this?" ■

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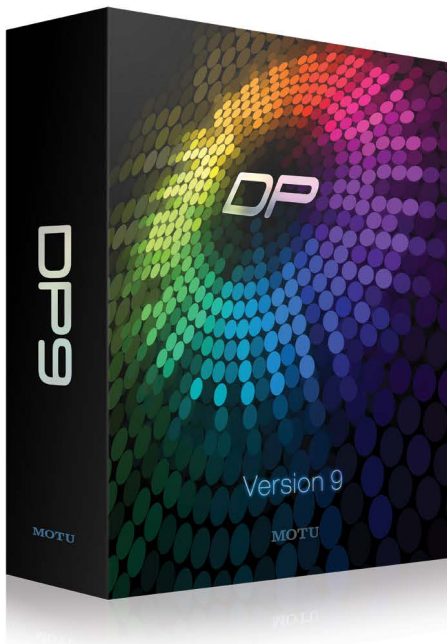
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Data Drama



By Kevin Becka

I just had a valued hard drive fail. I know it happens, but I still went through the eight emotional stages after data loss. 1. Disbelief: “This is a newer drive and it has to be a system problem. Let me try rebooting the computer.” (It still wouldn’t mount.) 2. Hope: “Let me try repairing disk permissions on the main drive and rebooting.” (Nope.) 3. Hope, the Sequel: “Let me try repairing it with DiskWarrior” (Uh-uh.) 4. Anger: “WTF!! I just bought this drive 137 days ago!” 5. Self-blame: “I should have bought my usual, trusted brand!” 6. Panic: “Did I back up my drive?” (I did.) 7. Acceptance and Hail Mary: “Okay, it’s gone, but is there another way to recover my data?” 8. Letting Go of the Reins: “Let’s go see Nick.”

Nick Shasserre is one of the smartest guys I work with. To break an aphorism, he’s a jack-of-all-trades and master of all. Of course, Nick had the “fix.” He ran Disk Drill on the failed drive and was able to copy all my data to a new drive. I hadn’t heard of Disk Drill, but it’s brilliant. It’s free for the basic version and only \$89 for the Pro version. Because I had my files backed up, there was never a crisis, but Disk Drill averted a time-sucking hunt for data that was scattered across a server.

Then I got to work on rebuilding my crumbled data empire with a bit more organization and planning. Because I store large sessions almost every week, I go through a lot of data and drives. I need storage that is not only reliable but also portable and svelte enough to fit into a backpack. I also abhor wall warts, so bus-powered units are my preference. G-Technology drives have been my go-to product and have never failed me. But since I’m getting quite the collection, they’re becoming unwieldy and expensive.

So, I’ve been toying with buying a dock that uses raw SATA drives, the kind you find inside laptops and freestanding drive enclosures. Yes, the dock uses an external PS and breaks my rules for portability, but I can run two drives at once, make easy backups, and have compatible I/O for any situation—a good trade-off. I went with the Newer Tech Voyager Q HDD Dock for 2.5-inch/3.5-inch SATA drives (\$67.75). Much like the 500 Series philosophy, this approach lets you buy the power supply and home unit once, and then buy plug-in drives more affordably. For example, my emergency replacement drive for the Disk Drill transfer was a G-Technology G-DRIVE Mobile 1TB Portable FireWire and USB 3 for \$109.05. But I bought a Western Digital Red 3TB hard drive for my new dock at the same price. That’s only \$36.65 per TB compared to 109.95 per TB for the portable.

So what are the best raw drives? That’s where it gets interesting. If you Google “drive failure stats,” you’ll come up with a great

archive of drive performance statistics from Backblaze. That’s the company I wrote about back in my May issue column. They offer unlimited continuous cloud backup of all your drives for \$50 a year. Their report from Q1 2016 is taken from 61,590 operational hard drives and over a billion drive hours. While the tables are useful, offering operational data on many different models, you need to be careful about interpreting the results. By their admission, “Failure rates with a small number of failures can be misleading. For example, the 8.65% failure rate of the Toshiba 3TB drives is based on one failure. That’s not enough data to make a decision.”

The drives that tested best are the Western Digital RED series and HGST drives. They performed very well over time, with a consistent failure rate at 1 percent for more than 20,000 drives sampled over two years. On Amazon, HGST sells a 3.5-inch 4TB 7,200rpm SATA drive for \$164.24. That’s \$41.06 per TB. One note of caution if you go the way of the dock: Handle with care. Transport and handle the drive in the anti-static bag, and make sure to discharge yourself on a nearby metal surface before placing the drive in the dock. Because these drives are usually mounted inside an enclosure or computer, they were never designed to be handled day to day and could be damaged by a static charge.

Other data drama in my world is the result of bandwidth. I’ve always felt the frustration that the U.S. is third on the list of Internet users, yet outside the top 10 list of global average connection speeds. I felt the speed issue recently when I ran a live Pro Tools cloud collaboration session between Blackbird’s Studio C and the home studio of percussionist Javier Solis in Texas. It was a Pro Tools 12.5 Project session of 10 stereo, 96kHz stems over which Javier supplied percussion overdubs.

We ran FaceTime for communication, and despite some bandwidth hiccups, the experience was great. It showed the potential of cloud collaboration within the DAW, which is the future. The drag was iffy FaceTime and slow up and down. I’ve been fantasizing about how well this would work over Google Fiber, something I thought was coming soon, being that Nashville has a nest of budding fiberhoods. That is until I got an email from Google stating: “We have, like many of you, been disheartened by the incredibly slow progress.” The grimmest stat is that of the 44,000 utility polls that need “make ready” work, only 33 poles have been made ready. Yikes! The backstory is that the other cable providers are not accommodating the new fiber-kid in town. In fact, they’re pulling away from a fiber-future all together. So best-in-class Internet speed is “hurry up and wait” but I’m not feeling confident it’s going to happen unless I move to a new-construction fiberhood—and that ain’t gonna happen. Rats. ■

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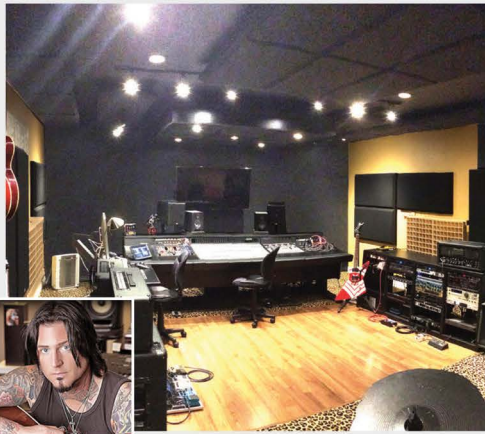


"The Primacoustic is up and kicking butt at my new studio in Santa Monica. I love the way the control and tracking rooms sound now... and so does everyone that records here!"

~ **Butch Walker**

Engineer/Producer - Avril Lavigne, Fall Out Boy, Pink.

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



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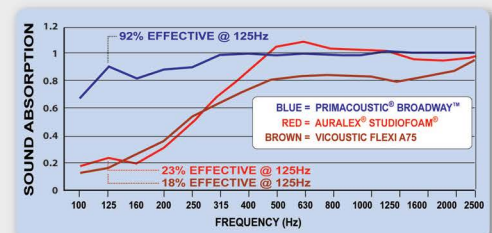
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