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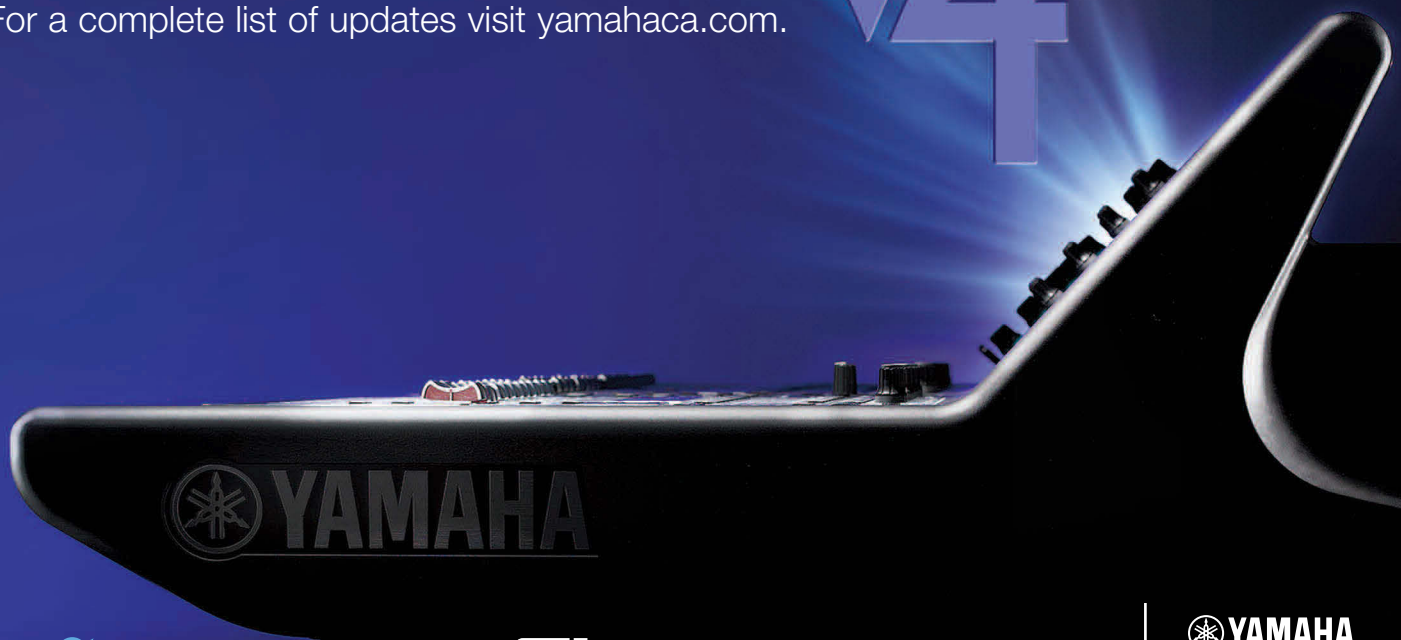


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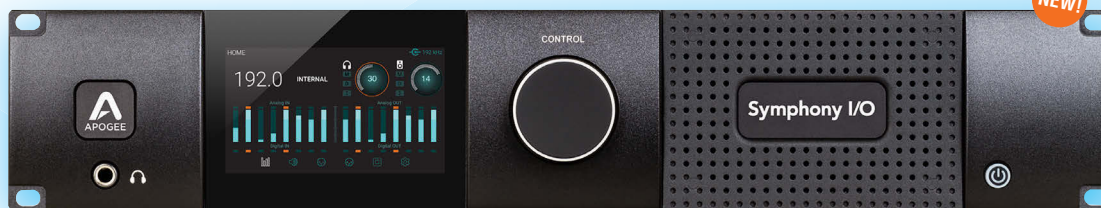
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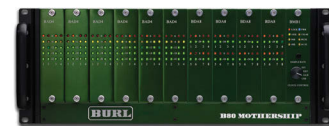
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On the Cover: Buddy and Susan Brundo in Studio
B at Conway Recording, with a mix-eye view into the
lush tropical gardens. **Photo:** Chris Schmitt.

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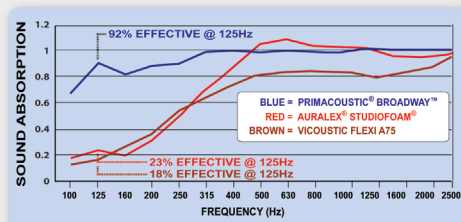
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From the Editor

LIVING THE GOOD LIFE

Until very recently, Conway Recording Studios was something of a mystery to me. Forty years in the business, with A-list, Top-10 artists walking through the doors late in the afternoon or long past midnight; a world-class, three-studio complex that has stayed true to its original mission; a lush, palm-filled island on the edge of Hollywood, with beautiful tropical gardens outside and Vincent van Haaff-designed sanctuaries inside. At the center of it all, owner Buddy Brundo, one of those truly unique personalities that helps drive the recording industry, mostly unknowingly and nearly always behind the scenes. I had met him a couple of times over the years, but I knew very little about him, or his wife, Susan, or Conway. I'm still not sure why.

I certainly knew of the legend and had heard third-hand stories of this wild-man Buddy who raced cars and had a boat and lived a life of music, recording and studio extravagance/decadence. Cavorting with rock stars and tossing Benjamins to valets. Watching the sun rise more often than not. Smart, beloved, generous and a whole lot of fun, with an amazing studio. That seemed to be the story, at least from the outside.

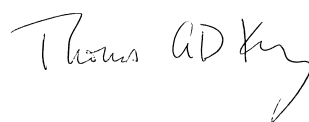
Then I got a call from Lisa Roy, a longtime friend and another of those unique personalities that helps drive the L.A. industry in so many ways, yet very few *Mix* readers know about. She's a connector, someone who brings together labels, artists, engineers, producers, studios, manufacturers, designers, educators, and all that. She's also part of the extended Conway family, more personally than professionally. She said, "Tom, you know Conway is turning 40 this year, and Buddy, he never pushes for publicity. I think it would be great if *Mix* could do something. It's a great story." I drove down, spent the day with Buddy and Lisa, and indeed found a great story. But it wasn't the one I expected.

I did find out that there were at least half-truths to most of the stories I had heard, for sure, and Buddy doesn't shy away from his open and wild side. That's who he is, and he lives a good life.

But I also saw the true commitment to what he does in running a world-class studio. And Conway is quite a studio. Three studios, to be accurate, all designed and built by the late, great Vincent van Haaff, who passed away just a few days before my visit. On our afternoon tour, every time Buddy mentioned Vincent, whether explaining a design feature or drifting off to a memory of his dear friend, he would stroke the wood on the studio walls. I'm sure he doesn't even know he did it. Conway Studio A was the first studio that van Haaff designed.

It can be tricky writing about a top-level studio celebrating its 40th anniversary, sort of like handing a coach in his prime a lifetime achievement award. "I'm not done yet!" For sure, over four decades Conway has weathered a few storms and ridden a few waves. Ours is an industry dependent upon technology and art. Techniques and fashions come and go. Production styles change. But big artists will always pay for great studios, and Conway has hosted the best of the best in each and every decade, staying current all along while delivering old-school service. Conway hasn't just survived over the years; Conway has thrived.

A lot of that has to do with the fact that Buddy Brundo simply loves music. He loves making music. And he loves to be around people who love to make music. He cares deeply about his staff, and he would walk on fire for a friend. He sure does love his wife, Susan. But beneath all the trappings of a life inside the L.A. music scene, at heart he's still a Buffalo boy from 1972 who just moved west, with his eyes wide open. That seems to me a pretty good way to look at life.



Tom Kenny,
Editor

Capitol, P&E Wing Hi-Res Symposium

By Matt Hurwitz



Don Was opens the Hi-Res Audio Symposium at Capitol Studios.

On June 1, Capitol Studios in Hollywood hosted a symposium on the status and future of Hi-Res audio. The event was sponsored by The Digital Entertainment Group (DEG), Universal Music Group (UMG), Sony Electronics and the Producers & Engineers Wing of the Recording Academy, and moderated by DEG Senior Director Marc Finer.

Producer and Blue Note Records President Don Was opened the day talking about Hi-Res audio's ability to more closely reproduce the artist's intentions—what was heard in the studio during the making of a record. "Our primary responsibility isn't to blow people's minds with how many high frequencies we can get through the tweeters," he said. "It's how we can utilize this technology to make sure people can get the emotional impact of the music."

Finer noted that, as music reproduction has evolved from vinyl to CD to MP3, "Now we primarily have convenience driving the market. But with Hi-Res, we can give consumers better quality and no compromise in convenience," with files available to play on mobile devices and easy downloading. Recent studies by the Consumer Technology Association, he pointed out, indicate that nearly half of music consumers were interested in Hi-Res audio, and that the deciding factor for whether they would subscribe to a streaming service would be sound quality, one as good as the recording studio experience.

More than 10,000 recordings are currently available from the three major label groups, Sony, Universal and Warner Music, through a dozen digital service providers in North America.

A panel, comprising Capitol Records A&R Executive VP Nate Albert, Universal Music Group's VP of Technology & Production Jim Belcher, and the P&E Wing's Managing Director Maureen Droney, discussed ways in which the recording industry has begun implementing Hi-Res into the recording and delivery workflows.

"For us in A&R," noted Albert, "even the language of High Definition is just being reintroduced." The goal, he says, "is authenticity—knowing that the fans can hear exactly what you're hearing."

UMG now requires artists and producers to submit their completed masters in Hi-Res, Belcher said, explaining that the minimum spec for Hi-Res audio is 48 kHz, 20-bit, extending all the way up to 192 kHz. "Releasing new albums and re-mastering older albums in

Hi-Res is part of our standard process now," Belcher said.

The Recording Academy has been developing production guidelines for its 6,500 producer and engineer members. "We undertook a study, and asked members and others if they were recording in Hi-Res," Droney notes, "and many just said they really haven't been thinking about it. Either that or they didn't think there was anywhere for it to go—why bother to go to the extra trouble if there's no market for it? So it's an education process." There was added resistance, she added, due to an unwillingness to spend additional money to upgrade recording systems for Hi-Res production, as well as the lack of favorite plug-ins that work in 96k/24-bit.

Sony demonstrated consumer products that can easily play downloaded Hi-Res files via USB thumb drive, to near-field players to mobile devices. Guests were also able to hear samples of Hi-Res audio systems for automobiles in Sony's demonstration vehicle.

The technology for delivering Hi-Res content via streaming services was discussed, including encapsulation encoding technologies, such as Meridian Audio's MQA, which Universal has been evaluating over the past year and which Warner Music is supporting, Belcher said. "It's a technique for folding down Hi-Res audio into a file that can be transmitted over a lower bandwidth. It's exciting. It has the ability to remove some of the artifacts that have accumulated in a digital file, based on hardware." There is essentially no additional cost in the production chain, he added. "We can go through our traditional studio process in PCM, for recording, mixing and mastering, and then, at the last phase, it would get encoded into MQA."

The question of added-value content was raised, which, Belcher noted, "The people who are interested in buying Hi-Res music really want material such as liner notes and all of the ancillary information that is available for a recording. It helps them better enjoy the recording. They want to know who produced it, who played on a track. It's important to them. So in the future, you'll see a hybrid of Hi-Res audio tracks and context around it," in the form of booklets or video. Added Droney, "We absolutely believe that the more context there is to music, the more value it has."

In Capitol's studio control rooms, Capitol engineer Steve Genewick walked visitors through various release iterations—from vinyl to two CD releases to AAC to Hi-Res transfer—of Frank Sinatra's 1968 track, "What's New" (which had been recorded at the studio) in Studio A. "The Hi-Res version clearly allows you to hear the depth of the recording, as much as on the original vinyl," he pointed out.

Droney presented Capitol Studios and Mastering, now celebrating its 60th birthday, with the P&E Wing's Certificate of Appreciation, given to Arthur (Art) Kelm, Vice President/General Manager/Chief Engineer, Capitol Studios; Paula Salvatore, Vice President/Studio Manager, Capitol Studios; and Patrick Kraus, SVP-Head of Studio, Production & Archive Services, Universal Music Group. "Premier among our partners are the great studios," Droney shared. "They're ground zero for education about best practices. Capitol Studios is clearly one of the jewels in the crown of the recording industry. They ensure that these studios always stay on the cutting edge, while also maintaining their historic legacy." ■

Vincent van Haaff Remembered



Photo: Lisa Roy

Vincent Amaury van Haaff—renowned acoustician, studio designer and principal of Los Angeles-based firm Waterland Design LLC—passed away on Monday, May 23, 2016. Waterland’s design projects include such landmark facilities as Conway Recording Studios (Los Angeles), Capitol Studios (Hollywood), A&M Studios (Hollywood), The Village (Los Angeles), Sony Music Studios (New York City), Sony Music Studios (Santa Monica), Woodstock Studio Karuizawa (Japan), and Burnish Stone Studio (Tokyo, Japan).

Van Haaff’s work has appeared within the pages of *Mix* magazine in numerous issues, often featured among the studios profiled in *Mix*’s annual June issue “Class Of” cover feature. Van Haaff was a nine-time TEC Award nominee, from 1985 to 1997, and won a 2007 TEC Award for Studio Design Project for Record Plant in Los Angeles.

Jeff Greenberg, head of the Village recording studios, hosted a memorial tribute to van Haaff in mid-June, allowing the professional audio industry a chance to pay their respects and honor his legacy. “I’m absolutely crushed,” Greenberg wrote to *Mix*. “My dear friend. Adventurer, genius, mythological shaper of magic sound, friend and lover of beautiful women, naval architect, Dutch Boy, savior of wayward studios, photographer, historian, scientist, sailor, artist. My friend. A great shadow cast on phonies and pretenders. So long for now, Vincent. Thank you for so much. With all my love. Heaven is getting tuned.”

“Sad to have to tell you of the passing of a good friend, professional colleague and fellow studio designer for many years, Vincent (Vinny) Van Haaff,” wrote studio designer John Storyk. “We were with each other this past January on a NAMM panel and over the years have shared many an idea, conversation, beer, and more. I always had great respect for his work and even more than that, his friendship and his always-present sense of values towards studio design and design in general. He loved life and it is that love that I choose to remember. Vinny—he let me call him that—RIP.”

“Vincent was a very generous man,” says Ed Cherney, “with his time, his ideas, designs, advice and his full attention. Vincent is and will be missed.”

Many of van Haaff’s studio clients, friends and collaborators posted their remembrances on Facebook upon learning of van Haaff’s passing.

“Dear Vincent A van Haaff, my heart is broken, but I know you must be sailing your way not far from us,” wrote L.A.-based producer/engineer Rafa Sardina. “What an artist, colleague, friend you are! You encompass everything a Renaissance man is all about. You are kind, funny, considerate, opinionated, unique, and had more heart to spare than anyone I’ve met. Made you a promise less than a year ago that I hope I can fulfill one day! I know I will! Love you Vincent!”

From Skip Saylor Recording Company in the San Fernando Valley: “We are very heartbroken to learn of the passing of studio design legend Vincent Van Haaff. He was instrumental in the acoustic design of our Hollywood area studio and so many other iconic recording studios in this town... We will miss you very much, Vincent! RIP.”

The A&M Records.com Facebook page posted this: “The A&M Family is mourning the passing of Vincent Van Haaff, sound designer. A legend in L.A. for the great rooms he created. Vince was responsible for renovating A&M’s studios and keeping their sound world class.”

“Love and deep respect to the great Vincent A. van Haaff from the city of Utrecht,” wrote musician/producer Michael Beinhorn. “This world is a little less bright today without you in it. Godspeed, mijn vriend.” ■

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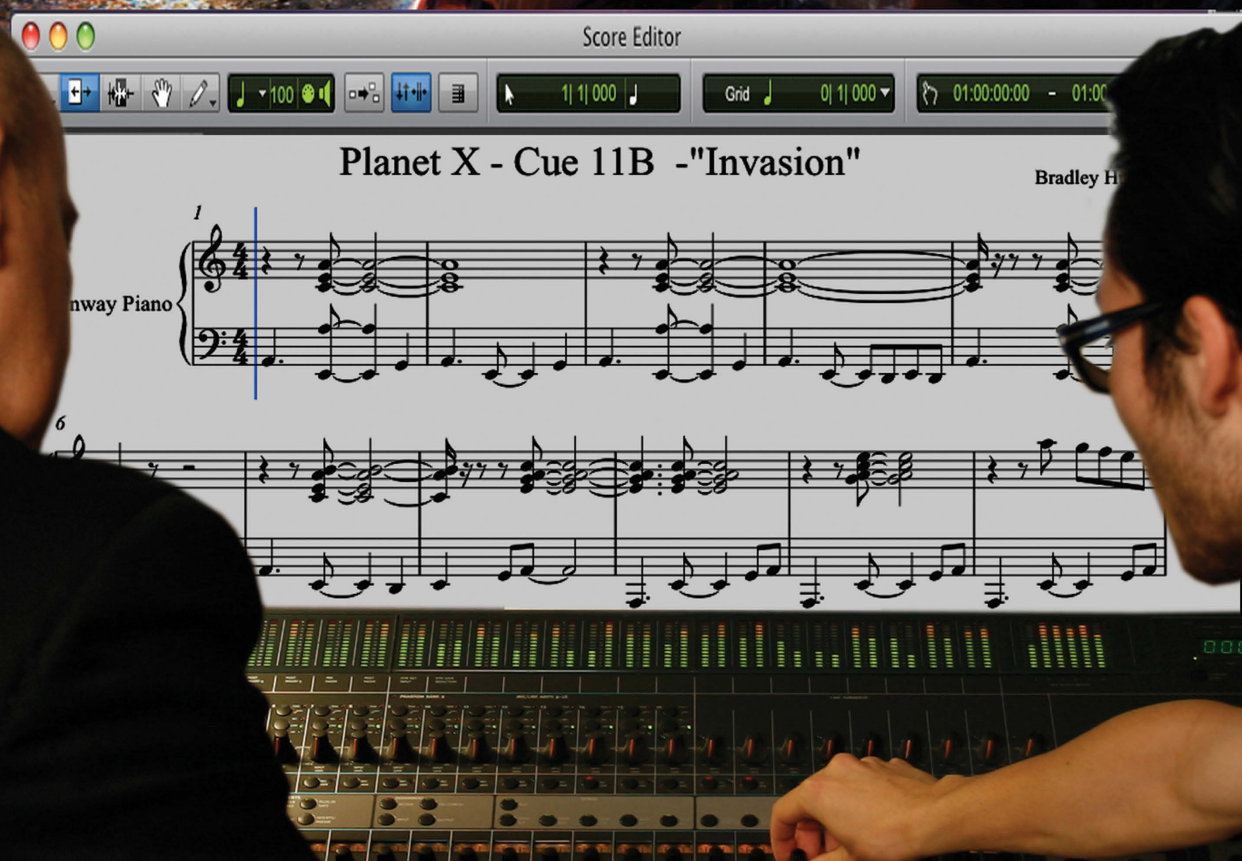
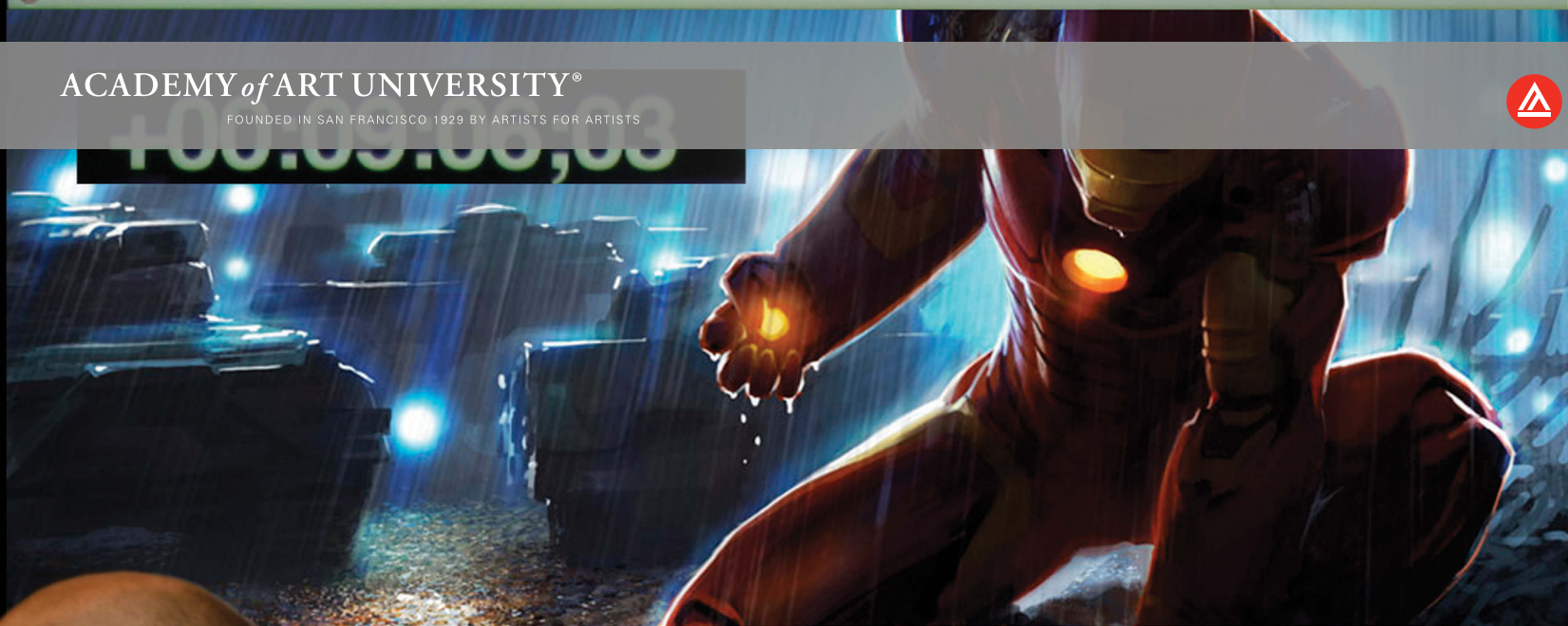
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Photo of Elliot Bergman of Wild Belle's Home Studio

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Photo: Jason Quigley

Pictured in Tucker Martine's control room are (L-R) Neko Case, k.d. lang and Laura Veirs.

CASE LANG VEIRS

Greater Than the Sum of Their Parts

By Barbara Schultz

The first-ever album by the trio of Neko Case, k.d. lang and Laura Veirs is a thing of immense beauty: miles deep emotionally and sonically, with inventive musical touches and unmatched vocal performances and harmonies.

"But it would look pretty bad on me if it wasn't," jokes engineer/producer Tucker Martine, who helped make *case/lang/veirs* in his Flora Recording & Playback studio. "People would point and say, 'Hey, there's the guy who managed to make these three people sound bad.'"

The idea to assemble this supergroup began

with an email from lang, who now lives in Portland, Ore., very near Flora. "k.d. wrote to Laura and Neko and said, 'I just had an idea: The three of us start a band. What do you think?'"

The artists worked up a collection of songs together; much of the material began with song ideas that Veirs, who is married to Martine, had on ice. "Laura's a real song generator," Martine says. "She's not been out doing as much as the other two have because we have two little kids, but she still tries to set time aside every week for writing."

Meanwhile, Martine assembled a band to

support the trio: guitarist Tim Young, bassist Sebastian Steinberg, keyboardist Rob Berger and drummer Glenn Kotche.

"I wanted to make sure we used musicians who would bring a unique point of view, and I knew we had to be prepared for anything," Martine says. "k.d. might want to turn a song into a torch song, or Neko might want the drummer to sound like a shoe in a washing machine. We needed a band that was able to go anywhere they wanted to go musically, on short notice."

Basic tracks—which were cut live to tape



and then loaded to Pro Tools through Martine's new Burl Mothership converters—were laid down during just five days in November 2015, with all three lead singers on hand. The artists had decided beforehand which of them would take the lead on each song, and all of them sang backup as well.

"I wouldn't say that anyone's signal path was always the same for every song, but there were the main go-to's," says Martine, who shared engineering duties with his assistant, Michael Finn. "For k.d. it was either my 47 or her 87, which she brings along and is just like a trusted companion for her, and it sounds fantastic. She's really fine-tuned to the nuance of the air that a microphone is translating, and of course that has a huge effect on how a singer is singing, if they're going for a certain airiness but they're not hearing that airiness in the headphones. You want them to know they're delivering, and not fighting against the microphone.

"But there was one song, 'Why Do We Fight,' that gave us trouble," Martine continues. "We re-tracked most of it from the second to last day of mixing. Something just wasn't working and k.d. wanted to take one last stab at saving it. So she re-sang it and I played drums, and Berger came down and played keyboards. We thought, 'Let's just give this an hour and see if we can beat it.' And we did.

"On that song only, she sang into an RCA 44," he continues. "I was walking to the studio that day, and—this sounds so corny—but it was actually my 44th birthday, and I was trying to think about how to capture the song from a different angle. I had a hunch that the 44 might bring the right kind of girth to the song. But the other songs were a split between a 47 or 87."

Veirs also has a U 87 that she favors, Martine's Klaus Heine-modified mic, and Case usually prefers an Audio-Technica 4050, but she used a U 47 at times, as well. Martine ran lang and Case's vocals through Neve 1066 mic preamps, while Veirs' path included a Telefunken V72.

"I ran all the lead vocals through the Retro 176 compressor, which I had recently gotten and was just in love with," Martine says. "k.d., for example, is incredibly dynamic; I don't know that I've ever recorded anyone else who will sing so quietly and, in a moment's notice, burst into full voice. I remember thinking, this is why they invented compression! That's why the 176 was so great. I could use, sometimes, 15 dB of compression and it never sounded like it was squashing her."



For backing vocals, Martine and the artists played with a wide variety of sounds and textures. "One of the many references that was bandied about when we were brainstorming was girl groups," he says. "I think that influence came through in the way vocals were treated. Sometimes we wanted the backup vocals to sound like one group of people, without making out distinct voices, and in other cases, we thought

it was more important that you could hear the character of k.d. on the left, the character of Neko on the right, and the character of Laura at the center, or whatever it may have been."

That approach to the backgrounds speaks to the overall balancing act on this album: "It stretched all of them because it wasn't a k.d. lang record, it wasn't a Neko Case record, it wasn't a Laura Veirs record," Martine says. "It was a record of finding where the three sensibilities came together. There was common ground, and they had to work to find it." ■



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WILD BEASTS, 'BOY KING'

For its fifth album, *Boy King*, British group Wild Beasts decamped to Dallas, Texas, to producer and multi-instrumentalist John Congleton's Elmwood Recording studio. Recording in the States is a first for Wild Beasts, as is working with Congleton, about whom the group's Hayden Thorpe says, "He needs you to come match-fit, toned, fighting weight, with a working album. The songs were ready, but we were very aware that we weren't quite off the ground and that we were looking for something special. We had to make a leap."

Congleton, in turn, has had his eye on Wild Beasts for some time, with a definite idea of where he wanted to take them. He says, "There's always been a strange coldness and distance in their records, which I thought was quite cool. I wanted to get dirtier, like a cyborg with a robot skeleton and human skin; for the record to feel performative, but with something artificial, strange and left-of-center about it."

To achieve this, Congleton had the group play together as they would in a garage, which resulted in an inadvertently more aggressive tone. This lined up with Wild Beasts' direction on *Boy King*, whose character reverts back to the members' teenage years. More importantly, they didn't want anything they played to sound exactly as it should. For example, a snare drum sound



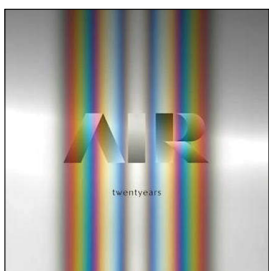
Photo: Tom Andrew



is manipulated through any number of iterations of gear.

"I would find the key of the song and run some of the drums through the synthesizer to the key so it almost became melodic as well as a percussive instrument," says Congleton. "I did a lot of triggering through the Korg MS-20. It has the lo-fi synthesized sound to it that would make whatever I was running through it atypical." Guitars are similarly morphed using Congleton's formidable selection of boutique pedals. "There wasn't room for overthinking, for self-doubt," says Hayden. "Congleton is incredibly brave and gung-ho, as much of a motivator as he is a producer." —*Lily Moayeri*

COOL SPIN: AIR, 'TWENTYEARS'



Roughly two decades ago, the French duo Air hit a universally agreeable note with its semi-electronic semi-organic, all lush, dreamy, fluttery pop. The two mark this feat with their first anthology, aptly titled *Twentyyears*, which

stretches over a double-CD plus 16-page booklet and/or double-gatefold vinyl.

The first disc collects 17 perennial familiar Air favorites, such as the bombastic love song dedicated to Charlie's Angels' Jaclyn Smith, "Kelly Watch The Stars." The Virgin Suicides seducer, "Playground Love," the spine-tingling "All I Need," and the license-friendly minimal instrumental "Alone In Kyoto." The second disc features 14 pieces of unreleased music, B-sides, live performances, and rarities from a variety of sources, not available on the vinyl version. These include soundtrack-only songs such as the Western-tinged "Roger Song" from the documentary *Corman's World* and the brass-driven, moody "Adis Abebah" from the film *Quartier Lointain*.

Following *Twentyyears'* initial release will be a limited edition deluxe version that includes Air's singular remixes, including ones for Depeche Mode's "Home," David Bowie's "A Better Future," Beck's "Heaven Hammer," and MGMT's "It's Working." This version also includes colored vinyl and a poster. Even if you have the full Air discography, it's still worth adding *Twentyyears* with its unique features to your collection. —*Lily Moayeri*

AM & JOEY WARONKER UNPLUG ON 'PRECIOUS LIFE'



Los Angeles-based AM and Joey Waronker's neighborly friendship has turned out a wonderfully analog album, *Precious Life*, recorded at Waronker's curated studio occupying an entire floor of his home. Here, Waronker performs drums while engineering and producing, and AM plays all other instruments as well as sings. The goal was to keep *Precious Life* as organic as possible. The inclusion of a finger-picked six-string banjo on the instrumental "Aqua Velva" and '70s-steeped "Your Misfortune" adds an

acoustic element without overpowering the songs on which it appears.

"I'm into using banjo and ukulele not in the context you would normally hear them," says AM. "I like to do jazz-tinged chords or melodic lines. On 'Aqua Velva,' I doubled the banjo with a Nashville tuned acoustic guitar where the B-string is tuned normally and the rest are tuned an octave above. That gives you this really chime-y, shimmery sound. The banjo is the lead instrument, which sounds exotic in that song rather than country. Those two together had a really nice sound."

"We were going for something a little darker, so I used a beyerdynamic M 160 ribbon microphone," says Waronker. "You can EQ ribbon microphones quite aggressively. If the lead guitar is going to be brighter, I can do that dramatically without having it sound harsh. That goes through AMS Neve 1081 then UA 1176. We have the same chain on everything. I was putting a lot of the spring reverb on the banjo, which mellows it out and makes it fit without sounding overly affected or super-processed."

On "Your Misfortune," the banjo is tucked in as an accent piece with its percussive side poking out. Says AM: "An acoustic guitar starts that one off. The banjo works well with other acoustic instruments. It's a melodic, sad line with a very minor chord progression that you wouldn't associate with a banjo."

Waronker adds, "We got the effects of the sound while we recorded. Mixing was about balancing and getting extra sheen rather than any kind of automation or rides. I have an Auditronics console that is heavily modified. It's gritty but pretty open and touchy sounding. The final mix is a combination of that and in the box with UAD plug-ins like Pultecs, Neve EQs, with Fairchild and 1176 for compression and nothing on the master bus." —*Lily Moayeri*

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Classic Tracks

by Barbara Schultz



“TRAIL OF BROKEN HEARTS”

k.d. lang

Greg Penny and k.d. lang originally bonded over an Indian lunch. Producer/engineer Penny and his engineering colleague Joe Seta had signed on for some projects with Warner Bros., and the label flew Penny to Calgary, where lang was about to close the Winter Olympics with her version of Leonard Cohen’s “Hallelujah.”

“I flew up to meet her and her collaborator [and co-producer] Ben Mink, and we went to get an Indian meal together,” Penny recalls. “We sat down in an empty restaurant in the middle of the afternoon, and first she asked if I were a vegetarian, and I said, ‘Yes.’

“The next thing she asked was, ‘Are you listening to the music in this restaurant?’ And I said, ‘Yeah, it’s my favorite. I know all about this stuff.’ Ben said, ‘They tune the top two strings of the fiddle; that’s how they get that sound.’ And k.d. said, ‘That’s what I want to sound like. I want to sound like an Indian artist.’

“I said, ‘No problem. We can do that.’ And that’s where ‘Trail of Broken Hearts’ came from, tonally.”

Those bending tones are established right from the brief descending acoustic guitar intro that Mink plays and repeats periodically, and are carried through the song via lang’s brilliant vocals.

“Trail” was one of the first songs recorded for *Absolute Torch and*

Twang; it was purposefully intended to serve as a musical bridge between the countrypolitan sound of lang’s previous record, the Owen Bradley-produced *Shadowlands*, and the rich, emotional pop vocals of her *Torch* follow-up, *Ingenue* (1992).

“[Before] *Torch and Twang*, there was this preconceived notion of k.d. as the performance artist, the cowpunk vegetarian girl from Alberta, the reincarnation of Patsy Cline. There were all these different ideas that people were spinning,” Penny says. “And the label wanted to capitalize on it in silly ways. I remember them saying, ‘Do the theme to *Petticoat Junction* with her.’ But we wanted to create a path for her to be a substantial original artist, so we looked for songs that would give a nod to country, but take it in the direction she wanted.”

lang and her team decided to record just a couple of tracks at first: Willie Nelson’s “Three Days” and the lang/Mink original “Trail of Broken Hearts.” Penny would take the songs straight to the label to make a case for the new sound. “Three Days,” with its more traditional Nashville-ish arrangement—not a huge departure from the sound of *Shadowlands*—would represent the place that lang was coming from, whereas “Trail of Broken Hearts” would show where she was going.

“So, ‘Trail of Broken Hearts’ and ‘Three Days’ were the first tracks we cut with k.d., probably a year after I met her,” Penny says. “We cut those in Vancouver as a test to see if the label would let us do this album our way.”

“We demoed [“Trail of Broken Hearts”] at Ben’s house in Toronto first, and we all carried the tapes around with us for several months while they finished the tour to support *Shadowlands*,” Penny says. “Then Ben and I toured studios in Vancouver, looking for a place to track the album. We went to Big Mountain; Bob Rock was in there with Bon Jovi, I think. We went to Mushroom. But the right studio ended up being a new place that a young guy, Bruce Levenn, had put together: Vancouver Studios. It was in an industrial park and had good-sized rooms—sort of removed from the heavy rock scene.”

“The rooms already existed, but Bruce wanted to get the studio on the map, and so equipment-wise, he was willing to gear things to our specifications,” Seta says. “We could say, ‘We’ll go elsewhere when it comes time to mix because we like SSLs,’ and he would say, ‘No problem. I’ll get you one.’”

Levenn did acquire an SSL console; Penny believes it was an E Series board (though the studio later acquired a G Series). They scheduled a tracking session to coincide with a gig that k.d. lang and the Reclines had in Vancouver, so that multi-instrumentalist Mink and all of the other bandmembers could be there: David Piltch on fretless electric bass, Gordie Matthews as well as Mink and lang on acoustic guitar, Michel Pouliot on drums, Michael Creber playing piano, Graham Boyle on percussion, and guest Greg Leisz coming in toward the end to play steel and slide guitars.

Penny talks about developing the arrangement with the band: “We knew that we wanted to have this expansive string arrangement that would



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sound very much like a classic pop record by Glen Campbell or the Carpenters, but with a little Indian influence. So in the center section, when the pedal steel and acoustic guitars take over, you have this support from the strings; they all work together to create a beautiful center arrangement.

"There's also a solo section where there's a beautiful dance between the acoustic guitar, steel guitar and strings. Ben played all the strings, by the way. There were at least 12 string parts to get that thick sound."

The tracks were laid down to the studio's Otari MTR-90 analog tape machines. "Every time we had to make another slave, Bruce would just go get us another," Seta says. "He would either buy whatever we needed, or rent from this great rental company, Reely Unique Studio Rentals. It was owned by an engineer/producer named Greg Reely, who was working with Sarah McLachlan [on the album *Touch*] at the time."

"We were always tracking to 24-track tape with Dolby SR," Penny explains. "We even did ads for Dolby SR at the time because we had an artist who could show off their truly harmonic multiband compression system. It not only got rid of hiss, but it seemed to accentuate harmonics in a lot of the acoustic instruments, like the pianos and the acoustic guitars—just beautiful."



Engineer Joe Seta with the Gold record.

Basic tracks for "Trail of Broken Hearts" were cut live to a click track, with lang singing a scratch vocal. "There are a lot of stops in that song," Penny explains. "Even though the band was not used to playing to a click, I believed it would give us the best feel."

Penny recalls that he and Seta captured piano with a pair of B&K 401s and acoustic guitars with Neumann KM 84s. Piltch's Fender bass parts were taken direct in the control room, while the rest of the musicians were out on the floor. "Dave added a lot harmonically with the bass," Penny says. "He was playing lines around the vocals that are below her vocal register. They're not interfering with the other frequencies, so he could do some really cool stuff."

On drums, there was an AKG D112 inside the kick, Neumann KM 84 on hi-hat, a Shure SM57 under the snare, a pair of AKG 414s as overheads, and another 414 over the left shoulder of the drummer:

"That way the mic is removed from the drum but pointing at the head of the snare drum in a hypercardioid pattern," Penny says. "If you put your ear on a snare drum and hit it, you just hear a large, explosive thud. If you want the snare to have a sound, you need to move back from it and let the waves of sound build up a little bit."

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lang's vocals were mainly captured with a Sanken C41 microphone. "It could take her dynamics," Penny explains. "In several instances, she held that big Japanese mic in her hand and walked around the room while she sang. We had to go back and pull down sounds that occurred because a mic cable hit the floor, but it was really cool to hear her rip into it with that mic, because she could really use her mic technique and pull it away from her face."

"At times, during band tracking, we also did put k.d. in an iso booth that was pretty tiny and very dead, and sometimes the only thing we had left for her to sing on was a 57—in a glorified closet," Seta says. "But we kept everything because every vocal performance might be the one, or one of the ones. On the final mix of ['Trail of Broken Hearts'], we had eight different vocals recorded over six months on three different mics. We even used the vocals from one night when k.d. brought some of her friends in, played the backing track and performed for them."

"But no matter what mic she was using, we always used light compression going to tape, and that same light compression coming back from tape—a dbx 160x with a 4 to 1 ratio—with that subtle restraint and harmonic tonal play that it gives."

Also integral to the overall sound of "Trail of Broken Hearts" were the mic pre's in the SSL console. "We also acquired in the middle of that record an SSL Logic Effects 2-channel mic pre/EQ unit," Penny recalls. "So [later overdubs] would either have been through the console or the mic pre in that single-rackspace, 2-channel unit, and then into one of my dbx 160x compressors, and then straight to tape. We might EQ a little bit on

the way in, but we tried to record relatively flat.

"We tried hard to get the vocals right from the get-go, though, so we very seldom had to do much in the mix," he adds. "It was just finding a place for the vocals to sit and then pull the band in around her. We would never build a k.d. lang album up from the drums and set her like a cherry on top of it. This is k.d. lang, so vocals are the priority."

Armed with rough mixes of "Three Days" and "Trail of Broken Hearts," Penny traveled to L.A. to meet with the label. "We played it for Lenny Waronker, and he and Mo Ostin had a common door between their offices," Penny says. "Mo walked in and said, 'What is that?' I said, 'That's k.d.'s new album.' He said, 'That is unbelievable.' And Lenny said, 'Go do your thing. Don't look back.'"

Absolute Torch and Twang went to Number 12 on *Billboard's* Country Albums chart, and earned lang a Grammy for Best Female Country Vocal Performance. Many albums later, k.d. lang will be on tour this summer to promote her project with Neko Case and Laura Veirs (see page 13).

Engineer Joe Seta, whose credits also include Rickie Lee Jones, Dwight Yoakam and others, now serves as the Visitor Service Marketing Manager for North Coast Brewing Company's (Fort Bragg, Calif.) Jazz at the Sequoia Room Club concert series. He's proud to work for a business that donates some of its brewery profits to the Thelonious Monk Institute.

Penny is still engineering, including ongoing archival/restoration work for longtime client Elton John. He was recently asked by k.d. lang to remaster *Absolute Torch and Twang* for a 180-gram vinyl reissue. ■

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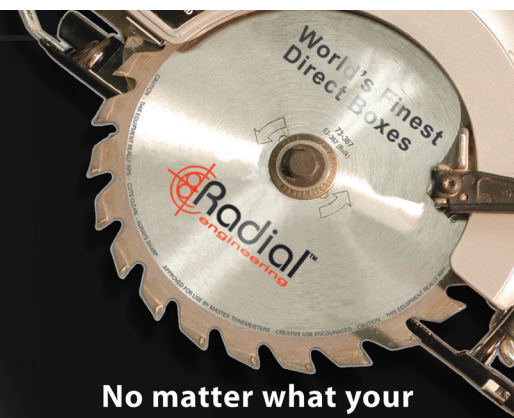
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Live



MY MORNING JACKET

By Candace Horgan **22**

BOTTLEROCK 2016

By Tom Kenny **26**

TORI KELLY

By Steve Jennings **28**

My Morning Jacket appeared at the Red Rocks Amphitheatre in Morrison, Colo., in late May 2016.



Photo: Candace Horgan

MY MORNING JACKET

Rock Foursome From Louisville Supports ‘The Waterfall’

By Candace Horgan

Singer and guitarist Jim James stalks the stage as My Morning Jacket kicks off its first of two shows at Red Rocks with a dark and psychedelic version of “Heartbreakin’ Man.” Over the course of nearly three hours, James and the rest of MMJ—guitarist Carl Broemel, bassist Tom Blankenship, drummer Patrick Hallahan, and keyboard player Bo Koster—keep the sold-out crowd engaged with a mix of originals and covers, including a tribute to Prince on “Purple Rain.”

Bringing the sound to the crowd and band is the tandem of front-of-house engineer Ryan Pickett and monitor engineer Brent Lind. Pickett, like many engineers, came to it through

his prior work as a musician. He had banged around on a couple of major label deals before deciding to get into sound engineering, and got his gig with MMJ through a friend. His audition gig with MMJ was huge, a set at Bonnaroo. “It was during the day on a digital console, and I’d never mixed on a digital console in my life,” laughs Pickett. “I passed the audition with flying colors, but they didn’t bring me on until the *It Still Moves* album came out, which was about three months later.”

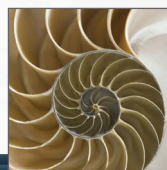
Lind came to sound work through a mentor when he was in a theater program in high school, and ended up with MMJ after working with Bright Eyes and Conor Oberst, and later

working the Monsters of Folk tour through that connection and meeting James. “I went to college as a lighting design major and started working the clubs doing sound to make money,” Lind says. “Toward the end of college I was doing bigger weekend outings with local bands, and then I got my first real call to do a tour. I literally skipped graduation to hop on this tour bus.”

Both Pickett and Lind are mixing on Avid Venue Profile consoles. They acknowledge the desks are little older, but find they work well for what they are doing. Pickett uses Waves plug-ins, and especially relies on the C6 and the E-Channel, but supplements his rig with some outboard analog gear.



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From left: Monitor engineer Brent Lind, Systems Tech Matt Pribisco, and FOH engineer Ryan Pickett.



up in a similar place to Pickett with some outboard analog gear.

"Jim's vocal channel for years, and my go-to chain for most vocalists I work with, had evolved to being a SSL Buss Comp into an E-Channel into a C6, and sometimes an NLS on the end of that for certain songs," Lind explains. "We got a lot of mileage out of that, but when I swapped to the FET Comp and the Neve Inductor EQ, it was a pretty night and day difference. We've been doing it for a month, and just two days ago I said to Jim, 'Let's go back to the old way for a quick second,' so I reengaged the plug-ins and bypassed the hardware and he was laughing. There's a lot that digital does great, and a lot digital can do that analog cannot do, but one thing in my opinion analog still has the edge on digital is additive EQ, and with in-ear monitors, you tend to push high end a lot on vocals, and it's hard to do that in a way that isn't shrill. With the Neve Inductor EQ, the harder you push it, the sweeter it gets."

At Red Rocks, Pickett was using a P.A. provided by a local company, Brown Note, but MMJ usually tours with a d&b V Rig system with B2 subs and D80 amplifiers provided by Spectrum Sound of Nashville, using an amp per box. They are also running d&b's new AP (ArrayProcessing), which allows Pickett to throw sound a longer distance and keep it intelligible and more three-dimensional, whether near or far. System tuning is handled by Matt Pribisco.

One secret weapon in Pickett's arsenal is the use of sE ribbon mics for miking the cabinets onstage. Pickett has also steered Broemel and James to lower-wattage boutique guitar amps from Carr and 3 Monkeys, and has moved them to using one cab onstage and one upstage. The cabs onstage get the sE Rr, while the upstage cabs have a coincident pair of Sennheiser 609 and sE VR1.

Says Pickett of the sE ribbon mics, "They are game changers because it takes up that all that midrange, low-end 250 stuff that a 57 can't do, and that's why people do all that front and back miking, and I've never been a fan of the sound of the back of a speaker cab. I know that's how people get that low end that doesn't exist from the front with a 57, but for me I can't go without the ribbon mics."

Rounding out the microphone complement is the Beyerdynamic M88 on the bass cab and the Twin Reverb used for the Rhodes. The drum kit has an

"I've put this 500 Series box on Jim's signal path, starting with an IGS Alter 500, which is like an 1176 with a Carnhill output transformer," Pickett says, "and then it goes into a Rupert Neve-designed 551 Inductor EQ. From there, I use a little Meris M7 Mercury Reverb, exclusively for Jim's huge long reverb. On the two-bus, I hit the BAE 10DC stereo compressors, because it's more forgiving when the band is swinging for the fences, and I don't have to worry about my gain structure so much. The compressors go through the TK Audio TK-lizer EQ, which is their version of the Baxandall EQ, which allows me to do a little feathering without having to grab the Lake. The Lake is so sensitive. It also allows me to fan in regardless of the mix. That way, I don't have to constantly change the panning perspective of the guitars for a narrower EQ. From there, it goes into the heads, the 192s, and we go out AES from there."

Echoing Pickett, Lind says the C6 is one of his favorite plug-ins. He also uses the InPhase to help with phase alignment on double-miked guitars and the dual-input kick-snare-bass. However, he has also seemed to end

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sE X1 D titanium kick drum mic paired with a Sennheiser e901, Shure SM57s on the top and bottom snare, plus a Granelli 90-degree 57 mic, Sennheiser 604s on the toms, and Blue Hummingbird mics for the ride and crash. All the vocal mics are Sennheiser 935s. Bass also has an RNDI, and Jim's guitar rack has switching from Radial JX44s on the electric and a JX62 on the acoustics.

The entire band is on in-ear monitors, using Shure PSM1000 transmitters. The ear monitors themselves are Sensaphonics. The in-ears are supplemented with wedges, mostly M2s and B2s.

"I can't say enough good things about them, because I don't think anyone else in the business approaches it the way they do," says Lind of Sensaphonics. "They also make a unique product, a game-changer for our drummer. For years, he was on ears, then off ears, back and forth, because he would experience vertigo at times. I tried all the usual ambient mics and 'verbs, but what finally made the difference was the Sensaphonics 3D Ambient system, where you have ear monitors with tiny ambient mics built into them, and you have a pack where you can adjust the ratio of that to the mix I am sending. Particularly for a drummer, instead of hearing this loud thing in front of you get piped up 100 feet of cable and then wirelessly transmitted back to you, you are now hearing it in real-time through these mics with almost no processing. He feels connected to his kit."

Hallahan gets a natural drum mix supplemented by a thumper and a wedge. Broemel likes his monitor mix heavy on guitar and run in stereo, and Broemel also gets a B2 sub. Lind also runs the drums in parallel processing channels, in part because he needs to keep the drums reined in on Broemel's mix.

"I have the regular drum kit splayed out, and then I have kick-snare-overheads parallel, and that gives me a lot of flexibility to play with the dynamics and give him something that's solid and there, but isn't going to get out of control," Lind says. "The other thing is I keep the parallel channels out of the program and they are recalled safe, and are a really great tool when you go to wildly different venues each day."

James has never given Lind much feedback on the mix, except to say he likes it. Lind goes for something like the record on James' monitor mix. Blankenship gets a very heavy drum and bass mix, with a little guitar and vocals, while Koster gets a mix with a lot of panning, depending on the song.

"On some songs, his synth part is the lead instrument and will be close to the middle, and on another part he's playing Rhodes most of the song but has a little two-note synth thing on the bridge, and that's a good thing to move off to the side." ■

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- John Marks, Stereophile



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VUE DEBUTS TWO AT BOTTLE ROCK

By Tom Kenny

It's not easy to debut new live sound products in real world situations. Few engineers want to risk the introduction of new technologies with a touring act, when everything is already working and the band is happy. But festivals? Where most of the gear is fixed and only the major acts bring in their consoles? They are an ideal test-bed for the introduction of new technologies, and in George Edwards, general manager of Delicate Productions SF, production provider of audio, video and lighting for BottleRock Napa Valley Music Festival, manufacturers have found a willing partner in trying out their wares.

Edwards, one of the principals in planning and designing the technical layout of BottleRock for the three years it's been running, loves to try out new technologies. This year alone, besides the new LED screens, he introduced three brand new main P.A. systems: The new Martin Audio MLA-8 on the main stage, Alcons Audio on another stage, and VUE Audiotechnik with its new al-12 main hang and new 2x21-inch subs. VUE introduced a second technology in showcasing its Dante connectivity from FOH to the company's H-8 powered monitors in 18 VIP rooms flanking the main stage area.

On the Miner Family Winery stage, the new al-12 debuted and represented the culmination of five years of development at the company, starting with al-4 and al-8, and now a line array element that can handle any size of hall or venue. The al-12 consists of two 3-inch beryllium tweeters, whose pistonic action is said to reproduce crisp and clean highs; six midrange drivers are flanked by two 12-inch woofers with neodymium magnet assemblies. Sixteen 2x21-inch subs lined the ground in front of the stage, in cardioid pattern.

"This box has exceptional vertical control," says VUE's Jeff Taylor, who worked with Delicate in setting up and tuning the system. "The way it handles the vertical and horizontal is the biggest physical advance since the introduction of the line array."

"I've worked with Kenny Berger and designer Michael Adams for years," adds Edwards. "We introduced their first systems, and I trust them to come up with a great product. So far, it sounds great."



George Edwards of Delicate Productions SF, in front of the VUE al-12 system that debuted on The Miner Family Winery Stage at BottleRock in late May

Photo: Steve Jennings

Meanwhile, over on the main Jam Cellars stage, VUE wanted to showcase its Dante connectivity, and Edwards wanted to try something new for the VIP attendees, who pay a lot of money to watch in the creature comforts of lounge chairs, sofas, full bars and a seat above the madding crowd. Edwards supplemented each of the 18 VIP rooms with a VUE H-8 powered

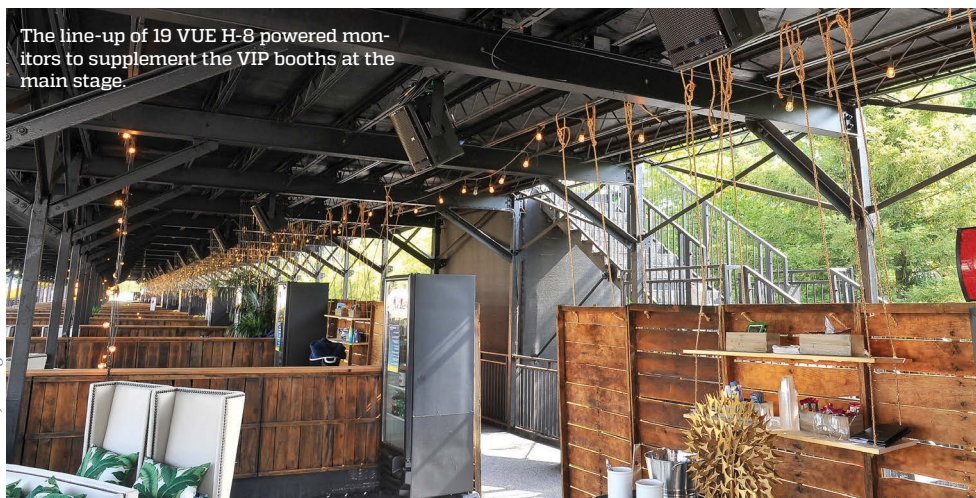
monitor, each time-delayed down the line and tuned to the main hang.

To feed the H-8s, which required a roughly 600-foot cable run, Edwards developed a signal flow that went into the FOH rack Dante, to a Cisco router, then to a transceiver to link to a Tecro military-grade fiber that ran up to the stage, around the corner and back under the bleachers to a tech station beneath the extensive VIP section. It then went back to a transceiver, and Dante was distributed to each of the H1-8s up above. It worked wonderfully.

Edwards also introduced a few more new technologies and techniques, including making use of the router at FOH to work up a layout allowing for up to eight preconfigured consoles to be dropped in, hooked up, and ready to go after a very brief changeover.

At the same time, he partnered with a new company called Erevu, which allows for real-time monitoring of levels at all four FOH positions, along with a remote, roving mic monitoring levels outside the festival grounds. BottleRock takes place in downtown Napa, on state-owned property. They have to watch levels. Here they monitored from a central station, and from their smartphones as they walked the festival grounds.

Look for more about VUE as the system makes its way onto riders, and look for more on Edwards in an upcoming issue of Mix. He's blazing trails in system design. ■



The line-up of 19 VUE H-8 powered monitors to supplement the VIP booths at the main stage.

Photo: Steve Jennings



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Photos and Text
By Steve Jennings

TORI KELLY UNBREAKABLE TOUR 2016

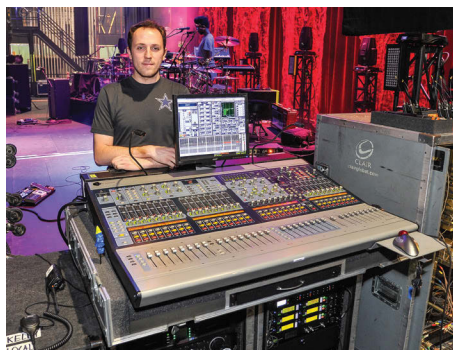


Mix caught Tori Kelly on the second night of two sold-out shows at the Fox Theater in Oakland, Calif., in mid-May. The house P.A. was from Meyer Sound.



Front-of-house engineer Simon Thomas, previously out with Sam Smith, stands in front of the Solid State Logic L500 Plus. "It is a powerful console with an incredibly flexible workflow, and in my opinion has the best sonic quality I've heard in the digital domain," he says. "It's like mixing on the best analog desk in your life with a digital workflow. It sounds great from input preamps to output stage."

"The all-pass filter is a great tool when working with two sources and is on every input," he continues. "The parallel compression on the bus compressor is great and the effects are clean-sounding with variety. I'm running around 64 inputs and four outputs for the P.A., subs and infills, which are run off the Matrix into my LM 44 processors, from where I distribute to other audio sources."



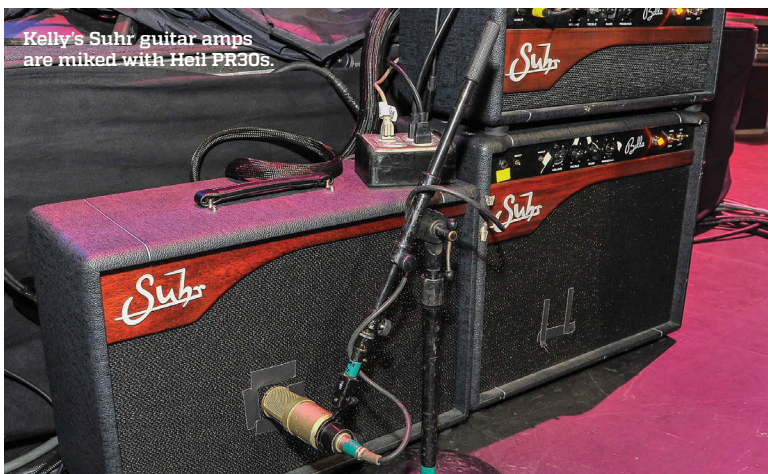
"I like using Avid Show Profile due to its Pro Tools compatibility, for recording shows, virtual soundcheck, et cetera, along with its world-wide availability," says **monitor engineer Zach Snyder**. "I'm running approximately 65 inputs and 20 outputs."

"My external rack gear is an Apogee Big Ben clocking my FOH rack and two stage racks together," he continues. "For inboard plug-ins I have quite a bit of Waves V9 across the desk. I'm also using a few C4 compressors for outputs and vocals, Waves verb, TransX, CLA-76, and the Q10 EQ."



Drum mics include the Audix D6 and Sennheiser e 901 on kick; snare is a Shure SM57 and Sennheiser e904. Hi-hat is an AKG C451 B. Toms are Audio-Technica ATM35, and overheads are Lewitt LCT240.

"I'm using the desk plugs-ins, including the Saturators, for acoustic guitar and snare drums, along with the Enhancer for all the other drums, which I have split across sub groups," says FOH engineer Thomas. "I'm also using a Crane Song across the L and R bus, which was inherited from the days when I found digital compressors not be so good until I got on the SSL."



Keyboards for the tour include a Korg MS2000B, Korg Kronos, Novation Impulse and a Moog.



"Tori is Shure endorsed and we have gone with the new KSM8 ULXD2 capsule mic this tour, which has been sounding absolutely fantastic," says monitor engineer Zach Snyder. "Low end is natural while the highs remain very crisp. Also, it's on the ULX Shure system, which is the only wireless mic I will consider using now. It has virtually no noise floor and sounds very clean."

"I'm using a vocal chain that consists of a BSS 901 Mark 2, which is inserted after the head amp at insert point A to deal with the dynamics in Tori's vocal, and a Distressor, which is on insert point B in optical mode for the final treatment of the vocal," adds FOH engineer Thomas. "In addition to the desk reverbs, I'm using a TC 4000 reverb for the vocals."

"I mix to adopt studio techniques with a live feel, starting with the vocal," he says. "The key is that if you can see an instrument you need to hear it. Detail is what defines a mix—the ride cymbal is something that I don't hear in so many mixes and so with such lost detail it can make the mix feel incomplete, in the same way a bass guitar needs to have drive and tone but not dominate the low end. At the end of the day all instruments have a spectrum they best fit, but where they fit depends on the type of vocal we are working with. In other words, there are no particular rules, only good sound that is based on a few basic principles of gain, phase, filtering processing and balance. Sounds simple, doesn't it?" ■

On the Cover

By Tom Kenny

CONWAY RECORDING STUDIOS, 40 YEARS AT THE TOP



The core Conway team in 2016, from left: Doug Tyo, chief engineer; Susan and Buddy Brundo, owners; Emily Kerpelman, assistant manager; and Stacey Barnett, studio manager.

Photo: Chris Schmitt

The lush, tropical gardens are both striking and comforting. The palms and ferns and flowers in rich, vibrant colors stand in contrast to the bustle of Melrose Avenue outside the gate, on the edge of Hollywood. Inside the gate, on nearly an acre of secure private grounds, it's open and airy and green, full of trees, wood and outdoor patios tucked into quiet spaces. Inside the gardens, hidden by the foliage and accessible along brick-lined paths, sits the world-class, three-studio complex that is Conway Recording Studios.

There's really nothing like Conway in the world—a recording oasis, inside and out, smack dab in the middle of an urban jungle. But when Buddy and Susan Brundo, pictured on this month's cover in Studio B, purchased the busi-

ness and equipment 40 years ago, it was nothing more than a small studio with a high ceiling in a nondescript house and backyard. Brick by patio brick, parcel by neighboring parcel, they built the place, staying within their means and keeping true to their original vision to build a studio that was comfortable for them, and for artists, whether recording or relaxing.

"I had worked at enough studios that were almost cave-like," says Buddy, recalling his early days in Los Angeles. "The minute we bought Conway we went with glass doors. We put windows in. Everything we've built from there on out is outside-inside. I have to be here. I want it to feel like Hawaii, so we planted all those trees, the lawn. The bankers disagreed with me from day one. As I started buying more property on the block, they said, 'Buddy, why do you

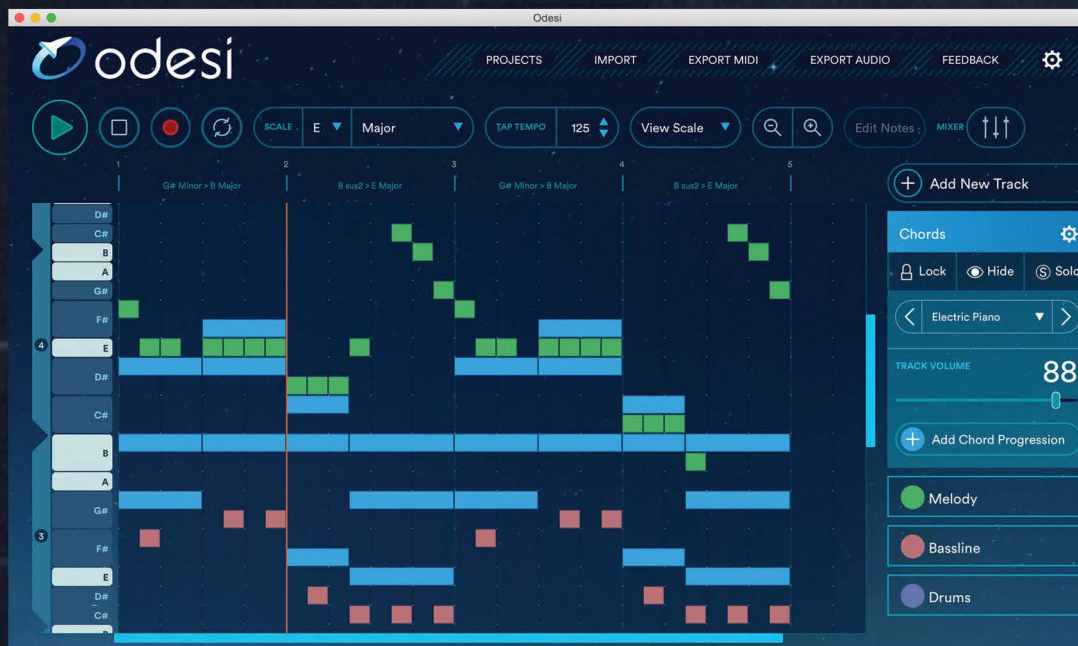
need that? Rip the lawn out and build another studio.' I can't do that. I like the fact that it's an acre of land, and its 80 percent green and trees and bricks. I'm happy here."

You get the sense that Buddy Brundo is happy wherever he is, though an office overlooking a world-renowned recording facility is a far cry from the unemployment checks, food stamps and bus rides of 1972, when he and Susan left Buffalo to pursue the music dream in Los Angeles.

It's hard to keep a marriage or a business together for 40 years; Buddy and Susan Brundo have done both. And they have thrived—through the riots, the gas crisis, the downturns in the economy, the advance of home recording and everything else that has driven many major studios under over the past couple of decades. Today, all three rooms are filled, two with long-term

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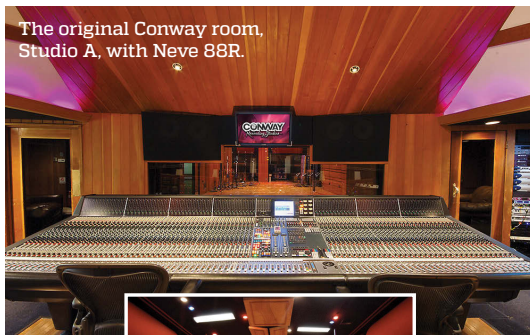
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bookings; all three are occupied by major artists, which we're not allowed to name in print, as the paparazzi is an ever-present concern. Hence, the gates and grounds. This is the top of the recording food chain.

"I think that our success, if you call it that has to do with the way we treat our staff, which then translates to clients," Buddy says. "I'm proud of the fact that engineers and runners that leave Conway can get a job anywhere in the world by using our name. It's dedication to the craft, trying to do as much as we can without jeopardizing our financial future. We don't have a corporate backer or rich parents. Most of my competition is corporations or rich people. And we have to compete at that level. We've been very fortunate to have the kind of facility that nobody else has. That's what we strove for from the beginning."

The beginning was 1972, when Buddy, a bass player who worked in his father's music store, and Susan, a singer whose parents owned restaurants, came west with a "little dinky studio" that they quickly found would serve no purpose in Los Angeles. Through a family friend, Buddy was invited to a scoring session at Universal, where he met the engineer on the session. He invited Buddy over to visit Conway, then owned by scoring engineer Phil Yeend. Soon, Buddy was sweeping the floors and learning everything he could about engineering.

The original Conway room.
Studio A, with Neve 88R.



At the time, Conway was both a film and music house, complete with Moviolas, projectors and a Foley pit. They did a lot of sound effects creation and editing. A lot of Roger Corman pictures came through the doors. For music sessions, they would close one of the doors on the weekends and set up the bands, primarily for demo sessions. The board was an API.

By 1976, Buddy had gained some experience engineering and had worked at other facilities around town. He began to think about stepping out with offers from A&M and Motown and approached Yeend honestly. Four days

later, Yeend asked whether he would be interested in buying Conway. The first thing he and Susan did was get rid of the moviemaking gear. They wanted to do music only.

A year later they bought the property from Bruce Morgan, son of Hite Morgan, who had established the studio in the early 1960s as the first independent stereo mastering room in Los Angeles. Over the next 40 years, as Buddy says, everything they did went back into the studio, growing little by little, always within their means.

"Back then it didn't cost me anything to run the place," he recalls. "Susan and I didn't make any money. There was no such thing as runners or second engineers. I set the place up, we had a session, then I tore

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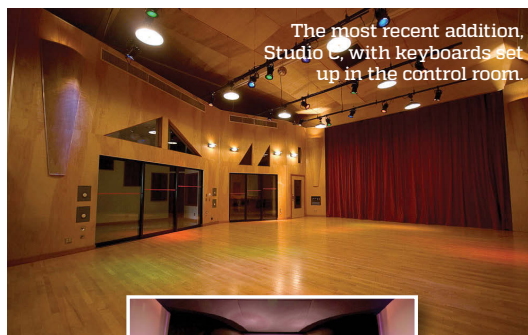
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it down. We were doing three sessions a day, with an hour in between. We did it all ourselves for a number of years. Susan ran the business side and saved every penny; she's good at that. I'm engineering. We were working and working and working. We did 15-hour days for weeks and weeks, year after year. I knew that eventually it would pay off if we worked that hard.

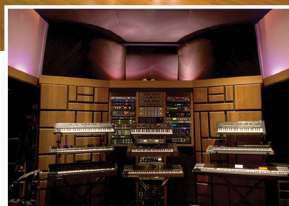
"After a couple of years when we had a grip on it, we hired someone to run the office, and Susan went back to college to get her degree," he continues. "Then she went to get her master's in psychology. We did that just in case the studio didn't work out. One of us would have to have a job, we figured, because you just never know..."

It seems almost comical today that Buddy, who relies on his ears in making his equipment and room and mix choices, didn't like the sound of the studio from the outset. A chance introduction to studio designer Vincent van Haaff, through mutual friend Peter Chaikin, changed all that, and changed the fortunes of Conway.

"When I met Vincent in 1977 or '78, the studio had a kind of compression ceiling built for quad," Buddy recalls. "At that time Tom Hidley was building all these compression rooms in town, but to my ears, I couldn't make sense of a compression ceiling. Then I met Vincent and I loved him



The most recent addition, Studio C, with keyboards set up in the control room.



immediately. I liked his ideas, the fact that he thought about things differently.

"So I met him in his apartment on Beechwood and said, 'Everything that you look at acoustically, it doesn't look like compression, it looks like anti-compression. If you look at a concert hall, the ceiling soars up from the stage. If you look at a speaker, the cone goes from the center out. Everything is expansive.' And Vincent ran with that. He started drawing circles and lines and came up with the expansion ceiling. And that was the end of that. After Studio A was built, everybody on the planet liked that feature. And the back

wall he designed with midband diffusion, the way the trapping works in the sides and ceilings—all that was from his brain, the way he thinks. A different way of thinking. I've been thrilled with it. All three rooms here, and so many rooms around the world, are built this way. Vincent died two weeks ago and everybody is just heartsick about it."

The expansion ceiling in Studio A was repeated in Studios B and C over the ensuing years, and it was just one of many "firsts" for the Brundos, Buddy in particular eager to embrace new techniques, Susan keeping him in check "when I wanted to go nuts," he says.

"I bought the first of everything," he laughs. "I bought the first EMT 250, the first TAD drivers, the first expansion ceiling. I had the first



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Susan and Buddy Brundo, with the Conway gardener, Tim Galardi of Riviera Gardens.

Photo: Chris Schmitt



Focusrite console, the first VR, the first VR3, VR 4, then the first 88R. I bought the first Mitsubishi X880. When I bought that, people asked me why. It didn't sound that great, but we did very well on rentals. Back then you had to have two 24-track machines and two racks of Dolby. When digital came out, you needed one machine and no Dolby."

Today, Studio A houses a Neve 88R, B has an SSL 9000K and C has another 88R. All three have nearly identical, and extensive, outboard packages, as Brundo tends to "buy three of everything and lock them down so they don't walk out the door." All are outfitted with Pro Tools; there, too, he was an early adopter, seeing the writing on the wall in terms of the cost of storage.

"To stay at the top you have to spend a lot of money," Buddy says. "We just spent a ton of money to replace 6,000 switches on all three consoles, back to factory spec, over three months. That's the kind of thing it takes. When an engineer comes in and presses a button, he doesn't want to hear a crackle. It takes money. The amount we spend on food...Even gardening! What we spend on gardening!" He laughs.

The one sure thing he has never skimped on is maintenance and service, and he regularly praises his techs in conversation, from John Musgrave and John Hearst, to present-day chief engineer Doug Tyo. "You have to have a tech there every day, every minute, whatever it costs you," Buddy says. "I've always been about getting it done; I want something fixed right now. If something's broken you fix it. That goes for everybody—the office people, the techs, the runners, the interns. You get it done now. No delaying. Now. Doug is an amazing all-around tech. He knows carpentry, electronics, computer systems, he's a quick thinker. Fantastic. Stacey Barnett, our studio manager, the same thing. She gets things done. Now."

It would be easy to characterize the Conway story as a rags-to-riches fable, extolling the virtues of hard work and commitment, with the wise ones passing down the knowledge to the next generation. But the story is still very much alive and growing, and Conway is as vibrant and vital as ever. It's more a story of Buddy and Susan Brundo, who came west, in love, built a dream and keep on living it. Still in love, still firing the passion at home and at work.

"From the beginning, Susan's run the office, I've run the studios, and together we discuss everything," Buddy concludes. "During the building years, she held my hand and we did everything together—laying bricks in the backyard, talking about expansion, talking about money. Fiscally how we do this or that. There's never been a major decision made in that studio without her, from day one. Even when she had a separate career. She talks to staff. She understands human behavior. She's taught all our traffic managers and staff in how to relate to people, how things should go in interacting with people. It's been of incredible value, and we work so well together.

"I don't plan on retiring anytime soon. People say, 'Buddy, you're still working?' And I say, 'You call running a recording studio work?'" ■

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CYNDI LAUPER & TONY BROWN

Cutting Country Gold, Old-Style, With Nashville's Finest

BY ROBYN FLANS

Producer Tony Brown admits it hasn't been often in his vast career that he's popped one of the projects he's produced into his car stereo for mere listening pleasure. But that's exactly what he's been doing with the recent Cyndi Lauper project, *Detour*, which he not only enjoyed doing, but actually likes hearing upon completion.

So do fans. *Detour* entered the country charts at No. 4 and *Billboard's* Top 200 at No. 29.

As the story goes, Lauper met with a few producers in Nashville before settling on Brown. She first showed up at his house with Sire label head Seymour Stein.

"I told Cyndi as they were sitting in front of my desk, 'Don't be offended, but I'm pissing down my leg that Seymour Stein is sitting in front of my desk right now,'" Brown recalls. "I'm infatuated with people like George Martin, Seymour Stein and Ahmet Ertegun, who have that magic touch. I found out with him sitting here that he really knew his stuff."

You can hear Lauper chuckle as she lists the first couple of reasons why she chose Brown:

"It was his hair! And he knew Elvis! I mean come on," she says. "Just kidding. Seymour Stein and Cris Lacy from Warners Nashville set up some meetings for me in town and I got to meet some incredible producers. All of them had amazing track records and had made amazing albums and worked with amazing artists, so it was really hard to choose. In the end I decided to work with Tony because I thought he understood what I was trying to accomplish with this record. I really wanted a partner I could co-produce with who I thought understood where I was going with this album, and Tony seemed the easiest to talk to. I thought it would be fun making a record with him and I knew he would be open to the different twists and turns I wanted to take."

Brown was thrilled when he got the call saying they had chosen him. They presented him with about 50-60 song ideas of classics that Lauper grew up with, including "Heartaches By The Number," "Walkin' After

Midnight" and "I Fall to Pieces." They spent time emailing and phoning back and forth discussing the project on which they also decided to bring in guest vocalists Emmylou Harris, Jewel, Willie Nelson, Alison Krauss and Vince Gill.

For the project, Brown enlisted Willie Weeks on bass, Chad Cromwell on drums, Aubrey Haynie on fiddle and mandolin, Steve Nathan on keyboards, Dan Dugmore on steel and Tom Bukovac and Kenny Greenberg, who shared electric and acoustic guitar duties. "I just booked the people I knew that can really give me what I want and can turn on a dime," says Brown, who also hired Bryan Sutton to play acoustic guitar and Jeff Taylor on accordion for "I Want to Be A Cowboy's Sweetheart" for that authentic Western feel.

"The band Tony assembled for the album was incredible," Lauper says. "They were magical. Every one of them. The challenge was finding my place in the band as the band leader, and also be one of them—that we were a whole and not an assembly of parts. What's important when you make music together is that you become a band, not just a bunch of people playing together. Everyone in the band pretty much knew each other and had played together many times, so I just had to keep myself open and receptive and at the same time lead the charge. It happened pretty

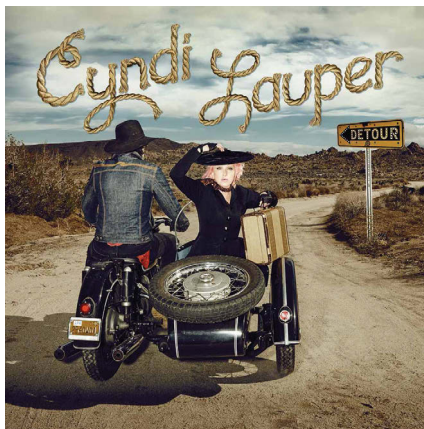
quickly; not immediately, but pretty quickly. We became a band while recording 'Funnel of Love,' which was pretty much a one-take song."

Lauper brought her longtime engineer William Wittman, whom she met in 1983 through Rick Chertoff at CBS Records. Wittman recorded, co-produced and mixed *She's So Unusual* and reconnected with Lauper in 2000 to become her musical director and bass player on the road.

Tony Brown in a reflective moment.



Photo: Melissa Core and Rick Caballo, deathorsebranding.com



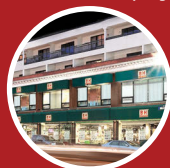
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Tony Brown at the console.



Brown's first instinct was to fight Lauper on bringing her own engineer. Once Wittman was there, Brown was fine. For one, Brown says, Wittman helped him know when the take was complete.

"I'd say, 'This feels like this is a real take.' He'd say, 'Yeah, this is feeling like we're there,'" Brown says.

One of the reasons the producer felt a little bit like a fish out of water was because Lauper sang everything live, something Brown was not used to.

"At first I thought that was kind of weird, and at the end I was thinking, 'God, I just saved myself a week of vocal comps,'" Brown says. "Jimmy Bowen instituted this thing where you cut a track with George Strait or Reba and then you send the musicians out and sing three, four or five more vocals, and nine times out of ten you comp it together and you've got a performance. That was always the way I worked," Brown says.

But as they approached the first vocal and Brown asked Lauper, "Do you want to do the vocals now or do you want to wait until next week when you have a fresh voice?" She said, "I just sang it."

"I said, 'I know you just sang it,' and she said, 'No that's it. Unless it sucks, I'm not going to sing it again.' I said, 'It didn't suck, it's awesome,'" Brown recalls.

Lauper believes singing live makes a huge difference.

"I've recorded a handful of my records live vocal with the band; it's just so much more magical," she says. "I did it on *At Last* and again on *Memphis Blues* and on this album, too. [There's] something about arranging on your feet and finding the personality of the song and the band that, for me, improves the quality of the recordings."

It set a high standard for the musicians, too. According to Brown, she said, "Here's the deal, guys, we all have to be as one before I'm gonna like it. Everybody be on your toes because the take is the take. No redo's."



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TRACKING TIME

Cyndi Lauper has a unique voice, one that keeps getting better. Wittman said he used an original U 47 on her vocals: "The vocal went through an API mic pre through a Fairchild 670 compressor and then my API 525 compressor going all the way back to *She's So Unusual*." Guest artist vocals were recorded on an original U 47, as well, except for Krauss and Gill, sang into a U 67.

"In addition to a close bass drum and snare mic, [Electro-Voice] RE-20 and [Neumann] KM 84, respectively, drums were recorded with two U 87s around the kit as overall left and right pickup, plus two STC/Coles 4038s spaced in front," Wittman says. "In the mix I would often choose between either the closer 87s and the 4038 'room' mics rather than use both pairs. So most drum sounds in the record are really just four mics."

Except for the bass drum, everything was recorded with a condenser or ribbon mic.

"I like the full range and speed of the attack of condensers. I like to get the whole thing and if I want to shape something I'll use EQ," Wittman says. "I don't like what dynamic microphones do in terms of limiting the range of the sound."

The first two songs, "Funnel of Love" and "End of the World," were cut at Sound Stage on an SSL and then they switched over to Sound Em-

porium where they have a Neve V Series board.

"I recorded almost nothing through either of the desks, except perhaps the synthesizer," Wittman explains. "Everything was recorded through outboard modules, mostly Neve 1073s with a couple of APIs sprinkled in just because I couldn't get enough 1073s. I had a mountain of rented discrete transistor mic pre's that I recorded everything through," said Wittman, adding that he mixed at Blackbird Studios on an API. All of the LA-2As, Fairchild compressors, RCA BA-6A, etc., came



Tony Brown



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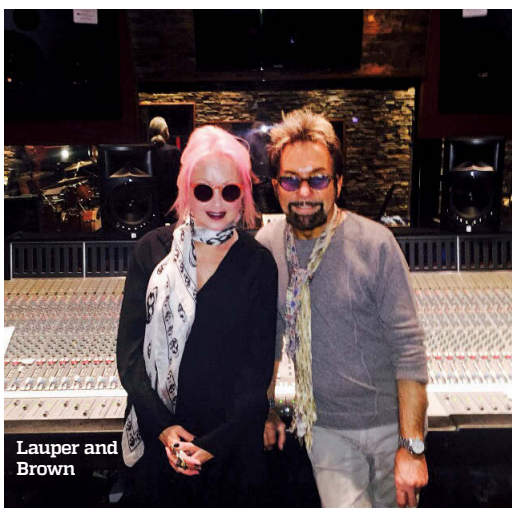
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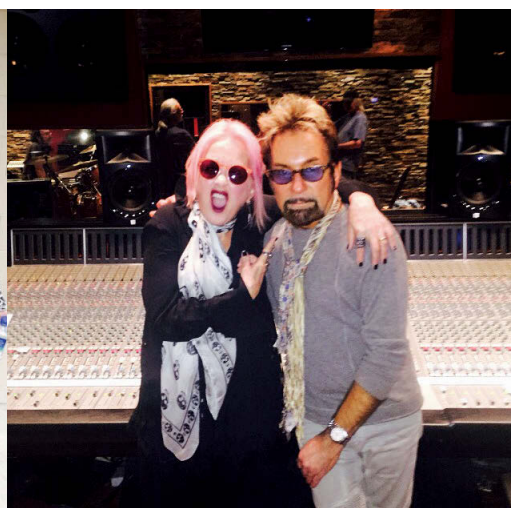
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Lauper and Brown



Engineer William Wittman, Lauper, Brown, and Emmylou Harris



from Blackbird Rentals. “And I’m using all that to record,” Wittman adds. “I don’t wait for the mix.”

Meanwhile, Brown concentrated on the performances.

“When you cut a record like this, you don’t want to copy the original record,” Brown says. “But there are certain facets of the original record you have to include, like on ‘End of the World’ there’s that piano arpeggio that Floyd Cramer was probably doing that Tom Bukovac did on guitar that brought it into 2016.”

Speaking of “End of the World,” Brown says that when Lauper finished singing the song, “She came out of the booth and she was in tears, and I was, too. She nailed me right in the heart.”

“End of the World” came out so great that what you hear on the album is the actual rough mix. (Wittman also mentioned that “Funnel of Love” is the rough mix after the background vocals were done.)

“People know Cyndi as a personality, but she is a great singer,” Wittman says. “When you’re that good a singer, you can make a blues record or a country record. She started in a rockabilly band, so she feels a connection to early country. There’s very little editing or trickery or overdubbing on the whole record.”

All of the guest vocalists were overdubbed due to scheduling, except Vince Gill, who sat six feet away from Lauper singing and playing acoustic guitar.

“Vince played and sang on the record live when we cut the tracks,” Lauper says. “He is an absolute shredder on the guitar, and he just has this great voice. And he has a very easy, funny, infectious personality that makes the session like a party. So it’s easy just to get down to making great music because everyone is so relaxed and free.”

Brown says Lauper gave Gill a choice of a few songs he could do and he chose “You’re the Reason Our Kids Are Ugly.”

“It was so funny because before we got to the studio, Cyndi said,

‘Ya know, I saw Vince at the Opry the other night and he had on these God-awful shorts. I hope he doesn’t wear those to the studio,’” Brown recalls. “I said, ‘He wears them all summer long.’ He shows up in those shorts and what ended up on that record was spontaneous. It happened on the fly. It was so funny.”

However, Brown says, Lauper was just a little bit intimidated by Willie Nelson’s iconic status.

“Willie Nelson is so sweet,” Brown says. “If you ask him, ‘Is that okay?’ he’ll say, ‘If it’s okay with you; but if it’s not, I’ll do it again.’”

Lauper even got Brown—who, in addition to playing with Presley, sat in with such artists as Emmylou Harris and Rosanne Cash—to play piano on “Night Life” after she found him showing Nathan how Floyd Cramer might have done something.

“Cyndi said, ‘You’re playing this,’” Brown recalls. “I said, ‘I don’t play on records anymore.’ And she said, ‘You are now.’ When it was all over with, I was going, ‘That was kinda fun.’ It was a moment for me.”

Brown loved the entire experience.

“A lot of artists are just wanting to cut a hit record,” Brown says. “You want to get to that hook in 20 seconds. This was about cutting quality. I told Cyndi, ‘The thing about this, as opposed to

having to please a program director or a three-minute single, is we just have to please your fans and you. We had to be just really good at this, and it turned out not to be work. It was so much fun cutting this record because we knew all we had to do was a really good job.”

They ended up producing a hit anyway, of which Brown is very proud.

He doesn’t just keep *Detour* in his car. He totes the CD wherever he goes. He recently went to Vegas to see Brooks and Dunn, Reba McEntire, and Lionel Richie—all artists with whom he has worked.

“I said, ‘Check this out,’” he says with a laugh. “I just don’t usually do that.” ■

“When you’re that good a singer, you can make a blues record or a country record. She started in a rockabilly band, so she feels a connection to early country. There’s very little editing or trickery or overdubbing on the whole record.” — William Wittman



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PAUL SPECIAL, LIVE ON THE NETWORK

Paul Special is a freelance broadcast music mixer who is regularly found mixing bands for ABC's *Good Morning America* at Times Square Studios in New York. He also mixes music for other ABC shows including *The View*, as well as shows for different networks like *106 & Park* for BET, and *You Oughta Know* for VH1, and *Front and Center* for PBS. As part of the *Good Morning America* team, Special and the show have been nominated for and won multiple Emmy awards. He loves to mix music, no matter the program. He sits daily at a Calrec Artemis board. Here's what he has to say:

What career path did you take to end up where you are today?

I started at Record Plant Studios here in New York City where our main focus was rock and pop records. My journey into TV and live production came about because Record Plant had two remote trucks, and I started doing a lot of work on those trucks for live records and specials like Live Aid, Farm Aid, Woodstock 94 & 99 and the Rock and Roll Hall of Fame Opening Concert. I learned a lot, not only about live recording, but also about TV production. Over time I began to work on less studio records and more live concerts, and live TV shows where music was an integral part of the show. I got involved with *Good Morning America* around 2000.

I still occasionally do studio records mostly for up-and-coming artists like Tom Nieman, The Walking Tree and Robert Hill. But somehow I've always ended up coming back to the live element in some sort of video/TV aspect.

There is a lot of buzz around various networking protocols at the moment.

The biggest problem is there are many different protocols, and sometimes it can be daunting to choose one protocol and commit. There's a lot of players in the field such as Rocknet and Dante, and those platforms have real footholds. Companies like Calrec are realizing it's not just an audio desk; it's a router. That's very much in line with what you'll find in any broadcast facility, the idea of being able to route signals from any point to any other point easily and efficiently. We're on one big Hydra2 network with full network control and more capabilities available to us.

The whole aspect of Hydra2 being able to port from one interface to another and not go through the board is great. A big part of my workflow involves the music inputs and performance microphones coming through my mic pre's, but I also send an ISO to the production mixers as they need that performance microphone for an interview, which will need to be gained and EQ'd differently. In the past I would have to take a port or direct out of a channel, go to a DA, and either line trim up or down depending on what they need. Now I just take the mic pre and send it to my desk and then take the mic pre and send it to their desk and



Photo: David Jensen

we're both happy. He can gain it how he wants with a trim and I'm still dealing with the mic pre and it works out great. In my opinion the Hydra2 mic pre's are as good as any mic pre I've heard. They are super clear, very transparent and the transient response is fantastic.

What challenges do you face when mixing a news/entertainment show?

The biggest challenge is the schedule—the 1 a.m. start is rough! We deal with a lot of inputs. A typical act would be anywhere between 32 to 48 inputs, the super-groups may have 70 to 80. We do a one-day wonder; we walk in at 1 a.m., set everything up, soundcheck it, do the show, tear everything out, and we're done by 11 a.m. When you're dealing with an act with 80 inputs, that's a lot of work to get done in a short amount of time. I can set up a few basic starting shows on the board that cover most of my I/O needs and processing for about 90 percent of what I'm doing.

Today we can handle a huge amount of I/O. Right now my rig has 96 mic pre's, 64 channels of analog I/O, 96 channels of mic splitters, six MAD1 boxes both with 128 in/outs and 96 channels of AES I/O. That's hundreds of I/O streams. I have a 128-track Pro Tools rig, as well. The kind of I/O we have hooked up to the Artemis is staggering.

Has the way you mix changed to cater for an audience that now watches on mobile and handheld (tablet) devices?

There are some changes I wouldn't normally do in a studio record mix. I'll tend to push the low frequencies more for a broadcast mix to get a nice sense of air moving as people tend to be listening on smaller speakers. Also I'll minimize my stereo spread so if someone is only hearing one channel it still makes musical sense.

What do you think the future holds for broadcast technology?

AoIP and audio networks based around routing capability over mixer-surface capability is definitely in the next three to five years, especially in the major networks. The idea of a centralized hub that all the I/O in the building comes into, and all those resources shared by the different control rooms in the building—or even the wider network outside of the building—is already happening. ■

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WORKHORSE INSTRUMENT MICROPHONES FOR LIVE SOUND

BY STROTHER BULLINS

As subjectivity guides the practice of choosing the best microphone for the best sound source, preferences for specific models, as a rule, abound. However, the immediacy of live sound work begs for tools that are generally less specialized, working well on a wider range of sound sources; are impeccably built and more resistant to drop damage; and, we hope, are more affordable than those most often residing in climate-controlled, padded microphone lockers.

This month I share a variety of transducers that are no-brainer “workhorses” for the road, proven on the most common of backline sound sources (drums and speaker cabinets) as well as more specific tones, too (piano, horns, acoustic strings of many kinds, etc.). In the interest of focus, I have not included wireless and/or miniature microphones in this collection, choosing to highlight models most often placed on a stand or that feature integral hardware for specific instrument mounting.

OVERHEAD WITH CONDENSERS

Whether for performance or recording, it's good to start by picking the overhead microphone(s), almost always a condenser well suited for drum set—generally the most sonically complex instrument on any stage. Good drummers usually “mix themselves,” meaning that a balanced capture of the drum kit will give the engineer the mix that the drummer intended. There's no better way to get a realistic overall sound from drums than from an overhead mic, or two for stereo imaging; most preferable small-diaphragm condenser microphones are frequency-flat, so as to give the most realistic read of the sound source. From there, augmentation via kick, snare, tom, and perhaps cymbal “close” mics flesh out the overall sound, adding complexity, plumpness and desired stylistic emphasis.

With this in mind, below are a few ideal overhead mics ready for mono or stereo use. Of course, all these models are worthy options for varied condenser-friendly sound sources such as string and wind instruments, piano, and more.

Shure SM81: This rugged industry-standard small-diaphragm cardioid condenser offers a two-setting bass roll-off, -10 dB pad and very accurate “studio worthy” frequency

response. The SM81 handles a lot of SPL, is easy to place, whether on a specific cymbal, as an overhead mono mic, or as a pair. As such, it also shines on acoustic guitar and other detailed acoustic instruments.

Shure KSM141 Stereo Pair: One of my favorite small-diaphragm condenser mics ever, the KSM141 is recommended here as a stereo pair because it is of very high quality yet relatively affordable. Its switchable cardioid or omnidirectional patterns make it most useful in virtually any application, studio or live. You'll need two, trust me.

Blue Hummingbird: This small-diaphragm cardioid condenser from Blue, borne from the company's well-known Bottle B1 capsule, features a most handy and unique pivoting capsule segment, allowing for 180 degrees of detailed adjustment. The added convenience and accuracy of using pivoting capsules gives the Hummingbird an edge in many situations—especially live ones.

CAD Audio e60: The super-affordable e60 (\$99 street) is a very good-sounding small-diaphragm cardioid condenser capable of handling high SPL, features a three-position high-pass filter and 10dB attenuator, and is specifically built and designed for the road. Its compact size, rubberized exterior and overall flexibility make it a low-cost winner on overheads, most drums, cymbals, horns, strings, guitar cabinets—virtually anywhere a standard cardioid condenser is used.

UNIQUE PLACEMENTS

DPA d:vote 4099: The 4099 is a lightweight, miniature supercardioid condenser specifically designed for instrument usage with a functional range of instrument-specific mounts, including new drum mounts; comprehensive stand mounts are available, too. As such, the d:vote 4099 range is among the most flexible condenser instrument mic ranges available in the industry. True to the source, the d:vote 4099's sound is dead-accurate. It is designed with either of two different microphone sensitivities: normal for the guitar, sax and violin versions, which handle 142 dB before clipping; and a high SPL version for trumpet, which handles 152 dB before clipping.

Earthworks PianoMic: An acoustic piano can often be a difficult instrument to capture in live settings due to a number of factors, especially the inevitable bleed of surrounding



AEA NUVO N22



AKG D12 VR



AKG D112



Audio-Technica BP40



Audio-Technica ATM650



Audix ADX60

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instruments. The PianoMic, a stereo omnidirectional rig featuring small-diaphragm Earthworks condensers, is a de facto “system” that goes a long way in simplifying the process of capturing piano, allowing the engineer to work with the lid down with little trouble.

Shure KSM9: The flexible KSM9 with switchable supercardioid/cardioid patterns is designed and marketed as a handheld vocal condenser mic, but is a whole lot more than that. There’s no reason why this mic shouldn’t be used anywhere around a drum kit or percussion setup, as well as on horns, strings and other acoustic instrument accouterments.

KICK OUT THE JAMS

While I find overhead or room microphones as the gist of a drum (or ensemble) sound, I enjoy picking out a kick drum microphone based on its flavor. Some are rather dramatically voiced with sculpted frequency responses; others were first built for other purposes yet discovered to be worthy on bass drum for a variety of reasons. A savory mix of both kinds is listed below, and I love them all.

AKG D112: Like the ubiquitous Shure SM57, we’ve all benefitted from this dynamic cardioid and have learned exactly what it sounds like. In addition to kick drum, it works well on bass guitar cabinet, upright double bass, and more.

AKG D12 VR: An updated version of AKG’s venerable D12, the D12 VR offers four different tonal options and utilizes phantom power. As such, the D12 VR could be the most versatile kick drum mic on the market today.

Shure SM7B: While not exactly a “live” product, the SM7B is a musical broadcast vocal dynamic cardioid microphone that works on nearly anything. It’s superb on kick drum.

Audio-Technica BP40: Like the SM7B, this “large diaphragm” BP40 is also a broadcast-targeted dynamic cardioid that works amazingly well on kick drum, in a more accurate “un-hyped” fashion.

Audix D6: Rather dramatically voiced for low end and transient emphases at upper frequencies, the D6 is one of the most specifically sculpted cardioid dynamics for bass drum, toms and bass guitar cabinet I’ve ever used—and all in a full, punchy, rock-friendly manner.

Electro-Voice RE320: For whatever reason, the RE20, to me, is almost “too studio” to take out live, even though the very similar dynamic cardioid broadcast mics detailed above are close—maybe it’s simply its larger size? But for some reason, its offspring—the RE320 with kick drum EQ switch—makes the size all worth it to me, at least sonically. It’s also \$299 street rather than the RE20’s \$450 street.

ON BOUNDARY MICROPHONES

I love the ease of use and sound of a boundary microphone inside a kick drum. It sounds great alone on kick but also makes a great pairing with an externally placed front head microphone for a blended, more complex bass drum sound. That said, place a common boundary such as the BETA 91A in a kick and grab a SM81 for a mono overhead/kit “top” mi-

crophone: as such, drummers will be ready for most any of “the 99-percent” gigs out there.

For drummers who occasionally insist on leaving a fully intact front head on a bass drum—offering no port for inserting microphones—a boundary such as the previous incarnation of Shure’s BETA 91 can deliver the benefits of internal drum miking thanks to its mini XLR connector. (And be sympathetic, please; a bass drum feels quite a bit different to play with a front head port, or especially with no head at all, thus affecting performance). Luckily, a mini XLR is just small enough to be threaded through most drums’ air vent grommets—those little holes usually placed at the manufacturer’s badge. Currently available in the marketplace, Audix’s ADX60 is a notable choice, as most boundary mics handling higher SPLs do not provide a mini XLR; the ADX60’s maximum SPL rating is 130 dB.

STANDARD DYNAMICS

Shure SM57: The SM57 is the dynamic standard for snare drum as well as speaker cabinets, horns, toms and much more. For an new angle on the SM57, check out Granelli Audio Labs’ G5790, a modified SM57 featuring a 90-degree bend in the mic, allowing for more low-profile placement options, especially useful on snare drum, various guitar cabinet setups, etc.

Shure SM58: A base standard for vocals as well as most any other sound source on stage needing a cardioid dynamic, the SM58 has many competitors from other manufacturers, arguably for good reason—it is well-voiced for a wide range of applications.

Audix i5: Besides sounding quite good on guitar cabinet, the i5 dynamic cardioid works well on snare drum and toms, too. It’s notably overbuilt, so quite road or club worthy, too.

Audio-Technica ATM650: Years ago, in a “blind test” shootout with five comparable dynamics, A-T’s ATM650 hyper-cardioid dynamic was my favorite on snare. It’s full, impactful and a great overall reading of a typical rock snare drum.

Sennheiser MD 421: Commonly placed on toms, this unique cardioid dynamic works nicely on most drums of all types, as it reaches low frequency-wise and provides users a five-position bass roll-off switch. It sounds great on guitar cabinets, too. After all these years, the jury is still out the usefulness of its mic clip, yet it remains the same today. I’m always happy to use the MD 421 on most any backline sound source, and vocals, too.

Sennheiser e604: The compact e604 dynamic cardioid simply sells itself. It’s a superb-sounding tom or snare microphone, tiny and quite affordable, too (\$130 street). It comes with its very useful drum rim mount, too.

RIBBON MICROPHONES

Increasingly popular onstage, as their high-SPL capabilities improve through manufacturer innovation, ribbon microphones have found plentiful use in front of guitar cabinets and other acoustic live sound sources. As such, I’ve recommended a few road-ready and worthy models here, as they



Audix D6



Audix i5



Blue Hummingbird



CAD Audio e60



CAD Audio D82



DPA d:vote 4099



Earthworks PM40 Piano Mic System



Electro-Voice RE320



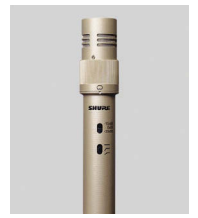
Royer Labs R-121



Sennheiser e604



Sennheiser MD 421



Shure KSM141



Shure SM57



Shure SM58



Shure SM7B



Sure SM81



Shure KSM9

have been proven by endorsement of peers or by my own personal use.

AEA NUVO N22: The AEA N22 is a phantom-powered ribbon microphone well suited for instrument applications due to its slight upper midrange emphasis and trim bottom end. The NUVO N22 is AEA's most affordable, and I've never met an AEA user that didn't love their ribbons, whether for studio or live use.

Royer R-121: As ribbon microphones have become more and more popular in live applications, the impeccable build quality has secured Royer at the top of the list as far as "live ribbon microphones" are concerned. Stacked up against an impressive bunch of world-class ribbons,

the R-121 will never disappoint. For those desiring an active ribbon, the Royer R-122 is a worthwhile consideration.

CAD Audio D82: The D82 is the most affordable yet capable ribbon microphone targeted for live use that I have found (at \$159 street). For the budget-restricted, buying a D82 can open the doors to live ribbon use; it's a nice alternative to the "SM57 on guitar cab" approach and, in my own review of the D82, a saxophonist I worked with live bought his first ribbon microphone ever, the D82, following the show. ■

Strother Bullins is Technology Editor for NewBay Media's AV/Pro Audio Group.

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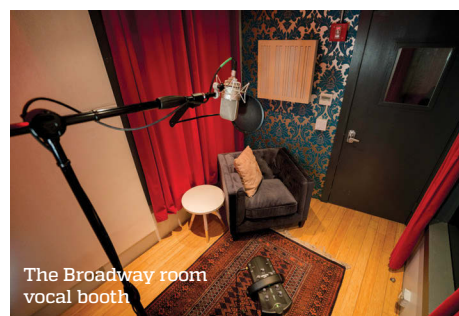
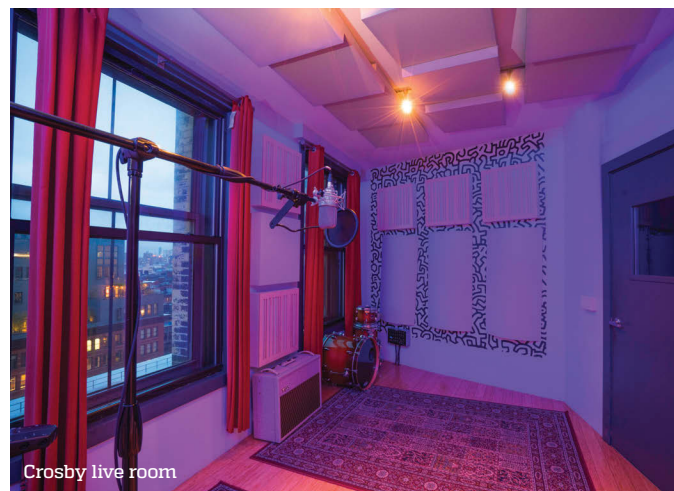
After six years of serving clients, the team at SweetSounds decided it was time for a little recording studio nip and tuck. From the moment you walk in to all the way to the very back of the building, they've made improvements to all aspects of their space.

The facelift started recently when freelance studio designer Nick Emmett visited to help design new sound panels for the live room and the vocal booth. They built out 8-foot-tall by 3-foot-wide panels in the Broadway (B Room) vocal booth and did a similar build in the Crosby (A Room) live room, with more custom work throughout the live room space. They also added absorption-patterned panels onto the ceiling, and enlisted GIK Acoustics to build custom diffusors and polyfussors for placement throughout the room.

"We have seen a tremendous improvement in both spaces—the Broadway booth being perfect for vocals and solo instruments, while the diffusion and space in Crosby has now opened up the 'lively' sound of drums and smaller instrument tracking, yet keeping it warm and tight enough for vocal tracking sessions," says Executive Producer and Founder Dinesh Boaz. "The clients have also appreciated the update and new aesthetic feel throughout the rooms."

From there, Boaz says they just kept adding things to their to-do list—new rugs, lights, wallpaper, diffusors, artwork, and so on. The goal was to keep the boutique feel but take it up a notch, giving it a designer and chic aesthetic, yet comfortable and homey vibe for artists to bring out their best work.

"I've been so excited to talk about all of the renovations we've been doing around here lately, and I think that's because I've seen how much our hard work has started to pay off," Boaz says. "I see new clients constantly being blown



away by the setup, people are in love with the aesthetic, and we've been able to steadily grow our network through all of the positive energy."

They recently swapped out their Neve 5088

console in the Crosby room with a more modern, faster-moving and easier to upgrade/maintain setup—both studio rooms are now equipped with Sterling Modular desks, Apogee Symphony audio interfaces and Legacy Audio mains, as well as tons of great pre's, EQs and compressors, including those from API, Neve, Manley, Distressor and UAD. They also have an ADR setup in the Broadway room.

Some recent sessions—all in the Crosby room—include *Saturday Night Live*'s Jay Pharoah with engineer Brian Chirlo working on a track produced by Myles William for Future Moguls. They used a Neumann U 87 through a Heritage 1073 and a UA 1176, as well as RVerb, H-Delay and Crystallizer plug-ins...James Brown Orleans was tracking and mixing with engineer Josh Giunta. For vocal tracking they used a Neumann TLM 49 through Neve 511, API 550A EQ, Avalon Vt-737 EQ and Distressor; and Waves Ren EQ, Waves Q10, UAD Pultec EQ, Waves R-Resser, UAD LA-2A, Waves L2 plug-ins on vocals. For acoustic guitar tracking, they used a Neumann KM 184 and a Heritage 1073, and the following plug-ins: Waves Ren EQ, UAD Pultec EQ, UAD Neve 33609, EchoBoy and UAD 140 Reverb...Deepak Chopra worked on a meditation product voiceover with engineer Jay Wu Jun Yow. They used a TLM 49 through an Avalon Vt-737, a Neve 5088 channel and Pro Tools, as well as the plug-ins (Avid channel strips) RDeesser and RVox...Arianna Huffington did a podcast Interview for The James Altucher Show with Jay Wu Jun Yow. On Altucher they used a TLM 49, Neve 511, and Distressor, and on Huffington they used a TLM 49 and an Avalon Vt-737—all into Pro Tools...Engineer David Wrench mixed a project for Tei Shi using Pro Tools and UAD plug-ins...Mixing and tracking engineer Eryck Bry worked on artist production and used a Neumann U 87, Heritage 1073, Distressor, and 1176 into Logic and Pro Tools. ■

THE BUNKER ACQUIRES, REBUILDS STEINWAY C



The new Steinway C at The Bunker Studio.

The Bunker Studio recently replaced its Steinway M—which had been a fixture at the studio for about six years—with a Steinway C.

The piano is a full rebuild by Jim Ialeggio of Grand Piano Solutions in Massachusetts. Every element of the piano has been reworked, replaced and investigated to make sure it is functioning at the highest level. The piano is installed in Studio A and can be moved between the live, string and rhythm rooms with ease.

As the studio grew, staff began to realize the need to provide clients with a bigger piano. The Steinway C

fit the bill: At 7 feet 6 inches, it provides the flexibility of placing it in multiple rooms in Studio A. It's the second largest Steinway, and was designated as a "semi-concert grand" for small to medium-size concert halls. According to Aaron Nevezie, co-owner and chief engineer, the piano was manufactured in 1894, and Steinway only made the model C in New York until 1936. (John Davis is also co-owner and chief engineer at The Bunker.)

While The Bunker's Steinway M had many fans, it was a little too small a piano for some players. "We wanted an instrument that would be undeniably great—inspiring from the moment a musician sat down to play—and large enough to work for featured piano performances like solo classical or jazz piano trio," Nevezie says. "There seems to be a lack of truly excellent pianos in the New York studio scene, and it was important to us to offer this option to the community here."

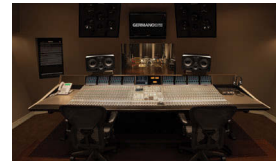
Nevezie says rebuilder Ialeggio is a master craftsman, and his process includes installing many special features. The fully tempered duplex scale protocol maximizes treble and high treble presence in a way that significantly improves the treble response. The bass section uses iron-wound strings rather than the usual copper wrap. These strings have a clearer fundamental with less "clanging" harmonic, leading to a focused, strikingly warm bass sound. The action is by WNG and made from composite/carbon fiber parts rather than the traditional wood pieces.

"Those are just a few of the unique technical qualities of this piano," Nevezie says. "The actual sound of the instrument is incredibly even across the entire range. A client even described it as 'freakishly even.' The low end is powerful and clean, enabling the pianist to play voicings that would be muddy on other instruments, and the high end is strong and sparkling. We're excited to get to know this instrument in the studio and hear it played by the many amazing pianists who pass through The Bunker."

Over the next few weeks, professional piano tuner and technician James Carney will be tweaking the details as it settles into its new home.

In addition to the new piano, Nevezie says the The Bunker added a vintage LA-2A for each studio, a vintage LA-3A that will float between rooms, a Distressor for each room, GML 8200 Stereo EQ for each room and a Lexicon 480L for Studio B, as well as another vintage RCA-44BX ribbon mic and stereo Dolby SR for mixdown to the 2-track tape machine. They also added two ATR 102 2-track tape machines, one ½-inch and one ¼-inch. Heads are being relapped by John French and they will be overhauled by studio technician Ken McKim before being placed in service. ■

SESSIONS: NEW YORK CITY



Germano Studio 1

GERMANO STUDIOS

Elle King recorded in Studio 1 with Dave Rowland engineering...Designer recorded in Studio 2 with Rowland engineering and Designer self-producing...

The Flaming Lips featuring Miley Cyrus recorded in Studio 2 with Kenta Yonesaka engineering and Wayne Coyne producing... Lewis Hamilton recorded in Studio 1 with Patrizio Pigliapoco engineering, and various producers...Bon Jovi recorded in Studio 1 with Yonesaka engineering, and John Shanks and Jon Bon Jovi producing...Zayn Malik recorded in Studio 2 with Malay Ho producing and engineering...Ryuichi Sakamoto was in Studio 2 doing a 5.1 mix for the film *IKARI*, with Conrad Hensel engineering and Sakamoto self-producing...Kygo wrote and recorded in Studio 2 (also self-engineered and self-produced)...The studio also recently added Pro Tools 12.4 with HDX2 64/64 HD I/O with the new Mac Pro Cylinder computers for both Studio 1 and Studio 2.



Arto Lindsay (left) & Daniel Schlett

STRANGE WEATHER

Arto Lindsay was in the studio with producer/engineer Daniel Schlett. The Neumann U47 was the clear standout when it came time to record Lindsay's vocals.

That paired with a Collins 26U for compression gave his voice an extreme clarity and very soft, big sound. They also used Oto Machines Biscuit to treat drum, percussion and guitar tracks with heavy amounts of distortion and harshness.



Mr. Probz (left) & Mark B. Christensen at Engine Room Audio

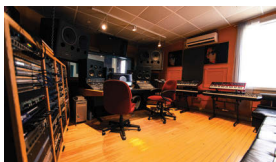
ENGINE ROOM AUDIO

Mr. Probz came by the studio while in New York City to work on new music with chief mastering engineer Mark B. Christensen in the Mezzanine Studio. Mr. Probz then released a video for his latest single

"Fine Ass Mess," which was mixed and mastered by Christensen... French Montana released the video for his latest single "Figure It Out" featuring Kanye West and Nas, which was mixed in the studio's Mastering Suite by Anthony "AntMixedIt" Daniel, along with assistance from Danny Sardi, and mastered by Dan Millice... Legendary MC Rakim stopped by Engine Room to work on an exclusive project with engineer Sardi in the Mezzanine Studio... Willa released her debut album, *Criminals + Dreamers*, which was mastered in the Mezzanine Studio by senior mastering engineer Andy VanDette...Angie Martinez stopped by the Mezzanine Studio to record an interview for *The Combat Jack Show*, with Jeffrey Greenspan engineering...Chief executive of the Loud Speakers Podcast Network Chris Morrow and *The New York Times* shot a feature in the live room and the Mezzanine Studio.

SMASH STUDIOS

McCoy Tyner Jazz Pianist (John Coltrane, Michael Brecker, Stanley Clarke) was in the studio for live tracking of jam session consisting of drums, upright bass, alto sax and acoustic piano. The session was self-produced and engineered by studio manager/



Smash Studios

Tube 47 as the main microphone in a far position, and a 421 right on the bell of the horn for a close-mic setup. On upright bass they used a Cascade FAT HEAD ribbon mic and a direct input into a Demeter Tube DI. For grand piano, they used an Oktava 012 pencil condensers close-miked. They also placed a spaced pair of U 87s in the room and kept low in the mix, and chose to use minimal processing going to Pro Tools, allowing the natural room tone to speak for itself...Pop singer Catie Lee worked on recording and writing for 7Grand Productions, with Clay Sheff producing and Murphy engineering. Lee's vocal chain consisted of a Neumann U 47 into a Neve 1063 preamp, into a Tube-Tech PE 1C EQ into Tube-Tech CL 1A compressor...Brooklyn-based group Flatbush Zombies came to Studio B to rehearse for a performance on *The Tonight Show Starring Jimmy Fallon* with the Roots. Murphy engineered the project...Moxie Raia worked on preproduction for Barclays Theatre, with Murphy engineering.



Scott Jacoby (left) & Cory Henry in Eusonia Studios

EUSONIA STUDIOS

Cory Henry worked on *The Funk Apostles* (Ground Up/Universal) with Eusonia owner/engineer Scott Jacoby co-producing with Henry, and Jacoby, Jack Dine and Easton Morang engineering (Jacoby also mixed). Henry did most lead vocals on a vintage RCA

77DX through an Avalon 2022 pre, a Tube-Tech CL 1B and a Burl B2 Bomber ADC. Other vocals were on a vintage Shure 520 SLB...Michael Blume worked on the song "The Same" (S-Curve), with Jacoby and Blume co-producing and Jacoby, Dine and Morang engineering (Jacoby also mixed). They used vintage Sequential Circuits Prophet T8 all over the track through API 512 pre's...José James worked on the song "Live Your Fantasy" (Blue Note), with Jacoby and Tario Holmes producing and Jacoby, Dine and Morang engineering. James' lead vocal was done on a Charter Oak 538B through a vintage Neve 1084 pre, a Tube-Tech CL 1B and a Burl B2...Pressing Strings worked on an EP, with Jacoby producing and Neil Dorfman, Jacoby and Dine engineering (Jacoby also mixed). They used Shadow Hills Mastering Compressor, Chandler Curve Bender, Soundtoys plug-ins and Massey Plugins...Documentary producer James Jacoby worked on a documentary for PBS *Frontline*, with Scott Jacoby composing with musicians Steve Hudson, Hill Greene and Michael Sarin. Scott Jacoby, Dine and Morang engineered (Scott Jacoby also mixed). They used an SSL G Series Bus Compressor, Manley Massive Passive, Retro Instruments 2A3 and Electronaut M63 tube pre.



Reed Black at Vinegar Hill

VINEGAR HILL SOUND

Solange Knowles was in the studio with owner/engineer/producer/mixer Reed Black. They used tons of keyboards, from a 1906 Steinway O to a vintage Yamaha DX7. Keyboard choice and layers were the ticket to making the right soundscapes for Knowles' songwriting...

Sorcha Richardson worked with producer/engineer Eben D'Amico (Black mixed the project). D'Amico and Richardson produced a mixture of guitars and austere vocals with a highly orchestrated backdrop of synthesizers and samples. Richardson's vocals were processed using granular synthesis to create a broad spectrum of effects. Black ended up re-amping all the guitars, which had been recorded DI for workflow reasons, through an unusually wide variety of amps, mics and mic positions to make every guitar tone unique...Jungle Junkies did a full-band recording with "keeper" tracks for all instruments except for vocals, with Black engineering and mixing. They put the amps in the iso booth and got

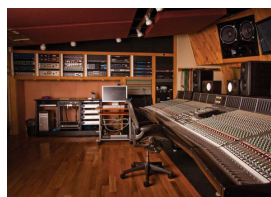
great separation keeping them decently close-miked. The drums, guitarist and bass player were together in the live room to keep the vibe authentic and the instrumentalists interacting throughout the songs. Vocals were recorded through a Neumann M 249b...Chely Wright recorded vocals through a Bock 251, driven decently hard through a Neve preamp and a Retro Instruments 176, followed by a Sphere 920 thumbwheel EQ. Joe Henry produced and Black engineered...Composer TJ Walkley worked on the score for the original soundtrack for the film *Wilde Wedding*, with Geoff Sanoff engineering. They put as many musicians in the room as possible. Drums along with upright bass (miked with an original AKG C12 and a Neumann KM 184) and guitar amps in the booth; strings and harp played as a section, horns. The goal was to take advantage of the 16-foot ceilings and good-size room to get an organic blend of instruments in the room mics, which were Neumann M 249bs.



Michael League (left) & David Crosby at Flux Studios

FLUX STUDIOS

KAMAU worked on the EP *A Gorgeous Fortune* in the Revolution Room with producer NoWyld and engineer Ryan West. They used a Lauten Audio Atlantis and Great River 500 Series preamp for vocal tracking...Jessica Molaskey worked on a Joni Mitchell project in the Dangerous Room with producer John Pizzarelli and engineer Bill Moss...David Crosby worked on the album *Lighthouse* in the Fabulous Room with producers Michael League and Fab Dupont (Dupont also engineered). They used all analog reverbs (EMT 140, BX10, BX20)...Jeremy Kisling worked in the Dangerous and Fabulous rooms with Dupont producing and engineering. They used a Dangerous 2-Bus+, Pro Tools 12 and Dangerous Music Convert-8...Amy Lee worked with producer Guy Sigsworth and engineer Jake Miller in the Dangerous Room.



Studio B SSL J9000 Control Room at Premier Studios NY

PREMIER STUDIOS NY

Nicole Scherzinger was in Studio E Production Room working on vocals for the *Dirty Dancing* soundtrack (Lionsgate Media) with producer Adam Anders, engineer Alex Anders, and assistant Angelo Payne. They used a Neumann U 87 mic through a Neve 1080 and a Vintage Teletronix LA-2A...Justin Bieber was working in the Studio B SSL J9000 Room writing and on vocals

(Universal Music), with various producers, engineer Ari Raskin and assistant Ignacio "Iggy" Lecumberri. They used a Sony C-800G through a Neve 1073 and Tube-Tech CL-1B...The show *Love & Hip Hop* (VH-1) season six (and now doing season seven) was filmed in both the Studio A SSL J9000 Room and the Studio B SSL J9000 Room. Eastern TV produced, with engineers Angelo Payne & Gonzalo "Geeflow" Contreras and assistants Lecumberri and Derlis Chavarria. They used a Sony C-800G through a Neve 1073 and a vintage Teletronix LA-2A...Stephen Colbert did voiceover work for *The Mindy Project* (Fox Television) in the Studio A SSL J9000 Room, with producer Jacob Merryman, engineer Steven Mackiewicz and assistant Andrew Goetz. They used a vintage Neumann U 47 mic through a Neve 1073 and the Teletronix LA-2A, and also Telos Zephyr Xstream ISDN @48k...Nick Jonas and Ryan Tedder from One Republic worked on filming two shoots for the Beats By Dre Selfie Commercial (Apple Music/ Beats One Music) in the Studio B SSL J9000 Room, with producers Ramble West and Justin Benoliel, engineer Contreras and assistant Carlos Vives. They used a Neumann U 47 mic through a Neve 1073 and the Teletronix LA-2A...Jeffrey Wright worked on voiceovers for a major motion picture (Pixar, Inc.) in the Studio B SSL J9000 Room with producer Jeremy Slome, engineers Andy Manganello and Mackiewicz and assistant Vives. They used a Neumann TLM 170 mic through Focusrite Red7, a PolyCom System, and a Telos Zephyr Xstream ISDN @48k...Mac Miller worked on vocals and mixing for a new album (Warner Bros Records) in the Studio B SSL J9000 Room with engineer Vives and assistant Derlis Chavarria (Miller self-produced). They used a Sony C-800G mic through a Neve 1073 and a Teletronix LA-2A.

PARABOLIC NY

BY JENNIFER WALDEN



Opening a new studio is a game of numbers, but for Parabolic in New York City it wasn't about the numbers you're probably thinking of. It was actually about the number of columns, and the fewer the better. Sound supervisor/re-recording mixer Lewis Goldstein explains: "In New York, the buildings have a tremendous amount of columns. Trying to find a floor in Manhattan that had a minimum of 24 feet between columns was really hard. Also, the space had to have enough ceiling height to create the mix stage we wanted." Goldstein's search ended on the fifth floor of 18 West 21st in Manhattan's Flatiron district.

Prior to opening Parabolic NY in 2011, Goldstein clocked more than 25 years of sound editing and mixing experience at facilities on both coasts. He spent his early sound editing years in L.A., and then settled back in New York, working as a sound editor at large editorial houses before striking out on his own. In New York, Goldstein would edit at one facility, record ADR and Foley at other studios, and then mix at facilities that would accommodate outside mixers. "I realized it would be much easier if I had everything under one roof. I looked at the math of what I was spending to utilize those other facilities and it seemed like a really good idea to build a facility designed specifically for the work that I did," says Goldstein, who has more than 200 sound editing and mixing credits, including the films *Casino*, *The Big Lebowski*, *Crouching Tiger, Hidden Dragon*, and *Moonrise Kingdom*, and TV shows like *Louie*, *Broad City* and *Younger*.

While planning out Parabolic NY, Goldstein brought in architectural acoustical designer LP Swist to create a dub stage that would please the ear and the eye. "Larry [Swist] had phenomenal design concepts for Stage A. Its sound translates to other theaters seamlessly. Larry built that room with incredible sonic isolation, and just an amazing acoustic sense," says Goldstein.

Isolation is important when you're in a building with neighbors above and below. "We had to be able to play back at levels that typically would cause a landlord concern. Case in point—the mixes on *American Ultra* and

Purge 3: Election Year," he adds. "Even in moments of some extreme levels, we never had comments from our neighbors in the building." Goldstein also appreciates the room's superb low-end response, which is not easy to achieve in a room that is only 34 feet long.

Stage A is a Dolby-certified 7.1 mix stage outfitted with Avid's 48-fader D-Control surface. Three Pro Tools 12 HD Native rigs and an HDX system connected via MADI handle playback and stem record. Main monitors are JBL 4670Ds, with JBL 8340As for surrounds, and two JBL 4645C subwoofers. Plug-in packages include Avid, Waves, and FabFilter, plus Audio Ease's Altiverb 7, reFuse's Lowender, and iZotope RX Advanced.

Stage A is the gem in Parabolic's crown, which also sports a second, smaller Dolby-certified mix stage, ADR stage, Foley pits and sound edit suites.

Goldstein designed Parabolic to support facility-wide collaboration. On a technical level, all the rooms are connected via two 100TB servers, but more importantly, the sound team is connected from a personality standpoint. "The Parabolic family—that's a key word. Many of my crew members have been with me for years," says Goldstein.

He points to ADR supervisor Cate Montana, who has been on Parabolic's team since her 1999 internship on the film *Boys Don't Cry*. Now, she handles ADR and the duties of studio operations manager—a natural transition, according to Goldstein, because Montana knows exactly what needs to happen on a daily basis to make Parabolic run smoothly. Helping to make the mixes run smoothly is re-recording mixer Tom Ryan. Initially, Goldstein mixed all of Parabolic's projects himself, but now he and Ryan split that responsibility. "Tom [Ryan] has been with me for so many years that our working style is completely in sync. It really makes it effortless for us to collaborate with many of our clients," he says. Other team members include sound effects editor Alex Soto, ADR recordist Jerrell Suelto, Foley recordist/editor Wen Hsuan Tseng, and sound assistants Alfred DeGrand, Linzy Elliot and Andrew Mastronardi.

Over the past five years, Parabolic has built a steady base of clients from the film and TV industries. Many of Parabolic's TV clients have series that get renewed for second, third and fourth seasons. In the case of Louis C.K.'s series on FX called *Louie*, it was five seasons. Goldstein feels, "We've become part of the process with them." Other current shows include Comedy Central's *Broad City*, FX's *Sex&Drugs&Rock&Roll* by Denis Leary, Hulu's *Difficult People*, Bravo's *Odd Mom Out*, and TV Land's *Younger* and *The Jim Gaffigan Show*.

On the film side, Parabolic handles the full post sound package on roughly 10 independent films a year, plus one or two major studio features. Past work includes *American Ultra* starring Jesse Eisenberg and Kristen Stewart, *Begin Again* by writer/director John Carney, Universal's *Purge 3: Election Year* (in theaters July 1), and the upcoming 20th Century Fox release *Keeping up with the Joneses*, starring Zach Galifianakis and Jon Hamm.

"Our space is tailored to our specific workload. We can ramp up for all of these jobs at any given time, and we usually have several of them happening simultaneously. That's the reason I built Parabolic—to have a facility and a dedicated staff to work on our clients' projects creatively and cost-effectively. And to do it all in a warm, welcoming atmosphere," concludes Goldstein. ■

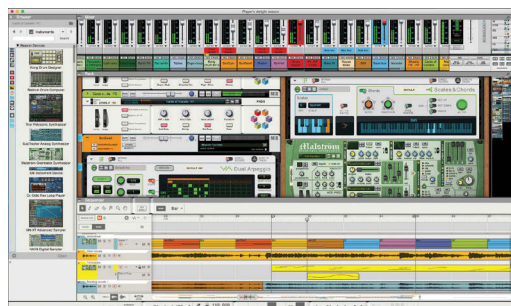
Tech // new products



SYNTHAX RME FIREFACE UFX+

Redesign Brings Thunderbolt, USB 3 and DSP

RME's new flagship audio production tool, the Fireface UFX+ (\$2,999) features 188 channels including analog, ADAT, MADI, AES, SPDIF, USB 2, USB 3 and Thunderbolt I/O. It also includes more powerful DSP and a new optional ARC remote control (\$189). Second-generation hardware offers improved USB functionality and reliability, even with slower or multi-partitioned USB thumb drives. Thunderbolt gives the Fireface UFX+ real PCI Express audio performance under Mac and Windows, with the lowest latency, lowest system overhead and lowest CPU load.



PROPELLERHEAD REASON 9

New Tools and Sounds

Reason 9 from Propellerhead (\$449) introduces three Player devices, including Note Echo, which creates rhythmic, pitched MIDI delays for melodies, drum rolls and more; Scales & Chords, which turns simple melodies into harmonies and chords; and Dual Arpeggio, which transforms chords into intricate and inspiring rhythms. Reason's new Pitch Edit mode fixes out-of-tune notes, adds vibrato, changes your timing and creates new melodies from your recording. Reason 9 also comes with 1,000 new sounds, plus Reason rack is enhanced with key workflow improvements and darker theme options.



BUZZ AUDIO DBC-M MASTERING COMPRESSOR

Self-Adjusting Ratio Offers Unique Dynamic Control

A mastering-oriented version of the popular DBC-20 Diode Bridge Compressor, the DBC-M (\$2,595) is equipped with fully switched controls for repeatable settings of every parameter, plus a self-adjusting ratio whereby the compression ratio is progressively increased with deepening gain reduction. The DBC-M audio path uses Class-A discrete amplifier designs in a balanced configuration from input to output, with a radio steel-laminated transformer to couple to the diode bridge element.



LAUTEN AUDIO LA-320

Cardioid Tube Condenser

Lauten Audio's LA-320 professional large-diaphragm vacuum tube studio condenser vocal microphone (\$799) features a 1-inch pressure gradient condenser capsule with a fixed cardioid polar pattern. Also included is a dual-triode vacuum tube, transformer-balanced output, independent high- and low-cut filters, custom dedicated power supply, tube microphone cable, spider shock-mount and hard case. The microphone features two independent filters, available with easy to engage switches.



POSITIVE GRID PRO SERIES EQ

Digital, Tube and Passive Plug-ins

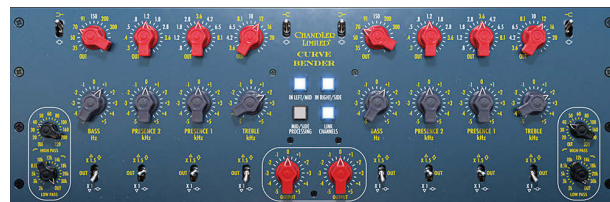
Positive Grid has released three new EQ plug-ins (\$99), including Digital, Tube and Passive EQs that bring component-based EQ for the first time in a plug-in. Positive Grid's unique EQ matching works by analyzing the difference between the signal from the input track and sidechain track and adjusts the controls to match the different curves. Digital EQ features five bands plus highpass and lowpass filter for each channel. Tube EQ comes with 12AX7, 12AU7 and 12AT7 preamp tubes, while Passive EQ offers 3-band controls for each channel.



DYNAUDIO PRO LYD MONITORS

Three Affordable Near-Fields

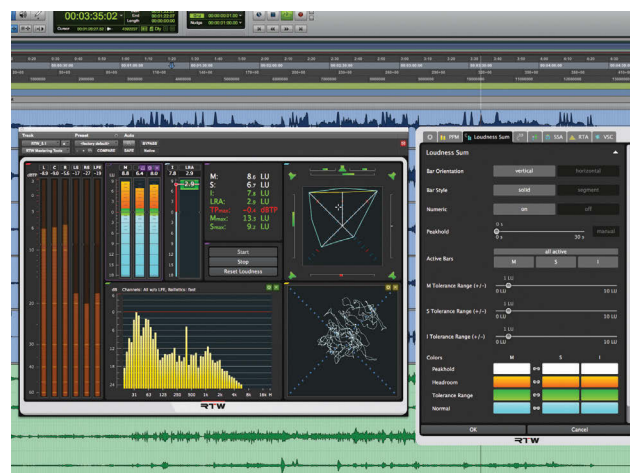
The LYD-5 (\$559), LYD-7 (\$669), and LYD-8 (\$789) monitors from Dynaudio feature 5-, 7- and 8-inch woofers and a soft-dome tweeter. Each drive unit is powered by a Class-D amplifier featuring a 96kHz/24-bit signal path. Advanced controls on the rear panel include Bass Extension allowing the user to choose between having the speaker play with a flat default bass setting, or tuned to play as loud as possible (+10 Hz/+5 dB) or as deep as possible (-10 Hz/-5 dB). None of the three settings influences the linearity of the frequency response. There are two boundary settings, one for free-standing speakers ("Free") and one for speakers placed within 50 cm of a back wall or closer ("Wall"). The Sound Balance option is a tilt filter that lifts 20 kHz by 1.5 dB while lowering 20 Hz by 1.5 dB for a "Bright" setting, or the other way around "Dark" tone shape.



UNIVERSAL AUDIO UAD CURVE BENDER EQ

Classic EQ From Chandler Now in Plug-in Form

Developed for the UAD Powered Plug-Ins platform by Softube, the Chandler Limited Curve Bender Mastering EQ plug-in (\$299) is an exacting emulation of this ultra-boutique, inductor-based EQ. The plug-in is based on the vintage EMI TG12345 desk from Abbey Road Studios and is endorsed by Chandler Limited founder Wade Goeke. Softube emulated the Chandler Limited's Curve Bender circuits end-to-end, including its filter inductors, germanium transistors, transformers and circuit nonlinearities, allowing the Curve Bender plug-in to retain the hardware's rich harmonics and vintage tone.



RTW LOUDNESS AND MASTERING TOOLS

Software-Based Metering

The new software Version 4 for RTW's Loudness Tools (\$249) and Mastering Tools (\$549) adds support for Mac OS X 10.11 El Capitan plus a selectable 12th octave RTA, cinema loudness (TASA and SA-WA), and free scalable instrument size. The new version allows the Loudness Tools and Mastering Tools software to be operated as a stand-alone version. Both tools are part of the RTW Masterclass Plug-ins, a range of products that provide RTW meters as plug-in software. Analyzer tools require no additional hardware and are targeted at musicians, radio producers, and audio/video engineers who need to meet the resulting implementation specifications required by TV and radio broadcasters.

New Sound Reinforcement Products



WORXAUDIO PDA-1000R AMP

Dante Plus Delay, Compressor/Limiter

WorxAudio Technologies' PDA-1000R power amplifier (\$1,780) features integrated DSP and Dante audio networking technology. The new PDA-1000R provides PreSonus' Active Integration technology to create networkable Dante-enabled

loudspeaker systems with powerful DSP that can be controlled by a computer running WorxControl (a loudspeaker management and remote control/monitoring application for AI-enhanced WorxAudio loudspeakers) over a standard LAN. As a 2-channel, Class-D power amp with 500W per channel, the PDA-1000R incorporates two on-board Presets, High Pass Filter, Temperature, Signal, -3 dB, Limit and Clip indications, XLR Input, XLR Pass-thru, and Dante, which offers a no-hassle, self-configuring, true plug-and-play digital audio networking experience.



SANKEN CSS-50 SHOTGUN MICROPHONE

Short, Stereo Focused Transducer

The new CSS-50 short stereo shotgun microphone from Sanken (\$TBA) features three distinct operation modes. Mono mode offers sharp shotgun directivity, Normal (stereo) mode provides precise stereo localization, and Wide (stereo) mode allows for expanded 140° stereo, ideal for cinematic ambience and sound effects. Unlike conventional approaches, the CSS-50 is especially effective in the 400 to 3k Hz range for optimum stereophonic perception.



ZAXCOM ZHD TRANSMITTER

10 Channels in a 1MHz Space

Zaxcom has released its latest line of digital recording wireless transmitters with a brand new modulation, Zaxcom High Density (ZHD). ZHD modulation allows for up to 10 channels of wireless to be operated in 1 MHz of frequency spectrum space. Like other Zaxcom Digital Wireless transmitters, the new ZHD models, the TRXLT3, TRXLA3 and TRX743 (prices TBA) are 100-percent digital, have built-in backup recording with timecode, NeverClip for superior dynamic range and are fully encrypted. When using ZHD modulation the wireless signal is 50 kHz wide and can be spaced as close as 100 kHz apart, so a single American television channel of 6 MHz can contain up to 60 channels of Zaxcom high-density wireless.

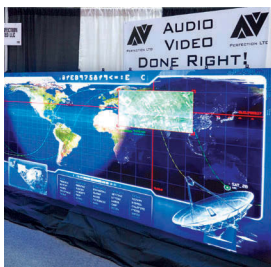
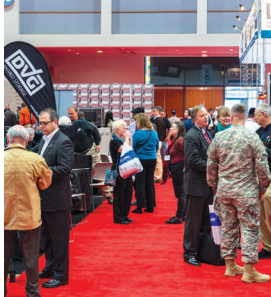


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Tech // reviews

BURL AUDIO B80 MOTHERSHIP

Modular AD/DA Converters With Personality



The B80 Mothership can be loaded with up to 80 channels of I/O.

Burl Audio is a boutique company with a unique approach, one that embeds personality into the design. Based in Santa Cruz, Calif., the company makes a range of gear including two 500-Series preamps, a monitor controller, and a 32x2 summing-mixer, but when somebody says “Burl,” you’ll most likely think about converters.

The top of the line reviewed here is the B80 Mothership with up to 80 channels of configurable I/O. If you don’t need such a big rig, Burl has the B16 with 16 configurable I/O, and the B2 D/A converter or B2 A/D converter, each featuring two channels of digital-to-analog, or analog-to-digital conversion, respectively.

The B80 tested here has 24 inputs and 32 outputs, the perfect rig for my tracking days at Blackbird. But you can configure the B80 however you want—all inputs (40), all outputs (up to 64 outputs), or stack a second unit to add more. It all starts with the four-rackspace, 10-slot chassis, which for this review came unloaded except for the BMB1 DigiLink motherboard in slot 11. The BMB1’s eight LEDs show the clock rate (44.1 to 192 kHz), system lock, and power status. Further down is a four-position rotary pot that chooses the clock source (Internal, External, DAW or USB). I used DAW, which allowed Pro Tools to freely change the Burl’s clock rate through the DigiLink connector.

On the back of the BMB1 are two DigiLink primary ports, a wordclock input, two wordclock outputs, an Ethernet control

slot for future use, and a 7-pin XLR for power. Not reviewed here but also available is the BMB2 motherboard for Dante, MADI or SoundGrid connectivity. You can also order a 4-channel AES I/O card (BAES4), or a BCLK card with eight wordclock outs, and one AES clock output. The power supply is an external, single-rack-space unit that we kept far away from the audio path. You don’t need a degree from MIT to know that this is the surest way to keep AC power from polluting your audio.

The audio is entirely modular via the BAD4 analog-to-digital or BDA8 digital-to-analog modules placed into the 10 empty slots of the Mothership. The review unit came as parts with six BAD4s and four BDA8 cards that were easily assembled and screwed into their slots. The card with all the electronics slides into the rack from the rear and connects to the front-mounted panel via two simple jumpers. The front panel shows metering with five LEDs on the BAD4: three green, one yellow and one red; and two LEDs for each channel on the BDA8, a green confidence LED and another in red showing overload.

TRY THIS

When transitioning up to a new system, rather than sell off old converters for a loss, use them to create a larger, hybrid system. For example, for a tracking rig, use older converters for cue and hardware reverb sends or for additional analog hardware inserts. This keeps trusted and newer I/Os positioned for main inputs and outputs while your older I/Os do the lighter lifting for less critical purposes.

IN SESSION

After constructing the unit, it was an easy matter to swap the Burl in and out of existing studio setups. Being that I had a roving unit, I could use the DB-25s straight out of the room's Pro Tools converter outputs and marry them to my BDA8 cards. The inputs were a bit different, because the BAD4s use four XLR inputs per card. Blackbird Rentals came to the rescue with the right translation cables for the gig. After that, it was just a matter of getting the I/O numbers right, and I was ready to configure my Pro Tools I/O setup. Burl recommends having no more I/Os in your Pro Tools setup than available, so I trashed my ins, outs and buses and built a custom set with 24 ins and 32 outs, exported it to my I/O Settings folder and kept a copy for myself on a jump drive for use in other rooms. Once this was done, everything worked perfectly.

I used the Burl system on four tracking days in two studios at Blackbird. These studios are great sounding rooms and when paired with the mics, players, instruments and other gear, made for a beautiful chain to put the Burl units to the test. The system performed as promised, with the bottom end full on kick drums and toms, with cymbals, room mics, and other tracks sounding full, authentic and diverse in the stereo field.

JACQUIRE'S TAKE

Jacquire King is a three-time Grammy Award-winning recording engineer/producer whose recent work ranges from Shania Twain, You Me At Six, Guthrie Brown, Kaleo and Foy Vance. He had already been an owner/fan of the Universal Audio 2192 converter for many years and opted in to the Mothership when he was assembling a new DAW setup. I asked him why he chose Burl converters and what they bring to his workflow.

"It sounds a lot closer to what I put into it," King said. "There was clarity in the top end without the distorted hash in the upper midrange. All converters, for the most part, have gotten better, but the Burls are the best to my ear. The clocking is also fantastic."

Jacquire's system is a hybrid using Avid HD I/Os for analog inserts in a session because the delay compensation algorithm is written for those specific units and they do the best job for that purpose. "The Mothership is the main I/O, and if I'm mixing in a hybrid configuration, the outputs are used for some individual outs and stereo stems," he explained. "I print back through my 2192 and that comes into Pro Tools on the AES input of the Avid converters. When I mix in the box, I'm perfectly happy to monitor the mix print on the Mothership D/A. It sounds perfect."

"I mentioned I was ready to make a switch of my DAW setup and get into a system where my main mixing rig could do high sample rates," he continued. "I could have the latest software and a more current computer, but I held off because there wasn't anything that sounded close to good enough to fully

PRODUCT SUMMARY

COMPANY: Burl Audio

PRODUCT: B80 Mothership

WEBSITE: burlaudio.com

PRICE: B80 Mothership (DigiLink)

\$2,099; BAD4 \$1,499; BDA8 \$1,799

PROS: High-end, elegant design.

Promises, and delivers great-sounding DAW conversion.

CONS: Fully loaded unit priced out of reach for some.

replace it, especially with the main conversion I/O. The Mothership changed all that and in fact is the best setup I've ever had."

The Burl B80 Mothership is a sonically superior audio conversion system. Its stealthy modular design can make it the "everything" tool for a variety of users and applications. I used it in different rooms, one while tracking in the box with a range of preamps and processors and another tracking on an SSL K console. My greatest revelation was that I found myself EQ'ing less than usual to get my tracks how I like them. I'm always

careful about making sweeping claims like this in a review, but I had the same experience in both rooms on different sessions and bands. Burl conversion is a solid choice for pro audio production.

Typical (and tired) terms like "color," "warmth," and "musical" don't accurately describe what's happening here. Tracks sound more "finished" through Burl converters, more like they should when you have a great player, instrument, mic, preamp/processor and speakers. Rather than being let down by your converters being the weak link in the chain, Burl's conversion in, and out, lives up to other components up and down the line. It's like playing with a great golfer; it always brings up your game. Burl is a sonic partner that helps you score well under par, making it easier to get great results. ■

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AUDIENT ASP800 8-CHANNEL PREAMP

Interface Offers ADCs, Retro Channels and JFET DI



Channels 1 & 2 each offer different tone shaping via HMX and IRON circuits.

Here in the States, Audient doesn't seem to receive the same amount of attention as other British imports, and it's odd because the company's forward-thinking product designs seem to align perfectly with the needs of modern engineers who want to work "in the box" without relinquishing the conveniences of classic console-based control rooms.

The company's new mic preamp, the 8-channel ASP800, builds off of the design of the company's retired ASP008, in packaging its ASP8024 console's mic preamps into a stand-alone box. The new ASP800, however, has a few extra tricks up its sleeve to produce some unique tones that evoke the sounds of vintage consoles.

The ASP800 packs a good amount of firepower into a slick and compact single-rackspace unit featuring eight total inputs, each capable of receiving mic or line inputs, with channels 1 and 2 also offering optional JFET DIs. The line-level product of each of these amplifiers can be outputted as an analog signal, or A/D converted inside the unit and fed to an interface or console through optical ADAT connectivity. The ASP800 relies on Burr-Brown converters for its ADC.

The rear panel features eight Neutrik XLR/TRS combo jacks that feed the amplifier inputs at mic or line level. To the left of that is a pair of Toslink connectors. A single connector can be used for ADAT optical connections up to 48 kHz, or the pair can be used to split the eight channels when using SMUX, available at rates up to 96 kHz. The unit can clock internally and feed its clocking signal to a host directly. Alternatively, the ASP800's dedicated BNC wordclock input can be used to clock to the host or a master wordclock generator. Analog outputs are also provided using a single DB-25 connector.

Of the eight preamps provided, channels 3 through 8 use a circuit that is said to be identical to the mic preamp found in all of Audient's full consoles. This preamp has a clean, snappy sound that is full and detailed but doesn't impose itself. It is a great tool for accurate capture, leaving room for coloration in the mix. Each channel has a sturdy-feeling gain knob with a comfortable,

smooth-cornered, continuously variable knob. Each preamp has a backlit phantom power button and -15 dB pad. Metering is provided as a simple "signal present" and peak indicator.

The first two channels of the ASP800 feature advanced tone-shaping functions with two different "color" circuits in each signal path providing the ability to add harmonic saturation and alter the overall character of the recording.

The HMX effect is a MOSFET circuit designed to emulate the characteristics of tube-based saturation. The IRON effect uses a custom-built transformer to impart vintage British console-like tones with great authenticity. Each function has a button to engage or disengage the effect and a single knob to control its value. With no numerical values, the HMX control ranges from "Sweet" to "Thick" and the IRON ranges from "Sparkle" to "Growl."

One of the first recordings I did with the ASP800 was a combo guitar amp close miked with a ribbon mic. The first tone that the guitarist dialed in was a blistering distorted sound with a chattering delay. In the room, it sounded ferocious, and the ribbon mic did a good job of capturing the aggression without being too edgy. I also wanted the low end that ribbon mics usually provide when close miking an amp because the amp seemed to be coming up just a little short in that department.

I tried a few different pre's that all provided a fairly accurate depiction of the amp. Eventually, I landed on the ASP800. Its stock preamp sound, like the others, seemed true enough. Then I engaged the HMX control, and as I turned it up, I was pleasantly surprised to find the bottom end filling in. By the time I had turned the control to around 1 o'clock, any significant change seemed to stop. The effect, even at that point seemed fairly subtle. In an A-B comparison with the circuit in or out, however, the improvement was clear and pronounced.

When I added in the IRON effect, the guitar started coming more and more into focus, with all of the grit and edge and chatter of the delays starting to crisp up. The control's effect was relatively minimal to start with, but started coming into its own at

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around 2 o'clock and became more pronounced after that. As with the HMX, I had to listen very carefully to hear if the IRON was even working at all. At times I wasn't sure whether it was the performance that was changing or the character imparted by the preamp. Once again, when I compared both circuits in and out, the difference seemed immense. This speaks to the fact the effects are very natural and complement the signal without being overbearing. Altogether, the two seasonings working in tandem woke up the guitar amp and greatly improved the recording.

Early on I noticed that the preamp seemed to distort very easily, even when my DAW meters indicated that there was plenty of headroom. I had been using the ASP800's digital output to feed signal to my DAW. I realized that there was a button on the back that could toggle the ADC's 0dBFS point between +12dBu and +18dBu, for compatibility with different interfaces. When switching the control +18dBu, the headroom opened up, and the problem seemed to be solved. However, in either case, when a clip did occur, the sound was pretty brutal and jarring in the headphones. Most modern A/D converters backstop their analog component with some sort of safety limiter so that subtle overs might still pass a usable signal. That did not seem to be the case here.

Using the ASP800 as a DI, I came up with some great sounds. On a

PRODUCT SUMMARY

COMPANY: Audient

PRODUCT: ASP800

WEBSITE: www.audient.com

PRICE: \$799 (street)

PROS: Lots of sonic options, good-sounding converters.

CONS: No insert or output control on mic preamps.

clean electric guitar, the DI circuit produced a thick, substantial sound and sparkled nicely in the upper midrange. The IRON circuit did a nice job of clarifying the pick attack and making the guitar pop in the track. On a DI'd bass, once again, the basic sound was full and clear. Stirring in the HMX circuit made the bottom swell more and more as I boosted the control. As the bass grew fuller, it never really got muddy. It seemed like just the right frequencies were be-

coming more pronounced. The IRON control didn't do much in this case.

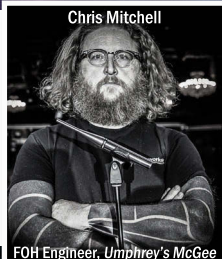
Particularly when recording bass, I found myself wishing that the preamp had an output level control. I've been a fan of the kind of tones that preamps like the Universal Audio 710 Twinfinity have produced when overdriving the tubes and transformers, and then backing off the output to avoid clipping A/D converters. With the APS800, this type of full-on saturation was never possible. Sometimes I could get close by cranking up the IRON control, but just as I would approach that sound by gaining up the input, a loud note would violently clip the A/D converter.

On snare drum, the HMX and IRON worked together to make it pop. I miked the drum with an SM57, and using the IRON control was almost like using an exciter. It created all of this brilliance and made the misty splash of the snares more pronounced. The HMX gave me the option to selectively bring the shell into the forefront. On a DI12 inside a kick drum, a slight twist of the HMX started to fatten the bottom, but it didn't take much to turn it muddy. I expected the IRON control to help clarify the beater, but it also seemed a little too thick and wound up bringing out too much of the low midrange. Maybe it was the mic or the drum, but I wasn't feeling the magic as much in that case.

Because the ASP800 has line inputs, I also used it on a couple of mixes. I particularly liked what it did to drum overheads. Here, with the HMX control cranked to 3 o'clock, I heard the circuit's typical thickening of the bottom end. At the same time, it brought an interesting definition to the hi-hat. Especially in busier sections where the hats were opened up, the HMX circuit seemed almost like an expander, boosting the volume of the quieter parts of their envelope. Dialing in a light setting on the IRON control, everything tightened up as clutter seemed to disappear, and all of the attacks became more pronounced.

It was a lot of fun finding new and interesting sounds with the ASP800. If you have an interface with no mic preamps, like the Avid HD I/O, or are looking to use your eight additional optical inputs of an interface, this seems like a very sensible option at \$100 per channel. The basic mic pre is solid all-around, and the HMX and IRON effect can add some richness to your recordings. On top of that, it's always nice to find tracking gear that can double as mixing gear, and that is certainly the case with the first two channels of the ASP800. ■

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Chris Mitchell
FOH Engineer, Umphrey's McGee

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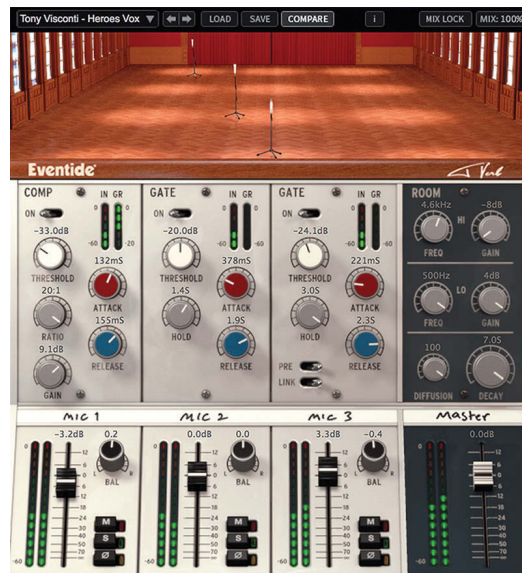
Eventide's Tverb reverb plug-in starts with an emulation of the historic Meistersaal chamber music concert hall built in 1910 in Berlin and subsequently sold in 1976 to become Hansa-Tonstudio Studio 2, the choice for many pop stars including U2, Iggy Pop, Depeche Mode, David Byrne, Jon Bon Jovi and David Bowie. It was the unique reverberant characteristics of Hansa-Tonstudio Studio 2 that inspired record producer Tony Visconti to create the unique three-microphone lead vocal sound heard on David Bowie's "Heroes," recorded there in 1977. Using three independent reverbs, the Tverb reverb plug-in easily re-creates that sound and so many other unique reverbs.

Tverb launches in your DAW as either stereo in/stereo out, mono in/stereo out or mono in/out instance. Key is the big collection of the included professionally designed presets that make good starting setups for using Tverb as either an insert or send/return bus effect. The manual also has a "Tips And Tricks" section for unusual Eventide reverb soundscapes.

In the top third of the GUI window are three microphones named Mic 1, 2 and 3 shown in a virtual Studio 2 room. The reverberant sound quality of Tverb is governed by distance positioning, panning and processing of each of these mics.

Microphone 1 is in a fixed position in the front of the room and you can set its polar pickup pattern between omnidirectional, cardioid and figure-8. You can also switch in 8 kHz 12 dB/octave high cut and/or 150Hz 12 dB/octave low cut filters.

Microphones 2 and 3 are movable by clicking and dragging them around the virtual Studio 2 space. A small parameter text window shows their distances in feet and L/R lateral positioning, and you can type parameters directly into these windows—even place both mics in exactly the same spot in the room. Dragging the mics further out into the room adds pre-delay and changes the level of early reflections—just as would happen in a real room. For stereo reverbs, dragging side-to-side, left and right will increase more of that side's stereo input signal.



Different ambience can be created inside Tverb by placing 3 "mics" in a virtual room.

More control over these microphones is accessed in the bottom two-thirds of the GUI with its effects, mixer and master sections. Looking like an old vintage mixing console with wood trim, gray metal panels, scribble strips and colored knobs, you can mix the level of each mic signal post reverb and any additional gate/compression processing. You can set stereo pan position (for stereo instances), solo/mute, flip polarity (Ø), and use the master fader to set the final mix level.

The mixer section has three dynamic modules, each one dedicated to a single microphone; they are not routable. Above and connected to Mic 1's channel is a full-featured compressor for processing that signal as it is added into the reverb mix. When used as a send/return reverb, Mic 1 is the same signal as sent to Tverb from an aux send bus. If you use Tverb as an insert effect, Mic 1 acts as the Dry signal for Wet/Dry balance.

Next to the Mic 1 compressor are two gates—one each for Mics 2 and 3. They have on/off switches and familiar gate controls: Threshold, Attack, Release and Hold. The Pre button toggles the source for the gate's key signal from either gate's input signal (default) or from Mic 1's signal post polar pattern choice but pre compressor processing.

A great feature that speeds setting up stereo gating is the Link switch that interconnects both gates' parameters. Change a knob on one and the other gate's knob changes right with it. Awesome, and of course you can unlink for individual parameter adjustment.

The Room Module changes the tone of the room itself. Not just an EQ, you can shape the room's diffusion and size using the Diffusion and Decay time controls, plus tailor

TRY THIS

For an acoustic guitar track that combines soft playing with hard strumming, I started with the factory default preset and set up Tverb as a stereo send/return effect. Using a stereo send bus to Tverb, I put Mic 1 out of polarity with the Ø switch, set to omni, used no filters and set it to -15.9dB level and compressed it. With Mic 2 at 35 feet away and 30L and Mic 3 positioned 36 feet and 25R and gated using their own input signal, I was able to have a long reverb only come up when the acoustic played hard. But when quietly played, the acoustic dried up and became more present.

the room's relative brightness/darkness with adjustable high/low frequencies and boost/cut controls.

USING TVERB

In homage to Tony Visconti's "Heroes" mono vocal sound, I inserted a mono in/out instance of Tverb on an aux fader channel that received the lead vocal track sent to it on a bus. I started by just focusing on Mic 1's sound and found it best to keep the vocal track at full-level to Tverb; any automated moves or equalization would be done on the aux fader—post Tverb on its output.

I used no roll-off filters on Mic 1 and set its polar pattern to omni, which "pulls in" more of the Meistersaal room sound—figure-8 pulls in less and cardioid is dry. I set Mic 1's level to 0dB in the Tverb mixer and severely squashed it with the compressor! (Mic 1's compressor is reminiscent of an old half-rack Pye 4060 limiter.)

Mic 2's level became the main and constant (un-gated) mono reverb return for the vocal with the Room Module showing a 1.0 second Decay time and maximum Diffusion setting and appropriate filter settings. Mic 3 was a gated return of the same room that only faded and added more room whenever the vocal track sang louder. I used a 281ms attack time and a slow 1.2-second release time—these settings have to be adjusted so this effect operates smoothly, or not, if you want a more electronic effect.

PRODUCT SUMMARY

COMPANY: Eventide Inc.

PRODUCT: Tverb Reverb Plug-in Version 1

WEBSITE: www.eventideaudio.com

PRICE: \$249; AU, VST and AAX

for Mac and PC

PROS: Fantastic special effects reverb usable for everything.

CONS: Gate sections could use both range and ratio controls.

Here is a variant of the manual's Inverse Tverb effect. Place both mics exactly in the same position in the room by typing in identical distance and lateral positions. Flip the polarity of Mic 3 and make both Mic 2 and 3 the same level in the mixer and pan them to center. If you only gate Mic 3 so when it opens, it phase cancels the same reverb signal coming from Mic 2. To maintain complete cancellation while adjusting reverb level, shift clicking will raise/lower their levels together.

With Tverb set up on an acoustic guitar track, I duplicated the track and panned the pair left and right and slightly changed the Decay time on the left and right Tverb instances. Whenever the acoustic played softly, the gate threshold was not exceeded and stayed shutdown on Mic 3 and I got reverb from Mic 2's channel only. Harder, louder playing caused the gate to open and cancel all reverb. Good trick that worked reliably.

Tverb's Meistersaal room simulation is full of character, and being able to sculpt its intrinsic nature in specific ways greatly expands this plug-in's usefulness. I imagine Visconti would have loved to be able to tinker with Tverb's parameters back in the day. With many great starting presets and complete automation support for all parameters, Tverb is a unique reverb-based effect and is now part of my mix template in Pro Tools. It is a big winner from Eventide and it should be standard kit for any modern music maker/mixer! ■

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Three Plug-Ins Deliver the Hitmaker's Effects Chains



Figure 1: The Greg Wells Signature Series bundle's three plug-ins—MixCentric, VoiceCentric and PianoCentric—each feature a central control knob that adjusts the blend of multiple processes.

put gain a commensurate amount to re-establish unity gain. At the center of each GUI is a large, continuously variable rotary control—labeled Intensity (for MixCentric and VoiceCentric) or Piano (for PianoCentric)—that adjusts the amount and types of the plug-in's primary processing applied.

It is intended that MixCentric be placed

on your master bus or a subgroup. The plug-in's I/O-gain controls adjust respective levels ± 18 dB in 0.1dB increments. The Intensity control adds EQ, compression and harmonic distortion as you rotate it clockwise. The operation manual suggests you set the Intensity (threshold) control so that roughly 1.5 to 2 dB gain reduction shows on the included gain-reduction meter to start. Once you have MixCentric sounding the way you want on a full mix, add a third-party limiter of your choice after MixCentric to finalize levels.

VoiceCentric's GUI includes a central Intensity control that adds compression, EQ, harmonic distortion and other unspecified processing. Some of the processing doesn't kick in until the Intensity control is turned up 60 to 80 percent of the way to max. The operation manual suggests you aim for 3 to 4 dB of gain reduction to start. Three additional controls progressively add stereo delay (which automatically syncs to your DAW's tempo), doubler and reverb, respectively; each provides their own bypass. VoiceCentric's output gain control provides a ± 24 dB range.

PianoCentric's Piano control is bi-polar, producing two different types of sounds as you rotate the control from the noon position. Rotate the control clockwise from noon for a punchy sound that will cut through your mix. For a filtered lo-fi sound, rotate the Piano control counter-clockwise from noon. Additional controls are provided to independently insert stereo delay

The Greg Wells Signature Series bundle comprises three plug-ins: MixCentric, VoiceCentric and PianoCentric. It's designed to give you great-sounding mixes, and vocal and keyboard tracks, lickety-split and with minimal fuss. The bundle is the result of a collaboration between Waves and Greg Wells, the multiple Grammy Award-nominated producer, songwriter and mix engineer whose work with Adele, Katy Perry, OneRepublic and others has sold more than 85 million units.

I reviewed Version 9.6.41.1 of VoiceCentric and 9.6.9.22 of MixCentric and PianoCentric, using Digital Performer V. 9.02 with an 8-core Mac Pro running OS X 10.9.5.

COMMON GROUND

Although the three plug-ins use different blends of processing, their simple control layouts share many similarities (see Fig. 1). For each plug-in, Waves recommends that you adjust the input gain so that a virtual sensitivity LED lights yellow. Then reduce the out-

TRY THIS

For tight, ultra-lush BVs, place VoiceCentric on a stereo aux. Hardpan high and low BVs on the sends routed to VoiceCentric's inputs. Crank the Intensity control to level the BVs. Set the doubler's level to 3 o'clock position and the delay to noon.

and doubler into the signal path; each processing block has its own bypass and volume control. As in MixCentric, PianoCentric's I/O-gain controls adjust respective levels ± 18 dB in 0.1dB increments.

The bundles' cross-platform plug-ins accommodate standard sampling rates up to 96 kHz and both mono and stereo channel configurations. With the exception of MixCentric, they also support mono-to-stereo configuration. That said, the delay, doubler and reverb provided by some of the plug-ins are all designed with stereo operation in mind. All three plug-ins provide factory presets that serve as good starting points for processing. The plug-ins' input levels don't change as you recall different presets, aiding your workflow.

MIXING TRACKS

To test each plug-in in the bundle, I placed them on either a stereo track or a stereo aux fed by the source track; stereo instantiations ensured the best possible results when using the delay, doubler or reverb provided by some of the plug-ins.

I loved the variety of modern sounds I could get using PianoCentric

PRODUCT SUMMARY

COMPANY: Waves

PRODUCT: Greg Wells Signature Series

WEBSITE: waves.com

PRICE: \$349

PROS: PianoCentric sounds fantastic on keyboard tracks. VoiceCentric produces transparent compression and chorus-y doubling, sounds great on BVs. Delays automatically sync to DAW's tempo.

CONS: VoiceCentric's delay and reverb don't offer separate parameter controls. MixCentric's processing sounds edgy and bass-lean, is a crapshoot for use on full mixes.

on a grand piano. Setting the Piano control to the 1 o'clock position and adding a tiny bit of doubling gave an organically rich and clear sound that cut through the mix, while setting the Piano control to around 8:30 and cranking the doubler yielded a lush and heavily filtered sound that was great for a pop production. PianoCentric also sounded fantastic on a stem containing Rhodes piano and synth pad. I set the Piano control barely past the 1 o'clock position, the doubler to about 12:30 and the delay to the noon position. The result sounded wider, richer and more three-dimensional. Loved it!

Placed on a female lead vocal track, the VoiceCentric plug-in very transparently controlled level fluctuations with the Intensity control

raised enough to produce 3 to 4 dB of gain reduction. The reverb sounded like a diffuse chamber with unobvious early reflections (ER) and good, middle-of-the-road tonality—not too bright or bass-y. But even with very little 'verb dialed in, the reverb-decay time was sometimes a bit long for uptempo songs. As it doesn't offer independent controls for adjusting decay time, ER level, pre-delay, damping and other key parameters, I regard the reverb mostly useful for rough demo productions where precise tailoring to the money track isn't critical.

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VoiceCentric's stereo delay sounded good, but I wished I could control the number of voices, feedback level (number of repeats) and high-frequency roll-off for the effect separately from its volume. Again, I wanted much greater control when mixing the money track for a commercial release.

VoiceCentric's doubler sounded good on lead vocals when used in moderation; it sounded too chorus-y for my tastes when cranked. This is not the type of doubling you would get by using early reflections or, say, a lightly modulated 40ms delay line. VoiceCentric's doubling sounds tighter (and less intense) than that, and it produces watery-sounding pitch modulation at very high settings. This is inherently neither good nor bad; I describe it only to inform, as there are many ways to produce doubling, and they all sound different from one another.

While I didn't like VoiceCentric overall for use on lead vocals, it sounded fantastic on triple-tracked background vocals. Heavy processing lent a leveled, lush, wide and dimensional sound perfect for pop productions (see the "Try This" sidebar).

I got very poor results using MixCentric on an alt-rock mix that had weak bass and a brittle top end. With 1.5 to 2 dB of gain reduction on peaks, MixCentric made the mix sound louder but also a lot thinner and edgier. High frequencies sounded like they were heavily boosted, dramatically emphasizing the sizzle of snares and hi-hat hits (which already sounded too bite-y before processing). The bottom end sounded weaker on my full-range system and on Yamaha NS-10M Studio monitors alike;

bass guitar—which sounded very understated on the dry mix and needed bolstering—was further weakened after MixCentric processing.

All this led me to surmise MixCentric might help a muddy, bass-heavy mix that needs bass cut, compression and high-frequency boost. But even so, there's absolutely no substitute for dialing in each process—EQ, compression and so on—separately to the degree each is needed (if at all) for a specific mix. A single knob controlling multiple, fixed processes (and lacking an analysis engine) can't possibly get a mix balance sounding great more often than once in a blue moon, and then only by sheer chance.

MIXED BAG

PianoCentric is the clear standout in the Greg Wells Signature Series bundle, producing a wide variety of both organic and lo-fi sounds for keyboard tracks. While VoiceCentric sounds fantastic on BVs, it doesn't offer enough parameter controls to mesh a typical lead vocal's unique characteristics with a particular production. And MixCentric's ready-made combinations and chaining of multiple processes are way too arbitrary to use on mixes for reliable results. Each of the bundle's plug-ins is also available for individual purchase at reasonable prices. PianoCentric, in particular, is a good buy at \$149. ■

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

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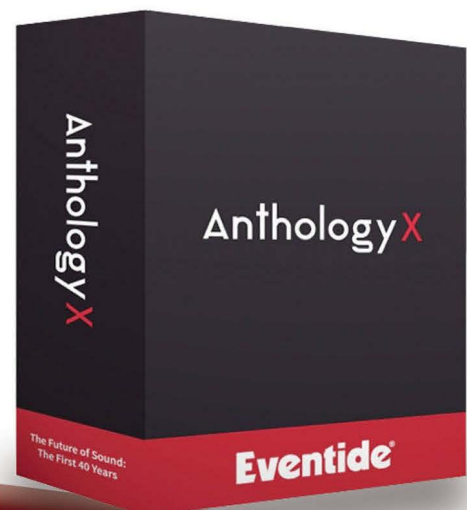
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Live Sound Takeaways



By Kevin Becka

In the past, I've written about the growing similarities between live sound and recording studio workflows. Pro Tools, Reaper, Studio One and other DAWs are used for recording both onstage and in the studio. And plug-ins, which first dominated desktop audio production because of their affordability and ease-of-use, have become a live industry staple, bringing versatility, power and economy of weight over hardware processors.

That's some of the gear, but what about the people? A mind blower for me when I moved back to Nashville in 2013 is the number of great recording engineers who came from live careers. For example, John McBride started a live sound company in Wichita, Kansas, from \$6,000 in seed money and eventually moved to Nashville and sold his company to Clair Global, where he is currently the general manager of the Nashville office. But that's just one hat he wears. John is also an accomplished recording engineer with credits ranging from Buddy Guy, Dave Stewart, Stevie Nicks, and of course his wife, country artist Martina McBride. I've watched John work in the studio many times, and he knows what he likes and how to make his tracks quickly sound great. I know this comes from being in the FOH position at downbeat and having to fine-tune the soundcheck mix before the first chorus of the first song is over.

Four-time Grammy Award winner Vance Powell came from live sound roots then moved to studio engineering, where his credits range from Jack White, Seasick Steve, and the acclaimed Chris Stapleton *Traveller* record. When asked about the advantages a live engineer has when entering the studio environment, Vance answered, "Speed. I can get a mix up in a tracking session very fast because I used to have to do it on festival dates—52 inputs, new desk, and one song to get the mix happening. This is an everyday (or so) experience for a good amount of touring engineers." Powell's approach in studio is visceral: "Try and make the mix move you... I mean physically move you. Make it an immersive experience, as if you were at the show."

Three-time Grammy Award winner Jacquire King's career started with a blend of live sound and recording gigs in the San Francisco Bay Area. Jacquire brings a live feel to his tracking sessions using advanced signal flows where he re-amps acoustic guitars, mandolin, upright basses, and drums, which he then artfully adds to his mix. During all this advanced signal flow and boundary stretching, Jacquire's focus is making the players comfortable during the process. During one session, the drummer preferred to use a front kick head with no hole cut for the mic, which allows placement close to the beater head

and is common in studio recording. Instead of insisting the drummer change his kit, Jacquire found the place the outer head was resonating the most, then placed the mic where the head was resonating the least to "give the mic a better look inside." It sounded excellent.

Longtime studio engineer Erik Zobler mixed many live sound gigs for recording artist George Duke. Erik's approach speaks to his experience recording and mixing with the artist. "The biggest benefit of having mixed the music that was being performed was that I knew how the songs were supposed to sound," says Zobler. "The job was to get as close to the sound of the recording as possible, or even improve upon it. Working live forced me to hone my abilities to identify problem frequencies, whether they were feedback or musical frequencies." Erik found the blend of live and electronic instruments to be a challenge. "Getting a good live piano sound is not necessarily a difficult thing to do unless the band plays very loud, or the piano is the lead instrument; George's band had both. Piano pickups can be very useful in pursuit of gain before feedback, and on digital boards, delaying the pickups by approximately 1 millisecond makes the combination of the mics and the pickups sound much better."

As an engineer and educator, I've incorporated live sound workflows into the studio. I encourage students to learn to mix quickly on an analog console by starting with a blend of the kick drum mics, which should hit an analog stereo bus VU meter between -3 to -5 dB. Then, forget the metering and put up your best mix using all the tracks, as quickly as you can, preferably before the song is over. If you've balanced things properly, your stereo meters should end up in the perfect range. In the box, the metering is different but the intent is the same: Learn to be a speedy, tasteful mixer with great gain staging. I'll also use plug-ins when tracking live in Pro Tools, which can introduce groove-killing latency if you apply delay compensation. But with time-based processors in parallel and delay compensation off, it's not a problem—a delay or reverb is latent anyway.

While similarities abound between live and recording work, sound reinforcement is still a specialized field. When sitting at FOH with a great FOH engineer or visiting a venue during load-in and soundcheck, it never ceases to amaze me the depth of knowledge beyond great sound that needs to be in place. Knowledge about truss loads, safe power distribution, general site safety, and all the other things that make a traveling road show a success are things studio engineers never deal with. So hats off to the men and women of live sound who drive the music business and bring us great sound in concerts, theaters, houses of worship and other venues. ■



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