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Not Your Average Daily Grind

Based in Los Angeles, re-recording mix engineer and sound designer, Michelle Garuik is also co-founder and owner of Grind Music & Sound, Inc. Having expertise in mixing and sound design for adventure sport television and documentary film, Michelle's clients include industry giants such as Fox Sports, ESPN, NBC Universal, HBO and much more.

With clients spanning the entertainment industry, Michelle's everyday workload is anything but ordinary. To assist with her artistry, she relies on Yamaha's NUAGE Advanced Production System. We asked Michelle what she loved about NUAGE. In her words...

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— Michelle Garuik

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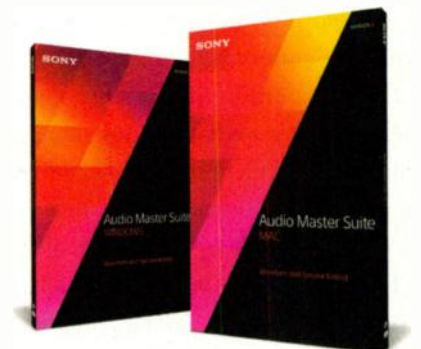
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From the Editor

BIG OR SMALL, IT'S ALL SOUND FOR PICTURE

My first real assignments at *Mix*, once I was finished copy-editing and proofreading for the day, were writing about Sound for Film, starting with *The Doors* movie back in 1991. I've mentioned that before in this space, as it's been an area of the industry I've always enjoyed covering, especially the people in and around the edit suites and dub stages.

We created a section in the magazine, and even a bi-annual supplement called Sound for Picture, or SFP. We even trademarked the name. And though I was primarily writing about film at the start, it was the broader field of sound for picture—broadcast, video production, videogames, early Internet—that was clearly the umbrella industry. Audio post-production, as a subset of the entertainment industry, has served a lot of masters over the years, both big and small, indie and corporate, studio-based and by-the-shoestrings. Still, the process remained essentially the same, no matter the project. You have music, effects and dialog, and you have to match the picture. You have to help tell the story.

Now here we are, nearly a quarter-century later, and *Mix* is preparing for its second annual Mix Presents Sound for Film conference and exhibition at Sony Pictures Studios in Culver City, Calif. Last year we started very simply, with a single topic: Immersive Sound. The response from vendors and attendees alike was positive, so we're doing it again, this time around Sound Design (hence, the Music, Dialog and Effects moniker), with a subtrack on Immersive Sound. And it's getting even bigger. While we labeled it Sound for Film, we realized that it's all converging again on Sound for Picture.

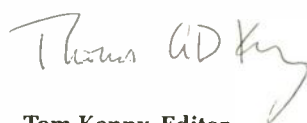
There's a curious dichotomy going on in audio post-production. The big studios on the lots are doing quite well these days. Look at that cover. Warner Bros. expanded from Burbank to London with the purchase of De Lane Lea a few years back, then a few months ago they acquired Digital Cinema in New York. These are big stages for big productions. They do perhaps more TV post than any facility in town. The same can be said at Sony, where they just installed

the largest Avid S6 console in the world and are building out two new Dolby Atmos stages for TV post. They have 23 weekly shows to mix this fall, as well as blockbuster feature films. I have no doubt that business is good at Fox and Disney and Universal, as well. Formosa Features has grown dramatically in just two years, with both stages and talent, working on everything from commercials to TV to major features.

Then there is guerrilla post, with its low budgets and short schedules and inventive means of using talent and technology to achieve the same goal—quality, storytelling audio no matter how it is distributed. In this issue of *Mix*, while WB makes the cover, we have stories on low-budget filmmaking with iPhones and a Sound Devices recorder; a story on a 90-minute mix for a short film to make the festival circuit; and yet another piece on the software sound design tools within reach of any individual who wants to design sounds.

The market for audio post-production seems healthy across all ranges of projects, from multimillion dollars to “can you call a friend?” And the tools are truly converging in a way they haven't before. This isn't a case of the big guys being slowly eaten away by the little guys, or the large studios suffering while the boutique thrives. There is a huge demand for content today, and a rising tide lifts all boats.

I hope that you can come join us at Mix Presents Sound for Film on the Sony lot at the end of the month. Besides the expert panels on Music, Effects, Dialog and Mixing, there will be Master Classes and special presentations by the likes of Avid, Dolby, DTS, JBL, Yamaha, Meyer Sound, Harrison, DSPatial, RSPE, Audio Intervisual Design, GC Pro and Formosa Group, among others. Talent and tools, that's what it's all about.



Tom Kenny, Editor

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All golfers and participants at the 2015 Recording Industry Golf Tournament.

RIGT 2015 Benefits A Place Called Home

The 2015 Recording Industry Golf Tournament (RIGT) took place on June 29 at MountainGate Country Club in Los Angeles, with members of the Southern California recording community coming together for a day of camaraderie and fun in the sun. The event was organized by event producer Karen Dunn of KMD Productions and was held to support the music program at A Place Called Home, a dynamic community center and safe haven in South Central Los Angeles benefiting youth from 8 to 21 years of age.

Recording veterans Ed Cherney and Al Schmitt returned as Honorary Co-Chairs for the afternoon's festivities. More than 125 competed as golfers, with greater numbers present at the dinner.



The winning team represented Slate Audio and the award was accepted by Steven Slate (far right)

Winning first place was the team from Slate Audio: Amir Amiri, Bill Cho, Matt Dodge and Horacio Moronta. The second place team comprised Sara Elliott, John Staniunas, Frank Cameli and Jason Carson, while third place went to Ed Cherney, Frank Pirruccello, Jerry Kanter and Kenny Gradney. Kyle Douglas won the Longest Putt competition, Kenny Gradney won Closest to the Pin, and Scott Pregerson won Longest Drive.

Event sponsors included Absolute Live Productions, the Audio Engineering Society (AES), Audio-Technica, Barefoot Sound, Bob Hodas Acoustic Analysis, Clyne Media, David M. Angress Consulting, Guitar Center Professional, Hotel Angeleno, Hyundai, Icebox Water, iZotope Inc., JBL, NAMM, Record Plant, The Recording Studio Insurance Program, RRF Institute (Recording Radio and Film Connection), Slate Digital, Sterling Audio, studioexpresso.com, TransAudio Group, United Recording Studios and Vintage King. Hyundai will once again be taking the winning four-some to the company's Hyundai National Invitational in Vegas.

"We are very proud of the success of the 2015 RIGT," says Dunn. "A great time was had by all, and we were able to raise funding for a great cause. Thank you to all of our sponsors and everyone who participated in the day's festivities. See you back next year!"

Next year's tournament is slated for Monday, June 20, 2016, and Dunn said she is planning on adding a tennis option.

Al Schmitt Receives Star on Walk of Fame



Al Schmitt with his new star on the Hollywood Walk of Fame

On August 13, the Hollywood Chamber of Commerce presented multiple-Grammy Award-winning producer/engineer Al Schmitt with the 2,557th star on the Hollywood Walk of Fame. The star in the category of Recording was dedicated in front of the

historic Capitol Records Building at 1750 N. Vine Street. Emcee and Hollywood Chamber President/CEO Leron Gubler unveiled the star along with Don Was and Joe Walsh.

"When I was a kid growing up in Brooklyn something like this was beyond my wildest dreams," Schmitt said at the ceremony. "As a matter of fact, four months ago it was beyond my wildest dreams. Personally I want to thank the Hollywood Chamber of Commerce for bestowing this star on me. It's great—I'm overwhelmed by it. My heart is twice as big as my body right now."

RØDE Microphones Acquires Aphex



Peter Freedman of RØDE Microphones (left) and David Wiener of Aphex

In late July, just after *Mix*'s August issue had gone to press, RØDE Microphones, based in Sydney, Australia, announced its acquisition of Aphex, whose products and technologies are used in music, film, video, theater, gaming and communications.

The company's "Exciter" technology was inducted into the TECnology Hall of Fame in 2013, in recognition of its contribution to improving decades of music and voice-overs for countless artists, albums, movies, TV and radio shows. Aphex holds numerous patents and the company licenses to a wide range of brands.

The Art of Sound Design: Music, Dialog and Effects



Noted sound designer/film mixer Mark Mangini of Formosa Features will deliver the keynote speech to open *Mix* magazine's special film sound event, to be held September 26 on the Sony Pictures Entertainment lot in Culver City, Calif.

This special full-day event includes expert panels on music, effects and dialog in an immersive world, sponsor workshops hosted on-site in Sony's world-class film sound studios, exhibition space for the world's leading technology suppliers, networking and sponsorship opportunities, and a special screening.

For more information, turn to page 28. To register, go to mixsoundforfilm.com.

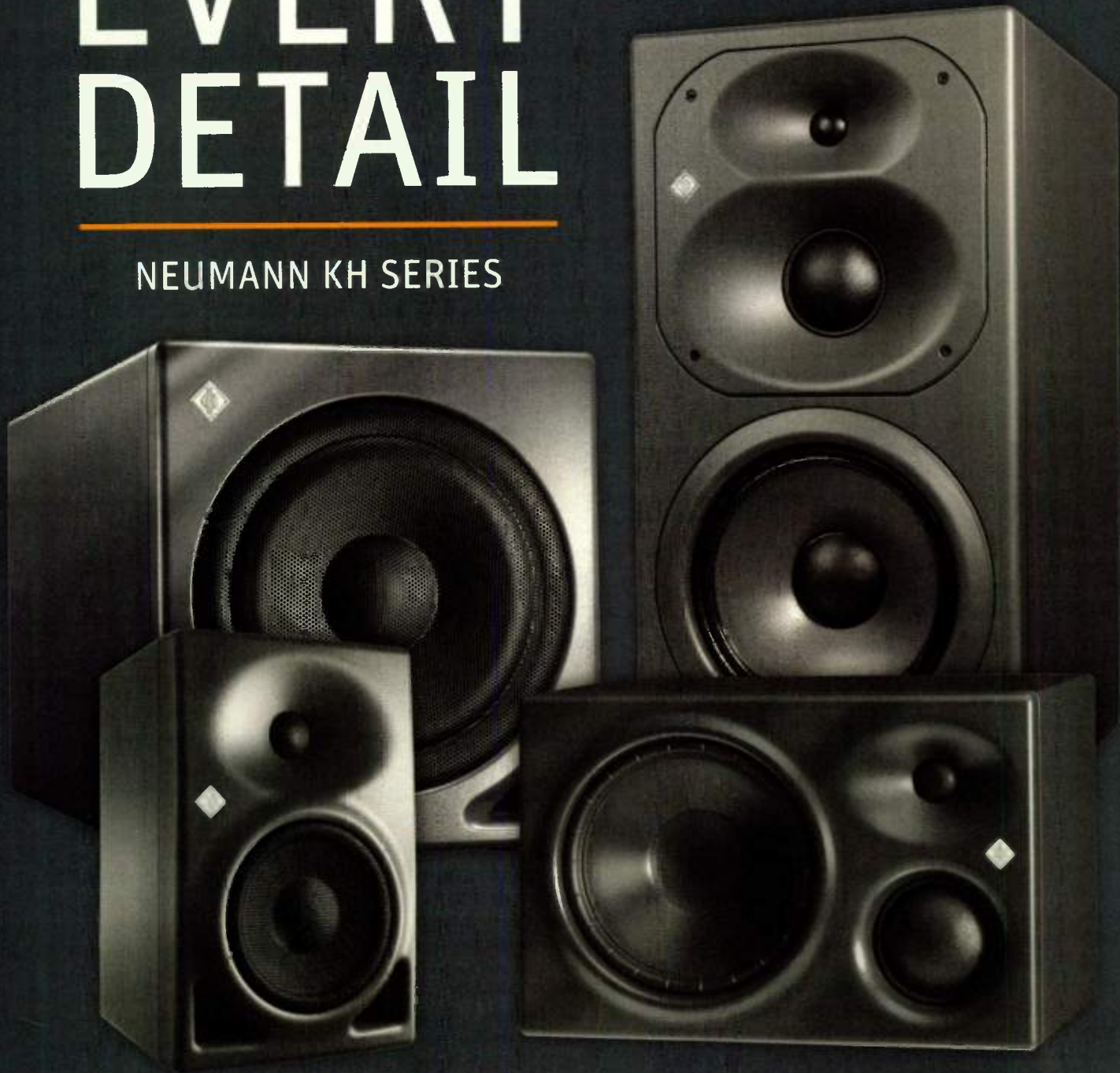


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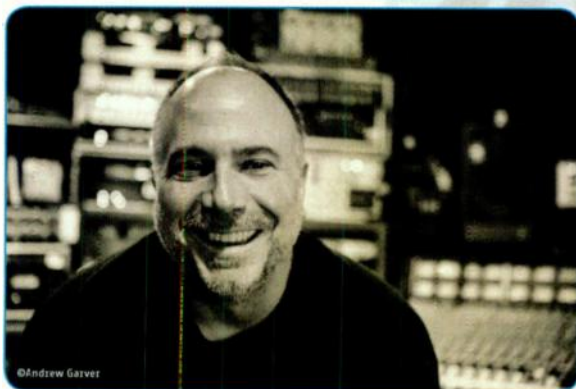
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Music



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Dave and Phil Alvin



MAKING UP FOR 'LOST TIME'

Alvin Brothers Keep the Family Reunion Going By Barbara Schultz

Craig Parker Adams not only tracked but also videotaped the session when Blasters frontman Phil Alvin shared lead vocals with his brother, former Blasters guitarist and songwriter Dave Alvin, for the first time. When the Alvins traded playful jabs on Dave's song "What's Up With Your Brother" (*Eleven Eleven*, 2011), it was not only the first time they sang on record together, it was also the first time they'd recorded anything together since Dave left the roots/rockabilly Blasters to begin his solo career in 1981.

"That was one to remember. It was the first time I met Phil, and I got a feeling right away of the brotherly thing they were known for,"

Adams says diplomatically. "But that was before Phil died twice in Spain."

Adams is referring to the near-fatal episode that Phil had on tour while suffering the after-effects of a dangerous MRSA infection. Both brothers have recounted the story of how Phil flatlined two times, and was miraculously revived. The elder Alvin lived to sing another day, and the event rendered meaningless any "brotherly things" that may have stood between them in the past.

After Phil recovered, the brothers went back to Adams' studio, Winslow Ct. (Hollywood), where Dave has recorded eight of his past nine projects. They made the Big Bill Broonzy trib-

ute album *Common Ground* with Dave's touring band The Guilty Ones, and it was a meaningful way to honor the blues music that had inspired them to become musicians to begin with—to rediscover their common ground.

"It was a beautiful thing to see firsthand," Adams recalls. "It was just the two of them and me a lot of the time, and much of what they were experiencing sort of went through me. They had decided that they were going to get along, and I saw no issues between them. What I saw was one brother, Dave, trying to help his older brother, Phil, reconnect to the music and heal. Dave never does things like this—he usually just lets me do my thing—but he took me



Photo: Joe Murray

Dave Alvin

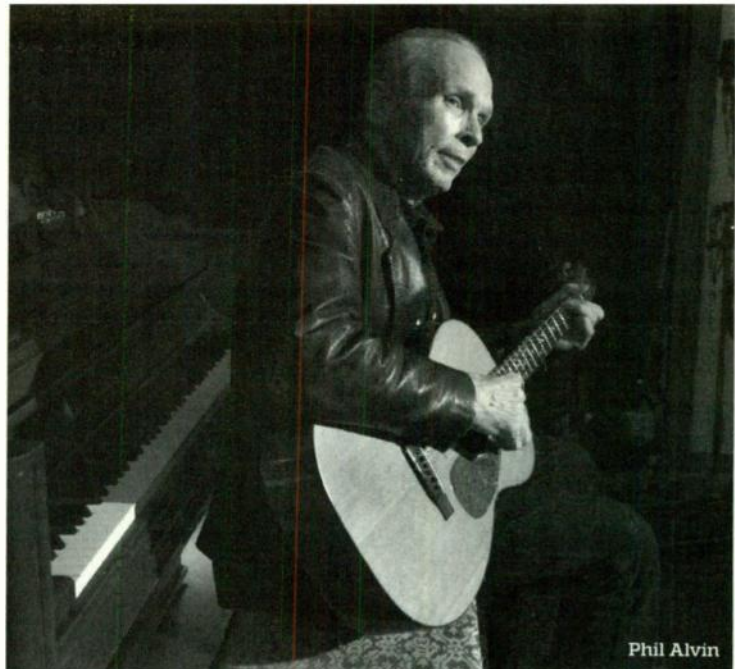


Photo: Jeff Pasano

Phil Alvin

"I played my 1957 Martin 0018 acoustic guitar, 1934 National Resonator Duolian steel bodied guitar, my 1964 Fender Stratocaster and my 2013 Drac Conley/Fury Guitars custom copy of my 64 Strat," Dave Alvin says. "The amp I used was an early 90s vintage Vibro-Verb reissue. Phil played my 2007 Martin DC Aura guitar."

aside and just said, "Whatever he wants, okay?"

A tour and a Grammy nomination followed, and now, the brothers have recorded a follow-up. On their new album, *Lost Time*, the Alvins and The Guilty Ones cover more of their heroes, including James Brown, Big Joe Turner, Oscar Brown, Jr. and others. Engineer/producer/studio owner Adams again co-produced, recorded and mixed the group in Winslow Ct., which he has owned and operated for 18 years.

"This studio is actually considered to be one of the oldest sound recording studios in the world for film," Adams says. "It was built by the Pacific Electric Company. When it looked like films were going to start having sound, the owner built this studio and it's been here ever since, right next door to the Paramount Studios lot."

The studio has mainly been used for TV and film post-production for 100 years.

"My tracking room is an old Foley room," says Adams. "All the original Foley pits and surfaces are still there, and everywhere outside of the Foley area has its own piece of flooring. The different surfaces are not physically connected [to each other], so vibration doesn't transfer through."

These qualities are a great boon to Adams, who does a lot of live band recording. "It's not a big room, but Dave likes it because when everybody plays, they're all up against each other kind of in a circle. The amps are in the same room when I track. On *Common Ground* and *Lost Time*, everybody was in the same room except for Phil, who was in my vocal booth.

"Another reason it works is, there are six 7-foot-wide, floor-to-ceiling diffusors in the room, and 13- to 16-foot ceilings at an angle," Adams says. "If you shot off a sound wave in the center of the room, it ends

up reflecting and canceling itself out, so you get all these safe pockets in close proximity, so the bleed is minimal. You can have guitar amps cranking, and if I put a gobo in front of them, they do not bleed into the drum overheads."

Of course, there were guitar amps cranking on these sessions: Dave Alvin's Fender Vibroverb and Chris Miller's Fender Deluxe. Adams' approach to The Guilty Ones' two-guitar attack is to mike one amp with a Shure 57 and the other with a Sennheiser 421. "Whichever guitarist has the brighter tonality will have the 421," he says. "That ensures a nice separation of the tones, and it warms up the bite of the brighter instrument."

Both guitar mics were run through Brent Averill API 312A mic pre's, to Apogee AD16X converters, to Pro Tools HD 11. During tracking, Dave sang a scratch vocal because the songs include vocal duets and interplay. Phil sang live to a Neumann U 87, and Dave's keeper vocals were overdubbed to the same U 87.

"Here's how it goes down," Adams says. "The band doesn't know anything about the songs going in. Dave will have them sit in the lounge and he will play an acoustic, to show them the feel that he wants. They'll absorb all that, and then they walk out into the room, and I start recording. It just starts showing up—sometimes immediately, and sometimes it's several takes before they find it. But multiple takes are never because they're trying to get anything really polished; it's only because they're trying to find it."

Adams says that when he recorded *Common Ground*, Phil Alvin seemed barely to recognize his own voice coming through the NS10s, because he felt so changed. But critics and listeners hear the unmistakable beauty of what the Alvin brothers create together. These blues- and rock 'n' roll-loving brothers don't sing in magical sibling harmonies like the Everlys, but for 30 years fans missed the wonder of Phil Alvin's mighty voice singing Dave Alvin's songs, not to mention the younger Alvin's deep skill and feel on guitar. The Alvins may have changed, but they've lost nothing. ■



Photo: Greg Letzer

Craig Parker Adams and Dave Alvin

Jack Joseph Puig



BAREFOOT

METRIC'S DAILY JAMS CREATE 'PAGANS IN VEGAS'

Over the course of six albums, Canadian foursome Metric has evolved into a heavy-hitting contender in modern rock. Which makes the group's resident gearhead, co-producer and guitarist Jimmy Shaw's decision to make their latest, *Pagans in Vegas*, an analog modular synth-based affair a bold move. The band members, who live in various cities around North America, come to Shaw's home studio in the back of his house—where the album is recorded in its entirety—in Toronto once he has definitive parts on which they can work.

"The main instrument that dictated what the record was going to be and led the sound is a 66-unit synthesizers.com modular synth," states Shaw, citing the tracks "Cascades" and "Celebrate" as examples. "There was a very simple patch I kept being drawn to: a dual voice patch where the bass was being played with the left hand with sequences creating a pattern, and the right hand is playing the melody using a whole other set of oscillators."

Shaw tasked himself with writing a song in two hours in sessions he calls "the daily jams" from which *Pagans in Vegas* has emerged. Shaw paraphrases Metric's longstanding mix engineer, John O'Mahony's (who more often than not ends up finishing the production on every album) advice about modular synths to him: "These are what they are. Don't try



Photo: Norman Wong

and turn it into a whole other thing. It has a vibe unto itself. Keep it simple, keep it minimal and let it speak for itself in its own way."

As part of keeping the instrument's integrity, Metric recorded to tape and left out not only plug-ins, but also outboard reverb. Instead they went for tubes, valves and classic compression. "We found the tape machine became this extra personality in the band," says O'Mahony. "We would press 'record,' the wheel started spinning around, and it changed the mood and attitude of everything we were doing. It wasn't just a sonic character we were building. It got more serious. When we were recording on computer, everybody felt like they were writing a demo, but when we were recording to tape, it felt like we were making an album." —Lily Moayeri

COOL SPIN GHOSTFACE KILLAH/ADRIAN YOUNGE 'TWELVE REASONS TO DIE II'



Prolific super-producer Adrian Young personally crusades against mass-produced hip-hop and R&B by playing analog-only instruments recorded to analog tape with no plug-ins. He's the one-man band on this '70s-inspired set of

organs, pianos, female operatic vocals and raw acoustic drums that sounds like a hip-hop soundtrack to a Quentin Tarantino joint.

The accompanying storyline of a 1970s New York City crime saga sets no less of a celluloid tone. All-time great Ghostface Killah brings along Wu Tang friends Raekwon and RZA, as well as other guests, to weave a tale of Mafioso revenge and resurrection that follows up on the story from the first album. The Clan has always toed the line between gritty realism and cinematic hyperbole. *Twelve Reasons to Die II* continues in that Wu-Tang tradition, and combined with Young's exquisite instrumentals, it begs for a part three. —Markkus Rovito

Producer/engineer: Adrian Young. Engineered by Anthony Acid and Roadsart. Studio: Linear Labs Studio.

MERCURY REV'S 'THE LIGHT IN YOU'



For Mercury Rev's eighth studio album, *The Light In You*, vocalist Jonathan Donahue, recorded his initial ideas at home into a 1970s mono cassette player, a method he retains from his early musician days. "It feels conversational to me," Donahue says. "It has that 'just be yourself' quality as opposed to, 'be yourself but hey, the big red light's on, you're paying \$100 an hour to be yourself.' There's a warble, a warmth and a hissing on the edges. Whatever magic you had one moment late at night on a cassette, you try to bring that into the final product."

For all Mercury Rev albums until *The Light In You*, an 8-track Tascam had been used, but Donahue couldn't get his hands on one this time, hence the cassette player. Donahue transfers his ideas to Ableton while his Mercury Rev partner, Grasshopper, works on Logic at home. It is these files they take to bass player Anthony Molina, and their engineer since the '90s, Scott Petito, and NRS Studios in the Catskills.

"The biggest issue comes from [Donahue] monitoring strictly in headphones, nothing sounded the way he thought it did," Petito says. "The problem is in terms of overall frequency. Mercury Rev tends to write and record in a dense way. Lots of stuff in the midrange, in the low end, and [Donahue] sings very high and there is a lot of stuff that competes in his vocal range. The trick was to eliminate what we don't need and sculpt the arrangement with only what was needed."

On tracks like "Amelie," "Sunflower," "Rainy Day Record" and "Moth Light," the challenge is even greater as strings and brass are brought into the already busy arrangement. Petito's method was to approach the sounds in terms of frequency range rather than individual instruments. Eventually, all the sounds are brought down to 12 stems.

"We ease in a lot of instruments, melodies and counterpoints within a rock context," says Donahue. "You can't dump everything on top of each other. It takes a lot of work." —Lily Moayeri

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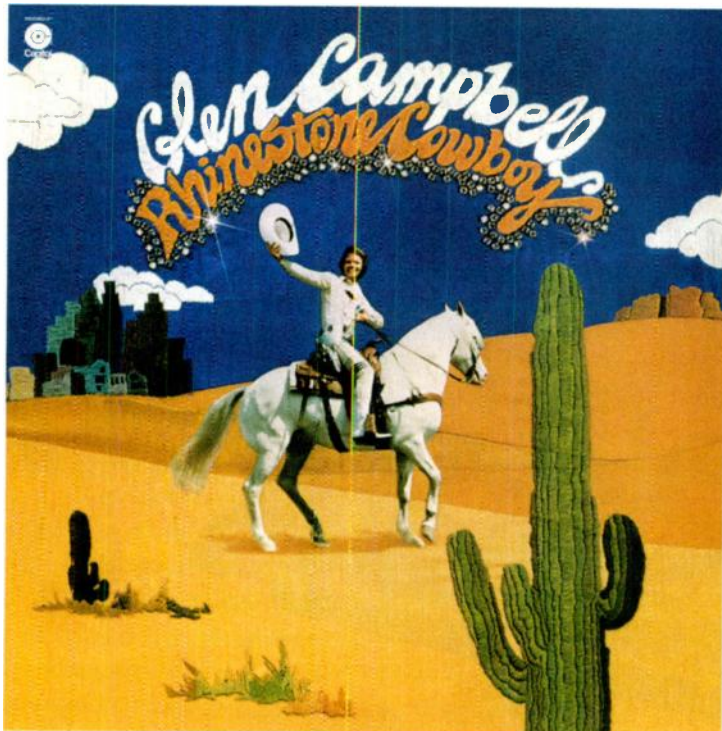


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Classic Tracks

By Matt Hurwitz



"RHINESTONE COWBOY" Glen Campbell's No. 1 Hit, 40 Years Ago This Month

By the time 1974 rolled around, it had been five years since Glen Campbell had had a hit. The theme song to the film *True Grit* had received Oscar and Grammy nominations in 1969, which followed hit singles the previous two years, "Gentle On My Mind," "By The Time I Get to Phoenix" and "Wichita Lineman" (the latter two penned by Jimmy Webb). His hit CBS variety series, *The Glen Campbell Goodtime Hour*, last aired in June 1972.

Campbell was still a Capitol artist in April 1974 when, while driving in Los Angeles, he heard a song on KNX-FM by an artist named Larry Weiss, titled "Rhinestone Cowboy." Immediately identifying with the song's sentiment about a country boy navigating the music business, he rang his secretary and had her purchase a cassette of Weiss's recent album, *Black & Blue Suite*, on 20th Century Records. A little over a year later, it would be Campbell's version of the song that would be on the radio and, by September, reach the top of the charts.

In mid-1974, a team of hit-making producers, Dennis Lambert and Brian Potter, joined Capitol Records as staff producers (and working

under their own shingle, Haven). Lambert had moved to L.A. in 1968 to work for producer Don Costa, whom he convinced to bring Potter over from England the following year. The two began a songwriting and, soon after, producing partnership that would last 11 years, first for T.A. (Talent Associates) Records with Steve Binder, and then under Steve Barri for three years at ABC/Dunhill Records. Between the labels, they signed and/or produced hits for Seals & Crofts, The Grass Roots, The Four Tops ("Ain't No Woman [Like the One I Got]") and Dusty Springfield, before leaving for Capitol.

The producers were already busy at work with the label's new R&B artist, Tavares ("It Only Takes a Minute"), when marketing and promotion executive Al Coury asked them to produce an album for Campbell. "I think he thought it was a real stretch for us, since we were doing a lot of R&B," Lambert says. "But, to his surprise, I loved Glen, and so did Brian. Brian was a little concerned because he thought Glen's roots were deeply in country, but I told him, 'No way. He's a country boy, but he lives in L.A. He's a pop crossover guy, one of the first.'"

The three met up at Campbell's house around November 1974, both to get to know each other casually and to talk about music for the project. "We were thinking about a cross between pop and country—a mix of ballads and rhythm songs," some of which Lambert and Potter would write and others they would find.

Not long after that meeting, Larry Weiss—who, it turns out, was an old friend of Lambert's from their earliest days as songwriters in New York—contacted Lambert for a meeting. While Weiss's single had briefly peaked at No. 10 on the Easy Listening chart, his album had all but disappeared. "I didn't know he had made an album, but he brought it up to my office and played some songs for me," one of which was "Rhinestone." "I was listening to it, and I'm thinking, 'This sounds like the story of Glen's life.' The metaphors were perfect, and it had interesting lyrics, plus rhythmic components his earlier work didn't have. I thought, 'This could be Glen's theme.'"

Within the week, Lambert played the song for Campbell, who didn't respond, except with a slight smirk. "As soon as it finished, he said to me, 'I know this song. I love this song,'" Lambert notes.

During the years prior to their work for Capitol, Lambert and Potter would often record at United Western Recorders, typically working with engineer Joe Sidore, starting in 1969 with The Original Caste's "One Tin Soldier," the theme to the film *Billy Jack*. Sidore had gotten his start at age 20 in 1961 at a small demo studio at Sunset and Vine called Harmony Recorders, where he learned not only to record but to master, as well. He would often, in those early days, run into young Glen Campbell, who would provide not only guitar but also vocals on those songwriter demo sessions. [His first actual session for Campbell, as an artist, was in 1969, on "True Grit," at Western Studio 3.]



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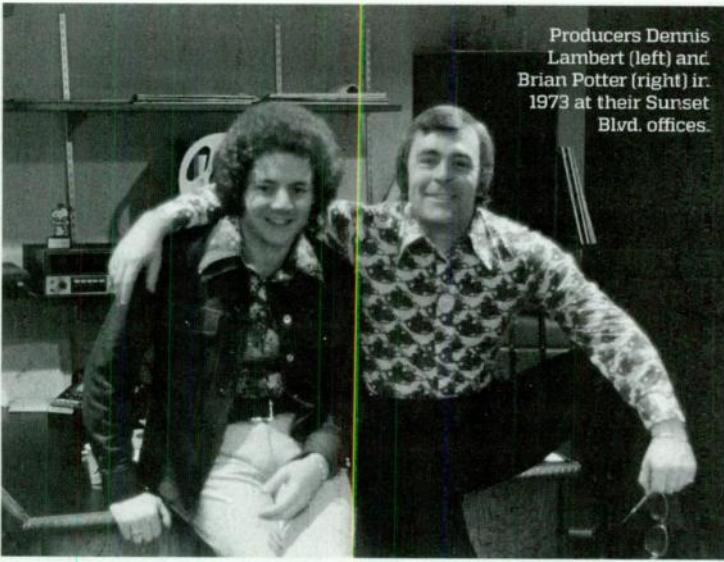
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Producers Dennis Lambert (left) and Brian Potter (right) in 1973 at their Sunset Blvd. offices.



Courtesy Dennis Lambert

Sidore started at Western in 1964, eventually going freelance in 1971 (among the first engineers to do so). “Joe became ‘our guy,’” Lambert recalls. “Not only was he an incredible engineer, with great ears, and a true gift for recording, having come up under the likes of Chuck Britz and Lee Herschberg at Western, but he was also a great mastering engineer. We’d finish mixing, and he’d go, ‘Let’s go master it,’ and we’d go upstairs to the second floor, and he’d cut it.”

With their success and recent move to Capitol, Lambert and Potter began looking for a new home base from which to create their recordings. Armin Steiner had opened Hollywood Sound Recorders around the corner from Capitol in 1965 and, a few years later, opened Sound Labs, just across the street. The studio, built by Steiner and acoustician John (Jack) Edwards, was constructed on the second floor of an office building, notes former chief engineer Pete Barth, who left A&M Studios to join up with Steiner not long after Studio 1 was constructed.

Steiner first built Studio 1, a small overdub/mixing room, featuring a custom-made console built by Cal Frisk, using Opamp Labs components. “Armin did something unique with that console, which is he didn’t have pan pots; he had panning buses,” Barth describes. “You had left-center-right that you could select on an input module. But the left-center-right that you selected could either be 3dB outside center, 5, 7 or 9 dB outside of center. There was no sweep—except on one module, for an effect. We wanted the console so clean that it wouldn’t add distortion at all. And that’s how we did it.”

The room also featured among the first 3M M79 24-track tape machines, Serial No. 2 (Wally Heider received No. 1), plus Scully 280 2-tracks and mono ¼-inch for mixdown and tape slap, all of which had their transformers removed, and the Scullys were highly modified. Steiner placed a pair of Altec 604 speakers in the ceiling soffit, something that hadn’t been done before, according to Barth.

Not long after Studio 1 was built, Steiner noticed a large vacancy elsewhere on the second floor and decided to build a 1,000-square-foot tracking room. “It had a low ceiling, because it was in an office building,” Barth says. “But Armin’s acoustician designed the floor in a manner similar to that used on airplanes.” The flooring system featured a plywood base atop the concrete deck, upon which were placed 2-inch Fiberglas pucks covered in silicone, on which were set rows of steel channels, with the floor deck on top. “It was only about four inches deep,” he says. Walls were built of heavy panels of drywall with four-pound lead sheeting,

whose edges Barth soldered together, to essentially create an RF shield.

“It was pretty dead,” Sidore notes. “You had to know where to set things to get the sound you were looking for. There were a lot of dead areas with standing waves.” Notes Lambert: “Joe had to work a little harder to get a good sound, but he was so good, it went from being just a room in an office building to something that sounded great.”

The control room featured a 36-channel Quad Eight console, built to Steiner and Barth’s specs after a visit to the company’s offices with a list of their specs. “It was a balanced nontransistor semi-bus design, with no input transformers in the line amps, which they custom built for us,” he explains. “It was so transparent, engineers like Eric Prestidge and Bill Schnee would bring their own U 47s, U 49s, because they wouldn’t use outboard preamps, because they liked the console.”

The main tape machine was a 24-track Stephens (supplemented by a Studer A80). The machine could be fitted with either a 16, 24 or a 32-track head stack. “Stephens was a master designer, brilliant, but maddening to work with,” Barth reveals. “He would insist on being the one to repair the machine, personally, if it failed. I loved and hated that man at the same time, but that machine was magnificent.”

The studio had a live reverb chamber on an upper floor, though Barth and mixers were not above utilizing the building’s elevator hoistway for additional reverb. “People in Studio 1 and 2 would fight over that echo chamber,” Barth says.

TRACKING A COWBOY

Basic tracking for what would become the *Rhinestone Cowboy* LP began with the recording of its title track, plus two other songs, both ballads—“We’re Over” and “I Miss You Tonight,” the latter written by Lambert Potter Potter, the former by Barry Mann and Cynthia Weil. The session took place in Studio 2 on Monday, February 24, 1975, just after completion of another Lambert and Potter record at Sound Labs for The Righteous Brothers.

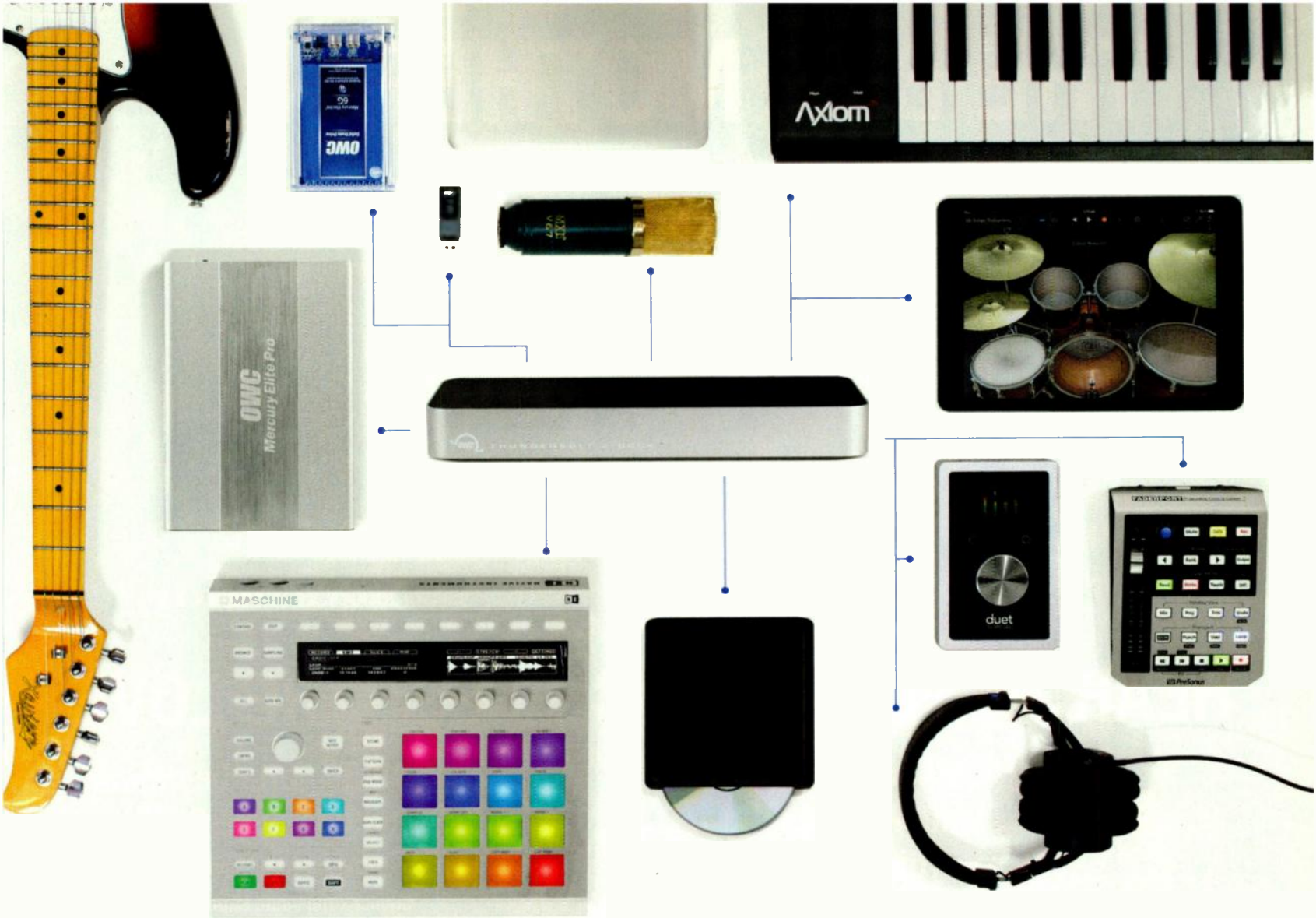
“We’d usually only do three songs with a rhythm section on a ‘double-date’—six hours instead of three—so we would give every song a full two hours,” Lambert says. “We never wanted to settle, by rushing them through a single session.” Even though “Rhinestone” was the likely lead track, “We’re Over” was tracked first, followed by “Rhinestone,” and then “Miss You.” “You wouldn’t want to have the guys do two ballads in a row, ‘cause it’s hard to get them out of that fog. I’d start with a ballad, then get some blood flowing, and then go back to a ballad.”

“The guys” included a who’s who of top L.A. session players of the day: drummer Ed Greene, guitarists Fred Tackett and Ben Benay, and bassist Scott Edwards. Lambert typically used pianist Michael Omar-tian, who was apparently unavailable for the session, so David Paich—who, just a few years later, would help found Toto—handled the song’s piano track, uncredited until now.

Paich grew up around Campbell. His father, Marty Paich, was musical director for the singer’s variety show for five years, and it was Campbell who recorded Paich’s first hit record two years earlier, “Houston, I’m Coming to See You.”

When he arrived at the studio, Paich also found a familiar instrument. “It was a Hamburg Steinway that belonged to Armin’s mother,” the musician recalls. “He used to have it across the street, at Sound

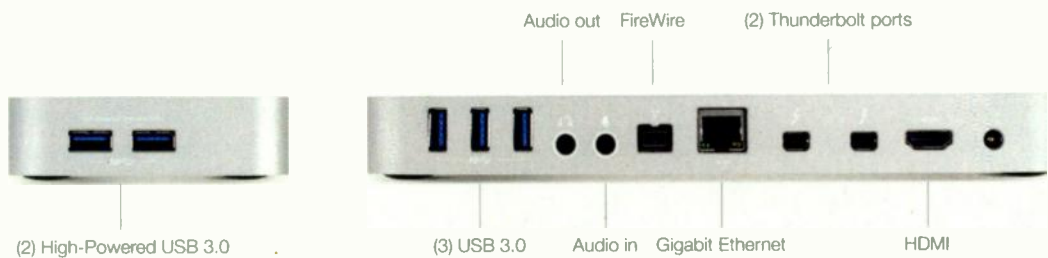
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Live



WILLIE NELSON AND ALISON KRAUSS

By Larry The O **23**

STEVE MILLER

By Mark R. Smith **26**

WILCO

By Matt Gallagher **26**



Willie Nelson (pictured), and Alison Krauss and Union Station with Jerry Douglas, performed at the Greek Theatre in Berkeley, Calif. in late July 2015.

WILLIE NELSON AND ALISON KRAUSS AND UNION STATION WITH JERRY DOUGLAS

By Larry the O

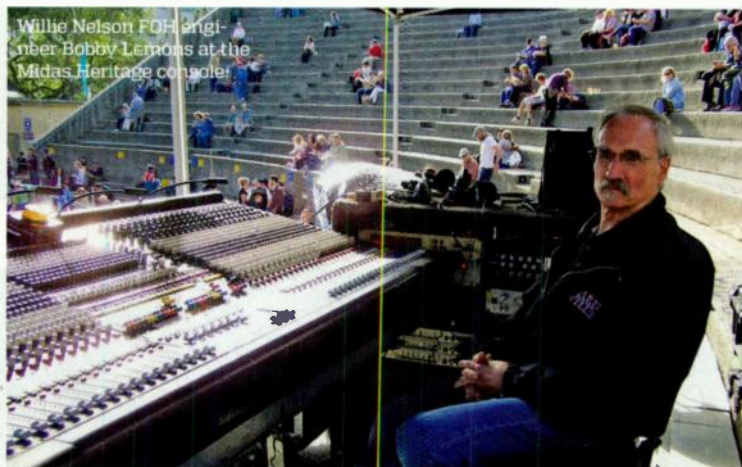
Willie Nelson is inarguably a bona fide American icon, and if Alison Krauss is merely a superstar in comparison, just give her a few more years to catch up. This makes both artists extremely popular touring acts, and the summer of 2014 found Nelson and Krauss and Union Station scheduled to tour together for 35 dates. A health issue caused cancellation of a handful of those shows, so they decided to reunite for nine shows in the summer of 2015. The final date with Nelson and Krauss

and Union Station took place on Krauss' 44th birthday at the Greek Theatre in Berkeley, Calif.

The tour carried its own consoles and processing and picked up stacks and racks locally. In Berkeley, Hayward, Calif.-based Sound on Stage provided an FOH system from L-Acoustics, comprising 10 V-DOSC line source elements per side for the main hangs, with three dV-DOSC cabinets under each for down fill. Side fill was provided by three ARCs constant curvature cabinets on each side, while four 8XT coaxial point-source cabinets along the lip of

the stage supplied front fill. The system was driven by L-Acoustics LA8 units, which provide both system processing and amplification.

Nelson's front-of-house engineer, Bobby Lemons, deals with one of the best-loved voices in American music. Nelson sings not into a high-end boutique mic, but a more modest Audix OM3 hypercardioid dynamic. However, Lemons babies the OM3 with a PreSonus ADL700 channel strip. Nelson liked the sound quality he heard after Lemons switched to the ADL700, while Lemons likes the sound quality of what he doesn't hear.



Willie Nelson FOH engineer Bobby Lemons at the Midas Heritage console.

Photo: Larry the O



Union Station FOH engineer Chris West left, and monitor engineer Mike Larsey.

Photo: Larry the O

“The compressor is so transparent you don’t notice it’s there. I’m using more compression than it sounds like. I’ll use 7 or 8 dB [of gain reduction] on [Nelson’s voice], and with anything else that would not be usable.”

Union Station’s vocals reflect the length of their time performing together. Jerry Douglas, the newest member, has logged only 18 years with the outfit, while the others are well past two decades. Union Station FOH engineer Chris West uses Shure SM58s for all four of the band’s singers and has no outboard processing; all mic preamps, compression, and EQ are onboard the DiGiCo console supplied by SE Systems of Greensboro, N.C., that he runs for the band.

Union Station’s final encore is a mostly a cappella version of “Down to the River to Pray,” a traditional American folk song popularized by Krauss’ version on the *O Brother, Where Art Thou?* film soundtrack. Krauss, guitarist Dan Tyminski (who voiced George Clooney’s performance of “Man of Constant Sorrow” in the film), and guitarist/banjoist Ron Block huddle around a Shure KSM44, while bassist Barry Bales borrows Douglas’ SM58 to sing the low part. To accommodate Bales’ deep voice, West runs the mic without the highpass filter he puts on the KSM44.

Nelson’s Family Band instruments are picked up with a combination of pickups and microphones. Trigger, Nelson’s famed nylon-string Martin acoustic guitar, is fitted with a Baldwin pickup and plugs into a Baldwin amplifier. The production carries a Steinway piano outfitted with a Helpinstill single-coil magnetic pickup that Nelson’s sister Bobbie plays. Kevin Smith’s electric bass runs through a Countryman 85 DI, while his acoustic bass has an Underwood pickup and a DPA 4099 mic mixed in a Vintage Revolution Acoustic Box live preamp. Drummer Paul English plays little more than a snare drum with an AKG C 414 above it and a Shure SM57 underneath. English’s brother Billy sometimes plays snare, but spends most of his time behind a percussion setup with an SM57 on shaker, Beyer OPUS 87 clip-on microphones for bongos, and a Crown SASS on chimes. Mickey Raphael holds a Beyer M160 for his harmonica.

Acoustic instruments are notoriously difficult to mike live, none more so than fiddle. If a mic is too close to the fiddle, it sounds harsh and scratchy, too far and the sound is swamped by bleed. West uses a Shure KSM9 on Krauss’ fiddle, and despite sitting no more than 24 inches above the instrument, the sound is smooth and even, not the least bit edgy.

Barry Bales’ bass is handled by a Shure Beta 98A with a bit of the DiGiCo’s onboard multiband compression to control low-end boominess. Tyminski’s guitar and mandolin are picked up with an AKG C 535 EB, as is

Block’s guitar. Block plays his banjo into a Shure KSM313/NE ribbon mic.

Douglas, on the other hand, plays his Dobro through a full pedal board of effects, at the end of which sits a Fishman Jerry Douglas Signature Series Aura Imaging Pedal. The Aura pedal serves as a DI that feeds the sound system. (Block also has Aura pedals for his guitar and banjo, but West only uses them on dates where gain before feedback is an issue.)

For both acts, “less is more” is the order of the day, according to Lemons and West. With the one exception of Nelson’s voice, little compression is used on any of the inputs of either group. “One or two vocals will occasionally hit a compressor,” West notes, “but I don’t use a compressor on Alison’s voice because, to me, it doesn’t sound natural. I find fader movements do a lot better job on her vocal.” Nor do effects play much of a role in either band’s sound.

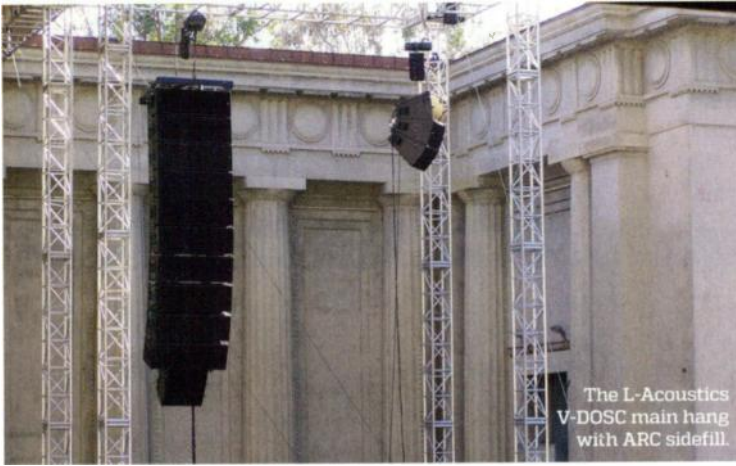
Thus, the biggest challenge Lemons and West cite is getting enough gain out of the microphones. “The whole thing is about gain,” says Lemons. “People ask me, ‘How loud are you going to be?’ and I tell them, ‘As loud as I can get it,’ which doesn’t mean it’s going to be that loud.”

“Gain before feedback is the hardest challenge for this show,” agrees West. “There’s a lot of really hot open mics for the guitars and vocals, and they play for finesse rather than output, which makes them so much better players. I would never ask them to play louder than they do because it would take away from their dynamics.”

West, who works as a system tech for SE Systems when he is not out mixing Union Station, says the gain-before-feedback issue impacts how loudspeaker arrays are hung, as well. “When we would have a P.A. hang that arced down too far onto the stage, I had a hard time getting a good 85dB mix out of it. [The shows average 85- to 97dB SPL.] So, I tried to advance shows to make sure that the hang did not hit the front of the stage and use front fills to hit the first three to five rows, if needed.”

While Lemons and West have similar “less is more” mixing philosophies, they diverge on their preferred tools. Lemons works on an analog Midas Heritage console, straps an Avalon AD2044 opto-compressor across the main mix bus to get more apparent loudness (both are supplied by Clair), and eschews effects altogether. “I have no effects at all,” Lemons states flatly. “I got tired of the way they sound, and I think [not using effects] makes you focus on what’s actually happening instead. You can’t just bury something in reverb.”

West uses a DiGiCo SD10 console, employing only the onboard EQ and compression, and a bit of reverb (a long, warm hall and a vocal plate). West chose not to use reverb at the Greek because of its steep, concrete architecture. During the show, West watches a SMAART display and occasionally



DiGiCo SD10, generating a stereo mix for each of the five band members and feeds it to their in-ear monitors (Sensaphonics for Krauss and Bales, Ultimate Ears for Douglas, and Shure for Tyminski and Block). On the whole, the players like to hear a mostly mono mix.

Because the channel count is relatively low compared to more amplified and highly produced acts (West uses 18 channels), Larcey and West share a single SD rack, dividing up the channels between them. This obviously simplifies routing between the monitor and house systems.

Nelson monitor engineer Aaron Foye supplies eight monitor mixes to Nelson and his family band, one per player except for Raphael and Bobbie Nelson, who each get two mixes. All of the monitors are Clair 12AM slant monitors, except for a Clair FF2-R placed in the crook of the piano for Bobbie.

Beyond the basics, both FOH engineers let their very seasoned clients do what they are so good at, making only occasional tweaks beyond the dialing-in required at the beginning of every set in a different venue on a different day. "Once you get a mix set up, if the band is doing their job, which Alison Krauss and Union Station always are, my job should be minimal movement," West states. "You let them do what they do best and then just make minor adjustments here and there."

Of course, the venue and location affect everything, West points out. "The Greek in Berkeley is an interesting place because it's basically a stair-step that goes 180 degrees around and it's very steep, so you can't really take what you do at soundcheck too seriously. All of those reflective surfaces are going to change completely when people come in, plus there was a pretty good temperature change there, too; it got pretty cool that night." ■

uses a tablet to tweak EQ settings.

West's setup serves as a sort of hub for the house, so he runs an analog output from his SD10 into a QSC RAVE 522UA processor, where it is submixed with the output from Lemons' Midas console, from there to a pair of Lab.gruppen Lake LM-44 processors, then accesses the local sound company's system at FOH. Where an FOH connection was not possible, West routed AES3 digital output from the Lake processors back into the SD10, using groups in the SD10 to get the signal to the SD rack onstage.

Mike Larcey, Union Station's monitor engineer, works on another

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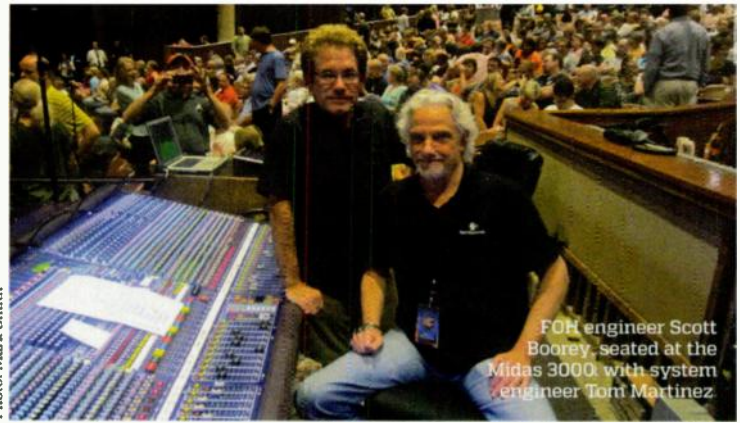
STEVE MILLER ROCKS WOLF TRAP

The Steve Miller Band has been a staple on rock playlists for almost five decades, and he still routinely fills smaller venues, like The Filene Center at Wolf Trap, the venerable Washington, D.C.-area summer tour staple that is owned by the National Park Service.

Miller and his sound engineer, Scott Boorey (who doubles as his manager), have stayed loyal to their analog roots, employing the Midas Heritage 3000. "I've been mixing on Midas boards since 1982, and they're warm, punchy and have tons of headroom," Boorey says. "It works with the two Stratocasters with Shure KM 32 mics, and makes them sound big, fat and warm. Strats tend to be bright, with single-coil pickups; I run my guitars flat, so less is more from the mic to the signal path. The nice thing about Wolf Trap is that the venue provides racks and stacks of fantastic L-Acoustics equipment, and you don't have to do a lot of EQ'ing and tuning in the room. That saves us a big hassle."

There's a reason for that, says Dave Heffelfinger, Wolf Trap's front-of-house engineer. Twenty (or so) years ago, acts were allowed to bring in their systems; however, the quality and coverage of the sound "would vary widely. Therefore, it was time for a new approach." Since 1999, the venue has had 12 V-DOSC and four SB-218 subs per side with a center cluster that includes 12 L-Acoustics smaller dV-DOSC cabinets.

Before the change was made, Heffelfinger asked visiting engineers what speakers they liked, "and many of them spoke well of the new line array



FOH engineer Scott Boorey, seated at the Midas 3000 with system engineer Tom Martinez

Photo: Mark Smith

V-DOSC speakers that were in use at the Foxwoods Casino" in Mashantucket, Conn., Heffelfinger says. "So I went up there and checked them out, and I was very impressed." He adds that Foxwoods was the "first North American install of V-DOSC and Wolf Trap was the second."

What they've brought to Wolf Trap, he says, is "very even coverage of the pavilion, with a good frequency response, too. They keep working and everybody loves them."

Apparently, the band's rockin' D.C.-area crowd approves, too. "We always sell it out," Heffelfinger says of the venue, which is also loved for its aesthetics and its grounds that concertgoers might usually find in...well, a national park.

"Wolf Trap was designed with the symphony in mind, so everything is made of hard wood. That means you get very cool ambience, and the sound explodes off of the stage," Boorey says. "A rock act like ours can overpower it, if we don't watch out." — Mark R. Smith

WILCO DEBUTS 'STAR WARS'



Mix caught Wilco's performance in August at Marymoor Park in Redmond, Wash.

Photo: Todd Berkowitz

Wilco quietly released their ninth studio album, *Star Wars*, on July 17, just hours before headlining the Pitchfork Music Festival in their hometown of Chicago. Through September, band members Jeff Tweedy, John Stirratt, Glenn Kotche, Mikael Jorgensen, Nels Cline, and Patrick Sansone are playing at a mixture of outdoor festivals and mid-sized indoor venues.

Front-of-house engineer

Stan Doty has brought the band's sound to the stage for 15 of its 21 years: "Having [done] many club installs in Chicago, I had the chance to work with Wilco and Uncle Tupelo, their predecessor, many times," Doty says.

Live sound production company LD Audio, based in Chicago, is supporting Wilco's *Star Wars* tour with Avid VENUE | Profile consoles for both FOH and monitors, and a d&b audiotechnik M4 monitor rig. "We rent stacks and racks or use whatever the festivals or clubs have there," Doty says. "Most opening acts have a file for [the D-Show console] and most festivals have the console at FOH. On a rainy day I'll keep FOH on the truck. It saves having to worry about our snake and console."

Doty says that he always begins Wilco's detailed mix with the drums, adding, "How I build my mix depends on the song. Each song has its own dynamics, panning and ascents." Tweedy sings into a Shure Beta 58A, and

Doty notes that he appreciates the mic's off-axis rejection of Tweedy's acoustic guitar. "I compress the vocals using the one that colors the least: the [Avid] Digirack or dbx 166 XT. There are a lot of good tube compressors out there, also. I only let [the compressors] grab on hard hits and usually at about a 6:1 ratio." Doty notes that Tweedy's and Cline's guitars go through vintage Marshall cabinets, 8x10 and 4x10, respectively, that he mikes with Shure KSM313 ribbon microphones, and that "all effects are done onstage by the musicians. Each song gets its own special attention."

Monitor engineer Jared Dottorelli began with Wilco in 2008 as a P.A. tech and has worked at monitors since 2012. "Each mix is a little different, but generally there's plenty of kick, snare, vocal and acoustic guitar all around," Dottorelli says. "The drum mix needs a lot of attention during the show. Currently we have everyone on d&b M4 wedges except for the drummer [Glenn Kotche], who is on Sensaphonics 3D Active Ambient in-ears using Shure PSM 900 wireless. I use D80 amps to run the M4s passively and with a little gentle EQ they sound amazing. At only 44 pounds apiece they are light enough that I can carry two of them across the stage with ease."

Dottorelli uses Waves plug-ins to reproduce Wilco's recorded sounds in a live setting: "Among others I use the NLS channel and API 550 EQ on drums, V-Series EQ4 and CLA-76 on guitars, PuigTech EQP1A and PuigChild 660 on bass, and the C6 multiband on Jeff's vocal. I now use the H-EQ plug-in as the main EQ for tuning my wedge mixes, leaving the graphic EQ for identifying problem frequencies during the show."

Both Doty and Dottorelli appreciate the show's encore set, which comprises four to six completely acoustic songs. "We put up three Shure KSMs, three Shure Beta 58s and one Shure 98," Doty says. "It is quieter but the crowd sings along. Old school and lots of fun." — Matt Gallagher

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Mix Presents Sound for Film: Music, Effects and Dialog in an Immersive World

The second annual Mix Presents Sound for Film conference and exhibition will take place September 26 at Sony Pictures Studios in Culver City, Calif., in association with event partner organizations Motion Picture Sound Editors and Cinema Audio Society. For complete program and panel information, including a Master Class Series from Dolby, DTS, Audio Intervisual Design and DSpatial, visit www.mixsoundforfilm.com.



Mark Mangini to Deliver Keynote

Three-time Oscar-nominated sound designer/mixer Mark Mangini of Formosa Features, whose work includes such films as the recent *Mad Max: Fury Road*, the upcoming *Black Mass*, and a lengthy list of films such as *Raiders of the Lost Ark*, *Gremlins*, *Die Hard*, *Star Trek*, *Beauty and the Beast*, *Aladdin*, *The Fifth*

Element and *The Green Mile*, will present the Keynote Speech at the second annual Mix Presents Sound for Film conference.

A Boston native, Mangini's first job in entertainment was as a cartoon sound editor at Hanna-Barbera Studios. He then had a 25-year run as owner and operator of post-production sound company Weddington Productions Inc. Now as a supervising sound editor, sound designer and re-recording mixer at Formosa Features, and a musician and lecturer, Mangini continues to make his life's work creating unimagined aural worlds and fabricated sonic realities for theatrical motion pictures.

"Having grown up a musician-guitarist, I am awowed of the idea that

all organized sound is 'music,'" Mangini says. "I see my work in movies every bit a composition as those of Beethoven and the Beatles. I just happen to use dissonance, specious melodic content and arrhythmia to its fullest advantage. My works are no less considered, designed, creative or manipulative. They just aren't hummable."

The keynote presentation will take place at 10 a.m. in the renowned Cary Grant Theatre at Sony Pictures Studios.

EVENT PARTNER

Motion Picture Sound Editors

Founded in 1953, the MPSE is an organization dedicated to improving the recognition of its members by educating the public and the rest of the filmmaking community as to the artistic merit of sound editing.

MPSE members are the artists who sculpt dramatic sound effects and invent new sounds for imaginary worlds. In addition to sound effects editors, members include: Foley editors, dialog editors, ADR editors and music editors. You almost never see (or hear) these editors, but members are represented every day at movie theaters, on television, streaming over the Internet, blasting out of videogames, and on CDs and DVDs.

At the first MPSE award show in 1953, Cecil B. DeMille presented the award for best sound editing to the team from *War of The Worlds*, and each year since the MPSE has presented The Golden Reel

Awards, in which the organization acknowledges the year's best work in the various areas of sound editing: dialog, ADR, effects, Foley and music.

Editors are encouraged to join as a professional, student or affiliate. As a member, you will help continue to grow and help support and advance the art of sound editing. Visit www.mpse.org or check them out on Facebook.



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CINEMA AUDIO SOCIETY

formed in 1964 for the purpose of sharing information with Sound Professionals in the Motion Picture and Television Industry.

The objectives of the CAS are: to educate and inform the general public and the motion picture and television industry that effective sound is achieved by a creative, artistic and technical blending of diverse sound elements; to provide the motion picture & television industry with a progressive society of master craftsmen specialized in the art of creative cinematic sound recording; to advance the specialized field of cinematic sound recording by exchange of ideas, methods, and information; to advance the art of auditory appreciation, and to philanthropically support those causes dedicated to the sense of hearing; to institute and maintain high standards of conduct and craftsmanship among our members; to aid the motion picture and television industry in the selection and training of qualified personnel in the unique field of cinematic sound recording and to achieve for our members deserved recognition as major contributors to the field of motion picture & television entertainment.

The Annual CAS Dinner bestows CAS Awards for Outstanding Sound Mixing for Motion Pictures and Television. This is also the occasion on which the CAS presents the Career Achievement Award, the CAS Filmmaker Award and the CAS Student Recognition Award. The CAS Student Recognition Award includes a \$2500 cash award and is intended to encourage students' interest in production or post-production sound mixing, and to recognize individual students with exceptional demonstrated passion for the field.

Details about CAS and the CAS Student Recognition Award can be found on the CAS website at www.cinemaaudiosociety.com.

Sony Pictures Studios Adds Avid S6

Over the course of three weeks in July, Sony Pictures Studios installed the world's largest Avid S6 console to date in the Anthony Quinn Theatre, integrating seamlessly with the room's four existing Pro Tools HDX2 players and two HDX recorders. At 22-feet long, the board has 48 faders in each of two sections (9-knob version on 32 of the 48 faders in each), 12 meter displays, two sets of dual joysticks and two bias panels. The installation was handled by Bill Banyai, Ed Hernandez, Mark Onks, and the Engineering team at Sony.

"It is important for our talent and filmmakers to have a diversified set of tools to enhance the creative process," says Tom McCarthy, EVP Post Production Facilities. "We feel that the inclusion of Avid's S6 mixing console within our facility brings added value to the creative campus that we are committed in providing to our filmmakers."

The console was immediately put to use on the Screen Gems film *When the Bough Breaks*, mixed by Steve Pederson and Steven Ticknor.

"I was lucky enough to have Avid rep Ozzie Sutherland with me on my

Cinema Audio Society

The Cinema Audio Society, a philanthropic, non-profit organization, was

first day on the board,"

Ticknor says. "Within one hour, Ozzie had my Pro Tools Mix Session running seamlessly with the S6. The thing I enjoy most is the Layout functions in the S6—they are like a hybrid of memory locations and window configurations that you find in Pro Tools but much more powerful. The Layout function is exactly that—I can lay out my VCA faders and Master faders in any order and create a layout. They're easy to retrieve with a touch of one button; it makes mixing on the S6 very powerful. I've learned that with Pro Tools 12 and unlimited bussing and over 700 tracks of editing, you have to be organized."

"I'm still learning to interface more with the console, and less on the keyboard and trackball," adds Pederson. "My approach to mixing will undoubtedly shift to leaning on the console more in a traditional sense, and less so in the editing-room mixing style of the past. Avid really has made an effort to create a board that stays with the desired workflow of automated mixing in the session, yet accomplishing that in a 'retro'-style powerful console. It's going to be great!"

DTS:X

In the Burt Lancaster Theatre at Sony, DTS will be demonstrating up-to-date workflows and tools for the MDA format, the flexible royalty-free immersive audio solution for cinema production and playback. The demo will feature the latest version DTS MDA Creator plug-in for Pro Tools HD 11 and 12. In the Master Class Series, DTS will take the audience through the steps to create and export MDA immersive object-based mixes and files plus take these scalable mixes all the way to DCP for cinema playback in MDA and DTS:X capable cinema environments. DTS will also be demonstrating the new JL Cooper AXOS panner, which is configured to directly support the MDA Creator plug-in that allows for seamless integration into workflows for MDA and DTS:X.

Dolby Atmos

Three years ago, Dolby launched Dolby Atmos into cinemas. Now with over 300 titles and more than 1,200 screens worldwide and growing, Dolby Atmos has proven to be the global leader in immersive audio. This year, the company will demonstrate and discuss the latest developments and benefits of mixing Dolby Atmos natively. Additionally, the company will discuss and demonstrate Dolby Atmos workflows from the cinema to the home and beyond with its next-generation broadcast experience.

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From left, Steve Pederson, Tom McCarthy and Steven Ticknor at the new Avid S6

Photo: Julie Shuford/Julie Shuford Photography



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Mix would like to thank the following companies for their support of Mix Presents Sound for Film: Music, Effects and Dialog.

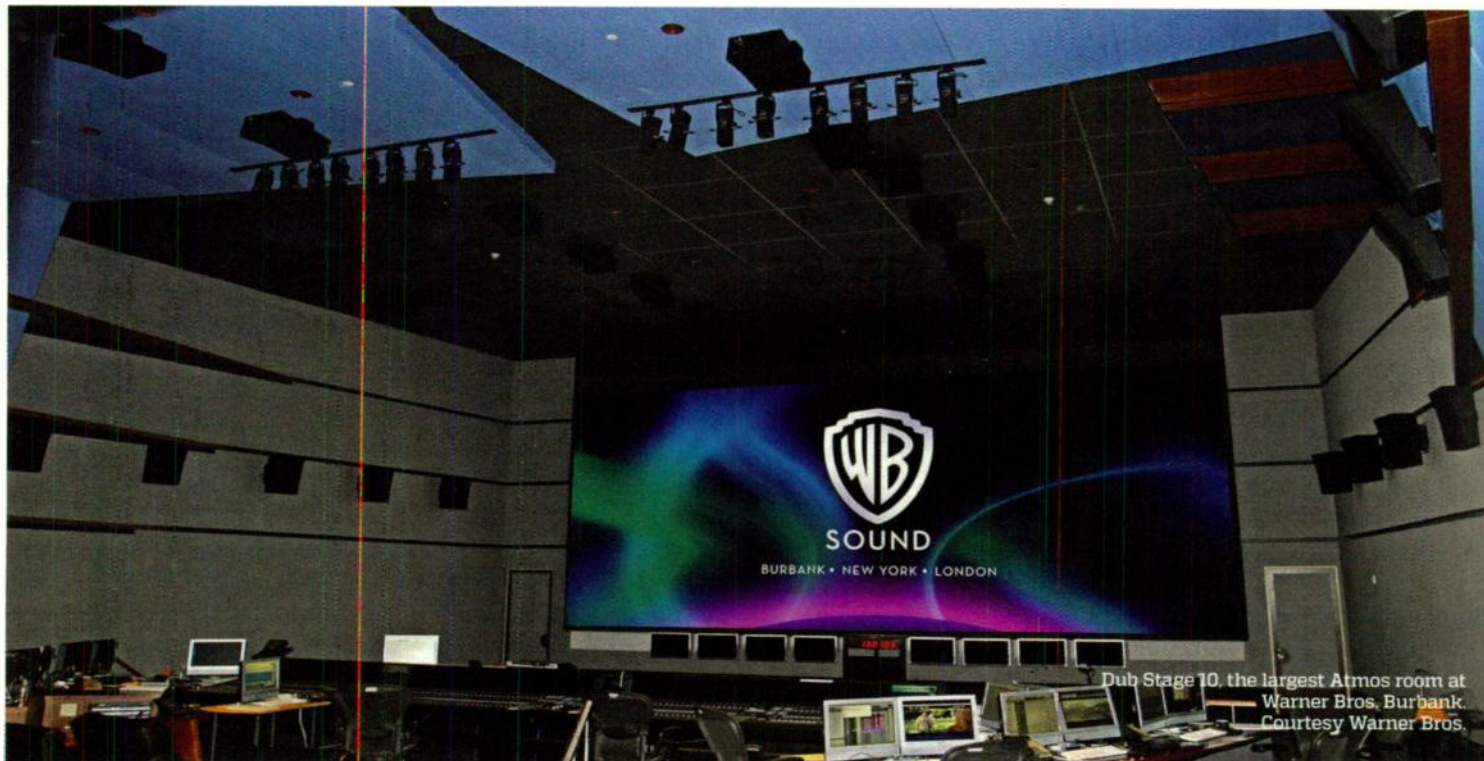


On the Cover

By Tom Kenny

WARNER BROS. SOUND

Expansion to London, NYC Adds Stages, Talent



Dub Stage 10, the largest Atmos room at Warner Bros. Burbank. Courtesy Warner Bros.

The history of Warner Bros. Sound is essentially the history of film sound, from the much-talked about introduction of talkies with *The Jazz Singer* in 1927 on through the present-day embracing of Dolby Atmos and Immersive Sound mixing. It's not that Warners invented or even had a corner on the market on each new technology or process; it's just that the company seems to always be at the forefront, pushing innovation and adoption in both sound and picture.

It's no surprise, then, that over the past three years, with the closing of Todd-AO/Soundelux stages in and around Hollywood and general consolidation in the market, WB Sound underwent expansion, first with the purchase of De Lane Lea in London in November 2012, and most recently with the acquisition of Digital Cinema in New York City in May 2015. To bor-

row an overused cliché, while the rest of the industry was largely in a wait-and-see mode, feeling out 3D projection and the coming Immersive Sound formats, WB Sound doubled down.

The foundation for the recent expansion was laid back in the mid-2000s with a re-invention of workflow, diversification, innovation and flexibility under the guidance of Senior Vice President Worldwide Post-Production Services, Kim Waugh. There was a new emphasis on networked facilities and interconnectivity between editing and mixing. DAW stations were built into the stages for seamless integration between Pro Tools and the custom Neve DFC consoles. They put in the largest Avid Icon console in Hollywood, along with a host of D-Control surfaces, often in conjunction with the DFCs, allowing for hybrid mixing environments. They

built the first stages to run at 96 kHz.

Much of the new workflow was necessitated by a boom in sound for television, where during any one season the facility might have up to 22 shows on a weekly basis. For features, tracks often moved between mid-sized rooms at the premix to the large stages for final mixing. Sound design suites became more sophisticated and incorporated 5.1, 7.1 and immersive monitoring. While the feature stages were assigned to two-person re-recording teams, all rooms had to be flexible; all had to be connected.

Now, that connection has gone worldwide, as tracks and talent are able to move freely between Burbank, NYC and London. It's just happened with WB Sound Burbank creatives Dane Davis on *Devil's Harvest* and Michael Prestwood Smith on *Mission Impossible - Rogue Nation*.

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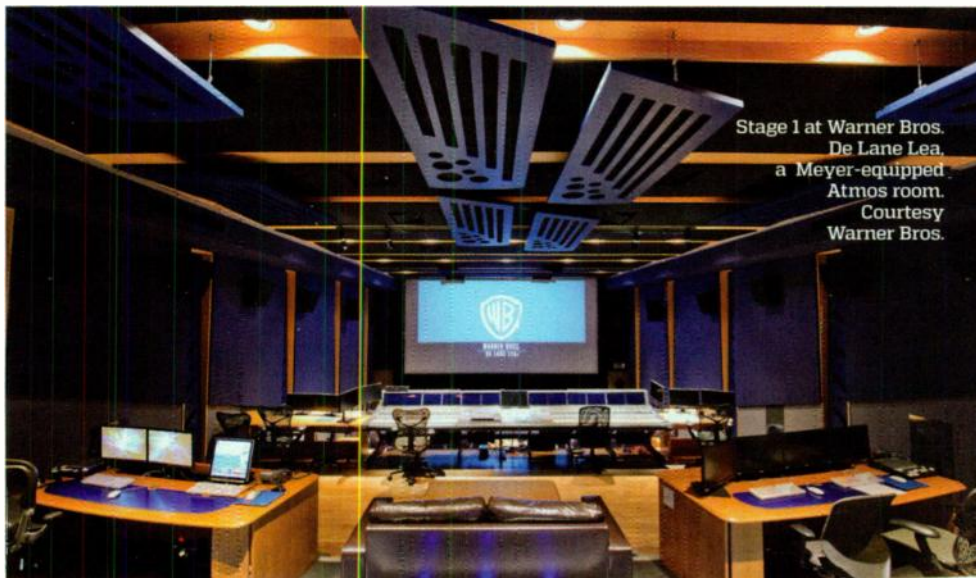
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Stage 1 at Warner Bros. De Lane Lea, a Meyer-equipped Atmos room. Courtesy Warner Bros.

LONDON

Warner Bros is the only major studio to have a post-production presence in London focused on the re-recording of feature films, and the only studio to make a massive investment with the acquisition of De Lane Lea and its four re-recording stages, two ADR stages and 51 networked picture editing rooms.

Officially, Warner Bros. Studios Leavesden purchased the renowned, near 70-year-old De Lane Lea facilities in Soho in November 2012, and one of the first films through the facility following the purchase was *Gravity*, for which Glenn Freemantle won the Oscar for Best Sound Editing and Skip Lievsay, Christopher Benstead, Niv Adiri and Chris Munro won for Best Sound Mixing.

Staying true to its promise to continue investment in the facility, in 2014 WB upgraded the Meyer Sound 7.1 monitoring system in Stage 1 to a full Dolby Atmos mix environment, the first of its kind in London. The upgrade is built around three Acheron 80 and three Acheron LF screen channel loudspeakers, one of each paired to receive a separate channel. Atmos surround sound is provided by 12 HMS-10, 10 HMS-12, and 10 HMS-5 surround loudspeakers, while five X-800C high-power cinema subwoofers in front and two X-400C cinema subwoofers in the rear provide low end. The room was booked solid from the day it reopened, most recently mixing *Mission Impossible – Rogue Nation* and currently the latest Bond film, *Spectre*.

NEW YORK

Warner Bros. Sound had been operating in New York since soon after its founding in Pennsylvania, obviously, going back to the 1920s. *The Jazz Singer*, using WB's Vitaphone sound on disc playback format, premiered there. In one sense, the company is returning to its roots.

Over the past five years or so the company had worked out of makeshift edit suites and rented stages around town. About two years ago, they struck a deal with Sync Sound/Digital Cinema owners Ken Hahn

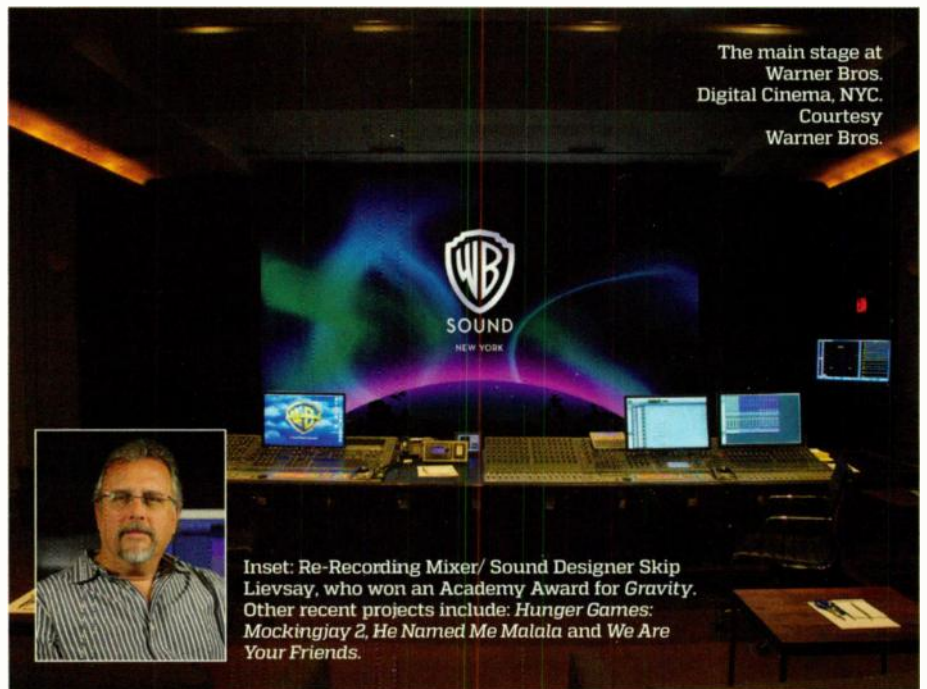


and Bill Marino to occupy the second floor of Digital Cinema, adding eight editorial suites and re-equipping the re-recording stage. In May of this year, Warner Bros. purchased the whole building (Sync Sound remains, busier than ever, in a building across the street) and put Academy Award-winning supervising sound editor/re-recording mixer, and native New Yorker Skip Lievsay (*Gravity*) at the creative helm along with Paul Urmson (*Focus* and *Ricki And The Flash*) and Ben Cheah (*The Family Fang* and *Joyful Noise*). In a clear indication of how talent moves around, Lievsay found himself right back in L.A. working on the final installment of *The Hunger Games*.

The building at 426 West 55th Street, while currently undergoing final cosmetic upgrades, now houses the largest stage in NYC on the first floor, sound and picture editorial on the second floor, and an additional re-recording stage and ADR stage on the third floor. Talent and rooms are available to third parties.

BURBANK

With 20 re-recording stages, six ADR stages, three Foley stages and six screening rooms, the Burbank headquarters is a one-stop-shop for filmmakers and fully equipped to accommodate feature length film, both long and short form television, animation, picture services and a multi-



The main stage at Warner Bros. Digital Cinema, NYC. Courtesy Warner Bros.

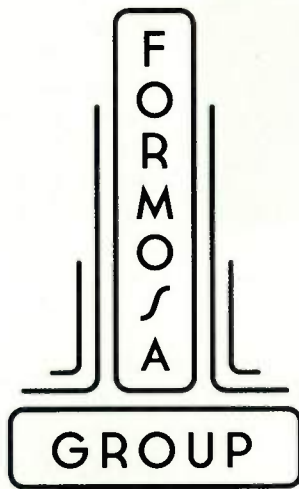
Inset: Re-Recording Mixer/ Sound Designer Skip Lievsay, who won an Academy Award for *Gravity*. Other recent projects include: *Hunger Games: Mockingjay 2*, *He Named Me Malala* and *We Are Your Friends*.

tude of related creative services.

Warner Bros. Sound in Burbank is the most diversified sound department in the industry with no fewer than 23 specialized sound business units including 2 POP Music (Music Editorial, Supervision and

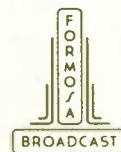
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One of the many sound design editorial suites in Burbank. Courtesy Warner Bros.



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Inset: Mike Preswood Smith's recent projects include *Warcraft*, *The 33* and *Mission Impossible: Rogue Nation*.
Courtesy Warner Bros.



Supervising Sound Editor Alan Murray, who won the Academy Award for Best Sound Editing on *American Sniper*. Currently working on *Sicario*.



Sound Designer/Re-Recording Mixer Tim Chau, whose recent projects include *The SpongeBob Movie: Sponge Out of Water*.

Composition), Audio Circus (Animation Sound for Television), Motion Capture and Scoring to name a few. Additionally, the consolidated post production services group under Waugh now includes Motion Picture Imaging, a highly specialized boutique on the studio lot which has theatrical D.I. Suites, television color finishing, picture restoration and picture mastering services.

The ability to seamlessly package picture and sound services with the highest level of creativity and servicing can be found right there on the Warner Bros Lot. It's not entirely unique, as other lots offer similar services. But Warner Bros. has certainly pioneered the true integration of services in a way others can emulate—if they decide to go worldwide. And if they do, Warner Bros. is still one step ahead.



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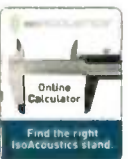


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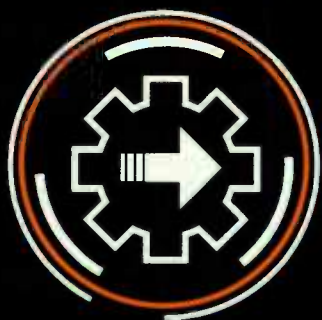


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BALANCING THE 'ENIGMA'

90 MINUTES TO MIX 13-MINUTE FILM—GO!

by David Weiss

Deep down, every experienced audio engineer knows that it's true: Working within strict limitations can be the best thing that ever happened to a project.

The same goes for indie movie producers like Gregory Horoupian, who got a solid reminder of that adage while producing an engrossing new short film called *Enigma*. The hard limit? There would be only 90 minutes to complete the 13-minute production's stereo mix. "I learned this a long time ago: You do better with constraints," Horoupian says. "So I took a deep breath and said, 'How are we going to do this? I don't know, but we have no choice.'"

First-time director Claudine Eriksson is currently a BFA student at New York City's School of Visual Arts. But she had some notable help in producing the movie, which is about a successful and driven book publisher in her 40s who comes across the work of a young up-and-coming photographer—only to have their professional relationship disrupted by the inevitable connection to each other. Eriksson's cowriter on the screenplay was Alexander Dinelar, Jr., who just won an Academy Award for Best Original Screenplay for the 2014 film *Birdman*. Another elite credit is Executive Producer Bob Giraldi, the award-winning director responsible for the film *Dinner Rush* and Michael Jackson's famed *Beat It* video.

With talent like this working behind the

scenes, Horoupian and Eriksson are betting on success, which meant they had to plan for a future 5.1 surround mix, as well as the stereo mix they would be executing under the severe time crunch.

PRE-PRODUCTION

The responsibility of having all sonic elements in readiness fell to Humberto Corte, *Enigma's* sound designer/supervising sound editor. The founder of Vancouver-based post facility Parlante Sound, Corte has worked on countless features, TV shows, short films and commercials; he was prepared to handle a rush job.

"I like to be a part of the workflow pretty much from the beginning," Corte says. "When I get a script, I make a quick cue sheet with the main elements that are mentioned, so I can start recording as they go. I also like watching rough cuts so I can plan for the time, as well as the people, that I will probably need to be a part of my team."

Eventually, Corte would deliver a comprehensive range of Pro Tools sessions for the mix: eight dialog tracks, 16 background tracks, four music tracks, and 24 tracks of sound effects. Each individual element was pre-organized into banks to be ready for use in a stereo mix, or the anticipated 5.1 session down the line. But before the audio would be ready to arrive at the NYC facility limeBeat for mixing, Corte worked meticulously to



Producer Gregory Horoupian and Writer/Director Claudine Eriksson

make sure everything would be ready to go.

First were the obvious tasks, which included Parlante Sound dialog editor Miguel Araujo cleaning up recordings from numerous noisy NYC locations. When it came to sound effects, however, Corte pulled a couple of unconventional moves, which started with premixing those elements.

"I expected that limeBeat's re-recording mixer, Mattias Murhagen, was going to spend the whole time working on dialog, so I wanted to give him the least work possible in terms of sound effects," Corte explains. "That meant doing simple stuff like printing reverb into the sound effects and background ambiences. Usually everything is delivered raw to the mix stage, but things were so tight I said, 'I might as well do it; they won't have time to like it or not like it!'"

Another of Corte's contributions with the sound effects was as counterintuitive as it was effective: Instead of providing just one sound effect at a given moment, Corte actually speeded things up by providing as many choices as possible.

"I added a lot of sounds," he says, "not to distract, but to allow the mixer to do different things when he needed to cover up the sound of clothes rustling, for example. By having a lot of options available, the mix-



er would have the ability to make it work the way he thought was best. So even if I didn't think they would want a particular sound, I kept it in the session in case it might help the mix in some way."

READY, SET, MIX

When mix day arrived, Eriksson and Horoupien joined Murhagen in his suite at limeBeat's picturesque facility in NYC's Flatiron district, while Corte attended via phone from Vancouver. As the pressure-packed 90-minute stereo session unfolded, it became clear that success would depend as much on personality as it would Pro Tools mastery.

"None of us are frantic people, but we knew we had a set amount of time there," Horoupien recalls. "It was definitely, 'Let's go!' But Mattias understood the situation as well, and at this stage he was the captain of the ship. He was very calming, he did the work, and by the time we stepped out of there it was like, 'Wow! We did it!'"

With the stereo mix in the can, the team emerged from limeBeat prepared to do the 5.1 mix when time and budget would allow. "The DAW session is set up as a dual edit," Corte notes. "There are tracks everywhere, to be open for whatever comes next for this film. Looking ahead to when we go to 5.1, I created 4-channel backgrounds that will surround the viewer in a certain way, for example. The sound will really open up."

As *Enigma* starts to make its way through the festival circuit, time will tell if viewers and movie execs connect to its intriguing story. Until then, a primary measure of the sound crew's success is how well the soundtrack translates the director's vision.

"I'm extremely happy with the results," Eriksson says. "The sound creates the tone and the atmosphere, but it's also invisible in the right places. It tells the story and improves it in every way. We landed exactly where we should be." ■

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Production sound mixer Irin Strauss with boom, supporting the iPhone shoot

Photo: Augusta Quirk

TANGERINE'S STREET-SOUNDS OF L.A.

INDIE FILM SHOT ON IPHONE, RECORDED TO SOUND DEVICES

By Jennifer Walden

At 6-foot 5-inches, squeezing into the trunk of a car is no easy task, and adding 40 pounds of recording equipment and a boom pole definitely doesn't make it any easier. But why would anyone put themselves through that kind of torture? To get the shot, of course.

"You just sort of grin and bear it because the story has to be told," says sound mixer Irin Strauss of his recent outing on director Sean Baker's indie-film *Tangerine*. "Sean [Baker] has a gift for storytelling that is completely unique. He has this uncanny ability to bring heart to dark social situations."

Tangerine is a dark comedy about transgender sex worker Sin-Dee Rel-la (played by Kitana Rodriguez) in search of her cheating boyfriend/pimp one Christmas Eve in Hollywood. Sin-Dee is joined by best friend Alexandra (Mya Taylor), also a trans sex worker, but their paths diverge as they attend to their own agendas. All the characters eventually come together in a climatic brouhaha at Donut Time.

Having worked on Baker's previous film *Starlet* (2012), Strauss had a good idea of what to expect on *Tangerine*—like filming with a skeleton crew, shooting clandestinely on location, and even stealing shots at locations without a permit. "Sean doesn't like to call too much attention to himself, and he gets away with it," Strauss says. "He's really big into social realism and shooting people in their natural surroundings."

As it turns out, the filming situation on *Tangerine* was more severe in some respects. The crew was even smaller than *Starlet's*, and *Tangerine* was shot, rather inconspicuously, on iPhone 5s. "The whole idea with *Tangerine* was to keep a low profile. I felt like I was going to stick out like a sore thumb because I am carrying all this gear, and I'm so tall, and I have a boom pole," says Strauss. "I hid around corners and inside cars to avoid calling attention to myself and our crew."

In choosing a stealthy setup for *Tangerine*, Strauss selected the Sound Devices 664 portable production mixer/recorder, which he's used often on documentaries and as a backup recorder on narratives. "It's relatively light for most professional recorders," notes Strauss. He also carried a Schoeps CMT5U shotgun microphone, a Schoeps

CMC 4U with a hypercardioid and a cardioid capsule, eight Sanken COS-11D lavaliers paired with Lectrosonics SMV wireless transmitters, and Sanken CLB-01 boundary mics as stash mics when the lavs and boom weren't enough. His total kit weighed in at 40 pounds. That's still a lot to haul around when chasing after camera guys with iPhones for 18 hours a day.

"We wanted to shoot it in 22 days," Strauss says. "We were scrambling around Hollywood, shooting nonstop except to go to bed at night. It was relentless. After the first week I was completely spent. I believe the experience took 10 years off my life!"

As for the film's climactic scene at Donut Time, Strauss notes it was sheer chaos. Baker relied on Strauss to capture every line, because with everyone shouting over each other, it was impossible to hear it all as it was happening. "We had consultations about who said what and when, to make sure we had all the dialog gems," says Strauss.

Filming at Donut Time was no cakewalk. The store was still in business during the shoot, even with the entire cast of characters and film crew present. "It became really stressful on the crew, and there was a lot of pressure to get it done and get it right. But we pulled it off," says Strauss. "Thank goodness for having years of documentary and narrative experience. My abilities were well-suited to the project."

POST SOUND

At Sound Logic Post supervising sound editor/re-recording mixer Jeremy Grody was holding his breath in anticipation of receiving a film shot on iPhones. "When Sean said it was shot on a series of iPhones, my first thought was, 'What has my career come to?' And after seeing a rough cut, I thought this was going to be an utter mess," admits Grody. "But then it showed up in widescreen and I just couldn't believe it." Grody breathed a huge sigh of relief when he heard the production tracks for the first time. "I was really so pleasantly surprised at how good the production tracks

Continued on p. 56



IMMERSIVE SOUND STARTS WITH THE RIGHT EQUIPMENT

RSPE Audio Solutions has served the professional audio and video industry for over 24 years, specializing in equipment sales, consultation, and all aspects of audio system and studio design. With friends and clients at every major motion picture facility and recording studio in Hollywood, plus studios around the globe, RSPE's areas of expertise include Music Production, Broadcast, Post-Production, Live Sound, and Home & Business AV automation. Plus, RSPE carries all the top brands of audio and video equipment—both new and vintage.





Engineer Mark Linett served as technical consultant to *Love & Mercy*, helping to re-create the 1965 control room at United Western.

LOVE & MERCY

'PET SOUNDS' SESSIONS RE-CREATED FOR WILSON BIOPIC

By Matt Hurwitz

Producer/engineer Mark Linett is no stranger to The Beach Boys' *Pet Sounds*, having produced *The Pet Sounds Sessions* in 1996 and handled the group's catalog reissues since 1987, as well as engineering most of Brian Wilson's solo albums. So when producer/director Bill Pohlad wanted to re-create the album's sessions for his film *Love & Mercy*, Linett was the perfect choice to act as technical consultant.

"The plan was to film the majority of the studio scenes in the studio where most of The Beach Boys' records were cut, up until about 1967, which was Western Studios Studio 3 [now EastWest Studios]," Linett says.

To help Pohlad and production designer Keith Cunningham set up the smallish 31x15-foot room as it would have appeared in 1965 during the sessions, Linett conferred with former United Western engineer Joe Sidore, who also supplied photos from the era. "Like you'll see in the film, the musicians were right on top of each other, which is actually one of the reasons it sounded so good—the mic leakage added to the sound," he notes.

Studio 3's current control room features a Trident A Range console and portable racks of modern gear. The latter was easily removed for the production and replaced period pieces, from North Hollywood-based History For Hire, though the Trident was a different matter. The film's props department built a desk-like Formica enclosure around and over the Trident, allowing Linett to bring in his own period console, which was set on top of it.

The original Studio 3 console, built by studio founder Bill Putnam, was a 12-input, 3-output desk, purchased by musician John Phillips upon its removal

in the early 1970s. "There were actually two built at the time. I own the twin sister to the Studio 3 console, which was built to serve as a portable rig," Linett explains. But it is not the console we see in the film. "The props guy told me, 'The first rule of this business is, don't use your own stuff,' lest one risk damage to historic equipment. Linett instead offered an 8-input, 2-out console built for a radio station in Texas in 1963, which was augmented to house 11 modules, with lights and VU meters that responded to audio playback.

The rig also had a working talkback system, which would not only play actor Paul Dano's (Wilson) voice into the studio, to be picked up by studio mics by the production sound mixer, but also fed directly to the mixer.

Though original session engineer Chuck Britz passed away in 2000, in keeping with the goal of realism, he is portrayed in the film by another Beach Boys engineer—Linett. "It made sense having me do it, rather than having me teach an actor how to act like an engineer," he laughs. "I'm playing an engineer, a part I have been 'rehearsing' for almost 40 years."

Original session miking would typically have been limited to 12 mics, to match the limits of the console, save for the odd occasion where supplemental auxiliary mixers might have been used, according to Linett. Again, for authenticity, Linett provided some historic microphones, as did EastWest from their collection; a few others were rented.

While the vocal sessions for "Good Vibrations" were, for the most part, recorded on 8-track at nearby CBS Studios, both that facility and Gold Star were re-created in EastWest's Studio 1 (including faux control rooms set up in the live room). For that session, says Linett, "CBS was big on AKGs, unlike most studios at the time. So The Beach Boys are always seen singing on C12s, with these large AKG factory windscreens. As luck would have it, I found a couple of those over in the boneyard at Ocean Way, and they let me have them."

The production hired professional musicians for the venerable Wrecking Crew players Wilson used on the original sessions, such as bassist Carol Kaye, drummer Hal Blaine and others, all guided by current Wilson band musical director Darian Sahanaja.

The session scenes were filmed with musicians playing live and being recorded by the production sound mixer, rather than miming to session material given to production. "It's shot very much like a documentary," Linett says. "So you're hearing them as if you're in the room. Seeing them play what you're hearing is actually much more realistic and believable to watch."

None of the musicians wore headphones, as would have been the case at the time, save for actor Johnny Sneed (Blaine) during the recording of the intro for "Wouldn't It Be Nice." "The original session had a Belzuki, which was played by a musician plugged in direct in the control room, so Hal would have had to hear the intro to lead the others into the song," Linett says.

"We discussed recording the musicians onto multitrack, but in the end we decided it would be too complicated," he continues. "I would have loved to do it, just to get a sense of what it would have been like to have that kind of palette to play with. Standing in that room, watching them in period costumes and hearing them play, the way the sound was captured, you really get a sense of how it all worked—that huge sound coming out of this small room. It was like going through a time machine." ■

- ⓐ Native Instruments Maschine Studio Groove
- ⓑ sE Munro Egg 150 Studio Monitors
- ⓒ Behringer X32 40-Channel, Digital Mixer
- ⓓ Neumann TLM 102 Large-Diaphragm
- ⓔ Moog Minimoog Voyager Monophonic Synthesizer
- ⓕ Neumann TLM 107 Multi-Pattern Large Diaphragm
- ⓖ Universal Audio Apollo Quad Core
- ⓗ Apple 15.4" MacBook Pro Notebook



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SOFTWARE TOOLS FOR COMPOSITION & DIY SOUND DESIGN

by STROTHER BULLINS

Today's sophisticated audio sculpting tools have arguably amended the unspoken rules of creating sound for video. Tech-savvy, creative musicians may wield only one instrument in practice—quite often using a keyboard and/or MIDI-enabled stringed instrument—to compose a symphonic score for a documentary, reality show or a simple YouTube video. And with the right tools, artist/engineers can be one-person powerhouses, going from inspiration to completed soundtrack with amazing results.

In my review work for *Pro Sound News*, I often collaborate with Rich Tozzoli, a Grammy Award-nominated mixer/producer who composes for a wide variety of television programming, ranging from FOX and CBS Sports broadcasts to reality shows including *Pawn Stars*, *Duck Dynasty* and *Alaskan Bush People*. I also regularly collaborate with Rob Tavaglione, a busy engineer and proprietor of Charlotte, N.C.'s indie audio production studio Catalyst Recording. Here, we put our heads together to compile the following list of must-try plug-ins and software-based tools—ones already proven worthy for heavy use in premier sound composition gigs such as Tozzoli's and with Tavaglione as he produces impressive audio-for-video results on deadline, too.

TOZZOLI'S MAGNIFICENT SEVEN



AUDIO EASE ALTIVERB

"I happen to use reverb as a tool, so this is still a go-to weapon for me," explains Tozzoli. He often applies Audio Ease reverbs when writing melodies that take the

viewer to awe-inspiring grand spaces, matching breathtaking visuals with detailed, complex reverb algorithms. "From epic mausoleums in India or the Great Pyramids in Egypt to historic century-old churches, bigger is better sometimes; the sense of depth provided in Altiverb is wonderful, as are some of the oddball things in there, like the sound of 'tin cans' and 'washing machines' environments."

The 64-bit Altiverb is currently in Version 7, total recall automatable, and is Mac and Windows OS-ready.

EVENTIDE BLACKHOLE REVERBERATOR

Referring to it as "a reverb monster," Blackhole is the culmination of Eventide's years of developing reverb effects for its DSP4000 and H8000 flagship hardware processors. A Native-only, 64-bit compatible plug-in for Mac or Windows OS, Blackhole shares sounds also available in Eventide's cool Space stomp box, providing new and interesting ways to sculpt even



the simplest of melody lines into picture-paired soundtracks.

"It can do huge spaces, small spaces and anything in between," notes Tozzoli. "It provides 2,000 ms of pre-delay and its inverse Gravity [setting] can do wonders to sounds."



SONNOX OXFORD REVERB

Another reverb specifically noted by Tozzoli, the Sonnox Oxford provides notably comprehensive parameter controls with independent control of early reflections and reverb tails. "It's really what separates this one from the others I use," explains Tozzoli. "It's my favorite for [composing] using

acoustic instruments in the guitar realm."

Another key component of the Oxford Reverb is its integrated 5-band EQ. "You can truly customize the end result" with the EQ, Tozzoli notes. Also included are over 100 well-chosen presets crafted for music and post-production work.



SOUNDTOYS LITTLE PRIMALTAP

Deemed by SoundToys as their "dirty little delay," Little PrimalTap is an edgy, exciting Native plug-in featuring echo, loop, warp and distortion effects. It is

based on Lexicon's late-'70s Prime Time delay unit with key updates suited for modern use including a doubled delay time from the original's 256ms to 512ms. Yet it preserves Prime Time's quirky Multiply feature—halving sample rate each time delay rate is doubled.

It's Tozzoli's "newest creative favorite," he explains. "It has a truly unique set of filters that can warp, distort, mangle, echo and flange like few others out there. While I'm at it, I'd have to include SoundToys' Crystallizer in this list, too—a reverse echo effects plug-in—because it's just so wonderfully odd."

SPECTRASONICS OMNISPHERE 2 SYNTHESIZER

Now in its second version, Spectrasonics' flagship synth plug-in boasts



more than 12,000 sounds, 400 new DSP waveforms for its oscillator, 25 new effects units, granular synthesis, evolved FM/Ring Mod, eight new filters, polyphonic LFO and modulation envelope options, and much more, plus an improved sound browser and audio file import capability.

Calling it his go-to plug-in synth, Tozzoli sums up Omnisphere quite succinctly: "With all these sounds, if you can't find something to create with in there, it's time to switch jobs."

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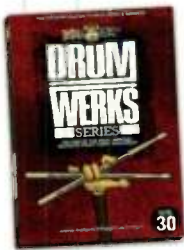
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he explains. "I call it up inside my Pro Tools sessions to unleash a palette of sounds that is virtually unlimited."

Reason 8 instruments include superb synths, beats and loops via classic drum machine-inspired GUIs for improved creative workflow and impressive collections of instrument samples. It's user-friendly, a MIDI-centric DAW that runs well alongside traditional DAWs for pro-grade environments such as Tozzoli's personal studio.

THREE TOOLS FROM TAVAGLIONE



BETAMONKEY DRUM LOOPS

For the past decade, BetaMonkey has produced thousands of drum samples and drum loops at great prices without the heavy processing and compression found in the products of many competing online loop stores. These are Tavaglione's favorite drum sound sources when composing without a drummer or in a deadline pinch.



IZOTOPE RX 4

The scenario is this, offers Tavaglione: "So the response from a client is, 'We're under deadline and you send me these noisy tracks?' Well, it's a good thing that, with RX, 60-cycle hum, amp buzz, pops, clicks and sometimes even totally

unrelated sonic events are neatly removable."

RX 4 is a complete plug-in suite, Mac and Windows OS-compatible, and is available as low as \$349. It's worth springing for the full ver-

Tradition, tubes & transformers...

Twin-Servo[®] Jensen[™] 990 preamp

This is the real thing. Developed by industry guru Deane Jensen, the 'no compromise' Twin-Servo preamp combines two legendary Jensen 990 discrete op-amps with Jensen's finest input and output transformers to produce a response that ranges from 1Hz to 150kHz. Updated to fit inside a 500 series module enclosure, the Twin-Servo delivers a sonic clarity and low-end depth that is without equal.



PowerPre[™] mic preamp

The PowerPre is a 100% discrete mic preamp with an old-school Hammond[™] broadcast transformer for ultra-warm tone. The Radial PowerPre features Accustate[™] gain control for lowest noise at any setting, Vox Control for added breath or extra punch, a high-pass filter to eliminate resonance, a 10 segment LED meter display for easy readout and plenty of gain to handle any situation.

PowerTube[™] tube preamp

The PowerTube is an amazing class-A tube preamp that combines the natural harmonics of a 12AX7 with the sonic performance of a Jensen[™] transformer. Inside, a charge pump delivers 140 volts to the tube for maximum headroom while the transformer yields Jensen's legendary Bessel curve. Features a high pass filter to eliminate resonance, an 'air' switch for extra top end and a 10 segment LED ladder for visual feedback.



"The PowerPre is a must hear. I got great results, particularly in high transient situations where you can drive it hard for more transformer color. Bought one."
~ Mix



"The PowerPre is a fine example of a well designed, low-noise mic preamp that can give a bit of 'meat' or 'air' when needed. It may well be your preamp of choice."
~ Electronic Musician



"The PowerTube promises 'tube magic'... retro tone and warmth... and this puppy succeeded. You won't find many options at this price point that deliver on this promise."
~ TapeOp



"The Q4's two Mid bands include a Q setting narrow enough to go all Hendrix with and you can make superb Wah-wah effects with the low-frequency knob. Astonishingly wholesome and lovely!"
~ Resolution



"Using the EXT, I was surprised at how quietly most pedals can perform, and this got me digging out some neglected curios which sounded stunningly clean and juicy."
~ Resolution



sion, at \$1,199, for more specialized post-production tools if commercial work is your goal.



UNIVERSAL AUDIO EMT 140 CLASSIC PLATE REVERBERATOR PLUG-IN
An emulation of the vintage German EMT plate reverb, UA's Reverberator plug-in sounds like the real thing, which Tavaglione insists is a great portal to creative juice flow in composition. "Whether I need sustained decay for a cue's long fade-out, or drama in a typical song, or simply the inspiration that a sense of 'space' does for my creative brain, this one gets my electrons firing," he explains.

YOU MIGHT TRY THESE TWO, TOO

CAKEWALK RAPTURE PRO VIRTUAL INSTRUMENT

Announced earlier this year at Musikmesse, Rapture Pro is reportedly

the first performance synth combining algorithmic and sample-based synthesis for novices and savvy users alike. At \$149, Rapture Pro could be a good place to start for those new to synth-based composition; it is even available in a bundle with Cakewalk's DAW, SONAR, for \$348 direct.



TOONTRACK EZKEYS VIRTUAL PIANIST SOFTWARE

Aspiring songwriters and amateur composers lacking piano skills may try Toontrack's EZkeys, a library of pro-performed MIDI loops and phrases sculpted via an intuitive GUI. Using EZkeys can be as simple as choosing a piano loop from a comprehensive list of musical or performance styles, selecting the correct key, and dragging/dropping it into your DAW. It's especially useful in "key-less" situations, especially for low-mixed piano tracks to add desirable piano texture to take a DIY composition to the next level. A variety of EZKeys packages are available, grouped by piano type and musical style, most of which start at \$149. ■

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

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The Space Heater 500 is a 12AX7 tube overdrive designed to bring loads of spice and character to your tracks. It features 3 voltage settings for slight harmonics, medium crunch or over-the-top distortion. A combination of high and low-pass filters let you focus the distortion when parallel processing and a Jensen™ transformer rounds out the output for the ultimate in smooth, natural tone.



Q4™ state-variable parametric

The Radial Q4 is a state-variable class-A parametric equalizer with a 100% discrete circuit. This unique old-school design enables component level control over individual gain stages, eliminating the need for excessive tone robbing negative feedback. This makes the Q4 the most natural sounding EQ ever! Features include high and low shelving with parametric control over the low mid and high mid regions.



EXTC™ guitar effects interface

The EXTC is a unique device that lets you interface high impedance guitar pedals with your recording system. It features easy access front panel ¼" connectors for quick set-ups, plus individual send and receive controls to optimize the signal path and a wet-dry 'blend' control. The effects loop is transformer isolated to eliminate buzz and hum caused by ground loops.



radialeng.com/modules

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* Specifications and appearance subject to change without notice.

PORTABLE RECORDERS

FROM HANDHELD MODELS TO OVER-THE-SHOULDER

BY THE MIX EDITORS

The term portable recorder can refer to a wide range of devices designed for an array of applications, from recording speech or documenting a musical idea or a gig, all the way to capturing sounds in the field and mixing them for a big-budget action movie or animated production. This year, *Mix* surveys 12 versatile products representing both types of portable recorders, from manufacturers that specialize in them to meet the needs of anyone who relies on high-quality audio for work or for play.



AATON CANTAR-X3

Aaton's Cantar-X3 follows in the footsteps of its predecessor, inheriting the ergonomics of the X2 and its microphone preamplifiers, which have been redesigned to improve filtering possibilities and reduce the noise level. It also offers Audinate Dante IP networking as an option, and a display-based menu control that was designed by Transvideo, a designer and manufacturer of LCD flat-panel monitors in France. The Cantar-X3 is optimized for location work due to its avionics aluminium machined housing and its military grade water- and dust-proof durable coating. The Cantar-X3 features extended linear faders, smooth rotary knobs and silent switches.



BOSS MICRO BR BR-80

The pocket-sized Boss Micro BR BR-80 records directly to an SD/SDHC memory card (up to 32 GB) with a built-in stereo condenser microphone, and is equipped with three modes for creating, recording and performing music: an 8-track MTR (Multi-Track Recorder) mode; an eBand mode for onstage backing tracks and phrase training; and a Live Rec mode for instantly capturing high-quality stereo recordings. Plus, all three modes can be used in combination.



FOSTEX FR-2LE

Manufactured from high-grade materials and specifically designed for professional location recording, the Fostex FR-2LE records 24-bit/96kHz BWF files, as well as MP3 files, to a Type II CompactFlash card. On an 8GB CF card, it can record 12 hours at 16-bit/44.1kHz. The FR-2LE is equipped with two phantom-powered XLR microphone inputs (XLR-phone combo)

complete with precise control over the recording level, as well as high-quality microphone preamps and trim control. Analog out is offered on RCA connectors. It features a 1 take = 1 file recording system to eliminate overwrites, and it has a 2-second pre-record buffer.



NAGRA LINO

The Nagra LINO is a solid-state audio recorder with built-in microphones designed for use in any ultra-portable recording situation. It records to a removable SD/SDHC memory card of any memory capacity. (Standard SD cards have a maximum capacity of 2 GB; from 2 GB to 32 GB they must be of the SDHC type.) It records at resolutions from 16-bit/44.1kHz to 24-bit/96kHz to PCM mono or stereo audio WAV files, while MPEG compression allows for longer recording times.



OLYMPUS LS-14

The Olympus LS-14 Linear PCM recorder uses two internal 90-degree directional stereo condenser microphones plus a third omnidirectional mic at the center, with a stated frequency response of 20 to 20k Hz, and an amplifier, supporting sound pressure levels up to 130 dB. Audio and system circuitry are separated to minimize sound degradation. Files are recorded in PCM or MP3 modes and saved to the 4GB internal memory, or on SD/SDHC cards up to 32 GB.

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ROLAND R-26

The R-26 uses dual stereo mics and six channels of simultaneous recording. There are two types of stereo microphones built into the R-26—directional (X/Y) and omnidirectional—plus a pair of XLR/TRS combo inputs to accommodate external

mics, for up to six channels (three stereo) of simultaneous recording, and an input for a stereo plug-in powered mic. In addition, users can mix the mics together to achieve the optimum balance. The R-26 is equipped with Roland's proprietary IARC (Isolated Adaptive Recording Circuit) on the inputs for the built-in mics as well as the external inputs. This analog circuit is completely isolated from the digital circuitry and has its own power supply, reducing digital noise and achieving very clear sound. The R-26 includes a USB interface and is bundled with SONAR LE software (Win).



SONY PCM-D100

The PCM-D100 is a high-resolution recorder with two-position (X/Y or Wide) electret condenser microphones, 32 GB of internal flash memory and a SD-XC Card slot. Recording formats include linear PCM (at 192, 176.4, 96, 88.2, 48

and 44.1 kHz); DSD (2.8224 MHz) and MP3 (320 and 128 kbps). Additional playback support is provided for FLAC, WMA and AAC files. The PCM-D100 offers comprehensive signal processing features for location recording including a limiter and low-cut filter. The PCM-D100 also includes a 5-second pre-record buffer and cross-memory recording function. The PCM-D100 is constructed of lightweight aluminum and uses conventional AA alka-

line batteries. The recorder includes a USB high-speed port, digital pitch control, dual path digital limiter, Super Bit Mapping and A-B repeating capability.



SOUND DEVICES 688

The 688 incorporates a multichannel mixer, recorder and MixAssist auto-mixing technology. It features six high-bandwidth mic/line XLR inputs, each with phantom power, highpass filter, analog input limiter and variable pan, plus six additional line-level TA3 inputs for added flexibility in complex productions. All inputs are assignable, pre- or post-fader, to eight output buses, left/right plus Aux 1-6. The main left/right mix is available to three outputs at once via transformer-balanced XLR and Hirose outputs. The 688 offers 16-track, polyphonic or monophonic broadcast WAV and MP3 file recording to SD and CompactFlash cards. All common sampling rates are supported, including 192 kHz on up to six tracks. The 688 features comprehensive metadata editing, sound report creation, Ambient time-code generator and reader, 2-second power-on, recording with QuickBoot, and PowerSafe, a built-in 10-second power reserve to protect against loss of data due to inadvertent power loss. The optional SL-6 powering and wireless system accepts up to three dual-channel slot-compatible receivers for the 688.

TASCAM DR-44WL

The DR-44WL 4-track recorder (reviewed in Mix's July 2015 issue) includes WiFi for transport control, file transfer, and audio streaming to a smartphone or PC. Built-in stereo condenser microphones are shock-mounted in an X/Y configuration. A pair of XLR inputs is also available for 4-track recording, and all four feed an improved microphone preamp and AD/DA stage. The DR-44WL includes WiFi for control and file transfer



more than 12,000 sounds, 400 new DSP waveforms for its oscillator, 25 new effects units, granular synthesis, evolved FM/Ring Mod, eight new filters, polyphonic LFO and modulation envelope options, and much more, plus an improved sound browser and audio file import capability.

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ROLAND R-26

The R-26 uses dual stereo mics and six channels of simultaneous recording. There are two types of stereo microphones built into the R-26—directional (X/Y) and omnidirectional—plus a pair of XLR/TRS combo inputs to accom-

modate external mics, for up to six channels (three stereo) of simultaneous recording, and an input for a stereo plug-in powered mic. In addition, users can mix the mics together to achieve the optimum balance. The R-26 is equipped with Roland's proprietary IARC (Isolated Adaptive Recording Circuit) on the inputs for the built-in mics as well as the external inputs. This analog circuit is completely isolated from the digital circuitry and has its own power supply, reducing digital noise and achieving very clear sound. The R-26 includes a USB interface and is bundled with SONAR LE software (Win).



SONY PCM-D100

The PCM-D100 is a high-resolution recorder with two-position (X/Y or Wide) electret condenser microphones, 32 GB of internal flash memory and a SD-XC Card slot. Recording formats include linear PCM (at 192, 176.4, 96, 88.2, 48 and 44.1 kHz); DSD

(2.8224 MHz) and MP3 (320 and 128 kbps). Additional playback support is provided for FLAC, WMA and AAC files. The PCM-D100 offers comprehensive signal processing features for location recording including a limiter and low-cut filter. The PCM-D100 also includes a 5-second pre-record buffer and cross-memory recording function. The PCM-D100 is constructed of lightweight aluminum and uses conventional AA alka-

line batteries. The recorder includes a USB high-speed port, digital pitch control, dual path digital limiter, Super Bit Mapping and A-B repeating capability.



SOUND DEVICES 688

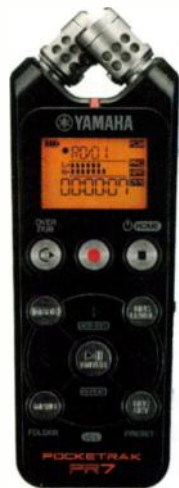
The 688 incorporates a multichannel mixer, recorder and MixAssist auto-mixing technology. It features six high-bandwidth mic/line XLR inputs, each with phantom power, highpass filter, analog input limiter and variable pan, plus six additional line-level TA3 inputs for added flexibility in complex productions. All inputs are assignable, pre- or post-fader, to eight output buses, left/right plus Aux 1-6. The main left/right mix is available to three outputs at once via transformer-balanced XLR and Hirose outputs. The 688 offers 16-track, polyphonic or monophonic broadcast WAV and MP3 file recording to SD and CompactFlash cards. All common sampling rates are supported, including 192 kHz on up to six tracks. The 688 features comprehensive metadata editing, sound report creation, Ambient time-code generator and reader, 2-second power-on, recording with QuickBoot, and PowerSafe, a built-in 10-second power reserve to protect against loss of data due to inadvertent power loss. The optional SL-6 powering and wireless system accepts up to three dual-channel slot-compatible receivers for the 688.

TASCAM DR-44WL

The DR-44WL 4-track recorder (reviewed in Mix's July 2015 issue) includes WiFi for transport control, file transfer, and audio streaming to a smartphone or PC. Built-in stereo condenser microphones are shock-mounted in an X/Y configuration. A pair of XLR inputs is also available for 4-track recording, and all four feed an improved microphone preamp and AD/DA stage. The DR-44WL includes WiFi for control and file transfer



to a smartphone. A free app for iOS and Android devices controls the transport for remote recording start and stop. Audio streams to the user's device, and files can be transferred over a wireless connection. Also available is a 4-track multitrack mode, allowing arrangements to be recorded one track at a time with reverb. For video recording, the DR-44WL recorder includes a hot-shoe mount and a stable internal clock to avoid drifting out of sync with a camera.



YAMAHA POKETRAK PR7

Pocketrak PR7 is equipped with X/Y stereo microphones and comes with 2 GB of internal memory, with the ability to expand internal memory with micro SD/SDHC memory cards. It features long battery life, a 1/8-inch mic/line input, 24-bit/96kHz recording and a built-

in speaker. The PR7 comes with Steinberg's WaveLab LE audio editing and mastering software that provides 2-track audio editing with high-end EQ and dynamics processing, as well as VST plug-ins. The PR7 also has a dedicated overdubbing button and users can insert up to 36 index markers in audio files either during recording or playback. It offers five presets for different recording environments— Off, Near, Band, Field and Speech—as well as a highpass filter and dynamics control settings. Plus, the PR7 has a built-in tuner and metronome.

ZAXCOM NOMAD

Comprising Nomad Lite, Nomad 10 and Nomad 12, Zaxcom offers a complete location sound recording system designed



specifically for sound bag use. Nomad can record 10 or 12 tracks (depending on the model) at up to 24-bit /96kHz resolution with a dynamic range of 137 dB on dual Compact Flash cards. Nomad 10 adds ZaxNet compatibility, while Nomad 12 adds the ability to record MP3 files and is able to record to a USB flash drive. All versions of Nomad feature 10 analog inputs with six mic preamps featuring NeverClip. Nomad 10 and Nomad 12 each have three pairs of AES digital inputs with sample rate conversion. One pair can be configured as an AES42 input. All inputs can be mixed to six output buses over four XLR connectors and three TAs connectors (with two buses per TA5). Each output connector can be individually configured for line, mic and consumer output levels. There is also a mono and tape output.



ZOOM F8

Zoom North America's F8 MultiTrack Field Recorder, which records at up to 24-bit/192kHz resolution, weighs just more than 2 pounds and is designed for filmmakers and sound designers. It comes equipped with eight XLR/TRS combo inputs that use Zoom's finest mic preamps to date. The F8's preamps feature a -127 dBu EIN noise floor and input gain of up to 75 dB. The F8 offers timecode at 0.2ppm accuracy and dual SD Card slots, each compatible with SD/SDHC/SDXC cards of up to 512 GB. Zoom states that the F8 is the first field recorder to come with wireless Bluetooth control. The Zoom F8 Control app provides control of the F8 from an iOS device via Bluetooth LE, with transport controls, level monitoring, and metadata editing. ■



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MIX REGIONAL: PACIFIC NORTHWEST

By Lori Kennedy

RLS REFURBISHES INTERSCOPE SSL G-SERIES



Robert Lang at the SSL G-Series board he is refurbishing.

Photo: Marlie Pesek

It's been a year since Dave Grohl made a stop at the legendary Robert Lang Studios (RLS) to film parts of the Seattle episode of his acclaimed HBO series *Sonic Highways*. Since then, Robert Lang Studios has been busy with many projects, including the refurbishing of a 72-input SSL 4072 G-Series console purchased from Peter Barker of Interscope. (And, before Barker, the console belonged to veteran A&R executive/producer/engineer Ron Fair.) Studio owner Robert

Lang purchased the board with local engineer Chris Rahm, and he began restoring it this past February. This console was used by the likes of Dr. Dre and Michael Jackson, among many other artists.

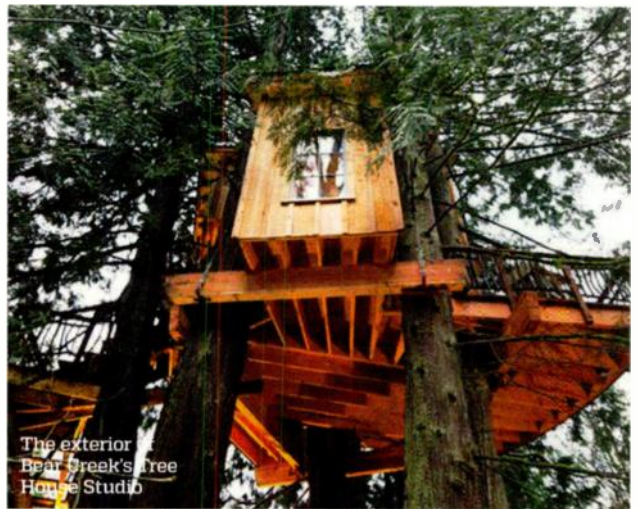
The board was recapped at Interscope, and when it was received at RLS, it sat for three years until Lang found a space for it in the residence part of the four-story facility. He started by unpacking each channel and assembling the desk. Lang has been busy restoring and interfacing the board, and is currently replacing the incandescent lightbulbs in each meter with new, yellow LEDs for clarity and brightness—his own prototype and design. He also rebuilt the power supplies. What does Lang like best about this console? “144 inputs...enough said,” Lang says.

According to RLS Education Program Director Marlie Pesek, “This board will be dedicated to the RLS education program and will be a designated place for students to practice their skills and learn on this amazing piece of equipment. The plan is to transform part of the home into more studio space—the gear, the tech benches and the studio at large continues to grow, and the only place to go is up into the house!”

The studio, located just north of Seattle, has held sessions with Macklemore and Ryan Lewis over the past months, and has also recently hosted two fundraising events for local alternative radio station KEXP. Proceeds for both live sessions will benefit KEXP's New Home Campaign.

“KEXP needed a studio to use for their campaign/sessions, and asked if we would help,” says Studio Manager Tina Lang. “They are building a larger, state-of-the-art facility, and we offered the use of our studios.” The first session with Daniel Lanois and his band and the second session with Calexico were both recorded live at RLS; both bands also answered questions from a live audience.

The studio has undergone many evolutions in its 41-year-history, and continues to adapt. Lang is in early talks with composer Ron Jones (*Family Guy*, *Star Trek: The Next Generation*) about the potential to build a professional dubbing stage within the existing studio facilities, setting the foundation for attracting the audio post-production film and gaming industries to the scenic Pacific Northwest.



The exterior of Bear Creek's Tree House Studio

Bear Creek Builds Tree House Studio

Bear Creek Studio, located 20 miles outside of Seattle in Woodinville, Wash., recently built a treehouse studio, which was featured on the TV show *Treehouse Masters* on Animal Planet. The first session at the studio was with CeeLo Green (watch the segment at animalplanet.com). The custom-designed studio, which was built from May 2014 to February 2015, was completed by Pete Nelson of Nelson Tree House Supply, with help from Bear Creek Studio's co-owner/producer/composer/engineer Joe Hadlock. The studio also doubles as a mixing room, and contains API channel strips and a Pro Tools HD native rig, Shure microphones and Ampeg amps.

The studio is operated by the Hadlock family—Manny, Joe and Ryan—along with producer/engineer Jerry Streeter. Built out of a century-old barn in 1978, Bear Creek has hosted many artists, including Heart, Lionel Richie, Eric Clapton, Soundgarden, James Brown and the Foo Fighters.

In artist news at Bear Creek, Vance Joy worked on *Dream Your Life Away* in the treehouse, with Ryan Hadlock (known for his Grammy-nominated work with The Lumineers) producing and Jerry Streeter engineering (Hadlock also engineered); Brandi Carlile was in the studio recording *The Firewatcher's Daughter*, with Hadlock and Trina Shoemaker producing, and Shoemaker and Streeter engineering; Ewert and The Two Dragons were in the studio, with Hadlock producing and engineering, and Streeter also engineering; Ra Ra Riot worked on their forthcoming album, with Hadlock producing and engineering, and Streeter also engineering; Cayucas was with producer/engineer Hadlock, and engineer Streeter; Catherine Britt was with producer/engineer Hadlock, and engineer Streeter; Train was with producer/engineer John Goodmanson; Streeter and Hadlock co-produced The Cerny Brothers latest album, *Sleeping Giant*; Streeter engineered a project for Kyp Malone of TV on the Radio; Hadlock is currently mixing the new single by All Time Low featuring Mary Lambert; and singer/songwriter Brynn Elliott spent some time at Bear Creek for a few writing sessions before heading out on a nationwide tour with Allen Stone and O.A.R.

Additionally, Hadlock and Streeter both won JUNO awards for producing and engineering The Strumbellas' album *We Still Move on Dance Floors*.

The Hallowed Halls Opens in Portland

The Hallowed Halls Studio—tucked inside the historic Wikman Building in Southeast Portland—opened its doors on July 11. Erected in 1919, the building was the former Arleta Library, and then much later home to Multnomah County's Department of Community Justice, which moved out in June 2011. The building was sold by the state to private owners in 2014, and, after extensive renovation, is now home to the Hallowed Halls Studio and Saint Frank's Music—the studio's boutique guitar and amp shop.

The building was also built as one of the Carnegie libraries. "It is literally a Carnegie Hall, complete with Victorian architecture, 18-foot ceilings and crown molding throughout," says Hallowed Halls Chief Engineer Justin Phelps. The building is located the middle of Southeast Portland, a neighborhood that is home to a significant portion of the city's music community. In the 1960s, Pete Seeger and Woody Guthrie did free concerts there, and over the years, the main hall was used for a lot of community parties and dances. The building was renamed the Wikman Building in the 1930s and was the first civic structure in the state of Oregon to be named after a woman, Lea Wikman.

The construction plans necessary to convert the historic library building into a multiroom facility were designed by Phelps, with the help of Abasi architectural design and former head technician at The Plant Studios, Perry Lancaster. "Great care was taken not to irreversibly alter to shell of the building, but the interior alterations were extensive," says Phelps.

Studio A's control room and two iso booths were constructed using triple-studded 2x6 framing and acoustic-grade rock-wool insulation. The control room, tracking room and iso booth in Studio B follow the same design. All electrical fixtures on the massive, 18-foot walls are surface-mounted, as are the low-voltage wire runs. The control room of Studio A and recording spaces in Studio B feature floated floors and independent air-conditioning systems for further isolation.

The main heating system in the building was updated from the basement on up to be silent but highly functional during recording sessions, using decoupling springs, acoustically absorbent ducting and custom diversion shells in the main tracking room. Most rooms were designed to take advantage of the flow of natural light, and the building's 10-foot antique windows were isolated using airtight interior window caps. Power conditioning for the building is handled by Controlled Power series 700A processor, which was purchased from Bob Weir of The Grateful Dead at a generous discount. It runs through all of the studio spaces and Saint Frank's Music.

Wiring for Studio A and B was primarily handled by Fred Johnson of FM Tech and house engineer Mike Blackburn, using Belden 9451, Mogami 8 pair cabling and Redco patchbays. "In addition to the web of tielines that spread to every possible recording space in the building—including the ominous death metal vocal/



Photo: Rym Freed

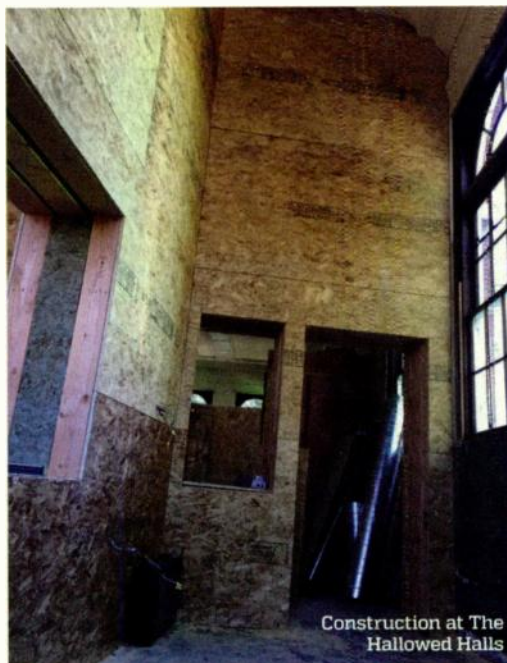
echo chamber in the basement and the glass cupola/vocal booth perched on top of the building—every room was also outfitted with Cat-6 connections for high-resolution data runs," Phelps says.

The centerpiece of Studio A is a new Neve Genesys 48 console; the studio also features an Avid HDX system, Genelec 8260A monitors, an Otari MTR 90 Mk2, and an extensive collection of outboard gear including Universal Audio, Empirical Labs and Lexicon models. Studio B is primarily used as a mix/production room for Phelps but is also available for daily rental to outside engineers. It features a newly recapped Yamaha PM2000, Neve 8816, Avid Pro Tools HDX, a custom 16-channel ADM sidecar, JBL LSR32 monitors, and a lot of outboard gear by Daking, Universal Audio, Eventide, Telefunken and ADL, among others.

Hallowed Halls also has a large mic collection, including new and vintage mics by Telefunken, Neumann, AKG, Shure, Royer, ADK, Ear Trumpet Labs and Sennheiser. Headphones are handled by an 8-channel hear back system that runs through both Studio A and B, on the chance that they might ever need to be combined into one mega hall. The studios include a large collection of house instruments, including a Hammond B3, a baby grand piano, new and vintage guitar and bass amplifiers, and effects pedals, as well as all of the things that Saint Frank's Music has to offer.

Ongoing and upcoming projects at Hallowed Halls include Phelps mixing new albums in Studio B for Fruition and Jelly Bread; Phelps tracking albums in Studio A for Lynx, Left Coast Country and Foxy Lemon; Big Al Carter and Warpfire doing album projects in Studio A and B with house engineer Mike Blackburn; producer/engineer Billy Anderson will be working in Studio A and B with Eight Bells; and Bike Thief will be tracking a new album this fall with a rotating cast of local engineers in Studio A.

The studio will also be taking advantage of its 1,600-square-foot main tracking room and recently expanded occupancy limit by hosting the Live From The Hallowed Halls concert series beginning in late September, as well as conducting seminars on Pro Tools, Ableton Live, Logic Audio and basic studio recording techniques.



SESSIONS: PACIFIC NORTHWEST



Star Anna session with Mike Clink and Geoff Ott.

LONDON BRIDGE STUDIO, SEATTLE

Star Anna was in the studio with producer Mike Clink and engineer Geoff Ott. The band tracked live in the room to Pro Tools at 96k. The vocal mic was an AKG C414XLS, as was the outside kick drum; AKG 451s were used for the overheads and hats. The Neve desk with 1081 mic preamps were used for all microphones. Reference monitors were JBL M2 loudspeakers

tuned by Peter Chaikin...Gabriel Wolfchilc (contestant on *The Voice*) worked on new material, with Eric Lilavois producing and engineering. The project was tracked to 2-inch on the Studer A872. Coles 8048s were used as drum overheads (lightly compressed through the Neve console's 2254 E's), the vintage KM 56 in omni floating just over the kick drum next to the snare. vintage 414s on all the toms, a U 47 as a mono room (through the Retro Sta Level), and vintage U 87s as stereo far rooms. They also wrapped an AEA R84 in a blanket and used it as a kick In. Standup bass was tracked using the Wunder U67, and guitars were tracked using a combination of the Royer R-121, large condensers and various vintage ribbon microphones (all summed down to two mono channels). Vocals were recorded through the U 47, and it was mixed on the SSL AWS-900 in Studio C...Amadon worked on new material, with Jonathan Plum producing and engineering, and Kelly Gray mixing. Basic tracks were recorded live in the studio's big room with minimal baffling and no headphones to capture maximum live feel...Windowpane worked on new material, with Brett Eliason producing and engineering. Material was tracked to analog Studer A872... London Bridge is also getting a massive revamp from producers/owners Jonathan Plum, Geoff Ott, and Eric Lilavois. Plans are in place for a completely redesigned lounge, kitchen and new event space, combined with the restoration of the studio's classic 1974 Neve 8048 console (which is nearly complete).

ORBIT AUDIO, SEATTLE

Macklemore and Ryan Lewis were working on new material with studio owner/engineer/producer/musician Joe Reineke (who engineered). Lewis produced the project...Orbit Audio hosted the Seattle listening party for *The New Basement*



Vance Joy, right, and drummer Ed White.

Tapes' *Lost on the River* (produced by T Bone Burnett)...Vance Joy worked on *Dream Your Life Away*, with Ryan Hadlock producing and engineering...Jason Sees worked on new material, with Reineke producing and engineering (Alex Willson also engineered)...Madness Blooms was in the studio, with Terry Mattson producing and engineering...Fast Nasties worked on an upcoming album, with Reineke producing and engineering...The studio also added new gear, including Burl Mothership converters, Swarmatron synth, Therevox synth, UnFairchild 670 compressor, Blue Mo-Fi headphones, Electro-Voice RE 20 mic, and Sugar Percussion snare drum.



Cloud City Sound's co-chief engineers Jordan Richter (left) and David Streit.

CLOUD CITY SOUND, PORTLAND ORE.

Co-chief engineer Jordan Richter recently returned to Portland after working in Brooklyn, N.Y. He has been working at Cloud City with artists Needtobreathe, Matt Morris, and Young Elk...The studio recently added co-chief engineer David Streit to the in-house recording staff. Streit brings years of engineering expertise from Nashville and Northern California... Engineer Justin Phelps has recently recorded artists Poison Idea, Fruition, and The Roseland

Hunters...Studio owner Rick McMillian and Phelps have been mastering albums and singles for regional artists and record labels in Cloud City's mastering room, including Volume Bomb Records, Fruition and Grant Farm, Michael Allen Harrison, Liquid Light and Left Coast Country...Cloud City also added a matched pair of UREI Little Dippers for highpass filtering from a Studer A820 1/2-inch tape machine for vinyl mastering. They are integrated into the analog mastering chain by way of a Manley Mastering Backbone, along with the studio's GML and Manley mastering compressors and EQs. Conversion is handled via a Burl Audio B2 Bomber.

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SUPERNATURAL SOUND, OREGON CITY, ORE.

Tango Alpha Tango recorded an upcoming full-length LP on the Studer A800 2-inch deck with producers David Pollock and Nathan Trueb, engineered and mixed by Pollock... Jackie Greene recently tracked his forthcoming LP with producer Steve Berlin, engineered by Jeff Saltzman... Jerry Joseph & The Jackmormons tracked their forthcoming LP with producers Dave Schools and Pat Kearns, with Pollock.



Photo: Jeff Hamkel

Head engineer GG Reynolds

and engineer Reynolds, using a vintage Neumann U 47 FET for vocals... Kid Ink recorded vocals for a remix of Omi's "Cheerleader," with Reynolds engineering. Used a vintage Neumann U 47 FET through Neve 1073 into 1176 and LA-2A... Balancer recorded and mixed "Waves Remain" and "Clarity," with Reynolds producing and engineering. Drums were recorded through an Otari MX-70 1-inch 8-track tape machine.

ELECTROKITTY, SEATTLE

Vocals and guitars for Sleater Kinney's *No Cities To Love* album were recorded with producer John Goodmanson and head engineer GG Reynolds, using a vintage Neumann M 49 for vocals... Noah Gundersen mixed his forthcoming album with mix engineer Phil Ek... Echosmith recorded vocal tracks for Zedd's song "Illusion" with producer Jeffrey David



L to R: Deen Castronovo, Matt Jefferson, Jack Blades and Doug Aldrich

BLACK DIAMOND RECORDING STUDIOS, PORTLAND ORE.

Revolution Saints (classic rock supergroup featuring Deen Castronovo of Journey, Jack Blades of Night Ranger, and Doug Aldrich of Whitesnake) recently tracked new material with producer Alessandro Del Vecchio and engineer Matt Jefferson. Used an AKG C414 through a Manley Voxbox and Distressor on Castronovo's vocals... Andrea Vasquez recorded new material, with producer Jason Mater and engineer Matt Jefferson... Marca Luna recorded their latest EP, with Jefferson producing and Christopher Ficht and Andrew

Shartle engineering (Jefferson also engineered)... Mortified Mortician (featuring Kyle Castronovo) recorded and mixed their latest record, with Jefferson and Jared P. Scott producing and Jefferson, Ficht and Shartle engineering... Jet Force Gemini recorded and mixed their debut full-length record, with Jefferson producing and engineering... Never Awake recorded and mixed their latest album, Jefferson and Never Awake producing and Jefferson, Don Graham and Alex McDonald engineering... For all projects, the studio used the following gear: a DDA AMR24 console, eight channels of Manley Dual Mono pre, a Voxbox, a Drawmer 1969 2-channel pre, and an Avid Pro Tools HDX interface/card with additional eight channels of HD I/O.



L to R: Engineer Matt Greco with Avi Kaplan and Kevin Olusola of Pentatonix.

DEAD AUNT THELMA'S STUDIO, PORTLAND, ORE.

Pentatonix's Avi Kaplan and Kevin Olusola tracked a new project for RCA, with producer by Ben Bram and engineer Matt Greco... Rebecca Kilgore and Susannah Mars recorded *Moonshadow Dance*, with producers Mike Horsfall and Ellen Vanderslice, and engineer Mike Moore... Damian Erskine recorded *Within Sight*, with Erskine producing and Greco engineering. Joel Pickard mixed soundtracks for Joe Huber's film *Of Minor Prophets*, Towle Neu's film *Heart of Wilderness*, and promos for Showtime's video services. Moore engineered those projects... The studio also installed a new Avid Pro Tools HDX 32-input, 40-output system, and its Solid State Logic 4048E/G console has a new Atomic Instrument power supply.

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Continued from p. 20

Recorders,” adding that it was Steiner who found Paich his first piano teacher, at age 13.

While it has been assumed that Tackett and Benay both played rhythm acoustic guitars on the tracking date, with the electric guitar handled by Dean Parks on a later overdub session, the track sheet reveals that it was Benay who played the Duane Eddy-style electric part that day. Two acoustics are heard in stereo on the recording, and a 12-string is indicated on the track sheet for the session, apparently from the tracking date, suggesting it may have been Campbell himself playing along.

“He was there,” Paich recalls. “I remember him telling us some Roger Miller jokes—they used to play practical jokes on each other.” Though no one can recall for sure if Campbell did play on the track, Lambert notes, “He sat in and played on a lot of tracks. I said to him, ‘Glen, this will be so important for getting everybody fired up, if you would come in and play on the tracks,’ and he said, ‘Okay,’ and he did. And the guys loved it. He was one of them, back in *The Wrecking Crew*.”

The team of musicians was playing from charts by arranger Tom Sellers, who also did string and brass arrangements for the album. “He was a young guy who had just moved to L.A. from Philly right around that time,” Lambert recalls. “He had worked there with [producers/songwriters Kenneth] Gamble and [Leon] Huff and soul producer Thom Bell,” and was recommended to Lambert by Sidore, who had worked with him previously.

“Tom’s arrangements were such that nothing ever stepped on the vocals,” Sidore says. “And nothing was ever in the same range as Glen’s vocal. He did an excellent job.” A small team of copyists prepped the music for the musicians, Bob Ross and Berwyn Linton. “Bob was the guy in town for music copying,” Sidore says. Ross, former owner of Harmony Recorders, had given Sidore his first engineering job 14 years earlier.

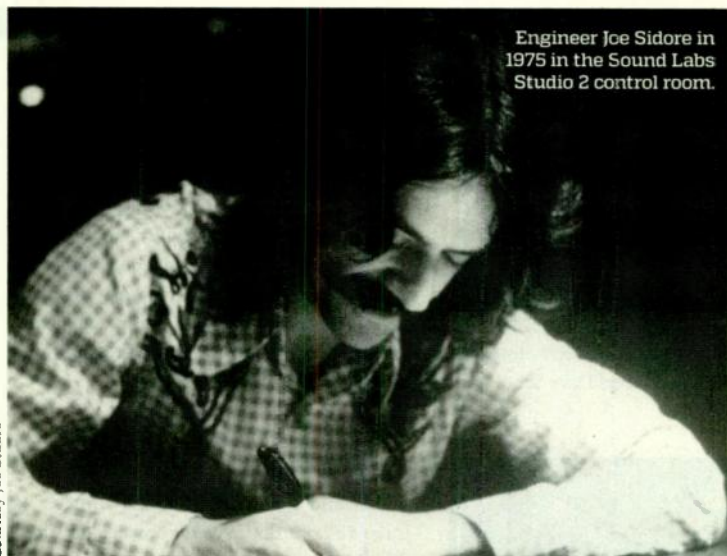
The following day, Sidore pulled the master takes from each of the three songs and assembled a master reel for additional tracking. The next day, Lambert recorded a set of guide vocals for each, both for Campbell and for overdubbing, which would take place next.

On Thursday, February 27, percussionist Gary Coleman added tambourine and a snare and cymbals overdub to the song. A week later, on Wednesday, March 5, session guitarist Dean Parks—who had, coincidentally, played on Larry Weiss’s original version—added what are likely simple guitar “chinks” (or “chicks,” as Sidore prefers to call them) to the track, adding true electric lead guitar to the two other songs that day.

That Friday, a string session took place in the morning, followed by a horn overdub in the afternoon. The strings were contracted and led by the legendary Sid Sharp, whose string section Lambert affectionately dubbed “The Boogie Symphony.” “Sid was not only talented as a classical musician,” the producer says, “but was such a refined gentleman. And he had a great appreciation for the music of the day,” sometimes providing strings for a Sinatra date, and later in the day, for a Beach Boys recording. “He had a great appreciation for talent, regardless of the form it took.”

Though the string section was a 5-4-2 group of violins, violas and cello, it sounds much thicker on disc. “I’d record one pass on one channel, and then another take on a separate channel,” Sidore states. “Having only two tracks available, and wanting to get a bigger sound, I decided to record them in mono, one on each track, and mix them later, in stereo, which created a nice, full sound.”

The horn section was an amazing collection of top players, including



Engineer Joe Sidore in 1975 in the Sound Labs Studio 2 control room.

Courtesy, Joe Sidore

Chuck Findley, Lou McCreary, Don Menza and Tom Scott. [Only flutes appear on “Rhinestone,” likely by Scott and Menza.]

Lambert himself added two additional overdubs, on an unknown date—a “low piano note,” a left-handed piano part emphasizing the run at the end of each chorus, and a Clavinet, which produced a glockenspiel-like sound in the choruses. “I remember having that conversation with Dennis,” Sidore recalls. “That gives it a sparkle—rhinestones.”

Campbell recorded his lead vocals—and a harmony, in the case of “Rhinestone”—onto the three tracks on Wednesday, March 19, during a five-hour afternoon session, using Sidore’s personal tube Neumann U 47 microphone.

While the engineer notes that Campbell would sometimes use headphones when tracking vocals, leaving one cup cocked off one ear to allow him to hear his voice in the room, for this recording, the singer requested a favorite technique. “He liked to use a pair of small Auratone 5C Sound Cubes, which I would set up on either side of the mic, facing each other, and set out of phase with each other. And since the speakers were out of phase with each other, the sound would cancel at the microphone, and nothing would be heard but Glen’s voice.”

The technique was so unusual to Lambert, the producer recalls, “I said, ‘I have to come out there and listen. How can he phrase to this?’ It was so soft. But that was Glen—the master musician and the master technician. It took me one minute in the studio to reconfirm how great a singer he really was. The moment he started, I was floored.”

Two days later, on Friday, March 21, background vocals were added to the two other tracks, and, that afternoon, Sidore mixed the songs in the Studio 2 control room. Campbell, meanwhile, was a few blocks away, recording two other songs with a group that included members of his own band, as well as drummer Jim Gordon and fellow *Wrecking Crew* member, bassist Carole Kaye (and a string section), at Hollywood Sound Recorders, at its new location on Selma Ave.

The single was finally released two months later, on May 26, 1975, entering the charts at No. 81, and topping them 14 weeks later.

Lambert and Potter took the months between the mix date and the beginning of June to compile the remaining songs for the album, while also working with other artists, including *The Grass Roots* and Tavares. They returned to Sound Labs on June 2 with the same group of session players—though this time with Omartian, the credited keyboardist, on the sessions—recording through the month. The album was released in mid-August, just in time to see its lead track make its artist a star once again. ■

- 1958 C12
- 1962 C12 A
- 1971 C414 COMB
- 1975 C414 EB
- 1980 C414 EB-PAB
- 1986 C414 B-ULS
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- 2004 C414 B-XLII
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Continued from p. 38

were. Irin Strauss is a pro, and he did an absolutely fabulous job on the movie.”

(NOTE: All three of Baker's iPhone 5s smartphones sported a few upgrades, like a 1.33x Anamorphic Adapter Lens by Moondog Labs and the FiLM:iC Pro app, which allowed them to shoot in widescreen at a higher-resolution than the standard smartphone camera. Additionally, the crew used Steadicams with iPhone mounts.)

With only two-and-a-half weeks to complete the design, edit and 5.1 mix in time for the Sundance Film Festival, Grody tapped sound supervisor Trevor Jolly to help cut the production tracks. “Trevor knows exactly how to prep tracks in the most useful way,” says Grody. In particular, Jolly cut the climactic scene in *Donut Time* where all the characters have it out. “That scene is a really good example of Irin's coverage. All the characters' lines are overlapping, but since we had separate .av mics for everyone, Trevor was able to edit them in a way that only required us to do a minimal amount of ADR. That scene is predominantly production dialog.”

Even though Grody prefers the sound of a good, clean boom mic track, he opted for the lavs on *Tangerine*. “The characters would literally take off in opposite directions. With that run-and-gun style, the lav mics enabled the coverage of this movie to work,” Grody explains. “The boom mic was often way too reverb-y, or way too noisy, especially when they were out on the street.” Because lav mics tend to sound too close-up, Grody used EQ and reverb to put the dialog more naturally into the environment. “The goal being that, when I'm done with those lav mics, it sounds like a boom mic.” Grody may even have fooled Strauss into believing the dialog in the film is coming from the boom mic. “Irin [Strauss] might not be aware that I used so much of the lav mics in this film. That's good because I want the lavs to sound like a rich boom mic.”

For sound design, Baker wanted to accentuate the intensity and danger of living and walking the streets in Hollywood. Grody covered every car-by and added walla of background people to emphasize the feeling of street life. Foley mixer/editor Matt Manselle and Foley artist Brian Straub also contributed key sound elements in time for the Sundance mix. “Brian [Straub] did the fabulous Sin-Dee footsteps in heels, which Sean and I knew were going to be a prominent sound, as she blasts through the streets of Hollywood to find the girl she's after,” says Grody.

In Grody's approach to mixing, every mix move is made with the story in mind. “If you stay focused on the story, and you are always aware of the emotional content of what's happening on the screen, the appropriate mix decisions will follow,” says Grody. For example, the addition of a pronounced slap reverb on Sin-Dee's lines, as she's yelling across the parking lot at Alexandra, helps communicate her aggression. Sin-Dee's yelling is so loud that her voice is bouncing off the surrounding buildings. “During review sessions of the 5.1 mix, Sean and I egged each other on, and I think the resulting mix and music score reflect the pulsating, frenetic energy of *Tangerine*.”

Grody edited and mixed *Tangerine* on a Pro Tools HDX system in con-



Photo: Miriam Cole

junction with a three-pack of Euphonix/Avid Artist Series control surfaces. His studio uses Tannoy System 1000 monitors for LCR, a Tannoy subwoofer, and JBL 8320s for surround. “The real key to mixing films on a smaller stage, like mine, is to have a room that's tuned to the Dolby specification. What you hear on the small stage will reasonably translate in a movie theater,” states Grody.

After the frantic finish for Sundance, Grody did an additional two weeks of work on *Tangerine*, addressing tweaks for the director, plus building out the full M&E, which includes additional sound editorial, additional Foley by Manselle and Straub, and M&E mixes.

“Once you commit to a job, there are no excuses. It's really important to not let the budget become an excuse to do less. My philosophy is you always give 110 percent, because you never know what could happen with that project,” says Grody. “Three years ago, I was mixing on one of the most expensive stages in town at Sony Pictures, and now I mixed a movie that was shot on an iPhone. But if it's good art, then it does not matter. If it's good storytelling, then it does not matter. And in the hands of the right person, it does not matter. And Sean Baker is, quite literally, the right person. He's a fabulous storyteller and a fabulous filmmaker.” ■

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FOR THE BIRDS



By Gino Robair

This summer I was tapped to teach a Sound for Picture course, which provided an opportunity for me to not only review the range of skills involved in modern production—music scoring, sound effects, dialog recording, Foley and so forth—but also to reflect on what a young person going into the profession can expect in the future.

Of course, in the age of the freelancer, job security isn't at the level it once was in our industry; that merely reflects the insecurities felt in nearly every other career in the U.S. But for the audio pro hungry for work and hustling for gigs, there are so many different job opportunities and such a variety of media that, with persistence and a broad skill set, he or she can keep busy and in a positive cash flow.

Of the utmost importance is the ability to find creative satisfaction in problem solving, because that is where much of the inspiration is needed day to day. Especially mid-production when the routine sets in and the end is nowhere in sight. Consequently, much of the homework in this course is meant to introduce the students to this glamorous level of tedium. Moreover, they learn that, to be successful, they must be speedy, detail oriented and accurate with their work, as many clients will expect them to be fast and good from the get-go, not to mention affordable. Tell a prospective client to pick only two of those three, and they'll likely pick someone else for the gig. (Although, sometimes that's okay!)

More than simply teaching a particular set of production skills, however, my intention in this class is to point students toward the *potential* of their craft while retaining the humility required in the field: They should look for unexplored territory within the media they are working rather than rely on clichés (though they should know the clichés in case they are asked for); humility, because their work should be felt rather than noticed—that's the sweet spot to aim for.

Of course, the work must conform to the whims of the director, producer, studio exec or whoever else signs off on things. That means that either the audio folks have to be good at selling their innovative ideas or the decision makers have to be open minded, interested in stretching the boundaries, *and* willing to take risks—a lot to ask, but it does happen.

We begin by analyzing musical scores to see how they influence (or are influenced by) other elements in the production. Like the major-motion-picture business itself, modern soundtracks seem to be in a recur-

sive spiral: Just as we see more and more remakes and sequels, we hear a distillation of iconic film scores, often because of how directors and producers fall in love with temp tracks built from previous works.

In fact, I'm always amazed at how much power the person assembling the temp score (often the picture editor) has but how little recognition he or she gets: Their adept choice of tracks, which defines the mood of each scene during the early stages of production, can influence the decision makers more than the latter will admit, and force the hand of composers more than they wish. For example, wouldn't it be nice if someone would compose a new motif for spy-related scenes so we can stop referencing the original *James Bond* or *Mission Impossible* themes?

While feature film scoring is far out of reach for the nascent sound artist at this point, it's important for them to begin forming a personal aesthetic about the impact of sound and music. The big eye opener, of

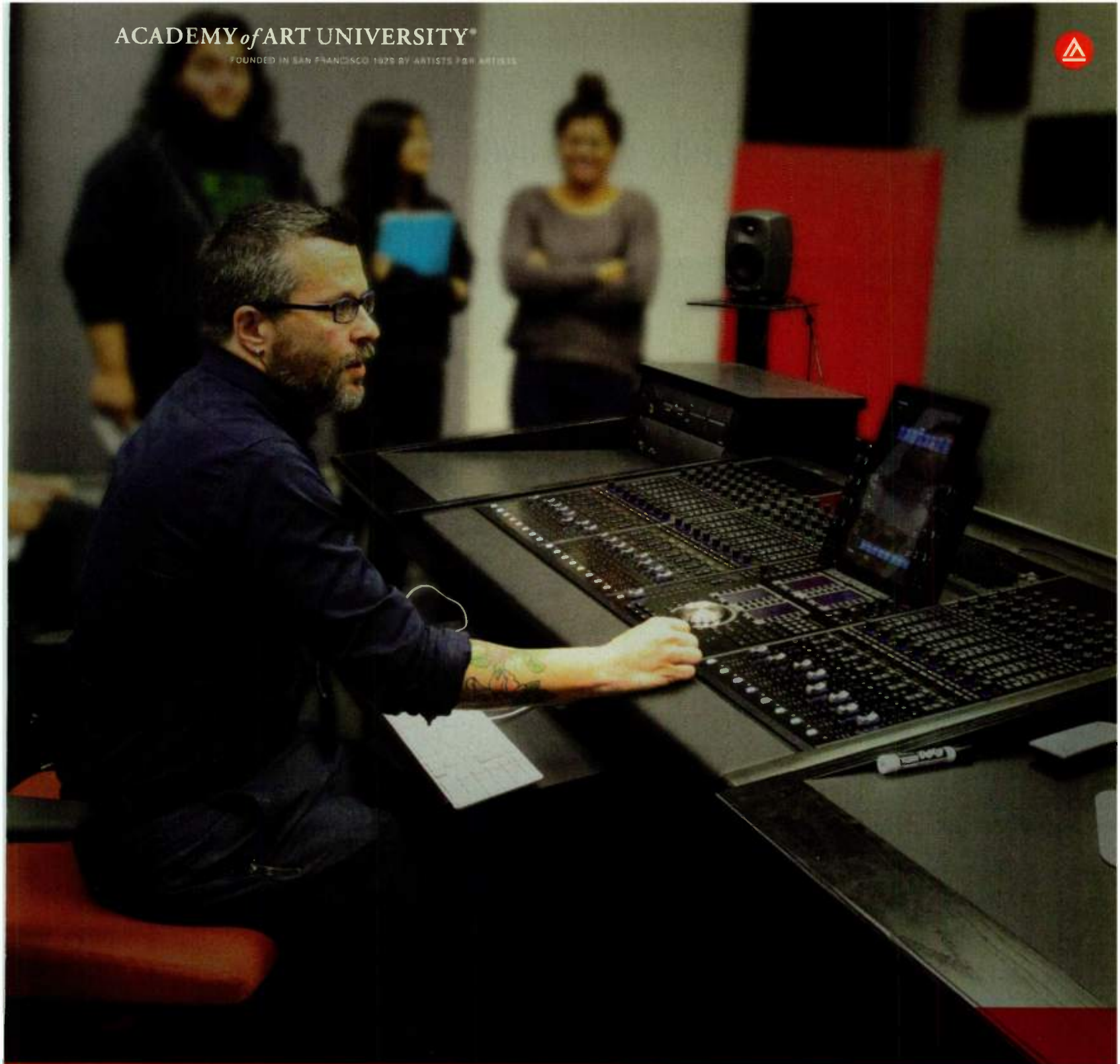
course, is experiencing Alfred Hitchcock's *The Birds*. What I've found is that simply dropping in on a scene or two and explaining how the tension is created solely by diegetic sounds—bird sounds both natural and electrically generated by the Mixtur-Trautonium—doesn't really get the point across. Rather, it's more effective to watch the entire film, with the instruction to focus on the overall sound, and then ask the viewers what they noticed. This is where the lack of

traditional mood-setting music cues and the importance of sound design really hits home.

The Birds provides a classic case where the innovative aspects of the sound track are remarkably subtle for the average viewer, which, again, is what makes it successful. Unfortunately, the chance to work on a production where such innovations are encouraged is still remarkably rare, especially considering the huge variety of media being produced now compared to half a century ago.

What will define a successful career in the future for those interested in creating sound for media is not only having something to say with their work, but, as usual, providing something that no one else offers. If you think your competition is tough now (e.g., directors who think they are film composers because they have a copy of Propellerhead Reason or Ableton Live on their laptop), wait until you hear the next generation of algorithmically based media-scoring tools. It's likely they'll do for composers and sound designers what drum machines have done for drummers. ■

They should look for unexplored territory within the media they are working rather than rely on clichés.



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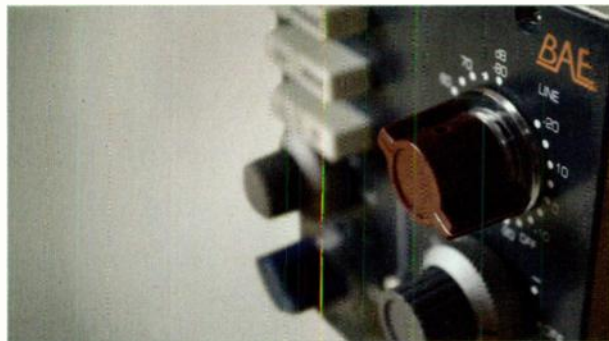
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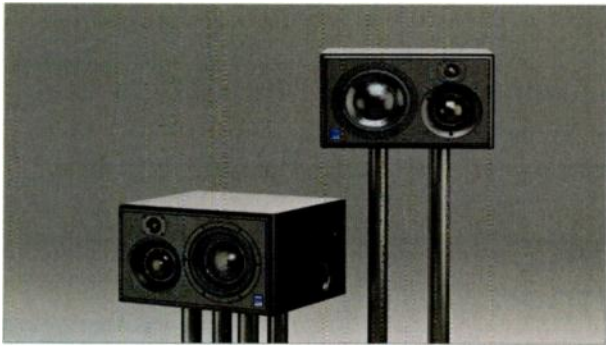
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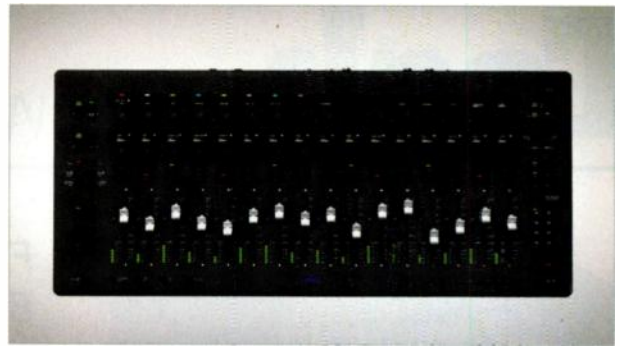
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3-way or 2-Way Design With Remote Switching

The Trio6 Be from Focal (\$5,990/pair) is two monitors in one, offering remote switching between two- and three-way playback in the same box. Just as in the company's high-end SM9 monitor, this gives the listener a quick and effective way to compare the mix translated to two speaker systems, each offering its own unique crossover. Components include an

8-inch subwoofer (200-watt Class G), 5-inch mid-range driver (150W Class G), and a 1-inch pure Beryllium tweeter (100W Class-A/B). The rotating baffle facilitates both horizontal and vertical setups. Other features include LF and HF shelving, and three control knobs for adjusting low and high frequencies and 160Hz notch.



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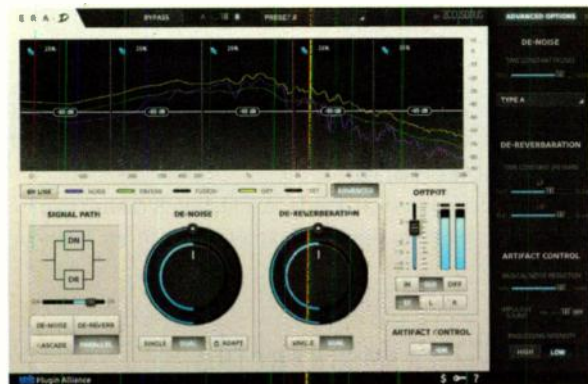
The new M-Audio AV32 (\$99.99/pair) and AV42 (\$149.99/pair) promise detailed, powerful sound and convenient interfacing facilities. Polypropylene-coated woofers are used in both systems—3-inch in the AV32 and 4-inch in the AV42. The drivers' treated cellulose fiber substrate provides the acoustic mass required for deep bass response, while their polypropylene coating ensures that upper bass and midrange transients are reproduced with detail and precision. Both systems use cabinets made of Medium Density Fiberboard (MDF), and the 1-inch soft-dome silk tweeters in both. The left speaker of each pair contains the system's 2-channel amplifier, along with the Power on/off and Volume controls.



BAE AUDIO B15 EQ

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The new B15 EQ (\$1,000) features three bands, with five selectable frequencies per band, Jensen transformers at the input and output stage, Elma gold-plated rotary switches and a 15-way gold connector. The aesthetics offer custom-machined aluminum knobs set against a classic matte-black housing. Unique touches include a fully discrete gyrator circuit, plus hand-wired construction. The units are assembled in California and available through BAE Audio's network of authorized dealers.



PLUGIN ALLIANCE ERA-D PLUG-IN

Restoration and Reverb Reduction

Plugin Alliance and accusonus have collaborated in the release of ERA-D (\$299), a revolutionary step forward in audio restoration. ERA-D is the only plug-in that can analyze and remove both noise and reverberation at the same time. ERA-D explores the multichannel information to better suppress reverb and/or noise. To put it simply, your secondary mic might have captured reverb and/or noise more accurately

than your primary mic. ERA-D uses that information to increase the processing quality in your main mic. ERA-D is available now in AAX native, VST2, VST3 and AU formats for Mac OS 10.7 or higher and Windows 7 or 8. All Plugin Alliance products are available for fully functional 14-day demos from a single downloadable installer.

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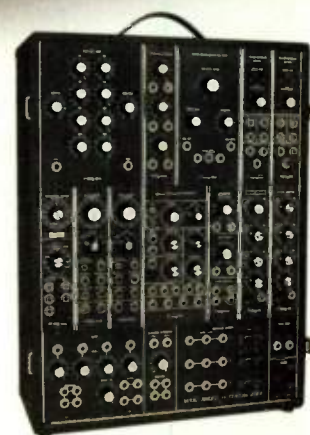
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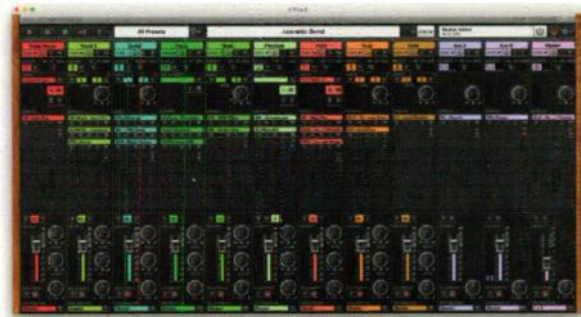
The DigiMax DP88 (\$699) from PreSonus features eight remote-controllable mic preamps with advanced features, superior connectivity and integration with the new Studio 192 audio interface. The 24-bit/96 kHz DigiMax DP88 also offers phantom power, which is individually switchable for each preamp, plus an eight-segment LED input meter on each channel. When connected via ADAT Optical to a PreSonus Studio 192 audio interface, the preamp controls also are accessible from PreSonus' Studio One DAW and UC Surface control software for Mac OS X and Windows. No additional setup is required; the DigiMax DP88 becomes a natural extension of the Studio 192 inputs and outputs.



ZAOR STUDIO/ISO ACOUSTICS

Built-In Monitor Stabilization

ZAOR Studio Furniture and IsoAcoustics have joined forces to create a series of speaker stands, desktop speaker stands, and media production workstation desks that will integrate the Iso Acoustics' patented speaker isolation and positioning technology. The first products out of the gate include the MIZA X media production workstation desk, featuring a pair of IsoAcoustics' Aperta acoustic isolation stands and the D-STAND ISO, a height-adjustable desk stand in a white glossy finish offering speaker height- and angle-adjustment.



AUDIIFEX INTONE2 DAW

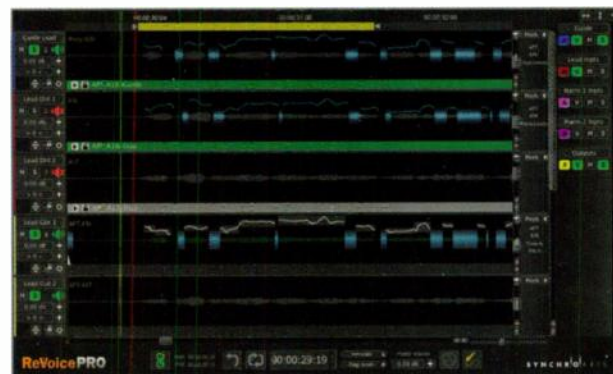
Mixer, Effects Processor, VI Host

Host application and audio effects developer Audiffex has announced availability of inTone2 (\$49), a multifaceted, multichannel effects processor, software mixing console, virtual instruments host, and multitrack zonal player. Each audio chain features a BAL (balance) control; EFFECTS section; volume fader; B (bypass), M (mute), and S (solo) buttons; Aux 1 and Aux 2 sends; and individual track recording ability. Any audio chain can be routed to any audio interface output or inTone2's internal Master chain. Virtual instruments can also be brought into the session. An MP3/AAC/WAV/AIFF file player allows users to create playlists, change speed and tuning of songs, and loop the playback.

SYNCHRO ARTS REVOICE PRO VERSION 3.1

New Editing Tools, Workflow Enhancements

The latest version of Synchro Arts Revoice Pro (\$599) is a free update offering a selection of new pitch editing tools, track group controls and a host of other audio processing and workflow enhancements. Revoice Pro is a purpose-built, stand-alone program that includes two unique, automatic editing processes, manual time/pitch Warp processes, and tight integration with DAWs. Revoice Pro's unique Audio Performance Transfer process can automatically and instantly transfer the timing, pitch, intonation or loudness features from one signal to one or more target signals. APT is powered by an advanced version of VocAlign. Warp Processing with an improved graphic interface provides fast, manual manipulation of audio timing and pitch with transparent audio quality. Automatic grid-based pitch correction is also available.



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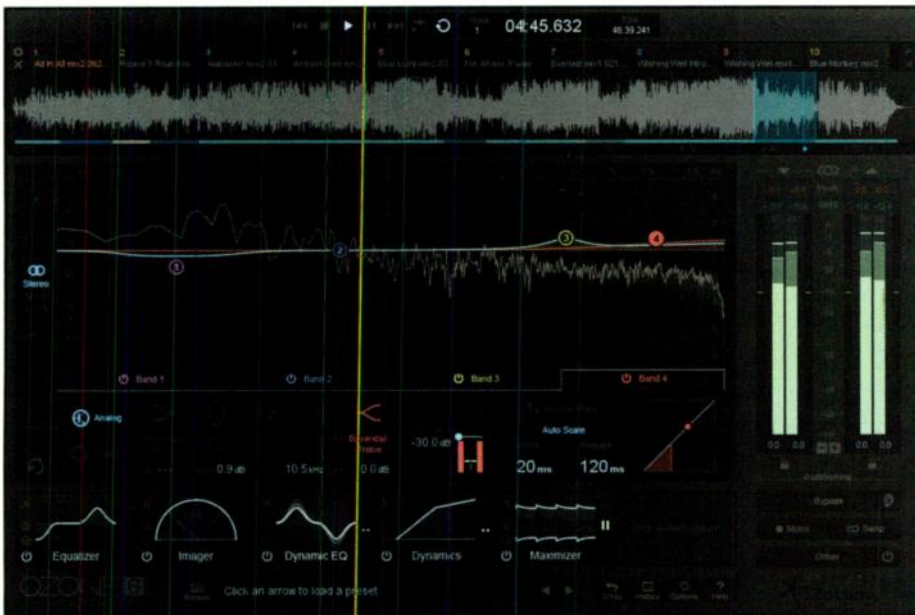
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Hear the truth



IZOTOPE OZONE 6.1 ADVANCED

Mastering Suite Adds Stand-Alone Application and More



Ozone Version 6.1 features a new stand-alone application. The new Dynamic EQ module (also available as a discrete plug-in) is shown here in the center of the GUI.

Izotope's release of Ozone 5 Advanced three years ago marked the transformation of the software mastering suite from prosumer to professional product. Ozone 6 Advanced adds a new Dynamic EQ module, stand-alone application and redesigned GUI. The new version discontinues Ozone 5's rarely used Reverb processor and gating capabilities for the Dynamics processor. A less-expensive, standard version of Ozone 6 is available. It lacks the Advanced version's component plug-ins, Dynamic EQ and Insight (metering) plug-in. The Ozone 6.1 Advanced update is reviewed here. For a detailed look at Ozone's legacy features, see my review of Ozone 5 Advanced in the April 2012 issue of *Mix*.

NEW FEATURES

A Processor Module Browser situated near the bottom of the GUI for both the integrated Ozone plug-in (containing all modules) and the stand-alone application lets you easily add and delete modules, change their order in the signal chain, and access their

control sets in turn. A small gain meter accompanies each module's icon in the browser strip, allowing you to see whether any module is currently adding or subtracting gain with respect to unity. It would be far better, however, if those meters showed output levels instead, which would allow you to see at a glance whether clipping is occurring at any point in the signal chain.

Ozone 6 Advanced's new Dynamic EQ module and plug-in apply compression or expansion independently in up to four frequency bands. (While both Dynamic EQ and the legacy Dynamics processor can apply multiband compression and expansion, Dynamic EQ offers a wider variety of filter shapes.) Select either an analog-modeled or more transparent digital equalization algorithm

for all bands at once, and set the center frequency, gain and Q for each band. Each band offers bell-curve, proportional Q, band shelf, and Baxandall shelving filters. You can set the attack and release times manually for each band or automatically scale the times to the frequencies being processed.

The stand-alone application can import WAV, AIFF and MP3 files; 16-, 20 and 24-bit formats are accommodated, along with standard sampling rates from 11.25 to 192 kHz. The application accesses each audio file you import under a separate tab in the GUI and allows you to apply different audio processing to each file. The application features transport controls (including looping), a waveform display, heads and tails fading and trimming, and the ability to load and reorder third-party VST and Audio Units plug-ins (up

TRY THIS

If you upgrade to Version 6.1 from Ozone 5 Advanced, you can essentially restore the discontinued Reverb module: Simply instantiate Reverb as a third-party plug-in in the stand-alone application or your DAW.

to six plug-ins and Ozone modules in total at once). You can monitor the application's output in mono or stereo and swap left and right channels. Intelligent dynamic and harmonic analysis automatically delimits different song sections in a track, indicated by color-coded song-segmentation bars beneath the waveform view. You can save the application's open project (including all processing and imported files) and export one or all of the processed files with automatic MBIT+ dither and sampling rate conversion applied.

New features have been added since Version 6 launched, so be sure to update (for free) from V. 6 if you haven't already. With V. 6.1, the Maximizer adds a Tube Limiting mode inspired in part by the Fairchild 670. The Dynamics processor's Adaptive Release function makes release times program dependent, changing when transient signals are present. The stand-alone application applies track numbers automatically when exporting files. With V. 6.1, you can click on a song-segmentation bar to instantly loop the associated song section; you can also freely edit the start and end points for a loop.

HANDS- AND EARS-ON

Ozone's manual needs a major rewrite where it describes the rather unconventional operation of the new Dynamic EQ processor. The inconsistent GUI doesn't help: With some setups, the processor's Gain control applies gain before dynamics processing (as one would reasonably expect), while in other setups it applies no gain but acts instead like a range control.

Here's the lowdown: In the processor's default (compression) mode, using the Gain control to cut gain in a band doesn't reduce gain pre-dynamics processing but instead establishes the processor's range (determining the maximum possible in-band compression that will be implemented as you progressively lower the Threshold control). Boosting the Gain control in this mode applies commensurate pre-dynamics-processing gain that's progressively attenuated the more you lower the Threshold control below in-band signal levels (as you would expect). In Inverse mode, using the Gain control to cut gain in a band reduces in-band gain before dynamics processing; signal in the band is upwardly expanded as you lower the threshold (as you would also expect). However, boosting the Gain control in Inverse mode applies no gain before dynamics processing; instead, Gain acts as a range control for upward expansion.

Once I got up to speed, Dynamic EQ's Digital algorithm sounded great and handled basic multiband mastering applications such as de-booming with grace. The processor's Analog algorithm, on the other hand, narrowed the stereo field a little and degraded the mix's pinpoint imaging. The omission of sidechain filters also limited Dynamic EQ's ability to execute surgical mastering techniques. A sidechain filter is eminently useful when, for example, you want a mix's bottom octave (containing only kick and bass) to trigger the expansion of the kick

PRODUCT SUMMARY

COMPANY: iZotope

PRODUCT: Ozone 6.1 Advanced

WEBSITE: izotope.com

PRICE: Ozone 6.1 Advanced: \$999 (upgrade from Ozone 5 Advanced: \$299; upgrade from any release of Ozone standard: \$750); Ozone 6.1 standard: \$249 (upgrade from earlier version: \$99).

PROS: Stand-alone application makes A/B/n comparisons a snap and can use third-party plug-ins.

CONS: Dynamic EQ has no sidechain filters, degrades imaging in Analog mode. No easy M/S output-level controls. Can't solo the L, R, M or S channel at master outputs for stand alone application or integrated plug-in. Operation manual is somewhat lacking.

drum's transient attack in a different band (say, at 4 kHz); lacking a sidechain filter as Dynamic EQ does, loud midrange elements such as lead vocal peaks can also undesirably expand the kick's attack. And while Ozone's legacy Dynamics processor's sidechain filters suggest a possible alternative solution, these apply to all bands at once and are limited to highpass and tilt filters. (You need a lowpass filter to accomplish the preceding task.) For the greatest flexibility and power, Dynamic EQ should be equipped with a wide selection of sidechain filters for each band.

I didn't like the Maximizer's new Tube Limiting mode. I felt it munched transients too much and diminished depth compared to Ozone's exceptionally transparent IRC III mode (which I love!).

The stand-alone application worked extremely well for most tasks except monitoring (more about that in a bit). I could set up

a different loop point for each track, delimiting its maximum RMS levels, and then switch between the tracks during playback simply by clicking on each associated tab in turn. This fantastic feature let me do instant A/B/n comparisons of relative loudness levels among all tracks far more expediently than by navigating markers in my DAW. I could also zoom in to the sample level in the waveform view to look for clipping by scrolling with my Apple Magic Mouse. I was especially happy that mid-side mode worked properly with all third-party M/S plug-ins I instantiated, but I lamented that the application lacked a CPU meter for resource management. Note that the application is not a mastering solution, as it can't set gaps between each song or offsets for track start times. It also can't burn a CD or render a DDP file set.

You can't choose which output pair in your soundcard receives the application's audio output; Ozone always uses the primary default outputs, and changing default outputs in MOTU PCI Audio Setup doesn't change Ozone's output routing. You also can't solo the left, right, mid or side channel at the master outputs for the stand-alone application or the integrated plug-in. (You can only solo these channels in each module or component plug-in.) The stand-alone application and integrated plug-in's output sections and the M/S-capable component plug-ins also each desperately need separate mid and side output-level controls or an M/S balance control, an oversight that also hindered working with Ozone 5. You can adjust the wideband mid and side levels in turn using the output-gain slider for the Dynamics processor in All-bands mode, but only if all four bands are active and processing mid and side channels.

In conclusion, there's much to like about Ozone 6.1 Advanced but also substantial room for improvement. I look forward to seeing how this promising software suite develops over time. ■

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

APOGEE ENSEMBLE THUNDERBOLT

Top-Notch Sound, Wealth of I/O, Super-Low Latency



The Apogee Ensemble Thunderbolt features eight mic preamps, two DI inputs, and built-in tailback.

Last year I checked out Apogee's Quartet, a small, sleek, USB desktop interface. The unit sounded great and could easily hold its own against any other product in its class. With so many terrific-sounding interfaces out there these days, that may not have been enough to set it apart. What really stood out in my memory, though, were two things:

First, Quartet connected to an iPad using a Lightning cable and worked seamlessly with audio apps like Garage Band. This shed light on an obvious relationship between Apogee and their California neighbors at Apple. The second thing was the intelligent design of the software control panel. Everything was presented in a way that was clear and concise, while simultaneously being packed with features. The graphics were clean and simplistic, allowing the window to be easily scaled and take up little space on the screen.

When I fired up the Ensemble for the first time, it became very clear that Apogee had once again played to those two strengths. The Ensemble exhibits an unparalleled harmony with Apple technology while serving up software that is an extension of your own thought process. Along the way, it also happens to sound really great.

HARDWARE FEATURES

The Ensemble Thunderbolt claims to be the first professional interface to take advantage of the newer 20 Gb/s Thunderbolt 2 protocol. This combined with an all-new driver has dropped round-trip latency to a mere 1.1 ms in the company's bench tests. This is allegedly the fastest of any "all-in-one" interface.

The Thunderbolt 2 protocol uses the exact same cables and connectors as Thunderbolt 1. This is the same form factor as Apple's Mini DisplayPort. While no Thunderbolt cable is included with the Ensemble, there are two connectors on the unit, allowing daisy chaining with hard drives, peripherals or displays.

The back panel of the Ensemble also provides a wealth of audio I/O. The interface is billed as 30-in/34-out, so how do we get there? The easy ones are the XLR inputs on the back, four of which are XLR/TRS combo jacks, the other four are standard XLR jacks. Each of the eight can be used to feed a mic preamp or line level circuit, with the combo jacks also designed to accept high-impedance instrument signals. The separate mic, line and instrument circuits are relay switched for the cleanest sound. The first two inputs also have dedicated, balanced inserts using separate ¼-inch TRS connections for send and return.

One or two XLR jacks on the front are always a welcome convenience, but none are found on the face of the Ensemble. Instead, it has an additional pair of instrument inputs bringing the input total to ten. Each one of these inputs is paired with a high-impedance ¼-inch output. This allows a guitar to be recorded, but also monitored, through an amp with zero latency. These output jacks can also be repur-

TRY THIS

Try using the Ensemble with Logic Pro X. The instrument inputs sound great feeding the software pedal board and amplifiers, and plus, control of the inputs has been integrated into the software. Adjusting preamp or instrument gain, applying phantom power, engaging the HPF or changing the input sensitivity of line inputs can all be accomplished directly from the track in the software. That way your eyes can glance back and forth between meters and the control without leaving the screen.

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posed as dedicated high-impedance re-amp outputs, so previously recorded instruments can be re-recorded through outboard stomp boxes or amplifiers. Likewise, software effects pedals can process a live guitar performance, but then be fed to an outboard amp.

There are also two Toslink optical inputs to accept up to 16 channels of ADAT optical with SMUX available, and a single RCA-type coax S/PDIF input, bringing the digital input total to 18. Ten analog inputs plus 18 digital is only twenty-eight, so the last “two” inputs are reserved for general use. This is handy as a talkback input and can be routed to any number of outputs. While it can also be routed for recording, it is designed with the same type of crushing limiter that you find in a lot of talkback inputs, and isn’t nearly as versatile as those found in a Duet or ONE.

On the output side, you’ll find the same complement of digital connections, with two TOSLINK connectors and a S/PDIF co-ax. Eight analog outputs are presented on a DB-25 connector, while an additional stereo pair is configured as the default monitor output. The two instrument thru/sends and two discrete headphone jacks add six more “outputs” to a total that could technically be considered 34.

TAKING CONTROL

The front panel of Ensemble shows a nice balance of economy without being so minimal that it is cumbersome. In the center are two vivid OLED displays, one for input metering and control, and the other displaying output levels. Each is paired with a rotary encoder/button. A set of rubber soft keys appropriate the input control to each of the input choices. Pressing and holding each soft key gives you access to a full menu of options for phantom powering, HPF, Soft Limit, etc. While none of the inputs have pads, it seems that the input stages were set up with enough headroom that a pad would not be necessary. While I never found that I needed one, inline attenuators could be added to the input cable in a pinch.

Deeper routing functions to take advantage of low-latency monitoring are available through the same Maestro software that controls the ONE Duet, and Quartet. The Ensemble requires the new Maestro 2, which only runs on OS X Version 10.9.3 or higher. Keeping in mind that Pro Tools 10 is not supported past OS X 10.8, an upgrade to Pro Tools 11 is required to ensure maximum compatibility. That said, I ran the Ensemble with Pro Tools 10.3.9 on OS X 10.9.5 and had no issues.

Maestro 2 has the same simplistic, no-flair appearance as the previous version. The window can be scaled, meaning it can hide in a corner of the screen and still be accessible. The operation is extremely intuitive, as functions are neatly organized in a variety of logical tabs. It seems like some of these software mixers try to put too much on one screen and offer more functions than anyone will ever use. The Ensemble keeps it simple. Aside from pages dedicated to settings for inputs, outputs, sample rates and clocking, and other obvious functions, there is a routing matrix much like the Pro Tools I/O Settings grid that can map any software output to any physical output. There are also four software mixers that can combine a single software return with

PRODUCT SUMMARY

COMPANY: Apogee Electronics

PRODUCT: Ensemble Thunderbolt

WEBSITE: www.apogeedigital.com

PRICE: \$2,595 (with Waves Gold Bundle included)

PROS: Plenty of I/O. Great Thunderbolt integration.

CONS: Requires newer Mac and OS X 10.9.3 or higher.

any number of low-latency inputs, and can be routed to any output. It seems that four internal mixers should be plenty for any session, which is appropriate for the Ensemble.

IN USE

At first, I just wanted to get comfortable using Pro Tools and Maestro 2. I had to record some voiceovers, and I wanted to assess the latency and how convenient building headphone mixes for the talent would be. Keep in

mind that setting the Hardware Buffer in Pro Tools plays a role in total round-trip latency, but buffering delays in different data buses like USB, FireWire, PCIe and Thunderbolt all contribute, as well. On top of that, pulling data from RAM, to the CPU, and down through a data bus can create a delay as well. The Ensemble’s use of Direct Memory Access, which pulls data right from RAM to the Thunderbolt port without processing it through the CPU, takes a workload off of the processor and minimizes delay. I could overdub onto a busy session that required a 256-sample buffer size for smooth playback without any noticeable delay. By 512 samples, the delay became a little uncomfortable, though that is usually the case even when using PCIe interfaces.

When recording speech with a Blue Bottle Rocket mic, I was very impressed by the sound quality. In my memory, Apogee mic preamps and converters have always been just a little brighter than other manufacturer’s. The Ensemble’s front end seemed less colored and truer to the acoustic sound. That said, there was plenty of detail and clarity, and speech was able to easily cut through a music bed. The whole frequency response seemed really balanced, and the bottom end was full and tight. This neutral character made these preamps a very nice choice for nearly any source.

Perhaps the most striking part of the overall sound was that the noise floor was essentially non-existent. It was one of the quietest preamp/AD converter combos I’ve ever heard. Even when I gained it up to a ridiculous level, I never heard a hiss or hum that could be attributed to the circuit. I was also impressed with the amount of gain available. When recording quieter sources like ukulele or even cloth Foley, I could set a hot level and still have gain to spare. It seems impossible that a pre can have so much range without any noticeable noise, but the Apogee engineers really pulled it off.

If you have been waiting to upgrade to a new Mac Pro until the existence of an appropriate Thunderbolt interface, the wait is over. If you are looking to add more, channels to your MacBook-based setup, this is the perfect way to do it, as well. With plenty of I/O for project studios right out of the box, and the expansion potential provided by digital I/O, this is the perfect centerpiece to the modern studio. It can serve as a monitor controller for multiple speaker pairs, or be configured for surround sound. Best of all, the pre’s and converters are top-notch and will not disappoint. If you’re in the market for a fully featured multichannel interface, this should be high on your list of choices. ■

Brandon T. Hickey is an audio pro and rabid Blackhawks fan.

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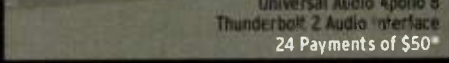
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UNIVERSAL AUDIO UAD-2 PLUG-INS

Neve 88R Channel Strip Collection, Softube Marshall Amp Simulator

Universal Audio's plug-in development team must be working overtime as it seems new plugs come out every few months. I recently got my hands on two of the latest releases and gave them a good going over in a range of applications. We have the new Softube plug-in for the UAD format but first up is the Neve 88RS Channel Strip Collection. The bundle includes the ground-up rewrite of the 88RS Channel Strip plus the original Neve 88RS channel strip plugin, which won the TEC Award in 2007.



The Neve 88RS Channel Strip plug-in captures the classic console's EQ and dynamics section.

CHANGING CHANNELS

The collection includes the new 88RS channel strip and the original "Legacy" version. The new 88RS adds to the modeling of the Input transformers and output amplifier stage. The new 88RS rewrites the modeling of the input transformers and output amplifier stage while adding the preamp section. The new plug-in integrates with Apollo's front panel and the Apollo mixer via UA's Unison technology. For example, if you click the Phase Invert button on Apollo, the corresponding phase button on the 88RS

reflects the change.

A "complete circuit" model does consume a considerably higher amount of DSP usage and this is why UA made each section switchable allowing you to reduce DSP drag.

In a real-life 96kHz mixing situation, I found that in using my UAD-2 Octo card with its eight DSP chips, I could use 12 channels of Neve 88RS plus 24 channels of 88RS Legacy, all with both compression and EQ engaged, and still have 25-percent of DSP remaining, the equivalent of an entire UAD-2 Duo card.

My biggest complaint about the original 88RS was the high band of the EQ could never give me the air I was trying to dial

in when working at 44.1 or 48 kHz, as it did not up-sample to do its processing. At 96 kHz this issue was gone and the EQ sounds beautiful. The new 88RS internally up-samples, and as with all UAD plug-ins that up-sample, it runs internally at 4x the session's sample rate; this allows the EQ section to react naturally without the limitations of the sample rate.

LET'S HEAR IT

The added transformer modeling and output amps are great additions, providing a slickness to the sound vs. the UAD Neve 1073, which sounds more raw and hairy. The new plug sounds like what I want music to sound like when I get to the mixing stage.

The magic of the new 88RS comes from the addition of the new input and output modeling. Simply turning up the inputs and bringing down the output fader introduces so many sonic flavors, compression from distortion, harmonic distortions and a curve to the overall tone. This alone was worth the price of admission. Add the ability to use it with the Apollo's Unison technology and it's a no-brainer for anyone who likes the sound of the Neve 88 Series.

SOFTUBE MARSHALL 1959 PLEXI AMP SIMULATOR

Softube borrowed a perfectly preserved 1967 Super Lead from Marshall's museum and paired it with a Marshall 1960BHW 4x12 cabinet with well-broken-in Vintage 30s, and together with producer/engineer Tony Platt (AC/DC's Highway to Hell and Back in Black) set out to capture the legend.

AMP IT UP

The Marshall Plexi is not an amp that needs much introduction. It's like a Shure SM57; if you've been around audio for longer than a month, you probably know about it. The key to the amp is lots of experimenting with the combination of inputs and volumes.

The amp is set up with Input 1

PRODUCT SUMMARY

COMPANY: Universal Audio
PRODUCT: 88RS Collection
WEBSITE: www.uaudio.com
PRICE: \$299; \$149 for owners of Legacy Neve 88RS plug-in
PROS: Has "that" sound! Complete circuit modeling. Unison technology.
CONS: High DSP usage; new meter location takes getting used to.

TRY THIS

While mixing, on any track, engage the -20 pad, switch the input over to Mic and dial up the input gain so the OVL light just starts to flash on only the loudest notes. Bring the channel's fader down so the output is equal to the level when the plug-in is bypassed. Now toggle on and off the big red power button on the 88RS.

Your search for a new microphone ends here.



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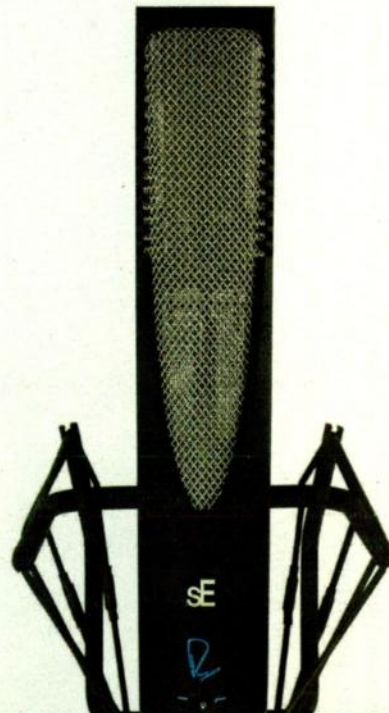
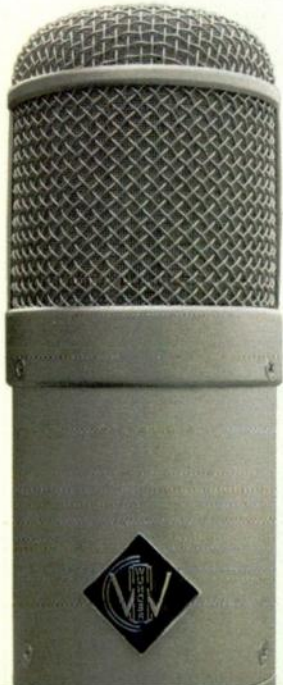
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The Marshall Plexi UAD-2 plugin features FET, Tube, and Dynamic mic combinations.

feeding Volume 1 for the bright channel. Input 2 feeds Volume 2, making the dark channel. One of the keys to dialing in the Plexi is to use a patch cable to jump the inputs. The top inputs for both inputs 1 and 2 are high gain, and the bottom ones are for low gain. With the plug-in you simply

PRODUCT SUMMARY

COMPANY: Softube and Universal Audio
PRODUCT: Marshall Plexi Super Lead 1959

WEBSITE: www.uaudio.com

PRICE: \$199

PROS: Sound. The microphone mixer/channel strips are wonderful.

CONS: Midrange EQ knob on the GUI has no markings; can't mix and match microphones.

click on Input 1's top to be "plugged" into that input. A second click on your input and a patch cable appears connecting the bottom Input 1 with Input 2 top. A third click of your input and the patch cable moves from Input 2's top to Input 2's bottom. This sort of combination works

in every direction, which is important, as where your guitar plugs into initially and where the patch comes from and goes to all matter—all change the tone and reaction of the amp. The Softube Marshall plug-in captured all of these combinations extremely well.

In addition to a simple tone stack of bass, middle, treble and presence, jumping the inputs allows you to work the two volumes as a type of EQ, as well as blending their two gain flavors caused by the different input tones.

Clicking on the right side of the plug-in's GUI opens the Channel Strip that controls how the amp's speakers are captured. The Channel strip is a 3-channel mixer with master High/Low equalizer and main output volume control. There is also a selection switch that scrolls through the three preset microphone combinations.

The first is Dynamic, featuring a Shure SM57, a Sennheiser e 609 and an omni Neumann U87 capturing the room. The second is FET, using a Josephson E22, a Neumann U87 and a Coles 4038 for the room. Last is Valve—two Neumann U67s placed in a complementary setup and an AKG C12 for the room. Each mic has its own volume fader, pan and a solo button. You may also select to turn off the speaker completely to feed the amp's output directly another speaker simulator of your choice. I realized that I have never played a perfect example of this amp. I have played through so many Plexis but all have been modified or repaired with different aftermarket parts or recapped. Here I could tell that the emulation was true to the amp's heritage. The controls' reactions and resulting sound perfectly reflect the characteristics of a Marshall. There are no extras, no digital FX, and no countless speaker and amp combinations; this is simply a Marshall Plexi in plug-in form.

Then, all the benefits of a plug-in are available. You can automate the controls, save and recall setups on the fly, even assign controls to an expression pedal, bringing the Plexi into the new world of music production and performance possibilities. ■

Tim Dolbear is a producer/engineer at Eclectica Studios in Austin, Texas.

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