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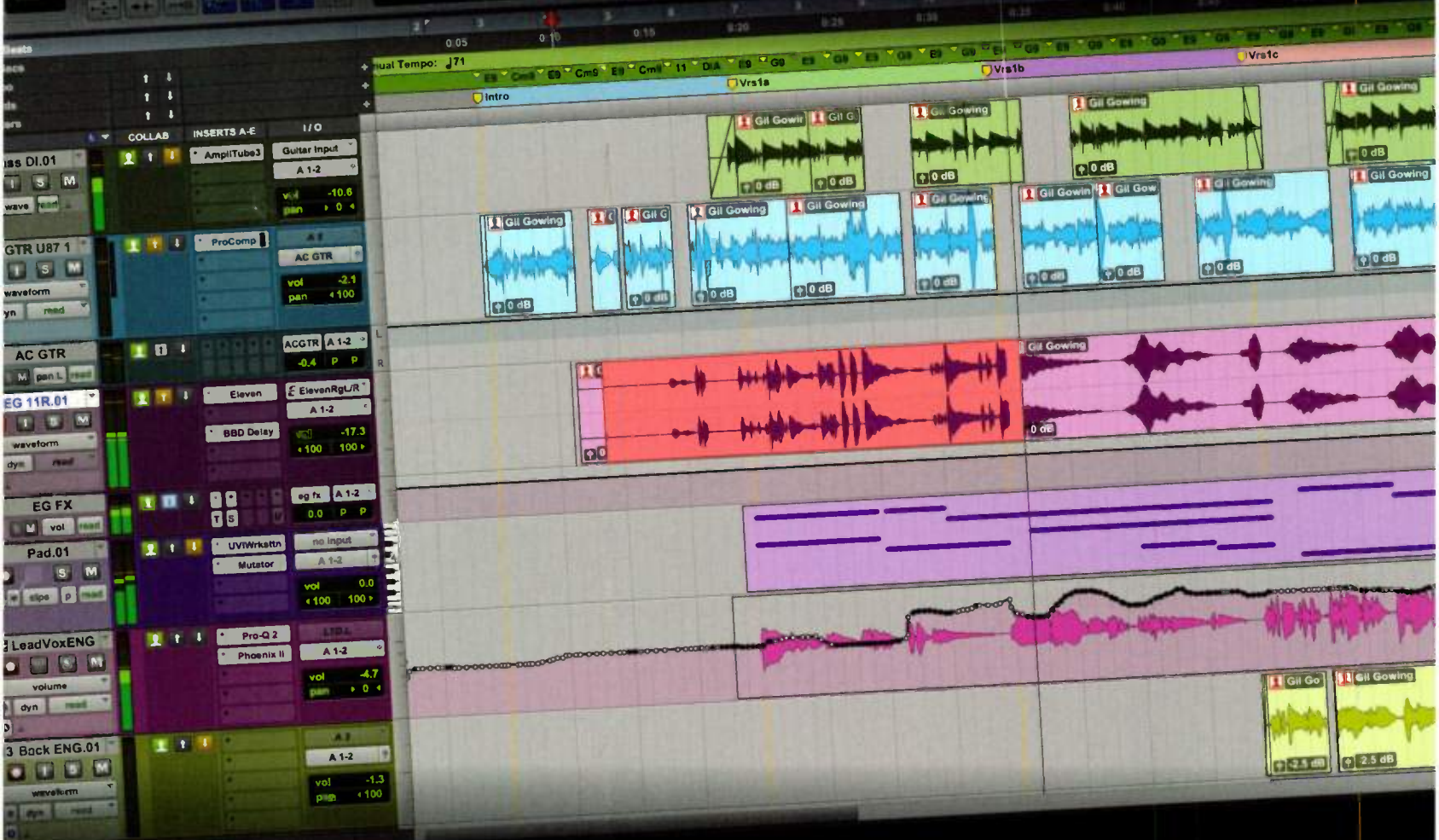
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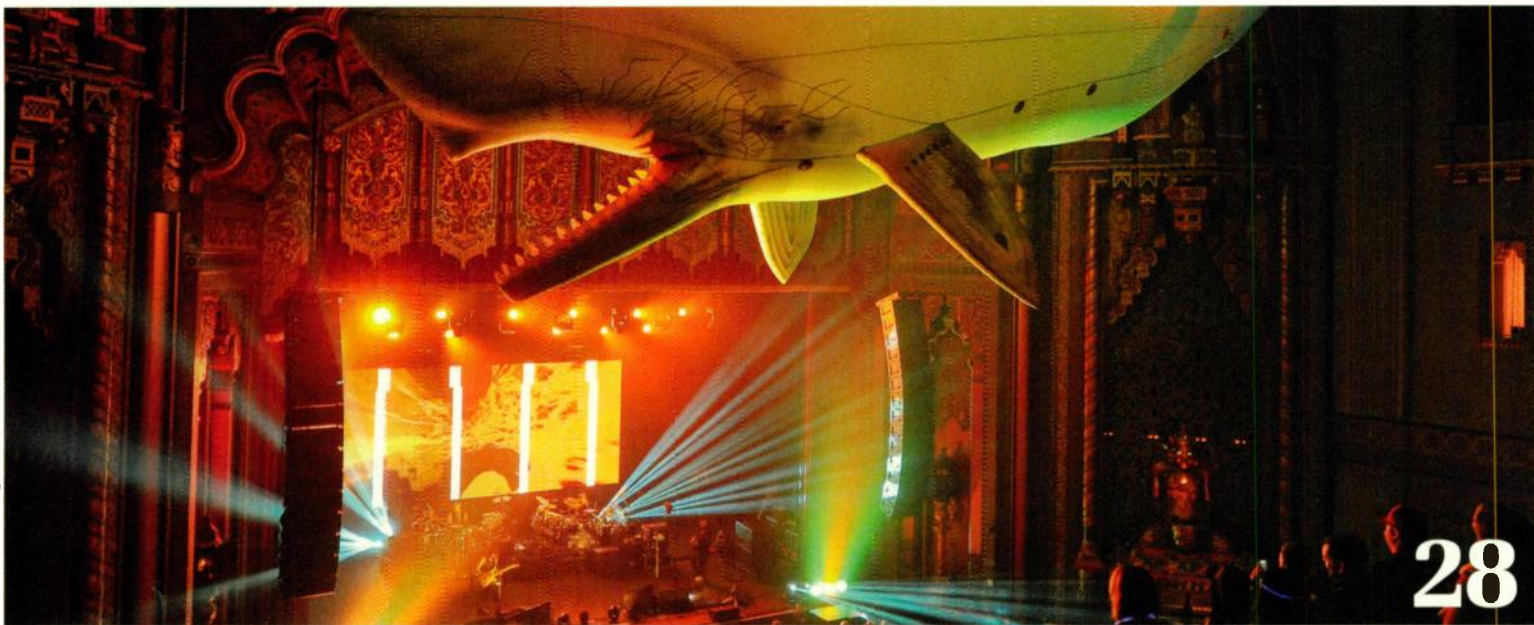
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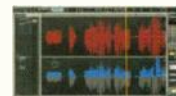


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On the Cover: From left, co-producers Wolfgang Fraissinet and Leslie Ann Jones with engineer Mike Pappas prior to rehearsals for the Colorado Symphony Orchestra. *Photo: Mike Pappas.*

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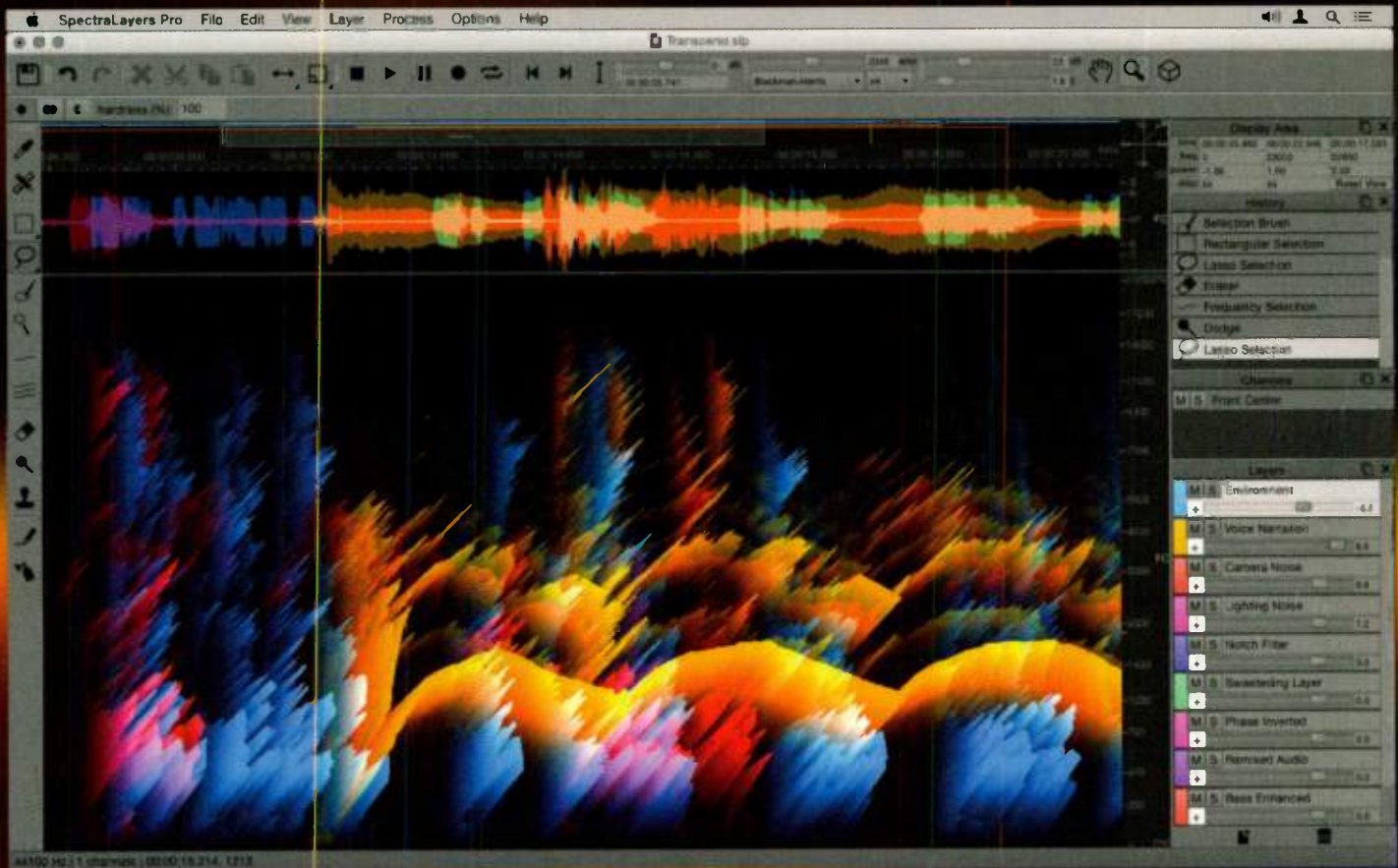
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From the Editor

THE INDUSTRY AND THE ENGINEER

There is a long tradition of artist-industry collaboration in professional audio, and it comes in many, many forms—the artist, in our case, being the engineer and producer—from the simple product endorsement in a print ad, to exclusive mics in a Grammy broadcast, to a name plug-in collection for sale. In some way, shape or form, every product manufacturer, software or hardware, works with engineers and artists, either on product development or product promotion. It's a feedback mechanism that works.

The cynic often sees this type of relationship as negative, the implication being that the artist has sold out and the greedy manufacturer is only in it for the money. In some cases, that is no doubt true. But it's rare. And it's not what I'm talking about here. I'm talking about an interplay that stimulates technological advances and promotes quality throughout the process.

The relationship between art and industry goes back to the very roots of pro audio, when Les Paul began chatting with the engineering team at Ampex, and before that in his work with Gibson on the solid-body electric guitar. Bill Putnam became the engineer and the artist all in one. Many more have followed, from Tom Dowd on consoles to Al Schmitt on tape and Bruce Swedien on microphones—they all worked with manufacturers in product development. Jack Joseph Puig today works with both Waves and Intel. Jimmy Jam and Terry Lewis are developing surround on headphones with DTS. Yes, there will be money involved. This is capitalism. But there will also be technological and/or artistic leaps forward, most likely a combination of both.

In this month's cover story are three very talented people who epitomize the strengths of industry-artist collaboration. The shot was taken in late September, onstage during a break in rehearsals for the Colorado Symphony Orchestra recording Beethoven's 'Ninth' in 5.1. (Yes, a disc and stream will be available soon, in hi-res and otherwise.)

To the left is Wolfgang Fraissinet, president of Neumann worldwide, a lover of orchestral music and a co-producer on the recording. He is both a musician and a businessman, and he is intent on developing and, yes, selling, the best in digital microphone technology, for both the engineer and the first violins, or tympani, or

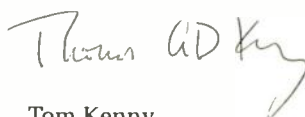
French horns. He helped fund the project to learn more about his microphones' performance. He is The Industry.

In the middle is Leslie Ann Jones, co-producer on the recording and director of music recording and scoring at Skywalker Sound. Before that she tracked and mixed at Capitol. And before that, she grew up at the legendary Automatt in San Francisco under the tutelage of David Rubinson. She has worked with Neumann many times over the years, in seminars and workshops and behind the scenes. Leslie knows the orchestra and she knows about quality—in food, wine, art, performance and, especially, audio. She is The Artist.

(Full disclosure: Leslie is a dear friend here in Oakland; my daughters call her Stranger, because 16 years ago when we unknowingly moved in two doors down from her, she approached us as we unloaded the U-Haul, smiled, and said, "Well, hello stranger!")

And engineer/audio consultant Mike Pappas, who might at this point be considered both Artist and Industry. He's an audio consultant, in the best sense of the word. He's a Denver engineer/producer with worldwide reach. He understands systems and music and technology. He's been doing pioneering surround and broadcast work with the CSO since the 1990s. He's the one who had the initial conversations with Fraissinet. He's the one who recommended Jones. He was the glue that brought it all together. He also took the cover shot, along with the stellar photographs in this month's cover story.

What happens now? Well, Leslie Ann Jones is finishing the mix as I write this, and we can be sure that Neumann gathered real-world objective and subjective data on their digital mics' performance. Pappas, no doubt, is busy on some live performance, educational or recording project. And, ultimately, we will all reap the benefits of their week in Colorado. That represents the best in collaboration.



Tom Kenny
Editor

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2015 Oscar Nominations for Sound Editing, Sound Mixing

Oscars for outstanding film achievement of 2014 will be presented on Oscar Sunday, February 22, 2015, at the Dolby Theatre at Hollywood & Highland Center and televised live on the ABC.

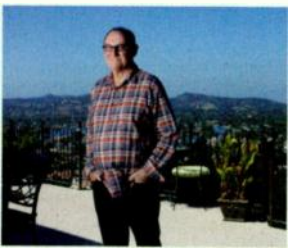
Mix congratulates the nominees for Sound Editing and Sound Mixing:

ACHIEVEMENT IN SOUND EDITING

- *American Sniper*: Alan Robert Murray, Bub Asman
- *Birdman or (The Unexpected Virtue of Ignorance)*: Martin Hernández, Aaron Glascock
- *The Hobbit: The Battle of the Five Armies*: Brent Burge, Jason Canovas
- *Interstellar*: Richard King
- *Unbroken*: Becky Sullivan, Andrew DeCristofaro

ACHIEVEMENT IN SOUND MIXING

- *American Sniper*: John Reitz, Gregg Rudloff, Walt Martin
- *Birdman or (The Unexpected Virtue of Ignorance)*: Jon Taylor, Frank A. Montaña, Thomas Varga
- *Interstellar*: Gary A. Rizzo, Gregg Landaker, Mark Weingarten
- *Unbroken*: Jon Taylor, Frank A. Montaña, David Lee
- *Whiplash*: Craig Mann, Ben Wilkins, Thomas Curley



David Macmillan, CAS

51st Annual CAS Awards David Macmillan to Receive Career Achievement Award

The Cinema Audio Society, which recognizes Outstanding Sound Mixing in film and television, as well as Technical Achievement in production and post-production, will host its 51st annual awards ceremony February 14, 2015, at the Crystal Ballroom of The Millennium Biltmore Hotel in downtown Los Angeles.

At the ceremony, the organization will honor production mixer David Macmillan, CAS, with its highest accolade, the CAS Career Achievement Award. "David represents the high standards we all aspire to, as a sound mixer, a mentor and an educator," says CAS president David Fluhr. "David received the first of his Oscars 30 years ago—as a mixer he obviously has the right stuff!"

Macmillan, who began his career in sound more than 50 years ago at the Canadian Broadcasting Corporation, won his first Oscar in 1984 for *The Right Stuff* during his early years in film sound with American Zoetrope. He later won Oscars for *Speed* and *Apollo 13*.

Final balloting for both the Outstanding Sound Mixing and the CAS Technical Achievement Awards opened online on Wednesday, January 21, and end on Friday, February 6.



Yamaha CL5 console

Error Log

In *Mix*'s January 2015 issue, the feature story "Consoles and Controllers for Live Sound" included a paragraph about Yamaha Pro Audio's M7CL Series digital mixing consoles. Yamaha's CL Series consoles are in fact the manufacturer's most recent offerings

for the mid- to high-end touring console market.

Also in the January 2015 issue of *Mix*, in the Regional: Los Angeles Sessions section, a Boulevard Recording session incorrectly identified Jim James of My Morning Jacket as James King. *Mix* regrets the errors.

62nd Annual MPSE Golden Reel Awards



Skip Lievsay will receive the 2015 MPSE Career Achievement Award



Darren Aronofsky will receive the 2015 MPSE Filmmaker Award

The Motion Picture Sound Editor's guild, founded in 1953, will acknowledge the year's best work in the various areas of sound editing—Dialog, ADR, Effects, Foley and Music—at its 62nd annual Golden Reel Awards, to be held February 15, 2015, at the Westin Bonaventure Hotel & Suites, Los Angeles. Besides achievement in film sound, the MPSE recognizes Television, Interactive, Direct-to-Video and

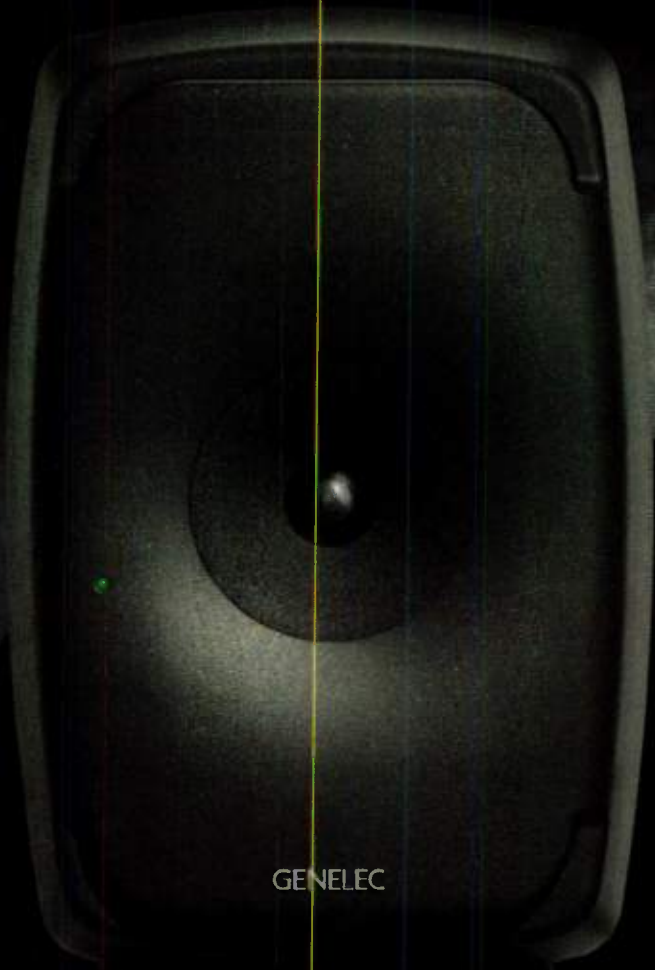
Student Film achievement.

"2014 was a fantastic year for sound," says MPSE president Frank Morrone. "The advent of new distribution channels, streaming services and gaming platforms is creating additional opportunities for sound artists to practice their craft beyond the traditional venues of film and television. This year's nominations reflect that change, spanning an amazing diversity of mediums and genres, all executed at the highest level of creativity. We are truly inspired and impressed by the work of our colleagues."

Also this year, the MPSE will honor Academy Award-winning sound designer, mixer, editor Skip Lievsay, who received the Best Sound Oscar for *Gravity*, with the 2015 MPSE Career Achievement Award. The MPSE Filmmaker Award will be presented to director Darren Aronofsky.

Lievsay, who won the 2014 Academy Award for Best Sound Mixing for his work on *Gravity* (with Niv Adiri, Christopher Benstead and Chris Munro), has contributed to nearly 150 films over the course of a career spanning more than 30 years. He has been a frequent collaborator of directors Joel and Ethan Coen, as well as Martin Scorsese, Spike Lee, John Sayles and many others.

The MPSE Filmmaker Award is presented to extraordinary filmmakers who embody the spirit, the vigor and innovation of storytelling. Previous recipients of the award include Brian Grazer, Steven Spielberg and Ang Lee. Aronofsky has directed *Noah*, *Black Swan*, *The Wrestler* and other films. ■



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John Fry and John Hampton

*MEMPHIS—AND MUSIC—
WILL MISS YOU*

BY RICK CLARK

This last month has been a really tough one for the music community of my hometown of Memphis, Tenn. First, Grammy-winning engineer, producer and Ardent Studios co-owner John Hampton passed away on December 12, and less than a week later, word quickly circulated that Ardent Recording founder John Fry had also died.

Memphis is known around the world for the game-changing sounds of the Sun, Stax/Volt and Hi recordings that launched Elvis Presley, Jerry Lee Lewis, Sam & Dave, Otis Redding, Booker T. & The MGs and Al Green, among many others. Those in the know readily state that most of the last 50 years of Memphis music wouldn't have happened without the bedrock of John Fry's legendary recording facility, Ardent Studios, and the staff of world-class engineers and producers who honed their art over the years.

Just as the music from Memphis and the Delta South profoundly inspired countless musicians across the Atlantic and elsewhere, many of those artists (as well as part of the mid-60s "British Invasion") connected deeply with a whole new generation of Memphis musicians and recording entrepreneurs. It was Fry who created a recording environment at Ardent that connected the dots on both sides of the ocean for many of us.

Ardent Recording—studios and label—in many ways was the realization of Fry's dream to have a studio outfitted with all of the great elements that helped make the sound of the Beatles and other transformative English bands so special. He not only captured the sound that he loved in those records, but adapted them to Memphis's unique and influential raw immediacy.



Producer Jim Dickinson, left, with Fry in the early days on National Street



John Hampton at the console in Studio A with members of the Gin Blossoms.

John Fry started recording in 1959 out of his family garage and by the time he formally opened Ardent Recording in 1966, he had dabbled in radio and also released a handful of 45s on his own Ardent Record label. In 1972, the Ardent label re-launched when Stax Records president Al Bell approached Fry about having a rock label within the Stax family of imprints. Though it was short-lived, the label signed a few groups like Cargoe, The Hot Dogs, and Big Star, the band closest to Fry's heart and whose first two albums he produced. The audiophile quality sound of those albums was at once bright, punchy and utterly distinctive. Big Star might not have lived up to its name commercially, but those albums would arguably



ENGAGING ARTISTS EVERYWHERE

Jeremiah Slovarp – Owner of Jereco Studios in Bozeman, Montana and Emmy® award-winning Producer/Engineer knows a thing or two about the art of mixing. Working with television giants such as HBO, PBS, Disney and BEC, his impressive resume ranges from commercials to documentaries and so much more. With a recent studio upgrade to Yamaha's NUAGE Advanced Production System, Jeremiah's workflow has taken a turn for the better. We caught up to him to hear his thoughts on the new hardware.

"I feel like I can get back to mixing, pushing faders, turning knobs, and just working on a creative console. Previously, after an eight or ten hour day, my hands would be in pain from all the manual movements I had to make being dependent on mouse editing and clicking. With the advent of all the cool and amazing new digital DAW based mixing tools and equipment, I think the industry, in general, has regressed from the art of mixing and working with consoles and large format hardware. But with NUAGE, I appreciate the deliberate move Yamaha has made to enable engineers to get back to mixing and editing as an art form."

— Jeremiah Slovarp

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prove to be Ardent's best audio business card attracting many artists and musicians, like REM, The Replacements, Gin Blossoms, Tommy Keene, and others who would make the pilgrimage there to record.

I first met John Fry in 1969 when Ardent was located on National Street. My first impression was of a reserved, rather conservatively dressed, guy with a boyish face; he didn't seem like the type you would find hanging out in a rock club or engaged in small talk. He seemed more comfortable thoughtfully investigating recording gear and advancing the creative and technical skills of a small group of committed Anglophiles he attracted to his studio. Fry taught most of them the basic skills of engineering, so that more than a few could handle all of the business coming through Ardent's doors when Stax Records began sending all their recording overflow their way. It was the end of the 60's, and Fry

started booking numerous sides by The Staple Singers, Sam and Dave, Albert King, Booker T & the MGs and Isaac Hayes. Suddenly artists like Leon Russell, Led Zeppelin, James Taylor and other notable acts started making the pilgrimage to Ardent, the beginnings of a seemingly endless line showing up in Memphis to see what Fry had stirred up. This success led Fry to build a world-class studio in 1971 at its current location at 2000 Madison Avenue in Midtown Memphis. Since opening, the studio has produced more than 70 Gold and Platinum albums and singles.

Ardent, especially during the 1970s and early '80s, sometimes resembled a world-class recording playpen, as all sorts of creative (and not-so-creative) madness ensued, but something inside me sensed that those Fry entrusted with the keys of the studio deeply understood the responsibility of his gift. He reminded me of a high school art teacher I had who felt



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John Fry, left, and his dear friend and Ardent studio manager Jody Stephens, at the 40th anniversary bash for Ardent, 1996.

the only way I would grow and take responsibility for my art was to give me all the rope I needed. I watched most of those Fry entrusted inside his studio doors become fully rounded engineers and producers with the souls of artists.

There's a lot of truth to the statement that art lives on long after the artist is gone. In the case of John Fry, the art of mentoring—spotting someone's gifts and passions and offering the canvas, tools and accumulated wisdom to flourish—is, to me, his most enduring legacy. The studio wouldn't exist or have made the mark it has on music history without Fry's

belief in lifting up and creating opportunities for those hungry to prove themselves. So many musicians, artists, engineers and producers learned to stand on their feet creatively and learn the art and craft of making great recordings thanks to John Fry. Myself included.

Many of Fry's protégés would go on to successful careers at Ardent and elsewhere: Terry Manning helped to establish ZZ Top's signature sound on many of their albums, including huge hits like "Gimmie All Your Lovin'" or "La Grange." Jim Dickinson, who worked with Ry Cooder, The Rolling Stones and Dylan, produced classic albums by Big Star, Toots Hibbert and The Replacements, whose song "Alex Chilton" paid tribute to Big Star. Or Joe Hardy, who also worked extensively with ZZ Top and helped push the synthesis of rock and country with his work on Steve Earle's fiery albums *The Hard Way* and *Copperhead Road*.

It was a protégé named John Hampton, however, who ran the distance, starting out like almost every engineer at Ardent, as the guy who manned the back door and made tape copies for clients; Hampton, though, eventually worked his way up to being a co-owner.

Hampton's first Ardent recordings included the psycho-billy garage rock of The Cramps—songs like "The Way I Walk" and "Huran Fly"—and Alex Chilton's chaotic *Like Flies on Sherbet*. Hampton would go on to multi-platinum status in producing the Gin Blossoms hits "Hey Jealousy," "Found Out About You" and "Allison Road," among others. Hampton's engineering and mixing skills drew major country artists from Nashville who wanted some punch to their sound, like Travis Tritt, as well as blues and rock greats like B.B. King, who knew of the combination of Hampton's work with The Raconteurs and The White Stripes, for which he earned his second Grammy. (His first was for his work on Jimmie Vaughan's album *Do You Get The Blues?*) Hampton passed away at 61, of complications from cancer, less than a week before Fry died.

It's hard to imagine either one of them gone, especially Fry; his spirit inhabits every thoughtfully conceived inch of Ardent. But Ardent is in good hands with those Fry mentored, and it will continue thriving as one of the world's finest studios, attracting artists like Stevie Wonder, who was in recently to tap into the mojo Memphis and Ardent offer. Fry would love it. And John Hampton, no doubt, would find a way to get behind the board.

Music supervisor Rick Clark is the former editor of Mix's Nashville Skyline.



From left: John Hampton, Stevie Ray Vaughan, Nile Rodgers, and Jimmie Vaughan.



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SETTING STANDARDS SINCE 1975

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L to R: Doug Corcoran, Jimmy Sutton, Jason Smay, JD McPherson, Raynier Jacildo

JD MCPHERSON'S 'LET THE GOOD TIMES ROLL'

Adventurous Album with a Retro Core By Barbara Schultz

It was like my guitar amp was about to explode at any moment. He's done something to it: 'Don't look at it! Don't even point at it!' JD McPherson says. "It was very intense."

McPherson and his band—bass player Jimmy Sutton, keyboardist Ray Jacildo and drummer Jason Smay—did the basic tracking for their sophomore release, *Let the Good Times Roll*, in Mark Neill's Soil of the South Studio in Valdosta, Ga., where Neill's collection of well-maintained vintage, refurbished and modified studio gear (and hot-rodded guitar amps) recently found a

permanent home.

"It's the same studio I've always had; I've moved it around like a Broadway set," Neill says. "We moved into Muscle Shoals Sound studios for *Brothers*, the Black Keys' record. And now it's in a mid-century cinderblock Southern flat-roof building. JD came in just as I finished setting it up."

McPherson's songs grow from his longtime fascination with '50s R&B. He says his teen-aged punk phase was largely supplanted by the old stuff when he discovered Buddy Holly's Norman Petty recordings (see February 2011

Classic Tracks: "That'll Be the Day").

"All that aggressive but exuberant music was there," he says. "I became obsessed with that stuff: Elvis, Jerry Lee Lewis. Once I hit Little Richard it was all over."

McPherson developed a sound of his own that incorporated not only the rhythm and excitement of his favorite artists, but also the spirit of experimentation behind the recordings. This made Neill's combo of mint-condition vintage studio gear and hot-rodded amps a perfect fit; the producer/engineer has been collecting tube and broadcast gear since the



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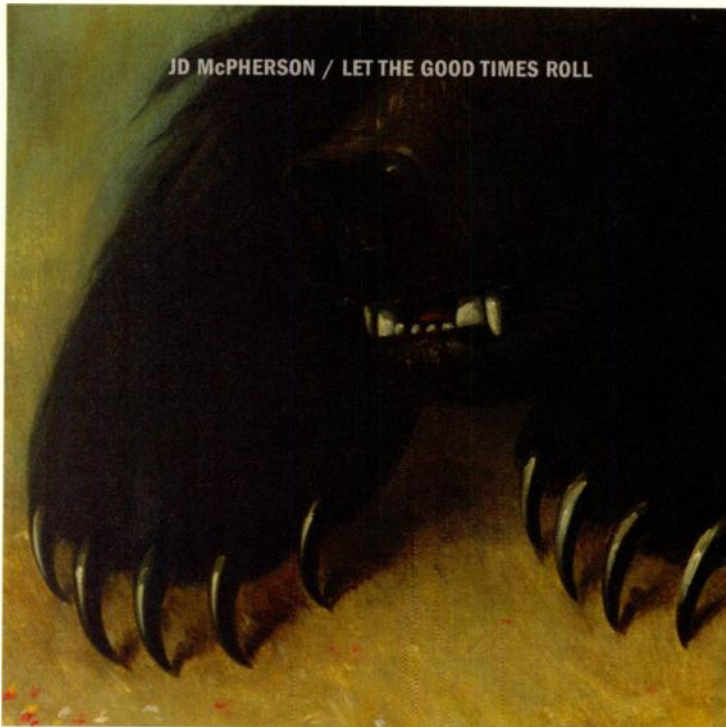


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'70s. So the singularity of a vintage mic, carefully placed, plus the happy accident of a groaning amp become part of the sound from the studio floor, the same way they were for Johnny Burnette, for example.

All that said, McPherson's tracks have a lot going on musically—layers of percussion and keyboards, reverb and horns and backing vocals, as well as the expected four-piece ruckus—so Neill tracked to RADAR.

"When JD came in, he said, 'I have a lot of ideas but not solid songs per se, so can we build it up like tracks?' And I said, 'Yes we can.' With period gear, the answer is often 'No.' 'Can we have another mix?' 'No, because that was a performance.' 'Can we add another guitar?' 'No, we don't have enough sends.'

"I knew we were going to have to commit to some things, but I knew a lot was going to change, so it made sense to go digital. I think I filled up more tracks than I've done on any record."

Neill describes McPherson's process as "patterns of commitment." They'd start with the rhythm section, and then begin to add on; as the full song and arrangement emerged, McPherson would realize what pieces he wanted to re-record, and they'd do some more.

Smy's kit was miked minimally with Shure mics: an SM57 placed under the snare, a 556 on bass drum and a KSM 141 overhead. Sutton's bass, situated next to the drums, was usually captured via an old Western Electric 639. "That's a ribbon/dynamic combo," Neill says. "Sometimes we'd put Jimmy in the hall if the drums were too loud, but often he was

in the studio with Jason."

Piano miking changed from song to song, but Neill was surprised to observe that the sound didn't seem to change much respectively. On the track "Bridge Builder," for example—a moody ballad that McPherson co-wrote with Black Keys frontman Dan Auerbach—there was a Shure SM57 in back of the upright piano, but on other songs Neill placed a Neumann mic in front, or an RCA 77 on top.

"There's obviously a big difference between those mics," Neill says. "But the other thing about this record is I used a lot of overdrive on the mic pre's—a lot of high-gain pre's. There are various degrees of saturation, too. All of that blurs the lines."

McPherson's vocal miking was one of the consistent pieces—through a Neumann KM 184. And the artist's guitar sound mainly came from a Strat played through a custom-built Magnatone or a modified Vox AC100—the amps that prompted McPherson's feeling that something was about to blow:

"There was a lot of versatility to guitar sounds we could get," McPherson says. "There are always so many combinations of guitar, amp, effect and microphone placement, which has as much to do with the sound as anything."

By the time *Let the Good Times Roll* was recorded, Neill had another booking, so McPherson and band decamped to Hi-Style Studios (Chicago), where they'd recorded their debut, *Signs and Signifiers* (2012). Alex Hall (the engineer and drummer on *Signs*) took care of the mix and some overdubs with the band. He also helped them completely re-record the title track.

"Hi-Style is in a small room on the third floor of an old A-frame," Hall explains. "It's built around a couple of old tube mixers and two old Berlant quarter-inch 2-tracks. The room is quite small. There's not a lot of isolation, but we try to record live for the most part."

"Let the Good Times Roll" became one of the few full-on live performances on the album. It's also sort of a microcosm for McPherson's musical MO. The intro borrows heavily from Eddie Cochran's "C'mon Everybody," with its fierce guitar and bass rhythm, but McPherson's beautifully strange lyrics and sweet melody take listeners to new places: "...I drift away underneath auspicious stars/ Let the sky open up little darlin'/ Follow me when I go/ Let the sky open up and let the good times roll."

"The sound of 'C'mon Everybody' is really unusual and exciting if you listen to it," McPherson says. "I love the weird little curly-cues that happened throughout that time period. On Bo Diddley's

'You Pretty Thing,' there's a harmonica solo on the outro where somebody was completely daring and turned the reverb up to this ridiculous point and it goes into space.

"Let's face it—there was also some terrible pop music in the 1950s. So to have someone super daring dropping the fuzz solo in the middle of Marty Robbins' 'Don't Worry About Me'—that's the stuff that keeps me going." ■



Mark Neill and JD McPherson

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AMEN DUNES HAVE 'COWBOY WORSHIP'

The *Cowboy Worship* EP from psychedelic-ambient-folk project Amen Dunes—led by Damon McMahon—is being released as a sort of “companion” piece to the Amen Dunes album *Love*.

“With the *Love* LP, we had these orchestral instruments like French horns and cello—all these beautiful instruments—but during the mix, a lot of those things got left on the editing room floor,” explains engineer Daniel Schlett, who recorded parts of *Cowboy Worship* in his studio, Strange Weather (Brooklyn). “When we did the EP, we wanted a second chance to say, ‘Here are some ideas that didn’t quite make the album, but they’re still beautiful and deserve a little bit of light.’”

Sounds on *Cowboy Worship* are airy with judiciously placed piano, synth and percussion moments, but the EP’s strongest impact comes from complex room sounds, realized with a combination of room miking and external reverb. For example, guitars were miked with an RCA 77 on Ben Greenberg’s amp, but there was also a Neumann U 67 two feet in front of the amp, pointed away from it. “That’s really heavily compressed, with a quick attack and release time,” Schlett says.

“We also used a lot of Sound Workshop’s spring [reverb] and an EMT140. Those are a huge part of getting him to get the right vocal take. I think we also had a Bricasti on there. There’s usually two or three reverb units blended all together.”—*Barbara Schultz*

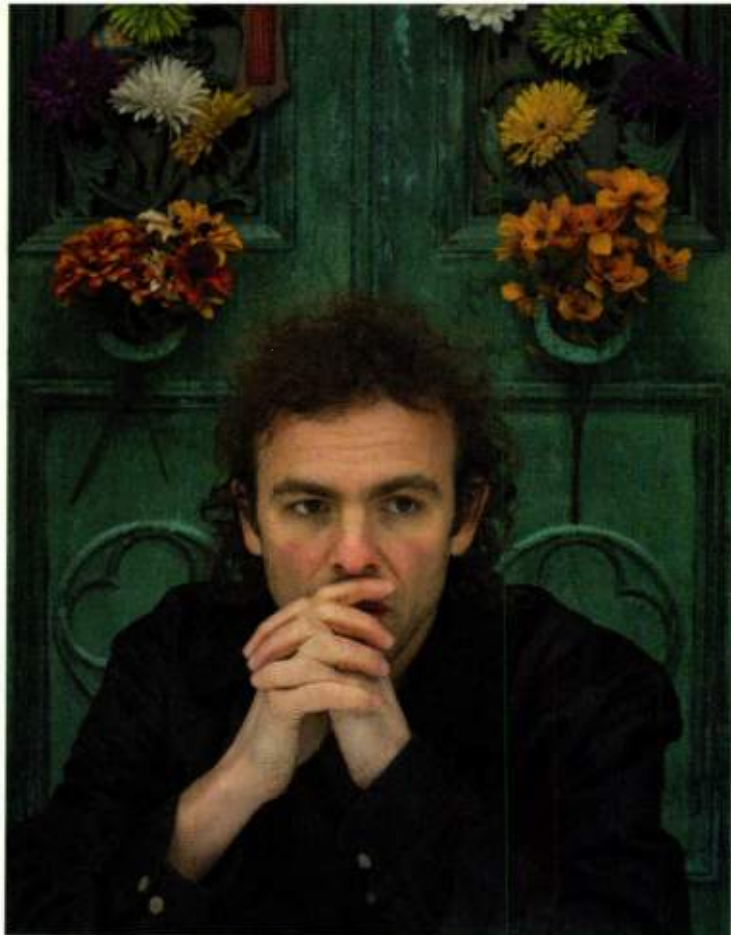


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“I love the way the control and tracking rooms sound now... and so does everyone that records here!” ~ Butch Walker

DREW HOLCOMB AND THE NEIGHBORS' 'MEDICINE'



"I feel like an old soul," Drew Holcomb sings in "Tightrope," off his latest album, *Medicine*. The song suggests a degree of world-weariness, but there's an energy to the dynamic, well-crafted folk-rock arrangements on this album, which was tracked and mixed in engineer/producer Joe Pisapia's home studio.

Holcomb sang and played guitar live with his band, in an iso booth situated over the control room. Pisapia captured Holcomb's voice with a Shure SM5 through a vintage Neve 3104 preamp and an 1176. "I worked on the last Ben Folds Five record, and Ben turned me onto the SM5," Pisapia says. "It's got a little more high-mid than an SM7.

"One thing I've definitely noticed is, if a singer sings and plays at the same time, they tend to be less self-conscious and self-analytical. They're embodying the performance as a person rather than as a singer or as a guitar player," Pisapia says. "I think capturing them doing both always adds. Even if it becomes a pain in the neck to sort out the frequency bleed, what we gain performance-wise is worth it."
—Barbara Schultz

KATE PIERSON VISITS WEREWOLF



Fabulous B-52 Kate Pierson releases her first solo album, *Guitars and Microphones*, this month. The legendary vocal powerhouse recorded in Werewolf Heart, the personal studio of L.A.-based engineer/musician Tim Anderson.

"Werewolf Heart is a hodgepodge of things I like," says Anderson. "I have one good-size live room and a control room, built into the ground floor of a nice little house in Whitley Heights. The studio flow is built around a computer, but we stick as many analog treats and tubes in there as we can.

"Kate had written all these great songs with different collaborators: Sia, Nick Valensi, Dallas Austin," Anderson continues. "The challenge was to create sonic consistency. I would usually begin by programming drums or having someone lay down a drum track. Then we began replaying or augmenting the key pieces."

Pierson's vocals were captured via a vintage Neumann M 49 microphone that the artist brought to the sessions. "Kate's voice is so iconic; I wanted to make sure we were capturing it as naturally and dynamically as possible—not too much processing or compression, especially on its way into the box," Anderson says. "We had the most success with two chains: For most of her leads we would run the M 49 through an API 512 into a Distressor for very light compression. For backgrounds, we mainly used a [Shure] SM7 or my favorite mic ever, the SM57, through an old Martech tube pre or an Ampex tube pre, through a TLM 100."—Barbara Schultz

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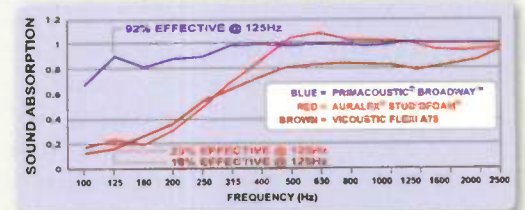
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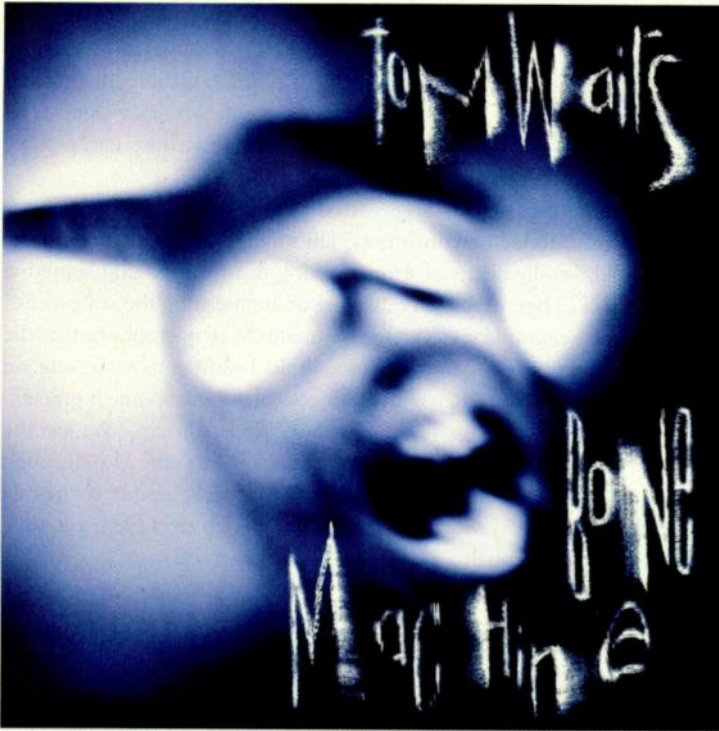
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World Radio History

Classic Tracks

By Barbara Schultz



"I DON'T WANNA GROW UP"

Tom Waits

Tom Waits has recorded more sonically adventurous songs than this, and he's made plenty of songs more affecting for their heartbreaking stories and terrible beauty. But maybe no Waits song has resonated with other musicians more than this relatively simple tune from his dark and gorgeous album *Bone Machine* (Island, 1992): "I Don't Wanna Grow Up."

At least for a moment, Waits apparently thought this relatively straightforward tune was too simple for the adventurous album he was making. In an audio account of the *Bone Machine* songs—called the "Operator's Manual"—that Waits released to the public after the album came out, he said:

"That's a song that you can sing in the car. Those are the best ones. They come fast. You hear it and you think to yourself, 'Yeah, I could write something like that. Does this guy make money? Anybody can write a song like that.' But those are the hardest ones to write. I was going to throw it out. I said, 'This is just silly.' Then Kathleen, my wife, said, 'No, keep it. Let's finish that.'"

Waits, along with his wife and constant collaborator Kathleen Brennan (co-writer and co-producer of the album), bass player Larry Taylor, and engineer Biff Dawes, recorded "I Don't Wanna Grow Up" during the *Bone Machine* sessions at Prairie Sun Recording, a multistudio facility built into a former chicken hatchery in rural Cotati, Calif. Waits' first dedicated studio album since *Frank's Wild Years* (1987), *Bone Machine* was the second project that he made at Prairie Sun; he'd recorded the soundtrack for the Jim Jarmusch film *Night on Earth* there the previous year.

"Tom moved to Sonoma County because he loves his privacy," observes Prairie Sun owner Mark "Mooka" Rennick. "He loves the rural vibe. I just happened to be here, a 15-minute drive away from his place."

Prairie Sun at that time also happened to have a storied Trident TSM console that came from A&M Studios, a new bevy of Neve mic pre's, an extensive mic collection, and—most important—atmosphere.

"Tom wasn't happy with the regular studio portions connected to the control room," Dawes recalls. "But we found another room that had been used as an office, with a high ceiling, a cement floor, redwood paneling, some old water heaters and metalwork in the corner. It was connected with tielines to the control room up the hill because there was also an echo chamber there. We were able to put preamps in that room, and we recorded everything in there."

"Sonically speaking, that room has a low-mid color with a very short decay time, so you can do acoustic guitar, acoustic bass, vocals, and you're not washing it out," Rennick says of the studio that forever after became known as the "Waits Room."

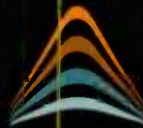
"Tom was learning more about the recording process at that time, because he and Kathleen had started producing all of his albums. And he was leaving no stone unturned. Every day was a sonic mission. He was always looking for new sounds, different ways to record things, using unconventional instruments," Dawes says.

"He had a menagerie of instruments at home and he'd bring various things to the studio. He'd beat on anything, if it sounded good we'd mike it and see if it could be used. We were always recording things in different places and from different distances in the room, to get natural ambient sounds."

"I Don't Wanna Grow Up" differs from other *Bone Machine* tracks in that it was not driven by the beat of found instruments, but rather by the rhythm of Taylor's upright bass and Waits' strumming guitar attack on a vintage Gretsch New York Guitar. The entire arrangement is simply guitar, bass and vocal. So the room sounds that Dawes captured serve the song on more than one level: Those near and far mics not only realize Waits' desire for complex, reverberant sounds, but they also help to seat the spare arrangement of "I Don't Wanna Grow Up" alongside other album tracks that have more unusual instrumentation. In a way, the room became the glue.

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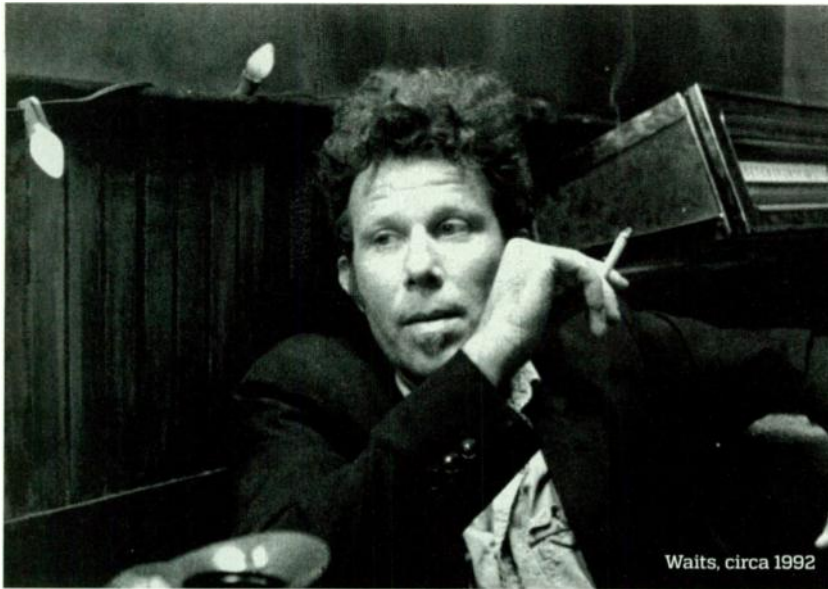
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the more distant mics from the room. Prairie Sun has a wide selection, so we used a lot of Neumanns: U 67s, U 87s, M 49s, that kind of thing.

“The same thing with Larry’s upright bass: I think I took an old Shure lavalier and wrapped foam around and put it in the bridge of his upright bass, and also used his pickup, plus a large-diaphragm condenser in front of him.

The album was recorded on a Studer A80 24-track machine, with Dolby SR selectively used on certain tracks. “Tom liked the ambient room sound and did not want to polish things during the mix with echo and digital reverb,” Dawes says. “He preferred it more natural, so on vocals, there was also a close mic and a far mic, something I’d seen Tom Dowd do years before. At times, we would use the distant mic only to make it sound bigger, but we could add various overtones using those different microphones.”

Rennick says that Waits used one main vocal mic pretty consistently at Prairie Sun: “He gave every vocal on one Neumann that we still own, an M 49,” Rennick says.

However, Dawes remembers switching things up more: “It depended on the song,” he says. “A ballad, we would have a nice warm condenser, and sometimes the louder pieces we might use a [Sennheiser MD] 421, a dynamic to cut through. There was no standard. On ‘I Don’t Wanna Grow Up,’ it probably would have been something like a 421 close

Dawes describes what he recalls about placing those mics in 1992: “Usually I would take Tom’s guitar direct and I would close mike his amp [either a Princeton Tweed or a Fender Deluxe Reverb],” he says. “Sometimes I would tape mics to the guitar, and then we would add in

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to him, but there also would have been a 67 or something like that, two or three feet away.

"Prairie Sun had a lot of good outboard equipment, too," the engineer continues. "Along with the Neve mic pre's, I would have also used an LA-2A or 1176 on his vocal."

Dawes says that, as Waits liked to define sounds during the recording phase, mixing was mainly about choices: combining the different instrument and ambient sounds they'd captured.

"Sometimes if we didn't have enough options during mixing, we would set up a speaker down in the recording room and feed a track back into there, and bring that back up into the console," Dawes says. He mixed about half of the *Bone Machine* tracks—to Ampex half-inch tape—before a family emergency pulled him off of the project. Then Tchad Blake, who had also worked with Waits in L.A., stepped in to finish the mixes on the Trident in Studio A. Playback was via the studio's UREI 813 mains, as well as Yamaha NS-10s and sometimes a pair of Genelec 1022As.

"I Don't Wanna Grow Up," one of the tracks Dawes mixed, certainly meant something to other artists as well as listeners. Every lyrical line is a gem, and though the song fits nicely on *Bone Machine*, it stands apart in its simplicity:

"I don't want my hair to fall out:
I don't wanna be a good boy scout
I don't wanna have to learn to count

I don't wanna have the biggest amount
I don't wanna grow up."

Since it released in 1992, this song has been covered by punks, rockers, divas, jazzers, and singer/songwriters. The Ramones, Holly Cole, Hayes Carll, Scarlett Johansson, Eddie Spaghetti, Petra Haden and Bill Frisell, Pretty Little Demons, Maren Coleman, and The Paviers all have recorded distinctive versions. Many other Waits songs have been reinterpreted, but "I Don't Wanna Grow Up" seems to have had an exceptionally full and productive life.

Today, Waits is, of course, still nursing and realizing his magnificent creations. His latest, *Bad as Me*, was his highest-charting album to date: Number One on the Independent Album chart, Number 2 on the Rock chart, and Number 5 among Digital Albums.

Dawes has continued working as an independent engineer, recording and mixing concerts for Westwood One for nearly 30 years, before during and after his tenure with Waits. Today, he is a mixer for broadcast TV and cable music specials. At press time he was about to begin a documentary project about slack key guitarist Gabby Pahinui; he also works off and on with the band Mini Mansions, of which his son Zachary is a member.

Mooka Rennick is still owner and president of Prairie Sun Recording, where an enticement just as great as the studio's equipment, or the beautiful weather and setting, is the opportunity to record in the Waits Room. ■



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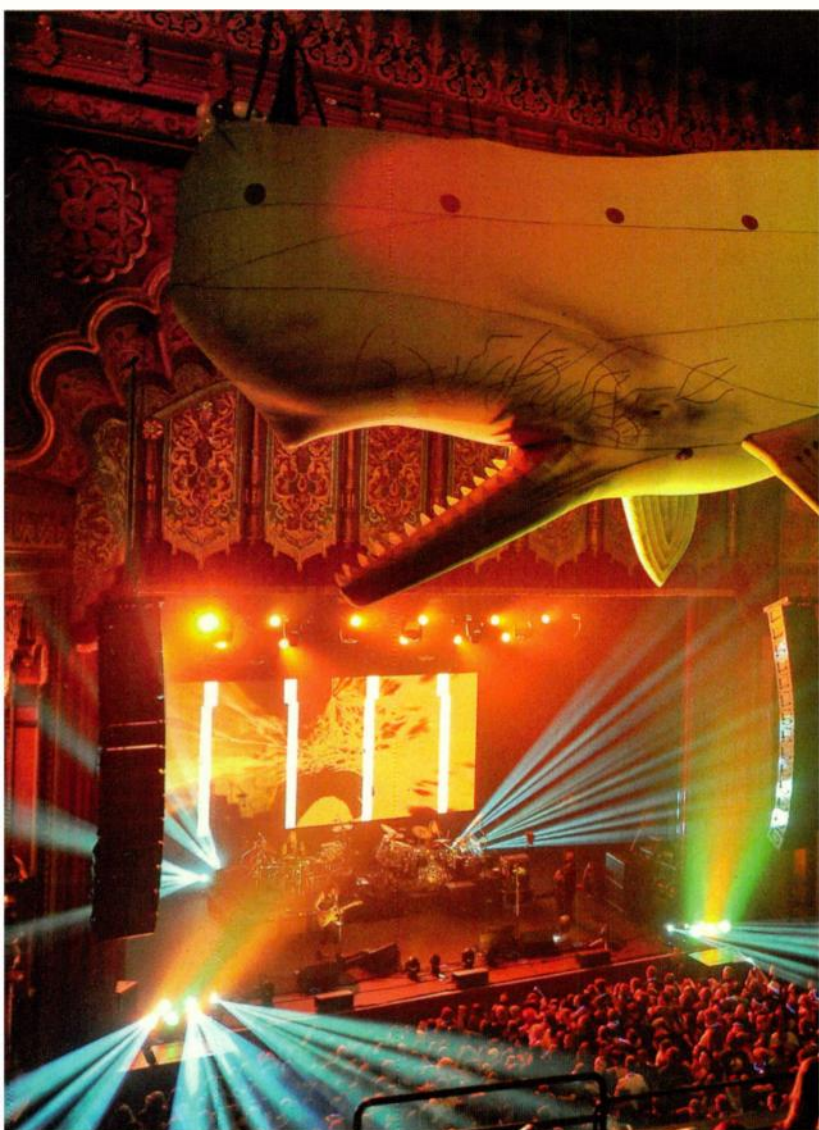
World Radio History

All Access

Photos and Text
By Steve Jennings



PRIMUS



Primus—Les Claypool, bass and vocals; Larry LaLonde, guitars; Tim “Herb” Alexander, drums and percussion; Danny Carey, drums and percussion—is always fun live. Mix caught the band at Oakland’s Fox Theater on New Year’s Eve, where they rung in 2015 with a 60-foot sperm whale hovering over the audience!

Primus has been with Pro Media/UltraSound for production since the beginning, and Pro Media/UltraSound is an all-Meyer Sound production house. For the theater, the band carries a Meyer Mica PA with 700HP subs. At the Fox in Oakland, Pro Media/UltraSound provided a Meyer Lyon array with 1100 subs. “Lyon just sounds awesome; it was the best I’ve ever heard the Fox,” says FOH engineer Jason Mills. “It was clear and punchy and many of the acoustical challenges of that venue seemed to just be easier to handle.”



“I’ve been using the Avid D Show Profile ever since I started mixing Primus about five years ago,” says **FOH engineer Jason Mills**. “Recent Primus albums were mixed in Pro Tools, and I’m able to use some of the same plug-ins used in the studio. I use the Avid onboard EQs and dynamics processing for all of my inputs. On my group outputs I use the Waves NLS Channel plug-ins, and on the main L/R output I use the Waves NLS Buss plug-in in an attempt to create a virtual 16x2

summing mixer. It has given the mix a bit of an analog feel that’s much more cost-effective than getting a Neve 5059 or similar analog outboard summing mixer. I also use the Waves API 550A and 550B EQ plug-ins on the group outputs as a ‘go-to’ EQ when something isn’t sounding right. The only outboard gear I’ve needed to use is an Apogee Big Ben Master Clock. I’ve found that externally clocking the Avid consoles provides an additional bit of clarity, mainly in the HF and VHF ranges.”

“I’m mixing on an Avid Profile with dual-stage rack setup to accommodate 75 inputs,” says **monitor engineer Tomasz Gajewski**. “I’m also utilizing three units of Avid’s PQ controllers. I mostly rely on onboard EQ and dynamics. Plug-ins I’m using are Parametric EQ for my wedges, sidefill subs and IEM mixes, Focusrite D2 parametric EQ on Les’ IEM mix, Impact compressor on PQ submixes of drums and kick drums, and Line 6 Echo Farm delay snapback on Les’ vocal mics.



“We have a package of Shure PSM1000 that I use for the band and PSM900 for the entire stage crew,” he continues. “Backline techs can monitor their artist’s mix. I tune my IEM with the help of Shure’s WWB6. I utilize scans from the PSM1000 and a simple RF Explorer device. I utilize a set of three Meyer MJF212 wedges as well as a dual 700HP sidefill sub. The speakers bring a nice low-end complement to the IEM audio and help to achieve a better full-range perception for the musicians on stage. Tim also uses a Thumper, as well as a set of active 3D ambient in-ear monitors from Sensaphonics.”



Bass tech Ryan Becker handles Claypool's rig, which comprises two API 7600 input modules, a Furman PL-Plus power conditioner and Shure UR4D+ dual wireless receiver. He has two Ampeg PR-410H bass cabinets. His footpedal gear comprises a Roland PK-5 Dynamic MIDI Pedal, two Line 6 boxes, MXR Bass EQ, MXR bass DI, Boss Chromatic Tuner, Boomerang Phase Sampler, Kork ToneWorks AX300B effects and a dbx 100A rack.



Claypool's favorite vocal mic combination is a Shure SM57 and Shure 520DX Green Bullet, which gives that "signature" Claypool vocal sound. "As we have switched from an all-wedge setup to a mixture of IEMs and wedges, we have swapped an SM57 to a KSM141 in a cardioid pattern, which delivers a bit cleaner and less midrange-y bleed of the venue sound while keeping the vocal crisp and present," says monitor engineer Gajewski.



Guitar tech Adrian Sanchez says LaLonde "uses three Orange Rockerverb '50s guitar amps on stage with Shure ribbon KSM313s on the two outer amps and a SM57 for the center amp, which we have in case we have a guest come on stage. We use the dull side of the 313 mics and it gives us a true flat image of the amp sound without any EQ, just a high-pass filter. Tilted up behind the Orange amps is a Fractal Axe FX 2."



Tim Solyan, drum tech for Tim "Herb" Alexander



Arron Harris, drum tech for Danny Carey



"Tim's kit has three kick drums, a common practice for him. What is not very common is that we are using SM57s," says monitor engineer Gajewski. "On one kick we use a combination of an SM57 and an SM7 at the beater head pointed at the center for attack and to get as much sustain and a boom factor. For snare we use a Beta98 AMP, both hi-hats a SM81, toms and Octobans have B98 AMP. With perfect tuning of the drums we never need to resort to any gates and the EQ is minimal. Rototoms and big gong drums are miked with SM57s, for overheads and percussive toys we use KSM 137s. Similar to Tim's set, Danny's kit is miked with a compliment of Shure microphones."



Guitarist Larry LaLonde

PAPA ROACH

Raw, Intense Energy Delivered With Precise Balance

By Matt Gallagher



Papa Roach's lead singer and co-founder, Jacoby Shaddix, leads the band through a blistering set at Philadelphia's Electric Factory in January 2015.

Photo by Todd Berkowitz

At press time, hardcore rock quartet Papa Roach (Jacoby Shaddix, lead vocalist; Jerry Horton, guitar; Tobin Esperance, bass; and Tony Palermo, drums) was amidst a month-long U.S. tour of mid-sized venues, co-headlining with Seether, which concludes on February 7 in Las Vegas at The Joint. The band and audio crew will then visit Australia and New Zealand in February and March, and then Europe on March 8.

The band's energetic set list packs fan favorites from its recorded catalog, and includes two songs from its eighth release, *F.E.A.R.*, due out on January 27. *Mix* caught Papa Roach's January 13 performance in Philadelphia at the Electric Factory.

Front-of-house engineer Eddie Mapp says he joined this current tour "in mid-September [2014] for a few rehearsal days as well as a few U.S. radio festivals before heading overseas for a month-long run, which covered parts of Europe, Scandinavia, Russia and Japan.

"Seether is also sharing our consoles at FOH and monitors, with the same basic setup, and the first two acts are on locally provided desks, which nowadays are all pretty much great quality consoles," Mapp continues. "For this first run we're pretty much self-contained, since we're

using house equipment. The band owns their in-ears and wireless rack, [monitor engineer] Mike [Lowe] and I each own our desks, plus we are carrying mics from Audio-Technica [for vocals], sE Electronics [drums], and Audix [kick drum and toms]."

Mapp says that the bands on this tour are relying on locally provided P.A. systems, but that Papa Roach is carrying "Jacoby's personal d&b M2 wedges and two QSC KW181 [18-inch] subs for the drums. I like to approach each group that I work with in its own unique way to make everything as efficient and compact as possible without sacrificing quality. Before starting this tour I spoke with Mike for a few months, planning and ordering everything necessary to make this setup work.

"At FOH I have a Midas PRO2C and there's a PRO1 in monitors, which is all networked together to give us a nice and efficient setup," Mapp says. "All the inputs onstage are patched to a [Midas] DL151 [24-input stagebox with Midas mic pre-amps and dual-redundant AES50 networking], then sent via Cat-5e lines to the monitor desk, acting as the master console, where the rest of the inputs terminate to and are then sent down two additional Cat-5e lines to the FOH, which shares analog gain but has digital gain control."

At a Papa Roach show, Shaddix's vocals are of primary importance. Shaddix sings into an Audio Technica AE6100 into an AEW-5200 receiver, which patches directly into the Pro 1 monitor console. "On Jerry and Tobin's vocals we are using AE6100 wireless mics as well, though the line output of each unit is patched in to a Rupert Neve Designs 5045 primary source enhancer, which essentially removes a few dB of ambient signal from the microphones," Mapp says.

Mapp begins to build the mix each night with "all of the vocals, then [I] move onto the drum kit starting with cymbals, hi-hat and ride. This allows me to make sure that the system is capable of delivering highly intelligible vocals over top of the rest of the instruments coming off of the stage. After that I want to make sure that the bleed from any open microphones complement each other [in terms of] phasing, frequency and level. After that comes drums, bass and guitar.

"Papa Roach's live shows are intense and full of energy, which is what I try to convey to the audience in the most consistent and coherent way possible," Mapp says. "I like a powerful mix with good separation of each instrument that doesn't hurt in the upper midrange. I tend to keep my mix at a decent level to give plenty of room for vocals and to allow headroom in the event that I need to push certain instruments so that they cut through tough acoustic spaces. Also I believe that each instrument is equally important and each input on the desk should count!"

Monitor engineer Lowe began with Papa Roach in April 2013 for The Connection tour. "Eddie and I discuss and walk through all audio decisions as a team, so we make choices that are best for both ends of the snake," Lowe says. "The PRO1 serves as the master console controlling all analog head amps from our Midas 151 split box, with a 152 output box for giving a record split to an outside broadcast recording. In monitor world we are using Sennheiser G3 wireless for ears, and all band members are on JH Audio 13s or 16s. The fact that we are all on ears helps us work together, because I can keep the stage volume at a minimum to try to help Eddie as much as possible with his mix." ■



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On the Cover

By Candace Horgan // Photos by Mike Pappas

BEETHOVEN'S NINTH IN 5.1

LESLIE ANN JONES, WOLFGANG FRAISSINET, MIKE PAPPAS AND A LOT OF DIGITAL MICS

In a challenging cultural landscape in which some symphonies have closed their doors and others have had to file for bankruptcy protection, the Colorado Symphony Orchestra, which rose from the ashes of the Denver Symphony when it closed in 1989, might point a way forward for others to emulate.

In 2014 alone, the CSO played at the Telluride Bluegrass Festival with Béla Fleck and played at Red Rocks twice, backing DeVotchKa and Pretty Lights, respectively. The CSO has also streamed audio in 5.1 at 128 kbps AAC+, and is looking at ways to video stream its performances.

While the CSO has traveled new avenues, it still performs the masterworks. In September

2014, the CSO, with Andrew Litton as conductor, recorded Beethoven's Symphony No. 9 in 5.1 for a planned release on Blu-ray Audio in spring 2015. The project got its genesis from a conversation between Mike Pappas, who often records the CSO and serves on its board, and Wolfgang Fraissinet, the president of Neumann in Berlin. According to Litton, it was Fraissinet who suggested the Ninth.

"It was Neumann who chose to record our Beethoven 9," Litton says. "They thought its huge dynamic range, visceral impact and brilliance would be a perfect demonstration of the excellence of their microphones. I had already programmed the Beethoven to open the season when they came along, so it was a happy confluence that brought us together."

For producers, Pappas tapped Fraissinet and Leslie Ann Jones.

"Wolfgang was the real driver behind the recording project and wanted to co-produce it," Pappas says. "He is a classically trained pianist who has a great ear, and the Beethoven was perfect for him. We needed a co-producer that could work well with Wolfgang, and on the top of that list was Leslie Ann Jones, who is the director of music recording and scoring at Skywalker Sound. Neumann Berlin had done several projects at Skywalker over the years, and Wolfgang had really enjoyed working with Leslie. My ulterior motive was to have a set of producers who understood the CSO's desire to reach younger audiences.

"About 70 percent of people's exposure



The Colorado Symphony Orchestra performing Beethoven's Ninth, conducted by Andrew Litton.

to orchestral music is in movie theaters and video games, so they are going to be expecting something that sounds like a video game or film score, so you really want to have a set of producers that has a lot of that background," he continues.

"I called Leslie Ann Jones up and asked if she would be interested in doing Beethoven's Ninth and the Choral Fantasy as the co-producer with Wolfgang. I thought she would bring a different perspective to the project and work well with Wolfgang. As part of this, I focused on both a conventional stereo mix and a 5.1, because frankly, the future is in surround, and when you start looking at the penetration of home theaters, a large swath of America has home theaters."

PRE-PRODUCTION AND SETUP

The recording was made in 24/96. Pappas' existing recording console records at 48, so Fraissinet arranged with Stagetec to provide an Aurus Console from Germany that came with built-in AES42 support. Stagetec's Alexander Nemes also came out to help New York City engineer Duke Markos learn the desk.

"It's a very intuitive console that is laid out very much like an analog console, but because it's a digital console, it's extremely flexible and you have a lot of routing options," said Markos. "We were very lucky to have Alex Nemes from Stagetec, who helped set it up and helped us work our way through the console. By the end of the project, I think I had a pretty good handle on it."

Jones also liked the console, saying, "I had no previous experience with it, but I did find in my limited use that it was quite intuitive and certainly very flexible in terms of all the things that you can do with it. I was really quite amazed that in three days, Duke could handle it quite well. Once we got to the performances, anything I asked for in terms of what I wanted to hear or how I wanted to group things, we got worked out."

The addition of the Stagetec console opened up new possibilities, and Pappas and Markos started looking at what else they could use the recording project for. To do the recording justice, the group decided on 66 inputs total, mostly with Neumann digital microphones, but also some Sennheiser digital microphones and Neumann analog mics.



The control room, for recording; Robby Scharf, Wolfgang Fraissinet, Leslie Ann Jones, Miko Pappas, and Duke Marcos at the Stageteq Aurus console (in foreground).



A close-up on the triple-mic setup: Sennheiser MKH 8020 with MZD8000, Neumann KM183D and KM133D

a tendency to go everywhere, and that means there is no real low-frequency texture. Those get a KM 133 D. In fact, we had a triplet in there, a KM 133 D and a KM 183 digital mic, and a Sennheiser MKH 8020 digital mic.

"We also had highlight microphones on the oboe and the principle flute. We put a couple of mics into the French horn section and brass. Additionally, we have the vocalists at front of the stage and they are way past the main array, so we used Neumann KMR 82 analog and KMR 82 D digital shotgun mics on them. Most all of those mics were in the mix at -10 dB to -22 dB or so. You don't need much. It's like adding cayenne pepper to a meal; a little goes a long way, and a lot gets you into trouble.

"Because of the reverb time in the hall, you need some highlight mics on the percussion section just to get a little transient snap. We used a stereo pair of KM 133s over the timpani section. Usually for normal work, I just put a single KM 133 D over the center of it, but Leslie wanted to do a left and right and get them in low. I have to tell you, I really like the sound of it. It was really nice, and was one of the things we stole from her and are doing for the rest of our symphony sessions."

Fraissinet, Jones and Markos recorded the rehearsal sessions over the three days leading up the first actual live performance in case the producers needed to substitute things in for parts of the actual performance. Jones and Litton also had listening sessions each afternoon to go over aspects of the rehearsals, which was amazing to see, according to Pappas.

"Andrew would come in every day and do a minimum hour-long listening session of the previous rehearsal," said Pappas. "He would listen with scores out and make copious notes of areas to fix. He spent one whole rehearsal working with the woodwind section and getting the intonation perfect.

"The way we miked this all, using the digital microphones, there's so much resolution, there's no place to hide. Everything has to be perfect, and Leslie was a monster about, 'That note's wrong, this has to get changed, the intonation sags here, this went ba-bump when it's supposed to go bump.' [She was also] working with Andrew, who was on top of his game in terms of getting it and writing his notes down, then working with the orchestra to make sure it was perfect, and the orchestra rose to the occasion. The orchestra wants to survive in the 21st century, and the only way to do that is to

have the absolute best product you can."

For their part, both Litton and Jones found working together to be an enjoyable and rewarding experience.

"It was great to get to know her," said Litton. "We had a meal or two together first before we really got into the project, and that helps to build the trust that is essential between conductor and producer. You literally have to be on the same wavelength and there has to be a bond of trust. We established that immediately, and the work side of the project was a total pleasure as a result."

Added Jones, "The conductor is really in control of everything. Andrew brings everything to the table, the performance, how he conducts, what

Continued on p. 43

cardioids at 16 kHz. We use that to our advantage because we aim them into the orchestra to bring out presence without having to resort to using cardioids. The advantage of omnis is the spectacular low-frequency performance and transient response. We've got those relatively low at nine feet. We'd like to have them higher, but the problem is the room starts to get in the way of doing that.

"We put highlight mics on the first violin section, first desk, second desk, and third desk for this project. It's the same thing with second violins, second desk, third desk. Violas have first desk and second desk. We did first and second desks of the celli. We always mike the basses because the room is a theater in the round, so there is nothing in the bass section to throw low frequencies anywhere you can use them. They have



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Mastering Solutions

FIXES FOR FLAWED MIXES

BY MICHAEL COOPER

Mastering offers the last chance to get all elements of a production perfected before it's released to the world. Of all the tasks entailed therein, fixing problems with the underlying music mixes—spectral, amplitude and channel imbalances; issues with dynamic range, ambience, azimuth, noise and so on—is paramount.

To fix those problems, you need to be able to hear them in the first place. Mastering requires a flat room, accurate monitoring chain and great pair of ears. Less tangible but equally important is the mastering engineer's ability to objectively assess what needs to be done—keeping the artist's vision foremost in mind—and make the changes while leaving minimal trace of their hand on the project. First, do no harm.

This month, *Mix* takes a look at some of the most intractable problems with stereo music mixes and their mastering fixes. For clarity and facility's sake, we'll detail solutions using leading mastering plugins. While many of the same principles and techniques can be applied using the high-end, custom-built analog gear exclusive to marquee mastering houses, for this piece it's more illustrative to show GUIs for tools readily available to all mastering engineers.

Of course, the big challenge with mastering is how to unbake the cake. When all the ingredients have already been mixed together and cooked into a composite whole, how do you reduce the salt and add more



Fig. 1: FabFilter Pro-MB enhances the beater slap on kick drum in a stereo mix.

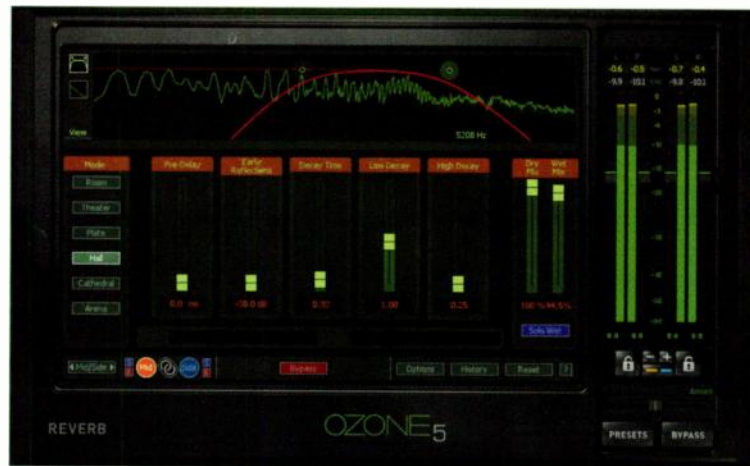


Fig. 2: iZotope Ozone 5 Advanced's Mastering Reverb adds subtle ambience to the lead vocal in a mix's mid channel.

sugar? In many cases, the solution lies in mid-side processing. That's exactly what we'll use to address our first challenge: fixing a mix's weak foundation.

NO CLICK TO THE KICK

Problem: You're mastering an EDM track that sounds great, with one exception: The kick drum's beater slaps sound too dull. The drum is plenty loud, and it has the perfect amount of bottom end. But its mushy attack is keeping it from popping the way it should on this uptempo track. How do you make the kick hits sound brighter without hyping other elements of the mix?

Clearly the solution lies in processing the mid channel, where the kick drum lives. But simply goosing high frequencies in the mid channel won't work; while it would brighten the kick's beater slaps, it would also make the lead vocal, snare drum and bass guitar sound more present—something this mix definitely does not need.

Solution: The fix is to apply high-frequency EQ boost to the mid channel only during

the attack portion of each kick drum hit, quickly nulling the filter at all other times. For this you need a multiband upward expander with highly flexible sidechain filtering, like the FabFilter Pro-MB plug-in provides (see Fig. 1).

Click in Pro-MB's display to create a bell-curve filter at roughly 3.6 kHz. Move the lower crossover frequency to roughly 2.1 kHz and the

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upper crossover to around 6.2 kHz. Steepen the filter's slope at both crossover points to diminish its influence outside the crossover points. Select Pro-MB's Dynamic Phase or Linear Phase mode to minimize phase distortion at the crossover frequencies (a potential liability when fashioning steep slopes). Select the sidechain's internal filter for the sidechain input.

Make the 3.6kHz filter act on and be triggered solely by the mid channel: Click on Pro-MB's Stereo Link Mode button, select Mid in the dropdown menu, and drag the Stereo Link slider all the way to the right.

Next, put Pro-MB into Expand mode and set its range knob to a positive value to enable upward expansion. (A negative value would create downward expansion.) Depending on where you position the threshold knob, you may need to set the range knob as high as +10 dB and the ratio to 100:1 in order to get as much as 3 dB of boost on kick hits.

You want the high-frequency boost to happen as fast as possible and quickly return to 0 dB. To wit, set the attack and release controls fully counter-clockwise (their fastest settings). A look-ahead setting of 1 ms should suffice to make the filter act on the leading edge of each kick drum hit.

With the threshold set low enough, Pro-MB's 3.6kHz filter should provide high-frequency boost on every kick drum hit. Problem is, it will also boost when the vocal, bass guitar and snare drum exceed the expander's threshold. We're going to fix that.

Setting the sidechain filtering mode for your 3.6kHz filter to Free, a slider appears in Pro-MB's frequency display. Drag the slider's left handle all the way to the left, to 30 Hz, and the right handle to 80 Hz. The filter's detector will be triggered only by signals in the 30-80Hz range: the bass guitar and the low-frequency thump of each kick drum hit. The vocals and snare drum will be virtually completely removed from the sidechain signal (enough so that their signal levels will be far below threshold). Set the filter's threshold control to be lower than the level of kick hits but higher than the bass guitar's. The kick drum should now pop nicely, while leaving the rest of the mix untouched. Mission accomplished.

DRY MOUTH

Problem: You're mastering a country album for an indie label. The A&R rep doesn't like how the lead vocal was mixed on one particular song; it's bone-dry, and he'd like it to have a little ambience. The project is over budget and has no money for remixing the cut, so it's up to you to add ambience to the lead vocal track without audibly affecting the rest of the mix.

Simply goosing the side channel won't work, for two reasons. First, raising the side channel would decrease the contribution of the mid channel to the mix, lowering the relative levels of the lead vocal, kick, snare and bass—all of which sound balanced as is and should not be messed with. Second, there's no side information on the lead vocal to



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begin with, so raising the side channel would only increase the ambience for cymbals, keys and double-tracked, hard-panned guitars. There's no getting around it, you're going to have to add reverb to the track. But how can you add reverb to the vocal without affecting everything else?

Solution: Instantiate iZotope Ozone 5 Advanced Mastering Reverb plug-in (see Fig. 2) on the track and select the impulse response that sounds best for the vocal. (Note: The Mastering Reverb plug-in is not available in the new Ozone 6, so hang on to your legacy Version 5 if and when you upgrade!) The darker-sounding Hall reverb is least intrusive and often a good choice. A 0.32-second decay time will be just long enough to sprinkle some fairy dust on the vocal without radically changing the mix.

Place the plug-in in mid-side mode and send it to the mid channel. The cymbals and other side-channel content will not be processed, but we're still going to have to weed out the mid channel's kick, bass and snare from the reverb's output. Click on the bandpass-filter icon in the upper-left corner of the plug-in's GUI. Drag the two nodes in the Mini-Spectrum Window (top-center of the GUI) toward each other to create a bandpass filter with corner frequencies at roughly 1 and 5.2 kHz. Virtually all of the kick and bass will be filtered out, leaving only the snare drum's high frequencies to contend with. Plunge the Early Reflections slider to subdue ERs and preclude snare hits from producing audible discrete echoes. Also drag the High Decay slider to its lowest setting

to apply heavy high-frequency damping to the 'verb. Unless the snare drum was extremely loud and bright in the mix to begin with, it should now be almost or entirely inaudible in the reverb's output, especially when masked by the vocal.

The final tweak is to adjust Mastering Reverb's wet-mix fader to taste: A setting of 85 to 95 percent usually does the trick when using a short, highly damped 'verb. The vocal will be blessed with subtle, short-lived ambience, while the rest of the track will sound virtually untouched.

STAR BRIGHT

Problem: The singer sounds great on the rock track you're mastering, until the chorus hits and she soars into the top of her vocal range. During the hook, she sounds like a shrill banshee—considerably louder and brighter than the electric guitars and drums. How do you tame the ear-splitting vocals without dulling the entire mix?

Solution: We're going to compress select high frequencies at the top of the singer's range, which means another trip to the mid channel. A mid-side dynamic equalizer such as Brainworx bx_dynEQ (see Fig. 3) will get the job done nicely. Key to our approach will be to use a filter in the sidechain and carefully chosen attack and release times that will leave all other elements of the mix untouched.

Set dynEQ to mid-side mode, and bypass the side channel. From here on, all dynEQ controls I mention will refer only to the mid chan-



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— Vance Powell,

Grammy Award-Winning Chief Engineer, Blackbird Studios



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nel's control set.

Toggle dynEQ's boost/cut switch to the cut position to enable downward compression, and select the internal sidechain filter for the sidechain input. Solo the sidechain while adjusting its built-in filter's shape and bandwidth to home in on the most offending vocal frequencies and weed out unwanted triggers such as the kick drum and bass guitar; a narrow bandpass filter centered somewhere between 1 and 3 kHz often does the trick. Exit the sidechain's solo mode. Next, solo the audio path's filter while adjusting its filter type and bandwidth as well as the plug-in's threshold control; you'll know you've got those controls set properly when you're hearing audio only during the vocal's offending peaks.

With the audio path's filter still soloed, increase the attack time to weed out snare hits; you want dynEQ to preserve transients by reacting only after they've already passed. Increase the release time if the filter's action lasts too briefly to quell sustained vocals (long-held vowels) that offend. Just be aware that if the release time is set too long, any instruments overlapping the vocal's "banshee band"—for example, snare hits and any guitars in the mid channel—will also be softened before the compressor releases its action. Once you've fine-tuned the attack, release, threshold and filter parameters, exit solo mode.

Adjust dynEQ's max gain (range) and factor (gain multiplier) controls to attain the proper amount of gain reduction during vocal peaks—in most cases, 2 dB of gain reduction will get the job done without causing audible modulation in the processed band. (The faster your attack and release times, the less gain reduction you can get away with without calling attention to the processing.) With all controls set properly, the vocal will sound much smoother during the song's choruses, and all other elements of the mix will sound virtually untouched. Bye-bye banshee.

ALL ABOUT THE BASS

Problem: A track you're mastering sounds terribly thin on account of the bass guitar being mixed too low. The soprano female vocal doesn't help. You can't simply boost bass EQ on the master's mid channel, however, because the kick drum already has a huge bottom. How do you beef up the bass guitar without blowing up the kick drum?

Solution: Once again, we need to use a mid-side multiband com-



Fig. 3: Brainworx bx_dynEQ takes the edge off lead vocals during choruses. The section of the GUI for the side channel (which is bypassed) here for clarity's sake.



Fig. 4: FabFilter Pro-MB boosts the bottom end on bass guitar without affecting the kick drum.

pressor with sidechain filtering. Equally important, our compressor must offer lookahead detection and a range control. The most capable plugin for the job is FabFilter Pro-MB (see Fig. 4). Create a filter centered at roughly 80 Hz to boost the bottom end, and adjust the crossover frequencies and filter slopes to extend the bandwidth from roughly 40 to 250 Hz. Because we'll be processing using steep slopes in the bass band, we'll want to use Pro-MB's Dynamic Phase filter to avoid any pre-ringing that a linear-phase filter would otherwise produce. Assign the 80Hz filter to—and key its sidechain with—the mid channel. Select the internal sidechain filter for sidechain input, and activate Free mode so you can restrict the sidechain filter's bandwidth to 30-80 Hz; the narrow bandwidth will remove everything but the kick drum and bass guitar from the sidechain.

Boost the output of the bass filter in the audio path 6 dB. Drag the filter's pan ring counter-clockwise to the "Mid 0 dB, Side -6 dB" position to prevent the filter boosting 6 dB in the side channel. (Only the mid channel will be boosted.) Set Pro-MB to Compress mode and the range control to -6 dB. Set the attack and release controls for their fastest response and the ratio to 100:1, with a hard knee. Use at least 1 ms of lookahead detection. Then lower the threshold below the level of kick drum hits.

With this setup, bass frequencies will be boosted 6 dB in the mid channel at all times—except when kick drum hits occur, at which times the sky-high compression ratio will plunge the filter's response to exactly 0 dB (nulled) on account of your -6dB range-control setting. Fine-tune the filter's output control—and adjust the range and pan-ring controls in inversely proportional measure to it—as needed to attain the perfect amount of boost for the bass guitar. If the kick drum's sustain also sounds boosted, increase the filter's release time. And if the female vocal sounds too bass-y, drag the filter's high crossover point lower or steepen the slope to limit the filter's extension into her lower range. With all controls set properly, the bass guitar's bottom end will be greatly enhanced and the rest of the mix virtually untouched. It's a wrap. ■

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Continued from p. 36

he wants in terms of the particular recording, etc. Beethoven's Ninth has been recorded umpteen times, but I really felt that he added a lot of emotion to his interpretation of the work, and really brought that out in the orchestra."

The recordings were made on two separate systems, and the output connectors had Pappas scrambling at the last minute to make everything work.

"We had two different recorders. Blair Ashby ran Pyramix, and then we ran a full Logic 10 system using the new RME USB 3.0 input box," said Pappas. "Not only did you need to record all the mics, you needed a scratch 5.1 mix and a stereo mix. The new RME wanted a smattering of coax and optical, and we ran everything MAD1, so one of our last-minute crises when everything showed up is that we didn't have the right optical adapters between the Stagetec interface box and the RME box. I was calling the telco division of Graybar and running over about two hours before we needed to record to get the right optical adapters to make it all work."

Jones adds, "Once we settled on the number of microphones, the sample rate, and using MAD1, the best recorder solution was Pyramix. Blair was terrific to work with. He spec'd the system with help from Dennis Gaines and Merging Technologies and was the recordist. It was also the best for post-production, as my editor Mark Willsher uses Pyramix.

In the months after the recording, all four have listened to the raw mixes and been happy with what they've heard. A couple of weeks after the sessions, Pappas took raw stereo mixes down to the Rocky Mountain

Audio Show and played them in the Jeff Rowland Design demo room, and says the listeners were amazed. In part, that is reflective of Pappas' hopes to get recordings that are the audio equivalent of HDTV.

"Back when I started recording the Symphony in 2004, I'd do this with eight or nine microphones, M 150s in a typical Decca tree setup, with M 149s as flankers set on omni, and away we went. It was that big, diffuse London Decca recording sound, Zubin Mehta conducts the L.A. Philharmonic kind of a thing. About five or six years ago, I woke up with the horrible realization that people don't listen to music that way anymore. Certainly with the widespread adoption of home theaters, your recordings better sound like a film score, and they better sound as good as a film score, and if it's not, people are going to be like, 'What is this?'"

"So, I sold my M 150s, sold my M 149s and started a transition to using digital microphones, then started using more of them, and started to work on texture. How do the string textures sound? What do the woodwind textures sound like? Now we can start hearing that. I want that texture. I want it to be like watching high definition television. You watch golf on HDTV and you see every blade of grass; I want you to hear every string in the orchestra, hear every flute, every harp, every part of it. We have 80 musicians on stage; if you add up all the years they've been playing, it's centuries of experience. I don't want a single one of those people, who spent decades honing their craft, to get lost in my recording. I want every one of them to be presented to their fullest ability." ■

HV-32P HV-35P The portables*



Packed into rugged aluminum chassis and powered from 12-15 VDC so they can go anywhere, Millennia's new portable preamps bring you the clarity of the acclaimed HV-3 in two flavors: the dual-channel HV-32P, with two 200 Series HV-32 preamps on board, and the HV-35P, a portable version of our 500 Series HV-35 preamp.

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READY TO RECORD

MULTICHANNEL AUDIO INTERFACES WITH PREAMPS

BY THE MIX EDITORS

The audio interface market has been hot for a couple of years now, and it makes sense.

When speeds and connections change in the computer industry, new products emerge in the audio industry. Nowhere is that more evident than on the front end, where there more than a few options to get audio into a recording system.

The range and features on audio interfaces today fit everyone's need, from a beginning songwriter with two channels and no effects, to a multiroom facility with high-end units that incorporate built-in mixers, high-res converters and word clock in and out.

Here we take a look at a few recent 8-plus-channel units that include preamps. We've limited the selection to the past couple of years—that means there are plenty of quality units from the likes of Mackie, Tascam, Roland and others that you won't find here. But if you are in the process of buying, you should check everything out.



ANTELOPE AUDIO ZEN STUDIO

Antelope Audio's Zen Studio is a professional, portable audio interface with best-in-class analog and digital connectivity. The 12 world-class mic pre's, Antelope's signature clocking, the on-board DSP effects with multiple monitor mixers and the proprietary low-latency USB connectivity make Zen a world-class mobile recording system that can fit easily inside a backpack or gear bag. Zen Studio is designed to meet the needs of the modern day producer or engineer on-the-go,

as well as location sound engineers, sound designers, independent bands and musicians in search of greater sound quality and flexibility.



APOGEE SYMPHONY I/O 8X8+8MP SYSTEM

The biggest and baddest in the acclaimed Symphony line from Apogee, Symphony I/O 8x8+8MP (with Thunderbolt connectivity; Thunderbolt Bridge separate) provides up to 64 input and output channels via Maestro over USB. Features include: eight balanced analog inputs on a D-Sub 25-pin connector; eight AES/EBU digital ins on a 25-pin D-Sub; eight channels of ADAT on Toslink connector; eight channels SMUX on two Toslinks; two channels of SPDIF (Toslink) and another two on co-ax; four Hi-Z ¼-inch instrument inputs; eight balanced analog outs and eight digital, both over DSUB; the same digital outs as ins; eight built-in digitally controlled mic preamps; and selectable 48V phantom power, Soft Limit and phase invert.



BEHRINGER U-PHORIA UMC1820

The Behringer U-PHORIA UMC1820 USB 2 audio interface, introduced at NAMM 2014, packs a lot of power for the money (about \$200): 18 inputs and 10 outputs, MIDI I/O, eight Midas-designed mic pres (an additional eight via ADAT) and high-resolution 24-bit/96kHz converters. TRS, RCA, and XLR outputs for analog playback, and support for S/PDIF, ADAT, and S/MUX digital

formats. Includes 48-volt phantom power, dual headphone outputs with separate level controls and monitor A/B source select for DJ-style cueing.



FOCUSRITE SCARLETT 18I20

The Focusrite Scarlett 18i20 is a 1U, USB 2 audio interface with 18 inputs and up to 20 outputs, and the same eight preamps and front panel controls as the Focusrite Saffire Pro 40 FireWire/Thunderbolt interface. It has MIDI in/out jacks, 24-bit/96kHz AD/DA converter chipsets, and works with any DAW by way of the included Scarlett MixControl software Version 1.3. There are eight Neutrik XLR Combo input jacks, plus TRS balanced and TS unbalanced line-level ¼-inch inputs and eight ADAT available. The back panel's 20 outputs include two balanced TRS/TS analog main L/R monitor line outputs, eight more balanced analog TRS/TS outputs, an S/PDIF stereo out and ADAT Lightpipe for eight more digital outs. At sample rates 88.1/96 kHz, ADAT ins/outs are halved at four each.



M AUDIO M-TRACK EIGHT

This single-rackspace, eight-input USB 2 audio interface includes eight combo XLR+¼-inch inputs, with phantom power switch, and inputs on the front panel that can be switched to instrument-level signals. Each input channel is equipped with Octane Preamp Technology, or line-input circuitry allows for external preamps.

Performance Starts Here

The Audix i5 is a microphone of incredible range. The i5's wide frequency response (between 50Hz-16kHz) and ability to handle high sound pressure levels (140 dB) without distortion makes it an ideal mic for guitar cabs, percussion, brass instruments, voice and more. Sturdy, compact and easy to position, you can count on the Audix i5 to be your go-to mic.



i5

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Two headphone outputs, located on the front panel, have their own level and selectable-source controls for creating custom headphone mixes.



MOTU 8M

This 24-in/24-out Hybrid Thunderbolt/USB 2 Audio Interface with eight mic pre's includes V-Limit Clipping Protection, eight TRS outputs, ADAT and S/PDIF digital I/O, AVB Ethernet compatibility, and 48-channel DSP mixer. Each of the combo inputs accommodates balanced line-level and unbalanced instrument-level signal, with an additional 16 channels of I/O via ADAT optical ports. The Thunderbolt connection assures near-zero-latency monitoring. The digital mixer supports up to 48 inputs (via AVB expansion) and 12 stereo buses, for flexible routing schemes, studio or live, independent of the host computer.



of-the-art clock technology in a dedicated unit compatible with both Windows and MAC OS X. Once configured with a computer, Atlas can also operate stand-alone using its ADAT, S/PDIF or AES3 I/O. I/O includes 8x combo connectors with XLR sockets for mic input and 6.3mm TRS jack sockets for line input (balanced or unbalanced), 8x 6.3mm TRS jack sockets (balanced or unbalanced) plus Toslink, MIDI, word clock, Ethernet and USB I/O.



RME FIREFACE 802

The successor to the Fireface 800, the Fireface 802 offers up to 60 channels of audio including eight line inputs, four line-level mic/instrument inputs, and operation up to 192 kHz. Other features include ultra-low latency operation with USB or FireWire, active jitter suppression, individually switchable reference levels for all inputs and outputs, full stand-alone functionality, RME's unique DIGICheck metering and analysis toolbox, and identical operation on Windows PC and Mac.

PRESONUS AUDIOBOX 1818VSL

It's about two years old now, but the Audio-Box 1818VSL broke ground on its debut with its feature/price ratio. The company's flagship single-rackspace USB 2 audio/MIDI interface is pro in every respect, down to its high-end 24/96 converters, eight Class-A XMAX preamps and word clock output. I/O includes two front-panel mic/instrument combo XLR-1/4-inch, six mic/line XLR-1/4-inch combos, two balanced 1/4-inch line outs, eight balanced aux outs, and eight channels of ADAT optical I/O, with two channels SPDIF and headphone out. Also, true 48V phantom power. The power is in the Virtual Studio Live software, with 26x8 mixer, effects processing, and the acclaimed Fat Channel compression.



PRISM SOUND ATLAS

Atlas from Prism Sound features their renowned performance, sound quality and state-



UNIVERSAL AUDIO APOLLO TWIN DUO

Packing a lot into a small, desktop unit, the Apollo Twin Duo features 24-bit/192kHz operation at Thunderbolt speeds. With real-time UAD processing you can track through vintage Compressors, EQs, Tape Machines, and Guitar Amp plug-ins with close to zero latency. The unit features UA's new Unison technology for stunning models of classic mic preamps and is available with either UAD-2 SOLO or UAD-2 DUO DSP Processing onboard. The unit ships with "Realtime Analog Classics" UAD plug-in bundle, two premium mic/line preamps; two line outs; front-panel Hi-Z instrument input and headphone output, and a digitally controlled analog monitor outputs for full resolution at all listening levels.



STEINBERG UR824

This 24x24 rackmount, USB 2 audio interface from Steinberg features eight D-PRE preamps, 24-bit/192kHz operation with dspMixFx technology for latency-free monitoring with effects, also available as native VST 3 plug-ins. I/O includes eight XLR/TRS combo inputs, eight TRS line inputs, two pairs of ADAT I/O, USB, and word clock in and out. Each channel offers EQ and compression tools with the Sweet Spot Morphing Channel Strips. The UR824's eight line outputs offer full support for surround productions up to 7.1. The UR824 introduces iPad connectivity and the free dspMixFx app, which offers the benefits of using Yamaha's custom-designed SSP2 DSP chip directly on your iPad.



ZOOM TAC-2

More than twice as fast as USB 3, the Zoom TAC-2 Thunderbolt interface was co-developed by Apple and Intel Labs. Features include Burr Brown PCM4202 A/D converters, AKM AK4396 D/A converters, two combo XLR/TRS mic/line inputs with phantom power, a front-panel hi-Z input, two balanced TRS outputs, and a dedicated 1/4-inch stereo headphone jack. The TAC-2 Mix-Efx is an included Mac app designed specially for the TAC-2 allowing the user to set mix parameters and add time-based effects. Other features include a low cut filter, polarity reverse plus Auto Gain control for each input. The Loopback function allows you to blend the input signal and playback signal for ultra-low latency. A seven-position LED meter is onboard for input, output, and headphone volume metering. ■

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The quintessential mic
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Adds pristine analog focus,
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sound

PURPLE ACTION

Classic, versatile FET
compression in the
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MIX REGIONAL: FLORIDA

EVERMORE SOUND ADDS STUDIO B TO COMPLEX

Luke Beaulac
and Iyaz



Evermore Sound's new addition, Studio B, is set to open in February 2015. The recording space (with both its own control room and live room) was seen as a much-needed expansion to Evermore, just for the sheer demand for professional production in and around Orlando.

"There's a lot of raw talent available due to the proximity

of Full Sail University, and a crop of new engineers and outside producers can rent Studio B, fully track and mix their projects, have access to great gear and at the same time, have some guidance and mentorship at hand if needed," says Elan Beaulac, assistant at Evermore Sound. "Luke [Beaulac, studio owner] has always been very involved in development, with both bands and engineers."

The console in Studio B is a Midas F32 FireWire analog, which incorporates the converters and soundcard for a direct connection to Pro Tools. This means 32 channels in and out. "While the Midas console has great on-board pre's and full parametric EQs, we will also be adding Vintech [Neve] mic pre's and UA LA-2A compressors," Beaulac says. "A variety of go-to mics from Beyer, Audio-Technica and Shure will also be on hand for tracking. Monitors are the JBL LSR Series."

David Rochester of Technical Audio Services is handling the design of the studio.

The separate live room is 19x17, and the control room is 12x17. Both are acoustically treated with custom panels, and the near-field monitors will be professionally tuned for a perfectly flat frequency response.

In the meantime, some recent sessions at Evermore Sound include full CD production (tracking, mixing and mastering) for the following bands: metal band In The After, prog rockers Liquid Spiral, reggae band General Eyes, and rap-rock band Apollo Electric. Other sessions include full production and mastering for pop-rock band American Jesus' forthcoming album, and laying down the groundwork for an upcoming album for singer-songwriter Iyaz. Legendary Southern rock band Molly Hatchet is scheduled to begin production on the band's forthcoming album this year.

The studio has also made a "quirky" new acquisition: 12 Gauge Microphones, which are small-capsule condenser microphones made from 12 gauge shotgun shells.

The Vibe Recording Institute Awarded License for Audio Program



The Vibe Recording, based in Fort Myers, Fla., has been awarded an annual license from the Florida Commission of Independent Education for its diploma-based audio engineering program, called The Vibe Recording Institute.

The school focuses on a hybrid approach to modern recording, exposing students to the latest recording software as well as classic analog gear such as a vintage SSL 4000 console, an original blue stripe 1176 rev AB, and a pair of vintage 1969 U 87s.

The studio also recently acquired an SSL 4040G console, which has been commissioned in Studio A. Purchased through Primal Gear in Nashville, the console's former owner is Ministry frontman Al Jourgensen.

Meanwhile, The Vibe Recording has seen the following projects come through its doors: Recording/mixing of the Grayson Rodgers album *All Fired Up*, produced by Julian Sundby, mixed by Chad Zuchegno, mastered by Jonathan Russel of Masterphonics, and recorded by engineers Zuchegno, Charlie Lukes, Zane Elliot and Frank Gillis; recording/mixing of the Bajo Zero album *Antes*, produced by Noe Avalos, mixed by Latin Grammy-winning engineer Anthony Perez, and recorded by Lukes, Zuchegno and Gillis; Loaf of Bread Records artists PBG, P-Line and Bezel working on an album (to be hosted by DJ Khaled), engineered by Zuchegno; Robert Stowell (2013 East Texas artist of the year) working on his album *Firefall*, recorded and mixed by Lukes; and Sunjewel Records artist Dani Dease working on an upcoming album, produced by Sundby and engineered by Zuchegno, Elliot and Gillis.



SAE Miami Debuts New Seminar Series 'Behind the Mix'

SAE Institute Miami administrator Mark Samuels has debuted a new seminar series titled "Behind the Mix," which offers presentations by Grammy-winning engineers and producers for the college's students. Past attendees include StreetRunner (producer for Nicky Minaj and Lil Wayne), Gary Bannister (engineer for Elvis Crespo, Farruko, and Fat Joe), Jack Splash (producer for Gnarls Barkley, Alicia Keys, and Kendrick Lamar) and Adrian "Drop" Santalla (engineer for Gloria Estefan).

In other SAE Miami news, Audio Technology Program instructor Frank Rodriguez mixed "Como Te Voy a Olvidar," the Diamond-selling album by Mexican superstars Los Angeles Azules.

SESSIONS: FLORIDA



J. Dash and Paul Lapinski

MY PLATINUM SOUND (JACKSONVILLE BEACH)

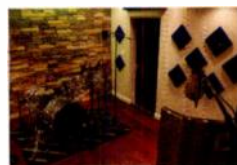
My Platinum Sound is the mixing room for engineer Paul Lapinski, who has streamlined to working entirely in the box on his Pro Tools|HD Native system because, as he says, "I need to work fast to keep up with the demand, and the sound is great." Some recent projects at the studio include mastering Platinum-selling rapper J. Dash's single "The Wop"; mixing pop-punk band Inspection 12's album *Redefine*, engineered by Tommy Harrison and produced by Peter Mosely; and engineering recent extended release of Disney's *The Little Mermaid*, Pat Carroll (voice of Ursula).



The Freecoasters

SONIC RECORDING (CAPE CORAL)

Reggae and soul group The Freecoasters were in the studio adding some final touches to an upcoming CD project, with producer Jesse Wagner (The Aggrolites) and engineers Bo Davis and Chris Presnell. The band recorded live to 2-inch tape and was mixed in Pro Tools.



Alexandre...Dance/club artist Le Twist was with producer Jean Beauvoir and engineer Alexandre (Beauvoir also engineered).

HEADZOO SOUND (NAPLES)

Country artist Angela Heart was in the studio with producer Howard "Howie" Lindeman and engineer Wil Alexandre...Pop artist Sarajane Sullivan was with producers Daryl DeLange and Graham Gillot and engineer Alexandre...Country artist Lynn Easterly (featuring Jeremy Thomas) was with engineer Alexandre...Rap/hip-hop artist EbGb was in the studio with engineer Alexandre...Latin crossover artist Gio was with producer Lindeman and engineer

MIX FACTORY STUDIOS (BONITA SPRINGS)

John Lodge of the Moody Blues was in the studio with engineers Doug Tracy and Ray Newsbit...Bad Company former lead singer Brian Howe worked with in-house session musicians Darrell Nutt and Nesbit on new material. The project was engineered by Tracy in collaboration with producer Brooks Paschal...Tim McGeary was with engineers Nesbit and Tracy...Casey Weston, a finalist on season 1 of *The Voice*, was with engineers Nesbit and Tracy.



The Control Room of Studio F

THE HIT FACTORY CRITERIA STUDIOS (MIAMI)

The studio recently hosted some vocal sessions with Andrea Bocelli, produced by David Foster and Humberto Gatica, and engineered by Jorge Vivo and assisted by Femio Hernandez...Producer Timbaland continued work on music for the TV series *Empire*, collaborating with Epic artist Tink. Engineer Chris Godbey and assistant Perry Jimenez held down the fort as additional Timbaland productions included work on an upcoming project for singer-songwriter Meghan Trainor, as well as Chinese pop vocalist Jane Zhang.



John Blackwell in Studio A
Bradham producing and engineering...

CLEAR TRACK RECORDING STUDIOS (CLEARWATER)

All of the following projects were recorded in Studio A: Guitarist Aleks Sever worked on an upcoming instrumental guitar project with engineer Mike Johnson. John Blackwell, former drummer for Prince, played drums for the project...Modern rock band Save The Radio worked with producer Jason Bieler and engineer Spencer Bradham. Johnson mixed the new material...Marcelo Machado Fernandes and Omar Fontes worked on *Sul das Gerais*, with Bradham producing and engineering...Drummer Natalie Depergola worked on material, with Bradham engineering.



Gavin DeGraw and Velvet
Basement CEO Robert Dante

VELVET BASEMENT (MIAMI)

DI/producer Armin van Buuren, producer Supa Dups (aka Black Chiney [Collie Buddz, Eminem, Nina Sky and John Legend]), and singer/songwriter Gavin DeGraw were all at Velvet Basement working on new material. Van Buuren produced his own project, as well as DeGraw's, and Supa Dups produced his own project. Velvet Basement CEO Robert Dante engineered all of the projects.

GASOLINE ALLEY RECORDING STUDIOS (TALLAHASSEE)

Rockers Eli have just finished initial tracking for their latest release, with producer John Kurzweg (who also engineered) and engineer Jerry Gaskins...Recent projects have kept chief production engineer Gaskins at the desk as producer, mixer and engineer: Folk-rock/blues artists Sarah Mac Band, completing a live CD; Reggae-rockers Sway Jah Vu, finishing a new single; and ccuntry artist Roger Goram, wrapping up two singles for an upcoming EP.



Chief production engineer
Jerry Gaskins in the
Control Room

8 Beat Audio Captures Live Vibe with Johnnie Barker & Co.



Bassist Johnnie Barker and his band recorded new material at 8 Beat Audio in Sarasota, Fla. Producer/engineer/studio owner Mauricio H. Blanca recorded the session and said that from the start, the goal was to capture as much "live vibe" as possible, so they ditched the multitrack approach.

"We had to track all five instrumentalists in the same room, at the same time," Blanca says. "To minimize the amount of potential bleed, we used SM57s for guitar, snare and toms; a pair of KM 148s above the drum set in X-Y; an M audio Luna microphone with a Neumann capsule modification for the horns; and direct inputs for the bass amp and Moog."

After setup, Blanca discussed with the band what would be the plan, and it was decided the song would be an open jam, and they would do four solid takes (due to timing constraints). (You can listen to the track via SoundCloud <https://soundcloud.com/8beataudio/johnnie-barker-session-01>). Blanca then mixed the track on the SSL X-desk, which Blanca says "sounds very open and transparent." He added compression from the UAD collection, and had the Fairchild 670 as his bus.

"If you listen, you'll notice a heavy jazz influence, and there are solos and a lot of improv," Blanca says. "In conditions like these, where all the musicians are top-notch, there is not much post you want to do. Even a heavily compressed master process could probably ruin it. This is the main reason I uploaded a low-level mix with ample headroom."

TREVOR FLETCHER, HIT FACTORY CRITERIA

BY TOM KENNY

It's always good, when talking about south Florida, to check in with Hit Factory Criteria VP and general manager Trevor Fletcher. After 30 years, his often-wry cynicism is in perfect balance with his informed optimism. He also loves music, and he loves Miami.

So how are things at Hit Factory Criteria?

They're good right now. We just finished working on the new Mana record, the biggest Latin rock act in the world. They pride themselves on recording the old-school way, with acoustically great rooms and top-notch engineers. Yesterday I gave a tour to a band from Venezuela. Today, I had a tour with a classically trained violinist from the Ukraine who wants to do EDM. So we've become the facilitators. How do you find an engineer for violin EDM? In your iPhone?

But you've always attracted a wide range of music. Just like Miami.

When the studio first opened, our first Gold record was James Brown's "I Feel Good." Then the next day they cut "Papa's Got a Brand New Bag." Then it evolved into Aretha Franklin, Brook Benton, Wilson Pickett, some Stax, Tom Dowd and a ton of work with Atlantic Records—a lot of groundbreaking R&B. Then it segued into rock 'n' roll, for years, and everything that went along with it. Then the gas crisis and everything fell apart, then Disco and dance music, then back to rock. Then the Latin influence and some of the urban tracks. It's cyclical but not exclusively. We might be doing an R.E.M. record in one room while we're doing a Lil Wayne record down the hall. At no point was any genre exclusive, but it does cycle. And those albums are all made completely differently.

What about the Latin market? We tend to equate Miami with Latin out here on the West Coast.

To be completely cliché, Miami in and of itself is the gateway to the Americas. The population is largely Hispanic, but you have Brazilian, Cuban, Puerto Ricans, and so on. To an Anglo, all those genres are Spanish, but it's all distinct—a lot of styles of music with a lot of local ethnicities. From a music production standpoint, a lot of producers for the Latin market have their own production spaces. A lot of them don't use our facility to the extent that they did prior to the advent of DAWs. But there is still a need for our services—you just have to adapt. Fortunately we've been here a long time and have a wide range of clients.

So how has your studio's role changed?

We're lucky in that we still get major projects from long-established clients. But as a recording studio today, we find we have to educate some clients. I



got a call two days ago from a client, an independent artist who had come in and recorded vocals. They then wanted to know if we could mix-and-master, as if it were one thing. I get that all the time. Another client came in and was astonished it took three hours to set up his session, but he had nothing to compare it to. We're cutting bass, drums, two guitars, two keyboards, vocals—all live—and at the end of the day, he had nine songs. He was amazed at the process. He could use this room mic at this height, this EQ, this compression. They may have only ever been in their

own studio, so you have to educate them both to help their project and to protect the reputation of the studio.

Is that what studios have become? Educators?

In part... I'm prone to making analogies. I mean no offense to anyone—and this is only my opinion—but I believe that the voodoo, the magic, the creativity, the learning as an apprentice and working with a master for years, gleaning knowledge from them in the real world—that's largely disappeared. There are very few great studios left, even fewer of the great masters. I tell my staff that it's never been more technical, but not to discount the art.

In the Middle Ages, the monasteries were the places where the fine arts, the illuminated manuscripts, science, astrology and all these collections of knowledge—while the rest of the world was falling apart, these monasteries were the places that kept knowledge and craft and art going and improved on it and documented it for future generations. I tell my staff, "Look, there are so few remaining large multiroom historic facilities that have elite clientele, engineers and producers through them—like our facility. It's your responsibility to realize that and learn from these people and value the knowledge."

We know you love studios. Why do you love Miami?

Isn't that kind of like asking somebody who's been married 25 years why they like their wife so much or why they're still married? [Laughs] It's what I do. I grew up around the studios, stealing roaches from ashtrays in high school, you know. When I went to college to get a degree in telecommunications management, they were teaching me stuff I had already been doing. It's in my DNA. Back when the Hit Factory purchased Criteria, of course I thought about other options or pursuits, relocating. But I came to the realization that I would miss Miami. I would miss being close to the ocean. I would miss the swirl of ethnicities. The food, the languages, the cultural influences. It's rich, it's vibrant. In south Florida there are certain types of music or influences that aren't available to people in Los Angeles or New York or Chicago. It's definitely a unique atmosphere, and I would miss it. ■

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DYNAMICS



By Gino Robair

I don't need the drummer telling me how to mix a record!"

That was recording/mixing/mastering engineer John Cuniberti's succinct comment (calm, yet stern) to those of us in the control room as he worked on a single for a band I was in back in the early '90s.

I happened to be the enthusiastic 20-something drummer in that group who, for a moment, forgot my studio etiquette and commented on what I perceived to be a major change in the drum sound. Of course, the decision wasn't mine to make in this part of the process. Although I had a full vote for band-related business, the hierarchy that day was defined—the mix was his domain. So I shut up, left the control room and let the man (himself, an experienced drummer) do his job.

Was I pissed off? Hell, yeah. Nothing is more embarrassing than being called out in front of your mates. But I also knew that he was right. And, of course, he knew what he was doing and delivered a killer mix.

INTERPERSONAL BULL%#**

One thing that doesn't get talked about enough in our business is dynamics—between the artist and the producer, the artist and the engineer, or among the band members themselves. Even in the best situation, a session can get tense, and having some prior understanding between all parties involved can help avoid a certain amount of conflict.

As if foreshadowing reality TV, a wonderful example of how a session can devolve is the infamous recording of The Troggs having at each other in the studio, completely unaware that their miserable behavior is being recorded for posterity (all 11-plus minutes of it is on YouTube, of course). At one point, a band member wishes they had a producer involved in cutting the single, someone to make the decisions and “put a little fairy dust over the bastard.”

One common comment successful producers and engineers make about their job is that it involves working with the artist, with nearly every connotation of that verb up for grabs. That's because, frankly, artists can be a pain in the ass. (I realize, I'm being generous here.) Many musicians are completely self-absorbed and can be very difficult, but hopefully they have enough of an awareness of the recording process to keep it from getting bogged down by the types of distractions we're all familiar with. The pros who surround the artist in the studio have to know the psychology of

what's going on at every moment and be able to read the situation as it unfolds, while at the same time knowing the boundaries; it's not unlike being a politician or an elementary school teacher, depending on the client.

For example, experienced engineers and producers know that the creative process brings out insecurities in an artist, which can lead to all sorts of consequences if they're not checked—from an inability to get a part right to sabotaging the session. For the people on the other side of the glass, a big part of the job is keeping the artist in the zone, maintaining the positive energy and forward momentum, and doing so transparently, without sounding condescending or patronizing. A musician's mood can suddenly change for the worse due to, say, the tone of your voice in a constructive comment or the look on your face during or after a take.

As with any successful relationship—and don't kid yourself that making a good record doesn't require a certain level of intimacy—mutual trust must be established. And the earlier it is, the better. Those fences that make good neighbors, metaphorically speaking, need to be solid if the production is to go smoothly.

WHO GETS THE LAST WORD?

More often than we care to admit, the person having final say over each part of a project isn't clearly defined. In work-for-hire and other profes-

sional situations, the hierarchy is set from the beginning. However, in the more communal atmosphere of a band, the parties involved may think there is a shared understanding about who gets input at each stage, which may or may not be true. And unfortunately, just broaching the topic can sow the seeds of mistrust within a collection of fragile egos, so it has to be handled carefully yet directly.

Among the most successful experiences I've had in this situation was where the recording engineer, who was not paid to produce, asked us upfront (but in a relaxed way): “Who signs off on the mixes?” Great question, we all thought: Let's figure it out. Done. “Okay, who gets final say about whether we have a keeper rhythm take?” That's easy—done. And so on.

What I realized after the album was in the can was that this woman knew how to organize us in a clear and concise way, without raising suspicions and before any hot-headed issues came up. She also knew how to manage the interpersonal dynamics by giving everyone their chance to give input, but with the clear understanding of who was in charge of each decision. Even the enthusiastic drummer could safely have his say. ■

Experienced engineers and producers know that the creative process brings out insecurities in an artist, which can lead to all sorts of consequences if they're not checked.

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Tech // new products



EIOSIS AIR EQ PREMIUM PLUG-IN

A Fresh Look at Equalization

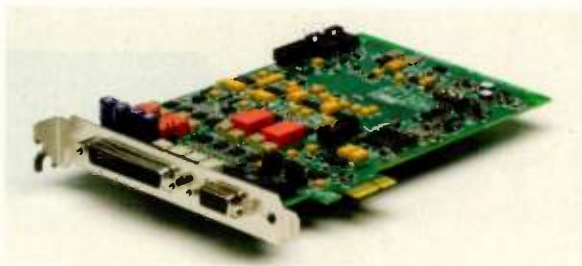
Eiosis Air EQ Premium from Eiosis (\$149) is a 7-band EQ with extras such as Strength, Character, Water, Fire, Air and Earth functions. Air and Earth are a new and easy way to adjust high and low frequencies. The Earth is designed to boost the very low end of any track, while Air promises smooth and silky high-frequency adjustment. Character changes the shape of the equalization curve, from the smooth Water curve to the focused Fire curve.

Features include an "cars-only mode," and the ability to right-click on band switches for advanced options, shift-click on the Q for per-band Character, renaming of bands to make your own presets, and the ability to assign each band to Left or Right, Mid or Side, and class bands by frequency order.

LYNX STUDIO E44 AND L22

New PCIe Cards

The E Series takes a leap forward to offer the highest performance A/D and D/A conversion system ever incorporated into a PCI Express card. The E44 (\$1,095) expands on the I/O offered by the Lynx TWO-A card offering four analog input and output channels and four AES/EBU channels. The E22 (\$795) offers two analog input and output channels and two AES/EBU channels, the equivalent of the L22 PCI Card. A new software mixer, similar to the one developed for the AES16e and Aurora Thunderbolt, is also available. The E Series uses the latest devices with a wealth of resources for parallel processing in a 16x8 mixer and V2 DMA engine, which maximizes throughput on the PCIe bus while minimizing CPU workload.



GKL MA05

High-End 5-Channel Preamp

The MA05 from GKL in Montreal (\$3,400) is a 5-channel, all-discrete, transformerless microphone preamplifier. The MA05 is modular, based on GKL's 514 op amps and DBIA discrete instrumentation amplifiers. The MA05 promises low noise and distortion, and an extremely fast slew rate for extended bandwidth even at high output levels (greater than +28 dBu). The front panel controls include Mode, Gain, Ribbon Mode and HPF. The unit is remote-controllable over Ethernet using OSC. The rear panel provides gold-plated XLR I/O with Ethernet and USB connections, as well as a user-switchable 110/220V IEC connection.



BLUE HUMMINGBIRD

Small Diaphragm Condenser

The Hummingbird (\$299) is inspired by Blue's Dragonfly and Mouse microphones and features a precisely tuned diaphragm based on Blue's B1 capsule from the flagship "interchangeable" Bottle Caps. The mic offers an adjustable pivoting head that allows for 180 degrees of rotation, fast transient response, high SPL handling and extended high frequency. When using two Hummingbirds as stereo overheads in studio or onstage, the rotating head allows an engineer to quickly and precisely place the mics in the stereo field. Hummingbird comes with a rugged, road-ready protective carrying case, along with a mic clip and foam windscreen.

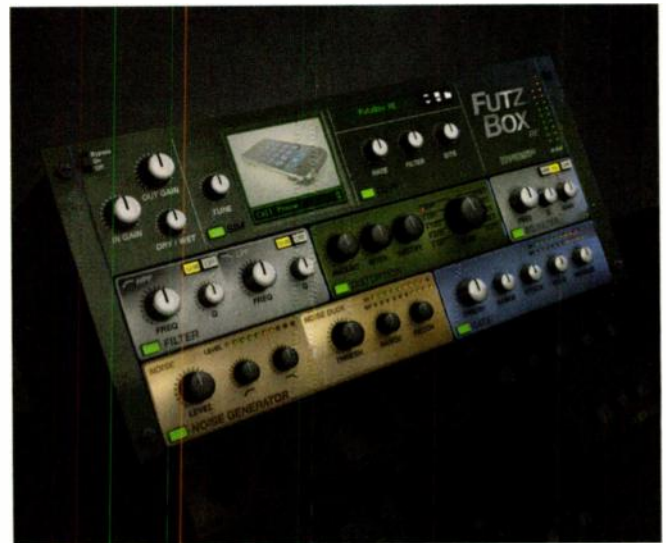
PMC TWOTWO SUB2

Bottom-End Booster

The twotwo sub2 from PMC (\$5,200) is a subwoofer designed to complement the twotwo range, providing greater headroom and dynamics than its smaller sibling, the twotwo sub1. Features include ATL bass-loading technology, Class-D amplification and DSP-based filtering and bass management, which extends bass output significantly with negligible harmonic distortion. The sub2 also features a highly rigid, braced cabinet, ensuring that



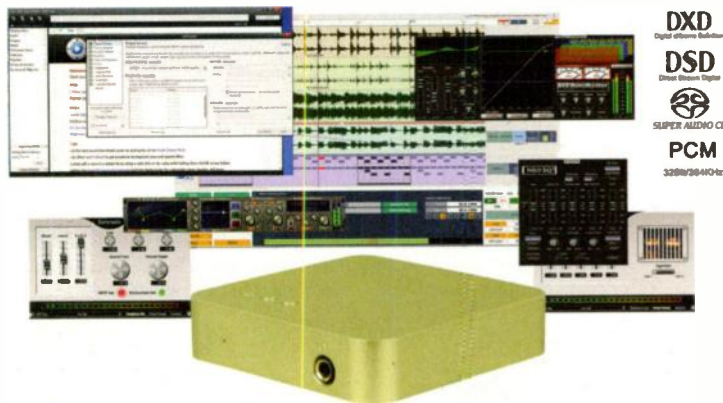
unwanted coloration is reduced to inaudible levels. The amp delivers 400W of power to the LF driver, which has an active frequency response from 20 Hz up to 200 Hz. There is an AES3 input with a built-in high-quality sample rate converter (32 and 192 kHz), and a pair of balanced stereo XLR inputs, all continuously active with switching between the sources from the rear panel or the optional desktop RC1 remote.



MCDSP FUTZBOX

Lo-Fi & Noise Plug-in

FutzBox from McDSP (\$74 Native, \$248) is a distortion and noise generator plug-in for creating low-fidelity versions of audio signals. Perfect for general audio distortion or simulations of radios, cell phones and televisions for post, the simulations, called SIMs (Synthetic Impulse Models), provide accurate modeling in an extremely optimized format, allowing FutzBox to use less DSP power than conventional convolution-based products. FutzBox also includes filtering and EQ, distortion, a noise generator, and gating. Original and distorted audio can be mixed in real-time to accommodate scene changes or other automation requirements. Features include configurable filtering, EQ, and distortion, a flexible noise generator with ducking, and a hyper-sensitive gate for signal dropout effects.



SOUND MAGIC SERENADE PRO

DSD/DXD Converter

Serenade Pro from Sound Magic (\$TBA) uses a reference grade D-to-A converter with a dynamic range of 123 dB and THD+N of -105 dB. Other features include 32-bit DAC architecture, a jitter elimination circuit and a dual-oscillator design providing a more accurate clock source. The unit supports playback at 32-bit/384 kHz, and also covers the newest DXD (Digital Extreme Definition) format at 24-bit/352.8 kHz, plus DSD64 (2.8 MHz), DSD128 (5.6 MHz), DSD256 (11.2 MHz), and DSD512 (22.4 MHz). Serenade Pro can be directly powered from a USB port and includes a high-performance headphone amp with a crosstalk of over 120 dB and an output power of 300 mV.



TK AUDIO MONO BLENDER

500 Series Problem Solver

TK Audio's Mono Blender (\$429) is a single-channel version of the company's MB1 Mini-Blender introduced last year. A perfect tool for parallel processing, the unit lets the user insert any compressor into the front panel XLRs and blend it with any other audio signal being simultaneously fed through the unit with no degradation to either source. All inputs and outputs are electronically balanced, and the rugged blend control has 21 steps for precise, easily recallable adjustments.

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New Sound Reinforcement Products

YAMAHA RIVAGE PM10

New Flagship Mixer

The new RIVAGE PM10 from Yamaha (\$TBA) significantly increases the quality and versatility necessary in a live sound environment, and inherits features from the renowned PM Series Consoles. The PM10 system includes the CS-R10 control surface, DSP-R10 DSP engine, RPi0622 I/O rack, three types of RY cards, and two types of HY cards.

Features include newly developed preamps with models of the Rupert Neve Designs transformer circuitry and acclaimed Silk processing, and upgraded channel EQ and dynamics with new "Precise" algorithm with Q parameters on the low and high shelving filters. Forty-five plug-ins are available for creative processing, with substantially increased processing power. The CS-R10 control surface and DSP-R10 DSP engine are connected via a dedicated Cat-5e ring "Console Network." The DSP engine connects to the RPi0622 I/O racks via the newly developed TWINLANe ring network using multimode optical fiber.



DBX AFS2 PROCESSOR

Improved Feedback Hater



Featuring a powerful DSP module, the AFS2 from dbx (\$374.95) provides all the processing and control necessary for both installation and live use. Ten- and 12-filter feedback elimination processors are the de facto standard, but the AFS2 offers a dedicated feedback suppression processor that offers up to 24 filters per channel with filter Qs up to 1/80 of an octave. Other features include selectable modes, live filter lift, and types of filtration, which are all readily available via the front panel. In addition, there is a Wizard setup function, full LCD display, stereo or dual independent processing, and live and fixed filter modes. Application-specific filter types include: Speech and Music Low, Med and High.

HARBINGER LVL MIXERS

Three Affordable Blenders

Harbinger's LVL Series of compact mixers are available in multiple channel configurations including the 12-channel L1202FX (\$109.99), 8-channel L802 (\$64.99), and the L502 (\$44.99). Each mixer is housed in an all-metal chassis and equipped with professional-grade preamps, LVL Series EQ, Input/Peak indicator LEDs on every channel, and a 5-segment LED main mix meter. Other features include switchable phantom power, headphone outputs, and RCA inputs, as well as a robust AC power supply. The flagship L1202FX model packs even more features into its compact footprint, including four XLR mic preamps with 1/4-inch TRS balanced/unbalanced line inputs, four more 1/4-inch balanced/unbalanced stereo inputs with +4/-10dB sensitivity selection, four channels of 3-band LVL Series EQ, 75Hz highpass filters on each mic input, dedicated Aux Send/Return, onboard digital FX including tap tempo delay, and a full-sized master fader.





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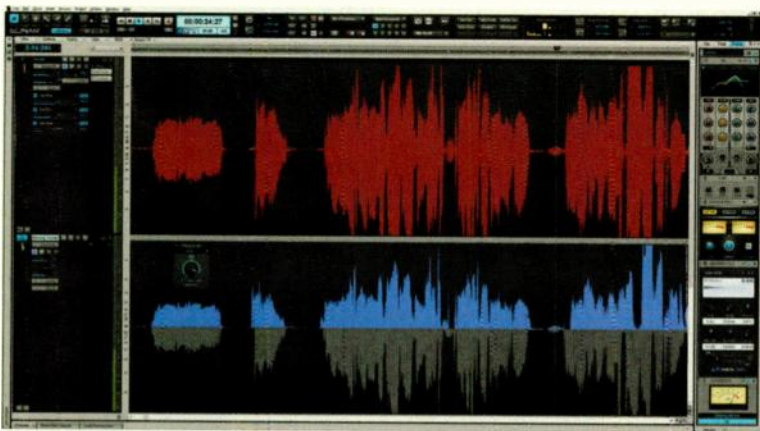


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Tech // reviews

CAKEWALK SONAR PLATINUM

Upgrade Brings Membership Model, Workflow Improvements



VocalSync is an easy-to-use single knob utility that can line up background vocals or create a 'doubling' effect on leads.

The much-anticipated release of SONAR is here. First, SONAR Version 8.5 morphed into the X Series, incorporating the Skylight overhaul to the user interface. X2 and X3 brought massive new features and capabilities to the table, which ultimately has landed us on what is alleged to be SONAR X4, now referred to as SONAR Artist, Professional and Platinum, with the latter reviewed here.

MEMBERS ONLY?

The forums are humming with speculation; the message boards are chiming with celebration and tantrum alike. SONAR is now available in a membership model: \$49.99 per month, or \$499 annually, will buy you a slice of some SONAR Platinum. Why? Although some of us aren't quite there yet, the fact is physical DVD installers are a dying medium. Resellers don't want to waste shelf space, and manufacturers don't want to inflate costs with packaging and printing. Besides, you still have to download updates and patches, so what is the value proposition of having physical media? And besides, it has worked for Adobe...

The jettison from the numerical nomenclature of SONAR would indicate Cakewalk's intention to move to a streamlined software version. With this model, updates and improvements can be pushed at any time, as can new feature sets, as opposed to the cumbersome annual release of a new version. Granted, there will be that group of users who would prefer to purchase a release or upgrade at a flat price, and keep it until it has grown outdated. Cakewalk agrees. Unlike the Adobe

subscription model, SONAR is a financed membership. Pay for the year, and keep your software, even if you choose to opt out after the year is up. In essence, you are financing your software monthly, except your updates and add-ons are pushed directly to your system. After the yearlong membership is up, your software will not be crippled or cease functionality.

WORKFLOW IMPROVEMENTS

The first thing you'll notice upon installation is a new feature called the "Cakewalk Command Center." Reminiscent of a Native Instruments installer, the Command Center performs a scan and evaluation of your system to see what is being installed, leaving nothing up in the air as you start integration. For those updating, the experience is the same.

After installation is complete, and you have launched the application, at first glance, nothing seems to be out of the ordinary. There is no learning curve, as when Skylight debuted in X1. The biggest change, which in my opinion is one of the best new features, is the modular capabilities of the UI. The Control Bar is now completely customizable to adapt to the user's workflow. One of my complaints about previous iterations of SONAR was the difficulty to translate workflow from a desktop to a laptop, or even project to project. The new redesigned Control Bar is optimized to adapt to your specific engagement. I would have liked to see templates for multi-monitor, mobile and desktop formats in the launch screen, but these are easy enough to create manually by using the Screensets feature.

Perhaps the most functional new feature is Mix Recall. We've all been there—vocals up, vocals down, more snare, radio edit, instrumental, options galore. My project files would often outnumber my track count by the time I was done with a session. Mix Recall does this in a single project file. Similar to digital console automation, Mix Recall saves variable mixes as Scenes, giving you the option to switch between scenes with a simple click. The days of closing out a mix, opening another project, bouncing them all, and auditioning them as WAV files are over. This is an improvement worth getting excited over; it's real world functionality that can be applied and translated into a tangible return on investment.

To cater to the beat heads, EDM cats and MIDI monkeys of the world, Cakewalk brings three separate new features to the table. Piano

Roll, which is Cakewalk's pet name for its MIDI editor, received a makeover, giving a more polished appearance to the layout. Cakewalk has also added a new tool to the Smart Tool palette craftily named Pattern Tool. Pattern Tool allows you to paint MIDI, beats, loops and so on into Piano Roll, eliminating the standard copy/paste method. The third feature is AudioSnap, SONAR's quantize tool. While this isn't a new feature, the new UI and detection algorithm have drastically improved functionality vs. previous versions. To sum this up, Piano Roll still lacks the fluidity and comprehensive intuition you would find in a DAW like Nuendo or Ableton. However, combine the Pattern Tool and Piano Roll's fresh look with the improved AudioSnap feature, and SONAR's MIDI environment just stepped its game up big time.

OLD AND IMPROVED

While these aren't necessarily new bells or whistles, Addictive Drums 2, Melodyne, and the Blue Tubes Bundle and Nomad Factory collection of audio processors have stellar sounds while remaining low-impact. Next, SONAR's ProChannel has a new reverb module called REmatrix Solo. Based on Overloud's REmatrix, the convolution reverb offers impulse responses created by MoReVox sound designers, with zero-latency processing. This rounds out the ProChannel module stack quite nicely.

Another new addition is a Region FX named VocalSync, a single-knob utility that allows you to sync vocals to a guide track. You can clean up vocals, link harmonies, create a double effect for emphasis, and even match dialog and overdubs to film frames. In the realm of a functional, real-world application, VocalSync is a welcome addition.

Finally, a feature that appears to be derived directly from user requests is the ability to customize your sends and FX stacks in console view. Previously, you would have to click the plus sign to view inserts on a given track. Now, similar to Cubase, Pro Tools or even Studio One, all of your FX stacks are lined up for your viewing pleasure.

INTO THE LAB

My first goal in the review process was to set up a manageable session on both my laptop and workstation. As compared to previous versions of SONAR, this

is the first time my desktop-to-mobile transitions were utterly seamless.

The new REmatrix reverb module is quite impressive—clean, easily controlled and a nice complement to the barrage of vocals common to Queen sessions. My next step was setting up VocalSync to help level and layer the background vocal tracks. While this wasn't a miracle tool, it did a decent job in controlling sibilance tails.

To test the performance of SONAR Platinum vs. SONAR X3, I loaded the exact same session on both versions and recorded the average processor and memory utilizations. Using an Intel E5-1650 V3 processor and 16GB of RAM, X3 came in at roughly 7GB of memory usage at an average workload of about 65-percent CPU. Within SONAR Platinum, memory came in around 6.5GB and 58-percent CPU usage. While this wasn't a huge jump in performance, it was a large enough delta to be referenced.

KEEPING IT REAL

The latest release of SONAR is quite unique. Although more in line as an advance on X3, this new flavor of SONAR achieves performance and capabilities that parallel any of its competitors. Seeing Cakewalk's DAW evolve as it has illustrates one very important fact about the SONAR software and the Cakewalk organization: These folks pay attention to their community. Most of the changes and tweaks are seemingly derived directly from the forum requests. From install to mixdown, this version of SONAR feels more mature.

Command Center made installation feel as though it was an autopilot function. The sound suites and third-party additions, as always, provide a great value proposition. One could literally produce products on par with any other collection right within SONAR, void of any additional content. While no one product can be everything to everyone, SONAR Platinum comes darn close.

The biggest overall improvement to SONAR is the incorporation of flexible, functional workflow within the UI. These improvements alone would be enough to justify my upgrade. Cakewalk continues to raise the bar for the modern DAW, and proves yet again its ability to evolve despite the tumultuous state of today's pro audio industry. ■

Jami McGraw is a New York-based audio engineer/producer/musician.

ZEN STUDIO

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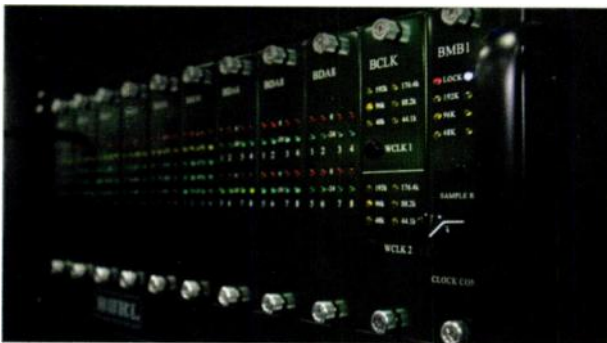
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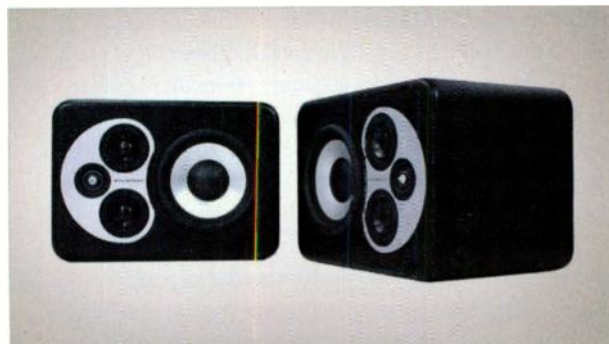
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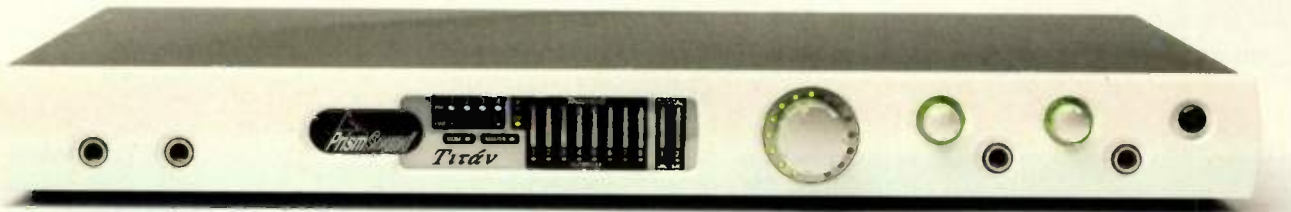
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PRISM SOUND TITAN

USB I/O With Digital Mixer, MDIO Slot



Many engineers associate Prism Sound with quality products that are unobtainable due to price. But in recent years, the price tags have begun to come down and compete in the middle of the booming multichannel interface game. With the revamped Lyra 2, Atlas and Titan all currently shipping, the company now has a considerable selection of products in the USB interface market, each varying in I/O and features. The Titan pushes beyond USB connectivity by also offering an “MDIO connection,” which allows other higher-speed interface options. Of all the products in its new fleet, the Titan seems to be the perfect balance of quality, features and price.

NUTS AND BOLTS

The Titan features a healthy complement of digital and analog I/O with a high-quality internal digital mixer to route any combination of inputs and software returns to any given output. The Titan can recognize a total of eight analog inputs, simultaneously, as well as up to eight digital channels of 44.1/48kHz audio using the ADAT optical protocol, or half as many with each doubling of the sample rate up to 192 kHz using SMUX. There is an additional pair of digital inputs using RCA-type connectors. Mirroring the inputs, eight analog outputs, eight ADAT optical outputs, and a pair of coaxial digital outputs are provided.

The A/D converters can be fed by a choice of physical connectors and analog circuits. Each A/D converter defaults to accept a balanced line-level signal, and four of these circuits can be fed by dedicated ¼-inch TRS connectors. The default for the other four is to be fed by the ¼-inch components of a set of four XLR/TRS combo jacks. If signal is detected on the ¼-inch connector, Titan automatically accepts the line-level input circuit; if no ¼-inch connector is attached to the combo jacks, two other possibilities exist. The front panel has a pair of high-impedance tip-sleeve ¼-inch connectors to accept electric instruments. When connected, these automatically take over as the input to the first two

A/D converters in the absence of line inputs in the back. There are also four extremely low-noise mic preamps, which take over the first four A/D converters as long as no instrument is connected in the front and no line input is connected in the back.

Despite the healthy amount of I/O, all of this automatic detection and selection results in a unit that would be a little cumbersome when hard-wired into a rack and patchbay. For example, if a musician wanted to plug into the front panel instrument jack, it would be necessary to climb behind the rack and disconnect the ¼-inch line-input connector from the back of the Titan. I attempted to feed line-level signals to the XLR inputs on the back and found that it was impossible to use anything but the ¼-inch portion of the connector for this purpose, so likewise, switching between mic and line inputs would also require climbing behind the rack to switch cables. The Lyra 2 added an option to bypass automatic selection in favor of manual input selection. The fact that this was not offered with the Titan begs the question whether this could be corrected with software.

Each of the analog inputs features selectable highpass filters, polarity reversal and Prism Sound’s signature “Overkiller” safety limiter. Line-level signals can be toggled between accepting -10dBV and +4dBu signals through the proprietary software control panel. Aside from that, no other level control exists for the line-level inputs. When using the mic or instrument inputs, there are no physical controls, so level adjustments are always made through the software. It would be nice if there were a way to link input gain controls for stereo, Decca Tree or surround miking, but no grouping controls are available on the inputs. That said, you can still achieve precision level matching as the gain controls are stepped in 1dB increments.

Digital input can be accepted from a choice of either a Toslink or RCA-type connector. Either can be fed with S/PDIF signals, including raw bitstreams of encoded surround signals. This feature is somewhat rare and could be very useful for recording or monitoring these types of signals through a software decoder. The Toslink connector can also be used for ADAT and SMUX. The provided XLR-to-

RCA adapter allows the RCA connector to be repurposed for AES3 connections. Digital output is offered in all of the same varieties, with all digital I/O having the option of real-time sample rate conversion and the ability to pass encoded bitstreams. The Titan can slave to embedded clocking signals or serve as the clock master using any of these digital connections; dedicated BNC word clock inputs and outputs are also provided for cleaner clocking.

The Titan has a software mixer for users to determine which signals will feed each of the 18 available monitoring outputs, as well as decide what will feed the two headphone jacks on the front panel. The Lyra 2 uses the same software, so I had seen it before. Upon first use, it felt like the labeling and the layout were less user-friendly than similar software for other interfaces. But after coming back to it, it seemed more intuitive. I liked that signals could be grouped into stereo pairs and leveled with a single fader in the software mixer. I also liked the way that any output signals can be grouped and controlled with the front panel level control. Using this as a 5.1 or even 7.1 monitor controller became a viable option.

IN USE

Before recording anything, I spent some time listening to the converters. The stereo image that they presented was incredibly wide. I can't say that I've heard a bigger picture from any other D/A converters. All of those little details of your favorite tracks that you use to benchmark good converters—the sneaky clavinet that doubles the bass, or the bassoon hidden in the track, or whatever you check for—you will find it here, and hear it better than ever.

Next, I made some vinyl transfers using the Titan. The highpass filters on the instrument inputs can perform the standard de-emphasis equalization for vinyl records. I thought this was a hip feature, as I'd not had it in the past. But looking at the connectors available, it wound up being cleaner and simpler to connect a phono pre to the line inputs and just count on the Titan's A/D converters for the transfer. The sound was amazing. Whatever makes vinyl so inexplicably vibrant carried through into the digital file.

The music was generally dynamic in these transfers, whether jazz or rock. I found myself setting what seemed like a reasonable level, and then during the bridge of a song, things would pick up and I'd have to start over because

clipping had occurred. While listening to a section with some slight overs, I engaged the unit's Overkiller limiters and was pleased with how well they prevented clipping without imparting a noticeable sound. While some safety limiters strive for tape-like compression effects, these were clearly designed with honesty and transparency in mind, and executed very well.

I stereo miked an acoustic guitar in a room with wood floors and a pleasant natural reverb, putting a little distance between the guitar and mics just to exploit the room's character. The pre's and converters again displayed a great transient response on some of the more percussive aspects of the performance—the sound in the room was faithfully captured. The guitar's bottom end was warm and full without sounding tight and sculpted like some transformer-based inputs will do. It's not that that's a bad sound, by any means, but these pre's inputs did less of the talking and let the guitar speak for itself. The midrange frequencies were clear and detailed, and the top end breathed nicely. The image of the guitar and its placement in the room really came through in the recording.

A HOUSEHOLD NAME?

While the Titan is a tenth of the price of the Dream ADA, it is still a bit higher priced than interfaces with similar I/O counts from Lynx, RME or Mytek. The argument that the converters from any of these four manufacturers are better than the rest would purely be a matter of taste, but I would not argue with anyone who said that paying extra for the Prism Sound variety would be worth it. On top of that, most other devices with similar specs have no mic pre's, and the Titan gives you four very good ones.

The Titan has great sound, flexible routing, and the ability to work without the need for a PCIe card, so this should be a draw for laptop users, or even owners of the new Mac Pro. On the other hand, realizing the full potential of the MDIO expansion and using the ability to link multiple Titans to one system could draw many users looking for big I/O to normal to their large-format console. Should you have a Titan? If you can afford it, you will not be disappointed. ■

Brandon Hickey is an audio pro and rabid Blackhawks fan.

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TWO REISSUE MICS WITH PERSONALITY

New Classics from Neumann and AKG

A mic with a reputation is something to be cherished, and remembered. The first thing that comes to the mind of an engineer when you say the numbers 57 isn't steak sauce, it's "great snare mic you can rely on." While both mics reviewed here are Take 2s, the manufacturers approached the reissues from a different standpoint.

The U 47 fet Collectors Edition from Neumann is an elegant and faithful representation of the original with just the HPF position being changed. But the AKG D12 VR is something completely different. The reissue is loosely modeled after the AKG D12 E, which is also a large-diaphragm, dynamic mic with a bass chamber for enhanced low end. The VR updates the E by adding phantom-powered filter/EQ options, a more svelte design, and integrated stand mount. I used both mics in tandem and separately on a variety of sources, from bass amp to guitar cab to vocal and more. I was rarely disappointed.

U 47 FET COLLECTORS EDITION

The U 47 fet was produced by Neumann between 1972 and 1986, and the look of the Collectors Edition is exactly the same, right down to the integrated swivel arm, SPL handling (137dB no pads), and switch positions. It's a beautifully done rendition that comes in the company's signature wooden box with gold hinges and clasp. What's different? The reissue is fixed cardioid (the original is super-cardioid), and the rolloff has been moved down from 200 Hz to 140 Hz—a more usable spot.

I know the U 47 fet as a great kick drum mic, so that's where I started. The double pad is what makes this condenser an instant hit for high-transient material. The -10dB switch on the back of the mic is placed before the internal electronics, while the -6dB pad at the bottom of the mic is right before the XLR output. This makes it a lot harder to overload the mic, or the preamp, although too much SPL will push the diaphragm too hard and no amount of padding will make that sound better.

I placed the U 47 fet with both pads engaged 4 inches from the edge of the shell, 4 inches back from the head, the same distance from the inner head where I placed a classic AKG D112 companion



Neumann U 47 fet Collectors Edition large-diaphragm condenser microphone

mic. Inside the drum, the D112 offered a great rendition of the attack of the beater, and with a little help around 50 Hz was nearly enough. But when I added the U 47 fet, it completed the picture, offering a resounding transient kick hit; with 4 dB added at 60 Hz using a Neve 31102 EQ, the bottom end rocked the room.

Later, in another session, I wanted to see whether the U 47 could take the SPL inside the drum, paired with a vintage RCA 44 on the outside. Even with both pads engaged, the SPL inside the drum was too much for the condenser and I opted to move it just outside the hole, more even with the 44. This was another great pairing that needed less EQ help than the D112/U 47 combo. The 44, being a ribbon, is a great choice for the outside because it naturally ignores any cymbal bleed from above and provides plenty of bottom end. The U 47 was at its best just outside the hole. Again, a great rendition of the transient hit, which I enhanced by adding a few dB at 5 kHz to bring out the attack of the beater.

Next I recorded a female lead vocal using the mic with all switch options off. It sounded great. The vocalist had a slight edge to her voice, but even the U 47 fet's slight bump at 2 kHz didn't make it unnaturally present. With an LA2A offering -5 dB of gain reduction at the peaks, it sat perfectly in the track and later worked great in the mix with minimal EQ. Critical placement of the mic and a good pop filter are needed, as Ps and Ts can get out of hand. But that's the same with any mic.

I tried it next on an Ampeg B15 amp cabinet, which sounded great, as well as

on a Fender Tweed guitar cabinet, which was my least favorite application. It lacked the bite and personality of my usual Royer 121/421 or 121/57 combo, which is usually all you need for that situation.

I used the U 47 fet over a set of orchestra bells with a Royer 121 and it was a fantastic pairing. Bells have many overtones and an incredibly sharp attack, so con-

PRODUCT SUMMARY

COMPANY: Neumann
PRODUCT: U 47 fet Collectors Edition
WEBSITE: www.neumannusa.com
PRICE: \$3,999
PROS: Great-sounding mic; excellent for kick, bass, acoustic guitar and more.
CONS: Price out of reach for some.

condensers can often be too “real” by making bells too cutting. With the Royer 121/U 47 fet set at 60 percent/40 percent in the mix, the pair offered the rounded top and transients of the ribbon with the extended top end of the condenser—just right.

Apart from the sticker shock (\$3,999), the U 47 FET ticked all my checkboxes and satisfied my expectations. It is a beautifully done reissue that looks great and sounds better. If you’ve got the \$\$\$, it’s an instant nouveau-classic that will be sure to retain its value over time.

AKG D12 VR

The AKG D12 VR is a large-diaphragm dynamic mic with an optional phantom-powered three-position filter/EQ section. There are sizable differences between the D12 E, which the D12 VR is modeled after, and the VR. The E could only take 128dB SPL, while the VR takes 164 dB. The E is clunky in size, while the VR is square-shaped but works well on a mount (this is in large part due to the side-by-side arrangement of the XLR connector and mic mount); the E calls for a separate butterfly mount and the XLR tends to stick way out. So while you could say that this is a reissue, it’s a stretch.

The active electronics are optional: Without phantom power the mic operates as a true dynamic, although once you play with the EQ, you’re always going to use it. I always start a review with the eyes and ears of a skeptic—something as traditional and yet as forward thinking as the D12 VR has to prove itself, and it did. First, the mic looks great. It’s sturdy, the integral mount works very well, and the three-position switch is easy to get your head around. The LED largely acts as a confidence light assuring that you have phantom power active. I love that feature because in the heat of battle it can

PRODUCT SUMMARY

COMPANY: AKG
PRODUCT: D12 VR
WEBSITE: www.akg.com
PRICE: \$499
PROS: Phantom-powered. Onboard EQ is excellent. Sounds great.
CONS: You may need two.

save much troubleshooting time.

I tried the mic the very first time without, then with, the active electronics in place and there’s no contest. It’s a good mic without it, and a great mic with it. The low-end boost/mid cut (position 1), midrange cut only (position 2), and Low boost, midrange cut, high boost (position 3) settings are just enough and not over the top. You can see there was some thought (and ears) put into de-

signing the curves as they are pretty much what you have to do to shape the perfect kick drum sound. Once I tried all the settings separately on different sessions, I ended up using position 3 about 90-percent of the time. Validation is always great, and using the mic on Nashville drummer Nir Z’s kick and having him say, “You know I’m picky, and I love this mic,” was nice to hear, especially after falling in love with it myself.

On Nir’s kit, I used the U 47 fet reissue reviewed here on the outside, and the D12 VR with the EQ set in position 3 just outside the hole of the front head. When something works with just a fader move, without EQ, you know you have a winner. That was the case this time. Blending the fet and D12 VR provided a great sound right out of the box. I also found that the VR by itself was a formidable single-mic option on a kick.

On another session I used the mic on a low tom in position 1, then again on an Ampeg B15 cabinet, also in position 1. They both rocked. The punch line, if you needed one, is that this mic is only \$499, which jacks up the wow factor tenfold. This is great because if you ever want to try it on something else, you’re going to have to buy two. Loved it. ■

Kevin Becka is Mix’s technical editor.



AKG D12 VR large-diaphragm dynamic microphone



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CRANE SONG SYREN MIC PRE AND FALCON COMPRESSOR

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Crane Song Falcon Compressor/Limiter

The Syren Microphone Pre-Amp and Falcon Compressor/Limiter are single-slot 500 Series tube-based modules. Both use a single 12AX7 tube running in Class-A that's vertically mounted in a ceramic socket with cooling vents cut in the top of the modules' cases. The tubes are carefully selected and tested for lowest noise, and all units use mu-metal shielded LL1585 Lundahl output transformers.

For these modules, Dave Hill designed a voltage converter on an internal "daughter board" to derive both the tube's 5-volt filament voltage and 185VDC plate supply. Carefully tuned input and output EMI filters are used to prevent the power supply's 600kHz switching noise from polluting the audio, the 500 rack's ± 16 -volt power supply rails and other modules in the same rack.

THE FALCON COMPRESSOR

The Falcon uses a variable impedance circuit to change gain in a feedback-styled compressor design. The compression ratio varies depending on the amount of gain reduction—mimicking the characteristics and operation of an opto-compressor. The Comp/Limit front-panel switch selects between soft-knee and hard-knee curves. This gain control element is followed by a tube makeup amp with output Gain control.

Falcon is a colorful all-analog compressor with two operational modes controlled by the front panel's 100/Color switch. The flattest and cleanest mode is 100, with no negative feedback; the Color mode uses negative feedback for a more euphonic and creamy tonality.

I liked the Wet/Dry control knob for immediate parallel pro-

cessing—with no need to do external patching, there are no phase/polarity issues possible.

Attack and release times are set using a pair of three-position toggle switches, each simply labeled Attack and Release, with the top position the fastest. Both attack and release times are specified for a 12dB gain change, and I found all three choices to be effective with the middle or medium positions as good starting points.

At the bottom of the Falcon front panel is a three-position toggle switch with Bypass, In Circuit and Link positions. In Bypass (down), a nitrogen-filled NEC relay back on the unit's edge connector is triggered for true hardware bypass. The middle position puts the compressor in circuit, and in the up position, link mode.

Any Falcon compressor can be configured to serve as master or slave with up to six Falcons linkable for surround mixing. The attack, release, output/GR meter switch, color, threshold knobs and switches on the designated master will simultaneously control those controls and switches on all slaved Falcon compressors. All compressors linked will track to within 0.1 dB of each other.

I tried the Falcon on many sources, and since there is no separate input level control, I found that hot source levels give the largest operating threshold range for invisible to extreme compression.

As a bass guitar compressor, I found the 100-position to be cleaner, with the middle attack and release times perfect. The fastest release time setting will work with minimal distortion for loudness enhancement using Comp mode and about 2 to 6 dB of compression.

Kick drums take on solid consistency using the Falcon. Here the Wet/Dry control worked well to blend the kick track pre-compressor with Falcon set to flatten the sound. I used Comp and Color, slow attack and fast release positions. The Wet/Dry was at about 50/50 for recovering some of the subsonic, ambience and sustain from the original kick drum.

Switching from Comp to Limit necessitates a new threshold setting and output gain adjustment. So, on a bass synth track I was able to selectively dirty up the sound by selecting various attack and release times.

My favorite use for Falcon was for a young female singer. I used slow attack, fast release, Comp mode and Color position to keep the voice clear, bright and present with about 2 to 5 dB of compression maximum. Vocal compression is where the differ-

ences between 100 and Color modes are most hearable. The Wet/Dry control comes in handy for heavy compression (6 dB or more indicated) to add back in a bit of the original—it's cheating—but I got away with a clear vocal sound that laid right in the track nicely.

Twin Falcons are indispensable studio workhorses and are some of the first outboard gear into my sessions whether recording or mixing—a big thumbs up for these little jewels.

SYREN 500 TUBE PREAMP

Syren is a single-channel microphone preamp with dual gain stages and the ability to overdrive each stage separately for a wide range of preamp sounds. It's capable of super-clean to colorful to over-the-top tube saturation.

Syren has a complete set of controls nicely laid out on its front panel. There are: a ¼-inch 1.2-megohm Hi-Z input jack, Mic/DI switch, a 24dB per octave 90Hz highpass filter, polarity reversal, +48-volt phantom on/off, and the output amp's Open/Color switch. Like the Falcon, Syren's output amp will operate with either no feedback (Open) or negative feedback (Color).

There is a three-position attenuator switch with 0, -15, and -25dB positions placed in circuit before a mu-metal shielded LL1576 Lundahl microphone input transformer that then drives the 12AX7's first triode stage.

The front panel's top input OD LED lights at -6 dB for the output of this first stage—although it is not necessarily distorting. To not have this, you would either lower the source's incoming level and/or use the attenuator.

Syren's Input Gain control sets the output level of this first stage to drive the second triode stage output line driver. The front panel's lower OD LED is placed after this stage and the Open/Color and HPF sections, but before the Output control and output transformer. Although a little small, the OD LEDs work well to quickly set up initial gain staging. You can "blow up" the first stage with excessive input levels and/or also overdrive the output line driver with maximum Input Gain control settings.

For recording clean vocals, I ran the Output control knob full up and ran the Input control in the range of 10 to 2 o'clock, depending on the

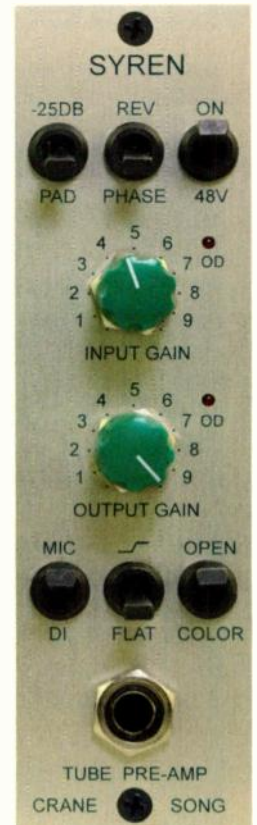
microphone type and how loud and close my singer was. Modern microphones like a Brauner Phanthera put out plenty of level, so I would have to turn the Input even lower. Close condensers placed on snare drums sounded awesome through the Syren.

For vocals I always used Syren's Open mode for a fat, rich sound and good low frequencies. Syren is a sonic guilty pleasure with creamy and rich overload characteristics that can fill out the sound in a kind of densely packed way. On my singer's loudest moments, the second LED just flickered occasionally. Further gain increases caused vocals to get extremely dense and thick—a great sound for certain hard rock vocalists.

If I increased the Input control to full CW, then the Output control may have to come down and its LED will start to stay on continuously. Even maxed out, Syren never got fizzy like a transistorized preamp.

The way Syren overloads worked well using the DI. I recorded a completely stock late model Fender Strat plugged into the front. For this particular rhythm part, I used the guitar's front pickup, cranked the Input on Syren all the way up to 10, and backed the Output down to midway. I used the HPF, the Open mode and achieved a thick, slightly distorted guitar sound that sounds more like a guitar amp than any DI I've ever used. Much beyond a mic preamp, Syren is one of the most useful 500 Series modules I've seen. It offers a lot of colorful choices easily! ■

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



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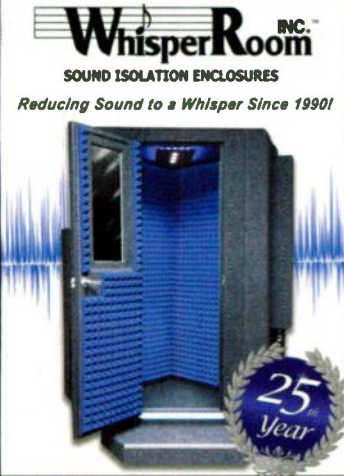
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When Do You Trash Your Preferences?



By Kevin Becka

At the risk of sounding like a VO in a movie trailer (“In a world, where everything is everywhere...”), when you have unlimited tracks, and mounds of gear, when is enough, enough? I’m not talking about giving up learning and stretching, Heck no! That’s why we chose audio as a career. What I’m talking about is when to go with your known winners as opposed to bringing new gear and techniques to the game.

It’s tough because gear is better and more affordable than ever. Even through some tough financial years and working in an industry that’s a moving target, we are buying. Sweetwater, last month’s *Mix* cover story, is a \$400 million retail business, growing 20 percent in each year of the past two decades, and the company is Number 3! (Or Number 2, depending on whom you talk to.) Every day brings pitches for gear upgrades, updates and new goodies to my inbox: high-dollar, stellar-looking hardware processors, and shockingly cheap mics, and speakers—some sounding better than units three times their price. Software with new capabilities, sometimes begging the question: Why? Do I really want to intelligently eliminate leakage on my drum tracks? New, improved, breakthroughs, and re-dos, all vying for our attention and \$\$\$.

I love to dive into a challenging review, get my head around new gear, then bring it to readers through a review or a column. But the truth is, I don’t have room in my workflow for 95 percent of it. There’s just too much.

Let’s break it down. Every audio engineer has their favorite mic and place to put it, for all kinds of applications. They learned these techniques by watching others, liking what they heard, then storing that technique in their personal preference folder. Since the beginning of my career in L.A., I was exposed to the best techniques West Coast engineers brought to many sessions. Now, after moving to Nashville, I’ve blown up my chops by watching the best in Music City do what they do best, then teaching audio students all about it.

Kick drum setups are some of the most interesting and different. One Grammy winner likes the front head off with a D112 and 421 placed near the edge of the shell halfway inside the drum. Another said the best thing to do with a D112 was to keep it in the box—he hated it. A different session called for just one mic, a D12E placed on the outside, unaltered kick head (no hole), at a spot with the least resonance to give the mic a better “look” at what’s inside.

Monday brings a Beta 91a inside and an RCA 44 outside the kick, then Tuesday a Subkick and U 47 FET paired with a D12 VR placed through the hole with all filters engaged. All these engineers and approaches have something in common: They’re all correct. So we meticulously document these guest setups, then repeat the techniques many times with students on other live sessions. Despite these endless and great-sounding techniques, human nature for vets and newbies alike is to first use the technique that ticks all the boxes—it sounds great, and works well quickly and repeatedly. Not to say you wouldn’t change it up, but when the you’re with A players using live ammo, it’s your preference.

Gear designers play the new-for-new-sake game, too, sometimes seeming without reason. I can’t blame them, they have to set themselves apart to stay alive. It’s nothing new. I’m always having to explain why certain British console EQs and pre’s have their zero point (no boost/cut) pointing toward the console operator at the 6 o’clock position and not the way most others are situated at 12. Patchbay design is the wild, wild west, with some labels being far from intuitive. On some bays, a multitrack send is an input and multitrack return is an output, while at the same time, the insert send is an output and insert return is an input. I get the EQ gain knob placement: It’s easier for the user to see the pot’s position while seated. But the MT/insert patchbay labels are a mashup of imperialistic and practical points of view—multitrack “send” (in) and “return” (out) is the console’s perspective? Really? How about using MT in and MT out?

I’m currently reviewing a hardware compressor that has thrown out traditional ways of thinking about metering, labeling, output control, intuitive use of buttons, threshold, gain reduction, and more. When you go that far off the known trail, a great manual is imperative, but unfortunately this unit doesn’t bring it. So to write the review, I have to trash my prefs every time I use it. The unit’s design makes it hard to recall successful settings, gives counterintuitive feedback, and I can’t even go to the manual for an answer if I have an issue. I get trying to be different, but is this how you want your artist to feel while they’re doing their gig?

So when do you go with the tried vs. the new? If you’ve won games with “those” shoes, as long as their comfortable, you get the calls, everyone likes your work and you’re making great music. Keep it up. It’s really more about what the operator brings while using the tools. Because gear set out on a table by itself all sounds the same. “It’s vevy vevy quiet!” – E. Fudd ■

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