

Joe Walsh * Studio Consoles * Grace Potter & the Nocturnals * Avett Brothers Live!

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MIX

MUSIC PRODUCTION • LIVE SOUND • SOUND FOR PICTURE

REVIEWED

BRAINWORX SATURATOR PLUG-IN
STEINBERG UR8234 INTERFACE
LECTROSONICS HANDHELD TRANSMITTER
LAUTEN FC-387 MIC



AEROSMITH

'EXTENSION' WITH JACK DOUGLAS

#BXNKC:JB *****AUTO**3-DIGIT 630
#0296556 4# MIXB 0296556 SEP 2012
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PRODUCTION

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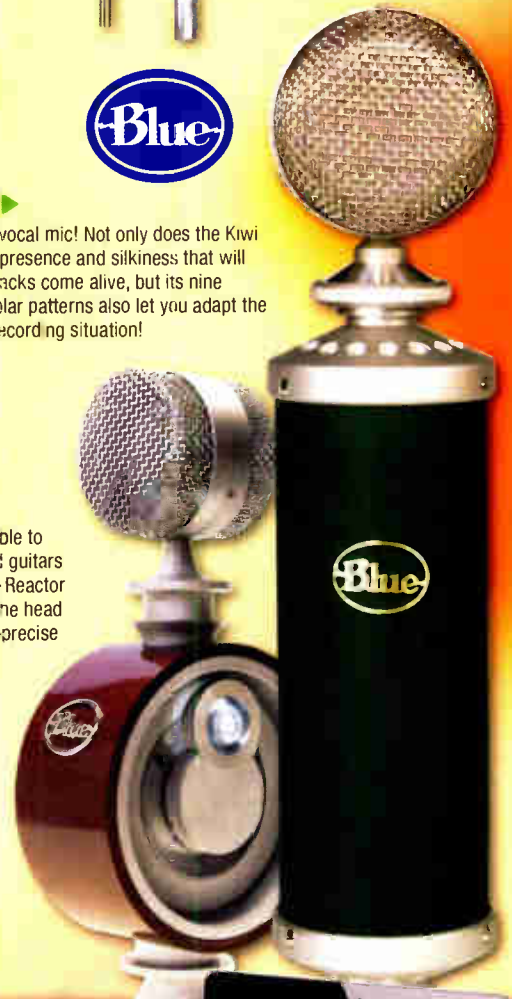


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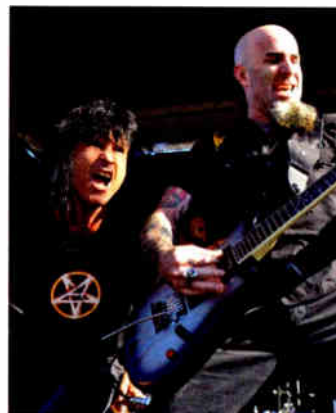
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On the Cover: Aerosmith, with producer
Jack Douglas, is set to release *Music From
Another Dimension*, their first album in 11
years. Pictured are Joe Perry, Steven Tyler,
Jack Douglas and Warren Huart. Photo: Ross
Halfin.

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World Radio History

THE IMPORTANCE OF BEING AEROSMITH

How can you not like Aerosmith? You might not like their Bad Boy 1970s image or the crossover flirtation into hip-hop. You might not approve of the much-publicized periods of substance abuse and follow-up rehab, or the details of the band's infighting. You might not like that Steven Tyler can do *American Idol* or a Burger King commercial and remain unscathed. You don't even have to like their music. But, come on! This is Aerosmith! Sweet Emotion, Train Kept A-Rollin', Dream On, Walk This Way, Dude (Looks Like a Lady)! By all accounts, they shouldn't even be here after 42 years. Yet here they are, 15 original albums later, with more than 150 million sold, and you know what? They still sound fresh. They sound like Aerosmith, sure, but they also sound like today.

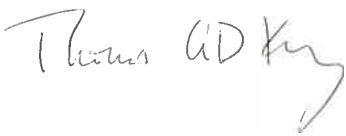
The same could be said for veteran producer Jack Douglas, who first teamed up with the band in 1974 for *Get Your Wings*, followed by *Toys in the Attic*, which legitimized the band as international superstars. He went on to do two more in the '70s with Aerosmith, while also working with the likes of Miles Davis, Alice Cooper, Cheap Trick and, perhaps most famously, John Lennon and Yoko Ono on *Double Fantasy*. Douglas has had his own shares of ups and downs over a legendary career, and today, from both the producer's desk and his professorial chair at Ex'Pression College, he remains as fresh and vital today as he was in his seat at Record Plant New York during rock's heyday.

In November, Aerosmith will be releasing the long-awaited *Music From Another Dimension*, a project rumored about, stopped and started, and on the eve of release pushed back two months because it came out bigger and better than expected, and they wanted to get the Global Warming tour under their belt while the label readied the marketing campaign. It might be hard to avoid references to Aerosmith this fall, and that's okay. They're worth it.

Mix first heard about the record more than a year ago, first from a manufacturer who had brought some gear up to Pandora's Box, their studio in Boston. Then videographer/photographer Michael Coleman started calling in with occasional updates as he chronicled the making of the record over the next 12 months, from Boston to L.A. and back again. His photo essay, with accompanying text by Blair Jackson, begins on page 30. More photos from this unique look at how a project comes together will also be available at mixonline.com.

How is it that Aerosmith, or any artist, really, remains vital after 42 years? Are their secrets that Radiohead can learn from them? Or the Black Keys? Or Kanye? Aerosmith lived in the belly of the rock 'n' roll fantasy life and came out the other side. They have suffered through the dark periods, the breakups, the addictions. And they have ridden the top of the waves. But the one thread is that they are consistently re-inventing themselves, consistently keeping up with the culture and often leading it. This is no nostalgia act. Hell, they appeal to three generations now! Not many acts can claim that.

They are also incredibly savvy businessmen, but you can't honestly credit their success to marketing hype or Guitar Hero exposure. These are rock stars who don't sit still. They live the life, and they walk the walk. They stay true to who they are and they just keep playing. How can you not like that?



Tom Kenny
Editor

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Michael Tiemann, Manifold Recording
64-channel API Vision surround production console
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World Radio History

Current

COMPILED BY THE MIX STAFF

InMusic Acquires AIR Software Group and M-Audio from Avid

inMusic

In July, inMusic (inmusicbrands.com), parent company of Akai Professional, Alesis, Alto Professional, ION Audio, Numark, and Sonivox, acquired the AIR Software Group and M-Audio product lines from Avid. Based in Germany, the AIR Software Group—which began as Wizoo Sound Design and was acquired by Avid in 2005—develops audio software, including effects plug-ins and virtual instruments for Avid Pro Tools. M-Audio manufactures keyboard controllers, studio monitors and computer-based recording systems.

“With the addition of AIR and M-Audio, we’re in an even better position to push the boundaries of computer-based composition, production and performance,” says Jack O’Donnell, inMusic owner and CEO. “Naturally, this will be very positive for musicians, who will get a much more integrated music-making experience as a result.”

inMusic states that the AIR Software Group will continue to develop and maintain technologies for the Avid Pro Tools family of digital audio workstations, and a number of M-Audio products will continue to include Pro Tools software. Select Akai Professional and Alesis products will also now include Pro Tools.

Vintage King, Infrasonic Open Facilities in Los Angeles



Photo: David Grogan

ictured at Vintage King LA (from left): Jeffrey Thibault, Vintage King Audio West Coast Sales Manager and co-owner of Infrasonic Mastering, VK co-founders Andrew and Michael Turner, Robert Maune of Sound and Structure, Pete Lyman, Infrasonic co-owner and principal mastering engineer.

July 2012 saw the opening of a cooperative pro audio venture at 1176 W. Sunset Blvd., a former office and warehouse space measuring 5,265 square feet. Robert Maune of Sound and Structure (SaS), a Southern California-based company specializing in studio design, acoustic treatment and modernist restoration, contracted with Detroit-based pro audio retailer Vintage King Audio and Los Angeles’ Infrasonic Sound Recording Company to design and build dedicated audio facilities. Both companies refer to their shared space as simply “1176.”

On the first floor, Vintage King Audio opened Vintage King Los Angeles (VKLA; vintageking.com/vkla), which includes a critical listening room, mic locker and a main room equipped with several listening stations, affording clients the opportunity to hear their own music through any equipment on the showroom floor.

Upstairs, Infrasonic debuted Infrasonic Mastering (infrasonicsound.com/services/mastering), directed by mastering engineer Pete Lyman and comprising three mastering studios and a vinyl cutting room equipped with Infrasonic’s vintage Scully cutting lathe. The staff includes Grammy Award-winning engineer John Greenham and mastering assistant Phillip Rodriguez.

“The common thread is that we’re all musicians; we all love gear—especially analog gear,” says Jeff Ehrenberg, co-owner of Infrasonic Sound and head of Los Angeles sales for Vintage King Audio. “To my knowledge, this is the first facility where an artist can attend their mastering session, watch their vinyl lacquer get cut and head downstairs to demo some of the best analog recording gear in the world. This is a passion project for everyone involved, and we’re excited to share with our clients.”

TEC Awards Set for NAMM 2013



The 28th Annual Technical Excellence & Creativity Awards will be presented on Friday, January 25, 2013, at the NAMM Show in Anaheim, Calif. For the third consecutive year, NAMM will provide production and event management assets for the TEC Awards, with the TEC Foundation (tecfoundation.com) conducting the nominations and voting process, and continuing as executive producer of the event. In addition to NAMM, TEC Awards sponsors

to date include Sustaining Sponsor Harman and longtime sponsors Shure and Avid.

The 28th Annual TEC Awards will include new awards in the Outstanding Technical Achievement categories: Headphone/Earpiece Technology will include headphones and in-ear transducers for professional studios, live sound and broadcast; Audio Apps for Smartphones and Tablets will include software for recording and music production, audio measurement, audio/music utilities, controllers, signal processing and musical instruments. Eight awards for Outstanding Creative Achievement will also be presented for sound production of recordings, concert tours, films, television, interactive entertainment and other projects.

Timeline for 49th CAS Awards



CINEMA AUDIO SOCIETY

The 49th annual CAS Awards, which honor Outstanding Achievement in Sound Mixing and are presented annually to Re-Recording and Production Mixers, will take place in Los Angeles on Saturday, February 16, 2013, in the Crystal Ballroom of the Millennium Biltmore Hotel. “We are continuing to be totally electronic in our voting process this year,” says CAS President David E. Fluhr

Submission forms for all awards categories will be available online at cinemaaudio-society.org beginning Oct. 15. Final voting begins online on Wednesday, Jan. 23, 2013, and ends at 5 p.m. Pacific Time on Friday, Feb. 8, 2013.

AES Ready for San Francisco

The 133rd AES Convention (aes.org/events/133) comes to San Francisco's Moscone Center on October 26-29, 2012. Multi-Platinum UK-based producer Steve Lillywhite will open the convention with the keynote address on October 26. Convention co-chairs Valerie Tyler and Jim McTigue (pictured) announced two new programming tracks that will debut in San Francisco: Networked Audio, chaired by Nathan Brock, and Sound for Pictures, chaired by Brian McCarty.



Also new this year is a Project Studio Expo, "a two-day series of clinics on best practices and techniques on all aspects of creating and operating a small studio," McTigue says. The Project Studio Expo is an initiative spearheaded by *Sound on Sound* magazine with additional support from *Mix*, *Pro Sound News*, the *AES Daily*, and *Electronic Musician* magazines, as well as HarmonyCentral.com. Manufacturers that target this demographic will have an opportunity to address end users directly, while free clinic and discussion tracks will cover how to obtain professional results in a project studio context.

The AES also announced a new AES Section in Beijing, China. Shusen Wang, a longtime AES member and VP of a broadcasting company in Beijing, met with AES Regions & Sections Chair Peter Cook, who then made two AES presentations to members of the China Audio and Video Association (CAVA). Wang was invited to chair the Beijing Section.



Waves Audio Joins the AVnu Alliance

Waves Audio has become a new member of the AVnu Alliance, an industry forum dedicated to the advancement and certification of Audio/Video Bridging (AVB) devices. As part of this relationship, Waves will be a presence at AVnu events and will encourage industry adoption of AVnu's standards campaigns. AVnu promotes the adoption of the IEEE 802.1 Audio/Video Bridging, and the related IEEE 1722 and IEEE 1733 standards over various networking link-layers. The organization works to create compliance test procedures and processes that ensure AVB interoperability of networked A/V devices, helping to provide the highest quality streaming A/V experience.

MIXBLOGS



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Robair Report

Gino is preparing a interview with mastering engineer Steve Turnidge about his new book "Desktop Mastering" (Music Pro Guides).

[»blog.mixonline.com/mixblog/category/robair_report](http://blog.mixonline.com/mixblog/category/robair_report)



Ask Eddie

SEA CHANGE creates wonderfully interesting textures by mashing up traditional rock instruments – guitars and synths, dynamic and organic drums – plus really cool orchestrations...

[»blog.mixonline.com/mixblog/category/ask_eddie](http://blog.mixonline.com/mixblog/category/ask_eddie)

SPARS Sound Bite

Mix Tip: Drums

By Billy Hume



There was a time when we could rely on the fact that most people listened to music on real stereo systems, often with a subwoofer, to hear and feel the punch of the kick drums. But today you never know where your mixes will be heard. We need to make sure that mixes have punch whether they are being heard on computer speakers, car buds, car stereo or the club.

First, I make sure that I'm referencing the mix across multiple speakers. I am constantly switching between my Yamaha NS-10s, my big speakers with a sub and a cheap stereo with small speakers. I also monitor 90 percent of the time at a pretty low volume.

Then I look for the fundamental punch. While listening on my NS-10s, I put an EQ on the kick with a bell curve and slightly narrow Q, boost about 8 dB or 9 dB and sweep between 90 Hz to 140 Hz. I'm looking for that spot where I can feel the kick in my chest. After I find it, which is usually around 110 to 115 Hz, I will lower the gain to about 5 dB. This will go a long way on most systems.

Next I want to make sure that the attack or "click" of the kick drum can be heard on small speakers. I make a copy of the kick drum track, then use a highpass filter and get rid of everything below 2k. Next I use a bell curve EQ with a narrow Q, boost it 10 dB or so and sweep the frequency anywhere between 2k to 10k. I'm looking for the best click that isn't competing with other elements in the mix and gives the kick presence on small speakers. Blending this track with the first gives me a huge amount of control, as well as the illusion that the kick is louder and deeper than it really is. If the original kick doesn't have any top end I will use a sample instead.

Finally, I want to hit the sub with something. I use the same technique that I used for the click of the kick drum but use a lowpass filter instead. I often use heavy compression or a transient designer to lengthen the sound as well.

Remember to keep referencing on multiple speakers and check the phase between all your kick tracks.

Billy Hume is the owner and operator of Radiator Records/The Zone in Atlanta.



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Cool Spin

The Blasters: *Fun on a Saturday Night*
(Rip Cat Records)



Till now, The Blasters had only cut one studio album since co-founder Dave Alvin went solo more than 25 years ago. But Dave's brother, Phil, has kept the group together all along, performing Dave's songs live, as well as the original rockabilly, blues and folk songs that inspired the Alvin brothers to begin with. The Blasters' second post-Dave release, *Fun on a Saturday Night*, is mainly made up of inspired covers of classic soul, doo-wop and jump blues tunes, performed by singer Phil Alvin; original Blasters Bill Bateman (drums) and John Bazz (bass); and new guitarist Keith Wyatt.

>>mixonline.com/cool-spins

SoundWorks Collection Update

The Dark Night Rises



Visionary Director Christopher Nolan returns for the final chapter of the Batman saga. In this exclusive SoundWorks Collection video, we profile the sound and music team including composer Hans Zimmer (pictured), Supervising Sound Editor and Sound Designer Richard King, and Re-recording mixer Gary Rizzo.

>>mixonline.com/post/features/video_soundworks_collection

PopMark Media Update



From left: Kevin Wommack, photographer Jon Pattillo, Whitaker Elledge, and Troupe Gammage of SPEAK during a photo shoot.

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From left: Matt Burr,
Grace Potter, Scott
Tournet, Bemy Yurco.



Photo: Lauren Dukoff

GRACE POTTER & THE NOCTURNALS

Eclectic Rockers Continue Their Rise By Blair Jackson

Since bursting out of their native Vermont in the mid-'00s, Grace Potter & the Nocturnals have enjoyed a steady rise, as years of relentless touring on the club circuit, playing festivals big and small, and opening for the likes of the Dave Matthews Band, the Black Crowes and, this summer, the Kenny Chesney-Tim McGraw stadium tour, have paid off. They've also made four strong albums that showcase lead singer/songwriter/keyboardist Potter's combustive rock, soul and blues punch, and her band's flexibility playing

everything from power ballads to crunching riff anthems.

For their latest album, titled *The Lion The Beast The Beat*, after the song that kicks off the disc, the band was looking to capture their live energy in the studio, while retaining a radio-friendly sheen. To those ends they chose veteran producer/engineer Jim Scott (Wilco, Chili Peppers, Tom Petty, Sting) to record and co-produce the album (with Potter), working primarily at his Plyrz Studio in Santa Clarita (north of L.A.), and Rich Costey (Foo Fighters, Springsteen, TV on the Radio, Weezer)

to mix at El Dorado Studios in Burbank. Potter also co-wrote three tracks with the suddenly ubiquitous Black Keys frontman/producer Dan Auerbach, one of which was recorded at Easy Eye Sound in Nashville by Colin Dupuis. Engineer Kevin Dean worked with Scott at Plyrz and also on other sessions at the Sunset Marquis Hotel and Westlake Recording in L.A.

Potter connected to Scott on the recommendation of her friends Derek Trucks and Susan Tedeschi "and also the Wood Brothers, who I love and admire," she says. "Plus, everybody had raved



Grace Potter and Jim Scott

about Jim's great studio, and it is an unbelievable place. He has gone so far above and beyond to make the place comfortable, groovy and cozy. It's an epic place to make a record."

Scott's studio is tucked inside a 5,000-square-foot warehouse building. The main tracking room is 30x30 with a 14-foot ceiling, while the larger warehouse space, Scott says, "is awesome. It's not a soundstage; it's a true industrial warehouse and there are rattles and hums that make it a little undependable day to day. Still, we record in the big room a lot—hand claps and percussion and the odd guitar solo. A lot of drums and percussion were done out there."

The control room at Plyrz is a gear-head's dream: It's based around an immaculately maintained mid-'70s Neve 8048 console and a pair of Neve BCM-10 sidecars (all with their much-coveted pre's and EQs); KRK E8T and ProAc loudspeakers; and both classic and more modern outboard gear from UREI, dbx, UA, Neve and others. The studio has an excellent microphone collection and scads of musical instruments, amplifiers and such. "They used my drums, my amps; they brought some guitars but not all," Scott notes. "That's the service you have to provide these days.

People can't afford to ship gear across the country anymore. Grace played my piano and the organs that we have here."

It was tracked almost entirely live, everyone in the room, though vocals were mostly added later. "Her scratch vocals are unbelievable," Scott says. "I think there are a couple that went the distance, they were so great. But we also did a lot of vocals later, too." The vocal chain was a 1970 Neumann U 87 into a Neve 1081 and "a blackface 1176 I've had forever. We did vocals at the studio, but we also set up a mobile studio down at the Sunset Marquis, and the only change there was I used the [Neve] 1073 because that's what's in my Neve sidecar. She's a trooper, man. She'll sing 12 hours a day—just stand there and lead the band: 'Okay, back to the chorus; ready, two, three, four—go!' and blast out the chorus at the top of her lungs all day long. It's impressive. She's got a real instrument."

According to Potter, it took awhile to determine the musical direction for the album. "I didn't really know where we were going at the beginning of the record," she says. "It's something that really took a toll on me because I was letting all the pressure that was coming from me get to me. There were also outside influences of people who thought the record should sound like one

thing or another thing, but at the heart of it, my dissatisfaction with the song selection was a major piece of what made me eventually take the reins and say, 'I need to be more in control of my destiny here. I have to stop letting other people drive the car.'

"The Dan co-writing experience was part of the catalyst for me re-assessing the entire album—not because I thought the Dan songs were so much better. It was that I realized there was a deeper possibility for this record and a more ambitious direction for this record to go in.

"We had all these kind of country-ish songs I had co-written in Nashville. I had so many ideas on the table, I couldn't decide what direction I wanted to go in. And the band was waiting with baited breath, and they were so patient with me through this time. Are we going to make a country record or a rock record? Are we going to make a cool, hip soul record with dance-y songs? Or are we going to make an epic f—n' opus? I think we ended up doing a little of all of that, with very careful selection and a lot of thought put into exactly what message I wanted to send lyrically and musically."

The Nocturnals comprise lead guitarist Scott

Tournet, drummer Matt Burr, guitarist Benny Yurco and new bassist Michael Libramento, who joined the band during the album sessions. In fact, at the beginning, Tournet and Yurco took turns playing bass. "We have five people in the band," Potter says, "and everybody has their own idea of epic-ness and beauty in music, and I wanted to address that on this



record. I wanted to give everybody a voice—not just my own personal taste, but five people's ideas of what a great record is.

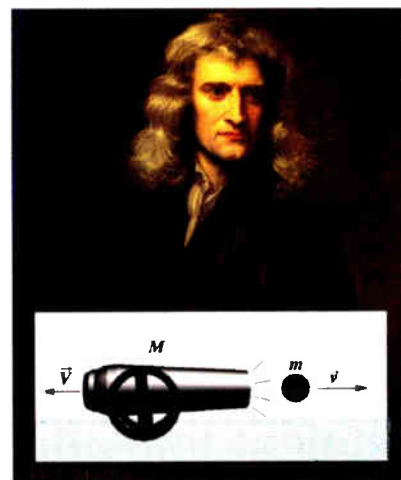
"It was very collaborative, from Jim Scott creating unbelievable engineering sounds that took it to another level, to David Campbell arranging the orchestrations, to Rich Costey mixing the shit out of it, to Dan Auerbach, who brought his unbelievable quirk-rock into it. It was a journey from beginning to end, closing out with me and my band being really proud of it, which is something that doesn't always happen." ■

more online



Check out the extended interview with Grace Potter and Jim Scott. mixonline.com/august_2012

...Had Newton been an audio engineer, he would've used Recoils!

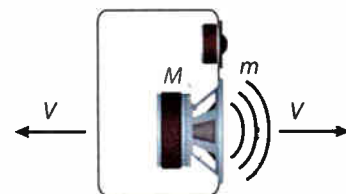


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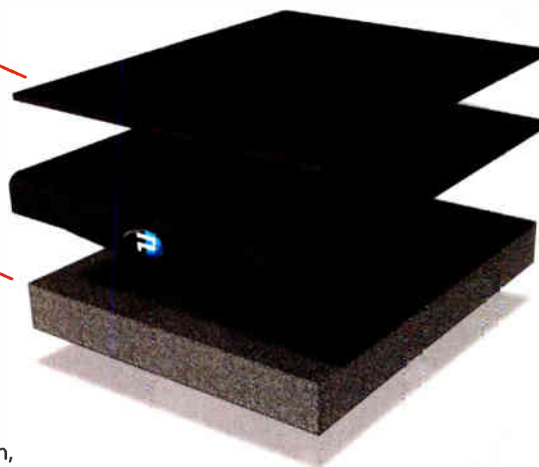
Some would say "just isolate the loudspeaker from the desk with a foam pad" but by doing so, you introduce a new problem—your speaker is now swaying back and forth unhindered on the foam, just as Newton said it would. Energy that could be producing a crisp kick or accurate bass is dissipated into the foam and is lost.



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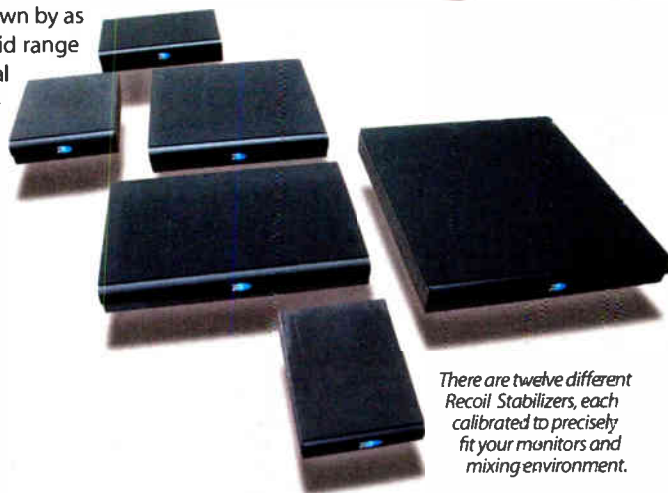


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- Bruce Swedien

(Quincy Jones, Michael Jackson, Jennifer Lopez, Sir Paul McCartney)



LITTLE FEAT'S BACK WITH NEW STUFF!

It's been nine years since Little Feat made a studio album of original material. But their new *Rooster Rag* is one of the best of the post-Lowell George era (1987-01), boasting a solid collection of tunes performed on acoustic and electric instruments and featuring new drummer Gabe Ford, replacing the late Richie Hayward. Four of the new numbers are co-writes by keyboard ace Bill Payne and Grateful Dead lyricist Robert Hunter, and another four are by the always-underrated Fred Tackett. Blues by Willie Dixon and Mississippi John Hurt also get the Little Feat treatment.

Payne and guitarist Paul Barrere produced the sessions at Ultratone Studios in Studio City, Calif., a facility owned by guitarist Johnnie Lee Schell, who engineered. Schell's 20x20 control room contains a baby grand piano once owned by The Band's Richard Manuel, along with a Hammond organ and a Wurlitzer. The console is a Control 24 used primarily for monitoring—he has outboard Neve and API EQs, among others, “but I don't use a lot of EQ when I'm recording,” he says. “I do it pretty flat, and if it doesn't sound right I'll switch or move the mic.

“I record piano with the lid down with small DPA condensers I Velcro to the lid.” Drums are in a 10x20 iso booth; Kenny Gradney's bass goes direct, “and I put the guitar amps in the corner of the main room

with some blankets around them.” The album was cut mostly live (except for Sam Clayton's percussion), with some later layering of additional keyboards and guitars and backing vocals. A solid outing all the way! —Blair Jackson

TENACIOUS D TEAMS WITH JOHN KIMBROUGH

In the years following the quiet box office reception that greeted their 2006 film *The Pick of Destiny*, Tenacious D founders Jack Black and Kyle Gass were looking to come

roaring back. From August 2010 through December 2011, they crafted their 2012 release *Rize of the Fenix* (Columbia Records)—the band's third album and first since the film's soundtrack. They called on Black's friend, songwriter John Kimbrough (from the band Walt Mink), to produce their newest effort, which features Dave Grohl (drums), John Spiker (bass, piano, organ) and John Konesky (electric guitar). Spiker also recorded and mixed the album. “He's a great engineer, but he's very humble about it,” Kimbrough says.

“Early on I did a bunch of demos in my home studio that were mockups of where I thought their songs might go,” Kimbrough adds. “We started recording before all the songs had been written.” Over the first six months, Tenacious D recorded in Pro Tools using largely analog signal paths, working in Ocean Way



Photo: Mira Barel Eflins

(Hollywood), Record One (Sherman Oaks), Perfect Sound (North Hollywood), Dave's Place (Dave Bianco's studio in North Hollywood), Ocean Recorders (Burbank), and Black Sound (Pasadena), tracking Grohl's drums in his Northridge studio, 606. Then, they settled into Kimbrough's converted garage studio for vocal and instrumental overdubs and mixing. — Matt Gallagher



GILBERTO GIL LIVE IN RIO

Brazilian singer/songwriter Gilberto Gil celebrated his 70th birthday by combining his five-piece touring band with a 41-piece orchestra for a special, one-time performance in Rio de Janeiro's Theatro Municipal. Producer/engineer Gabriel Pinheiro was tasked with recording and mixing *Concerto de Cordas & Máquinas de Ritmo* for release on CD (September 5) and DVD/Blu-Ray (October 25).

“It was the hardest recording I've ever done,” Pinheiro says. “We had one day to set up and record a concert that would not stop for us or anyone. We had two Pro Tools[HD] systems running—one main, one backup, and both with 64 inputs and 32 outputs. I used my Lynx Aurora 16 [AD/DA converter] on the main system for vocal, guitars, the band's cello and violin, and the main orchestra. The rest was on an Avid 192 [interface]. We set up in a dressing room right in front of Gil's; there, we could accommodate a Soundcraft MH4 console, our PT systems and racks of pre-amps.” — Matt Gallagher

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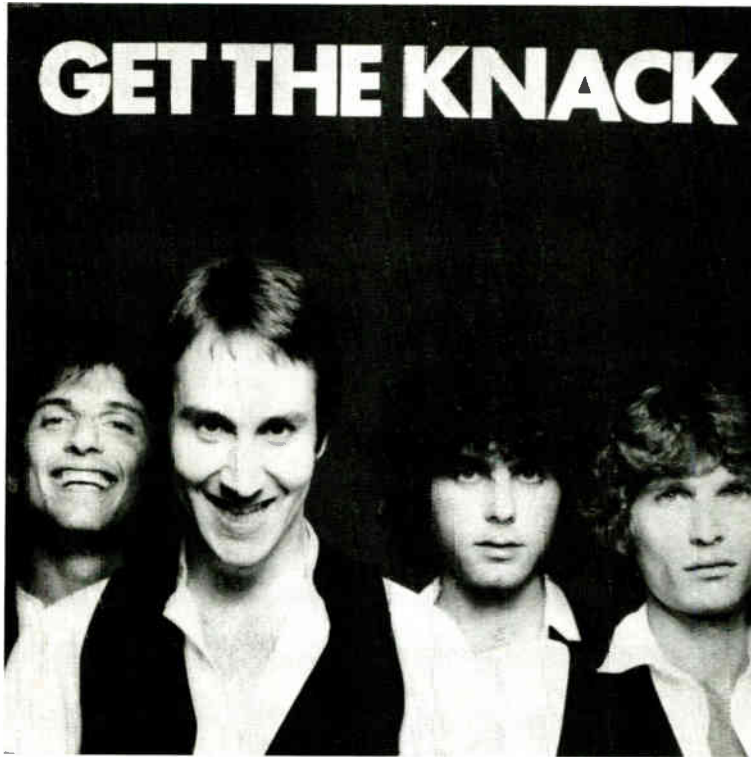
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Classic Tracks

By Blair Jackson



THE KNACK

“My Sharona”

Although they are little more than a footnote in the history of rock—regarded by many as a one-hit wonder—the Los Angeles pop/new wave band The Knack caused quite a sensation in their day. Their best known song, “My Sharona,” was Number One for six weeks in the summer of 1979 and their debut album, *Get The Knack*, was Number One for five.

Lead singer, rhythm guitarist and main songwriter Doug Fieger had been kicking around L.A. since 1971, when he arrived from his native Detroit with a band called Sky, who cut two albums for RCA before heading back to Michigan sans Fieger. Around that time, he met (but didn't play with) future Knack drummer Bruce Gary, who was an in-demand session cat and, a couple of years later, hooked up with guitarist Berton Averre. Years before forming The Knack, Fieger and Averre penned the catchy pop number “Good Girls Don't” (another great tune from The Knack's first album).

“I had this idea for a teenage rock 'n' roll band,” Fieger told *BAM* magazine writer Regan McMahon (my future wife, as fate would have it) in the

only interview he and Averre granted during The Knack's amazing summer of '79. The duo passed a tape of their rockin' teen anthems around L.A., but “nobody wanted to hear about it. We knocked on a lot of doors . . . People told us, ‘This is very interesting, but we're not signing anybody,’ and, ‘It's a little too pop.’ We got discouraged, but it never got to a point where I wanted to give up on it.

“Finally,” Fieger added, “I said, ‘I don't care anymore if I make it. I just want to get out and play my songs, sing my songs in front of girls. I just want to do that once in my life.’”

In the spring of '78, Fieger and Averre managed to bring drummer Gary into their orbit, and then snagged a bass player named Prescott Niles to round out a quartet they named after a quirky 1965 British film by *A Hard Day's Night* and *Help!* director Richard Lester, called *The Knack... And How to Get It*. Fieger claimed the full group rehearsed just six days before playing their first gig, at Hollywood's Whisky A Go-Go. Word spread quickly about the energetic young band, and within a couple of months they were selling out 1,000-seat shows at The Starwood and packing the historic Troubadour nightclub and other venues around town. Soon, Capitol Records came sniffing around their door, and news of that label's interest sparked a huge bidding war. The songs that record companies had previously passed on were suddenly being hailed as fresh and original. As Averre told *BAM*, “We're just doing the music we love, which for five years we were told wasn't commercial.”

Indeed, '60s-influenced pop and rock had come back with a vengeance in the late '70s. Artists such as Tom Petty & the Heartbreakers, Graham Parker & the Rumour, Rockpile, Cheap Trick and many others who were linked to the so-called “new wave” helped pave the way for The Knack, who drew from similar influences—The Beatles, The Rolling Stones, The Kinks, The Who, Buddy Holly, Motown, etc.—as well as from punk bands. The Knack's songs were mostly hormonally charged paeans to young lust (and love), and more than a few accused Fieger of out-and-out misogyny. But he certainly wasn't the first guy to see rock 'n' roll as a vehicle to get girls.

Such as Sharona Alperin, a 17-year-old L.A. girl who became one of The Knack's first fans. Fieger, 25 at the time, became infatuated with her and, according to Prescott Niles, took a catchy guitar and drum riff that Berton Averre had devised a couple of years earlier, and the two fashioned it into “My Sharona”; Fieger later said it took them 15 minutes to write it. There was some discussion about including Sharona's name in the title of the song, but Fieger insisted, wanting to honor his new muse. (Fieger and Sharona were a couple for four years.)

In the spring of 1979, Capitol won the battle for The Knack and immediately tagged producer Mike Chapman and his engineer Peter Coleman to cut their debut. The Australia-born Chapman and Englishman Coleman had been studio partners since their days in London in the early '70s, work-

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World Radio History



ing with Suzi Quatro, The Sweet, Smokie and others, and also in various European cities and in New York, before the duo settled in L.A. a few years apart. In the States, Chapman and Coleman established themselves making hit records with the likes of Blondie, Pat Benatar, Exile and Nick Gilder (remember “Hot Child in the City”?) before cutting *Get The Knack* in April '79.

Chapman and Coleman did nearly all of their work in L.A. at what was formally known as MCA Music Studios, but was still known to most in the record biz as Whitney Recording Studios, in Glendale, in the San Fernando Valley. It was built in the early '50s by Lorin Whitney (1914-2007), whose main interest was Christian/inspirational music. He was involved in Southern California religious radio and recordings beginning in the '40s, and when he decided to open his studio, he installed an enormous pipe organ against one wall of his “A” studio, which was a generous 40x50x20. There was also a smaller “B” room and a mastering suite.

At first, Whitney specialized in religious recordings, but during the early '60s it was increasingly used for Disney films, TV soundtracks and various Hanna-Barbera animated productions. By the late '60s, the clientele expanded further to include numerous rock acts—Frank Zappa recorded several albums there (including his 1969 masterpiece *Hot Rats*), and everyone from Zappa and Rod Stewart to The Carpenters availed themselves of the organ on the premises.

In the mid-'70s, the studio's two custom consoles were replaced by 36-input Neves, and in 1978, Whitney sold the studio to MCA, which brought many of its own projects there, but also rented it for outside jobs—like The Knack for Capitol.

“The first time I heard about the Knack,” Coleman recalls, “was when Mike was asked to produce them and he called me up and said, ‘Man, you’ve gotta come see this band we’re going to record!’ I went down to the Whisky on Sunset and saw them play and they were so good. They were obviously really well-rehearsed and they’d been playing those songs in the L.A. club scene for a while and they were great musicians to start with, so it was amazing. Mike said, ‘What we want is *that*. We’re going to do minimum overdubs and we’re going to keep it as pure as a four-piece rock band can sound.’ That was the mission, and that’s what we did. All we needed was a really good room, because they already had great instruments and they knew the material inside-out. They were tight as hell and there were no click tracks.

“The thing I remember the most was how quickly we did it. I think we tracked it in three or four days, had a couple of days doing vocals and shaking tambourines, and then mixed in three or four days. Some of the solos actually went down live, and some we overdubbed. But most of it was kept as four-piece as humanly possible. It was a lot of fun.”

Coleman recalls the entire band setting up in a loose circle near the center of Whitney's “A” room and running down the tunes to near perfection, usually just a couple of takes per song. Fieger laid down scratch vocals



during the takes, but did all his leads later through a Neumann U 47. Fieger and Averre both played through Vox amps (as The Beatles did in their performing prime), and Coleman and Dave Tickle—another British engineer who was being groomed to become Chapman's main recordist, as Coleman was beginning to do his own production work—miked the amps with Shure SM57s up close and Neumann U 67s about a foot away. Tickle has said that a pair of Neumann KM84s were used for distant drum sounds, but Coleman notes that a lot of the big drum sound on the album came from a tube U 47 overhead—“I liked the beef out of them,” he notes—with some UREI 1176 compression. Tickle told *Sound on Sound* that Bruce Gary's kit had a FET 47 on the kick and tom-toms and KM 84s on the

cymbals; Coleman says that he liked 57s on drums, so perhaps that was on the snare (as was common in those days). A 47 captured Niles' Ampeg bass cabinet, which was off in a booth within the main playing area. The control room's Neve had inboard 1073 EQs that producers and engineers cherished and used liberally. EMT 250 digital delay was added judiciously to boost the studio's natural resonance.

The album was cut to a 3M 24-track, “though a few songs only had about 16 tracks of audio on them,” Coleman says. “I don't remember any edits at all. As you hear it is how it was played.” Well, except for the overdubbed lead and backing vocals, and little touches such as percussive bits and the harmonica on “Good Girls Don't.” Tickle recorded most of the overdubs, then Coleman mixed on the Neve in MCA/Whitney Studio 3, down to an Ampex ATR 2-track. The monitors were Altec 604s. Steve Hall, who had worked at Whitney for several years pre-MCA, mastered the album in his suite at the studio.

Capitol developed a massive promo campaign—overtly linking The Knack's look and sound to The Beatles—even before *Get The Knack* was released in June '79, so by the time the incredibly infectious and driving “My Sharona” hit the airwaves, the word was out about this band. L.A. conceptual artist Hugh Brown launched a humorous “Nuke the Knack” campaign in opposition to the hype, but it wasn't enough to keep “My Sharona” from rocketing to Gold status faster than any single since “I Want to Hold Your Hand,” and dominating the charts that summer. The follow-up single, “Good Girls Don't,” hit Number 11, and *Get The Knack* ended up selling more than 6 million copies worldwide.

Alas, that was The Knack's great moment in the sun. They carried on for a few more years with diminishing success before breaking up. Bruce Gary died of cancer in 2006, Doug Fieger in 2010. MCA Whitney Studios closed in the late '80s. Mike Chapman has continued producing and writing songs; Coleman moved to Nashville and has been a successful producer/engineer/mixer there; David Tickle, too, has been an active producer/engineer/mixer; and Steve Hall started his popular Future Disc Mastering operation. Sharona Alperin is a high-end real estate agent in L.A.

Special thanks to Steve Hall for info about Whitney Studios. ■



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Photos: Steve Jennings

THE AVETT BROTHERS

Rockin' Out at the Greek Theater By Tom Kenny

Real bands become bands on the road, and it takes less than one song to realize that the Avett Brothers are a real band, one that has spent a good part of their adult lives in the back of vans and buses, night after night after night, playing off the energy of the crowd and crafting their new material at the same time they belt out fan favorites.

In the midst of an eight-month tour that has crisscrossed America more than once, stopping in at festivals and benefits along the way, the Avett Brothers will release their seventh full-length, *The Carpenter*, on September 11 (American Re-

cordings; produced by Rick Rubin, engineered by Ryan Hewitt). *Mix* caught the band—brothers Seth and Scott Avett on banjo, guitar, accordion, piano, standing kick drum, standing hi-hat and about everything else; stand-up bassist Bob Crawford; cellist Joe Kwon; and drummer Jacob Edwards—on June 23 at the Greek Theater in Berkeley, Calif.

“With how dynamic and energetic these guys are, I guess my mix philosophy is just to hang on with both hands!” laughs FOH engineer Justin Glanville, who has been with them for the past seven years. “It’s a very active mix, and I have to

use at least some compression on just about everything. I try to use as little as possible, and I try to mainly ride faders from song to song. But, for example, I have to crush Seth’s hi-hat downstage. There are no sticks involved, as his hands are busy playing guitar, but there are a couple of songs where he’s kicking the cymbals, not stepping on the pedal.”

Despite the success of 2010’s *I and Love and You*, and a sometimes back-to-back-to-back tour schedule in venues ranging from sheds to arenas to festival stages to Art Deco theaters, the band carries very little on the road—instruments,



mics, DIs and a "stick/show" for Glanville's settings. "I use the plug-ins from board to board," says Glanville, "and I mostly request Avids now to be consistent. That said, my old live rack is gathering dust—a few dbx 160s, two dbx 166XLs, an ART VLA PROII, T.C. M-ONE, T.C. D-TWO, and a Lexicon MX300. I miss using that gear, but not dragging it around.

"I really do enjoy delays, especially tape delays, though I use them very lightly," he continues. "And multiband compressors/limiters have become my favorite tool. They can help with everything from a singer constantly grabbing the mic and screaming into it, to a banjo that's being attacked by metal finger picks as Scott repeatedly stomps his foot through his kick drum pedal. I recently got a tip from an engineer friend who showed me parallel compression by way of auxes. Very handy on drum kits and multiple electric guitar mics."

Though they win awards in the Americana category, the roots for both Scott and Seth in their North Carolina youth bands was punk and rock. The brothers sing into SM58s, sometimes

wailing and often in resonant, soulful harmonies. Glanville adds a touch of Bomb Factory 76 compression and slight EQ. "I try to keep the vocals in your face for most of the songs," he adds, "as their lyrics are the most powerful part of an extremely dynamic show. I grade myself on crowd movement and attentiveness. The crowd at the Greek moved a lot and sang really loud, so that makes me feel like I got the job done well. I was very comfortable there from the start. It was a great mix position."

Sound system services at the Greek, as they have been for most every show there since the late '70s, was provided by Sound On Stage of Hayward, Calif. The Avett package included an L-Acoustics rig: 18 VDosc and six dVDosc for the mains; six Arcs for outfill; four 8XT for frontfill; and 16 SB-218 subs. All powered by 24 Crown Macro Tech 5000VZ and six Macro Tech 5000i amps. Onstage were 12 115XT speakers powered by eight Lab.gruppen fp6400s (there were also four Sennheiser EW 300 IEM systems) The FOH console was an Avid Venue SC48; monitor console a Yamaha PM5D, manned by Bob Paiz, of SOS (For years, especially during the bar/club days, Glanville mixed monitors from FOH, back in the club days; now they pick one up in each town; Seth Avett, he says, usually walks the guest engineer through soundcheck). Crew chief/systems tech for SOS was John Neilson, with the company since 1990. He knows the Greek as well as anybody.

"The Greek is such an amazing venue," Neilson says. "I'm from Berkeley, and I started going

to shows here as a kid in the early '80s. This is where I found out I loved audio engineering. I think it's one of the best-sounding venues anywhere. It's more than 100 years old, and obviously it's modeled after a Greek amphitheater, so you really do have the acoustics working for you. But it's a lot of concrete, so the space does change pretty dramatically from soundcheck to show, when you have bodies in there."

"John was great and really helped me at soundcheck, showing me what to anticipate," Glanville says, "With any venue where I think the crowd will make a drastic difference, I try to make very small, if any, adjustments on the stereo bus's graphic EQ. Then I use the first few songs of the set as measurement. When it's show time, the energy is 100% different as they just tear into their instruments.

"I've been with them coming up on seven years, in so many no-soundcheck situations, that I've developed a distinct focus on the first few songs to try and rope in the mix quickly and efficiently," he concludes. "I mainly ride faders from



song to song, and I usually have a rough mix to start with. After I quickly slide the vocal faders into position, I'll move a few VCAs and await the next big change in the song. There are a few songs where the energy of the songs builds and builds until a breaking point, where I'll just bump the Master up a couple dB at the right time. I can see and feel the difference from the crowd. And that's what it's all about."

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Check out more photos of the Avett Brothers online. mixonline.com/august_2012.

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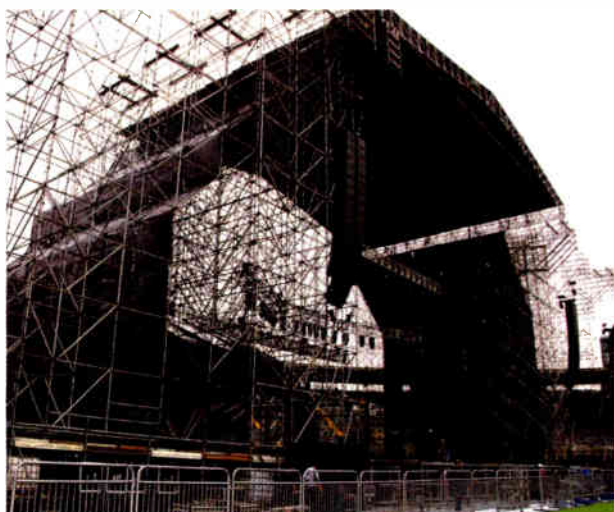
World Radio History

HOUSE OF BLUES GOES WITH SOUNDCRAFT

The House of Blues (HOB) contracted Sound Image of Escondido, Calif., to upgrade the front-of-house mixing facilities in its New Orleans and Anaheim, Calif., locations with a combination of Harman's Soundcraft Vi4 and Vi6 digital mixing consoles, and a Vi7 console in use at the HOB Mandalay Bay venue in Las Vegas. With 13 venues across the U.S., the House of Blues says that it has been standardizing its sound reinforcement systems to better accommodate artists and attract a higher level of performers. "Engineers are familiar with Soundcraft consoles and like the fact that they can get consistently excellent sound from venue to venue and even use their same console configurations and settings," says Sound Image's Jason Schmidlapp. "It saves time, makes life easier and reduces the stress of mixing a live show."



The Bangles perform at the House of Blues in Anaheim, Calif.



MCCARTNEY ROCKS WITH ADAMSON

Sir Paul McCartney's On The Run tour concluded with a stadium show in Bogota, Colombia, where Adamson Systems Engineering had recently placed its first E15 system in Latin America with sound company and new Energia Beta partner, C. Vilar Amplificacion Professional. Ewan McDonald and Leo Vilar of C.Vilar provided the system design with left and right main hangs, each made up of 15x E15s above two SpekTriX 5-degree enclosures, and two SpekTriX W 15-degree enclosures. The design for side hangs featured 12x Y18s with an underhang of four Y10s per side, while 16 T21 subs on the ground took care of the low end. Four Y10s per side were stacked on top of the T21 subs for frontfill, and four SpekTriX were evenly spaced across the stage as lip fill. Six delay stacks were distributed around the edge of the stadium to cover seating areas; four risers held four stacked E15s in each—two facing left and two facing right—and two delay stacks of eight Y10s each were loaded on scaffolding facing out toward the middle of the seating area, where most of the audience was concentrated.



ULTIMATE MUSIC FESTIVAL HANDS FOUR STAGES TO AUDIO FORMULA

Miami-based sound reinforcement company Audio Formula and its CEO, Nick Assunto (pictured), have handled audio production for a portion of Miami's annual Winter Music Conference and related events since 2002, when Assunto assumed the role of production manager for one of its peripheral shows, the Ultimate Music Festival. This year, Audio Formula took charge of four UMF stages offering simultaneous performances in two different locations: at Nikki Beach and the Raleigh Hotel. Assunto placed a pair of DiGiCo SD9 consoles at the Raleigh Hotel, and an SD11 and SD8 at Nikki Beach with a pair of SDRacks to run the two locations remotely.

"Our responsibility at the event is to make sure we have the latest technology available for the performances," Assunto explains, "from the P.A. system to all the peripherals involved. In addition, we're responsible for tuning the system for the demanding SPL requirements and making sure we get the nicest definition out of the system. My favorite feature of the DiGiCo is having the ability to have everything separated in the matrix and in different layers. It's handy to be able to remove all the non-essential buttons from the layers to have easy access of all the required channels in one page without having to flip around. Also, the SD9 with remote snake was very small and fit perfectly under the DJ booth with no problem."

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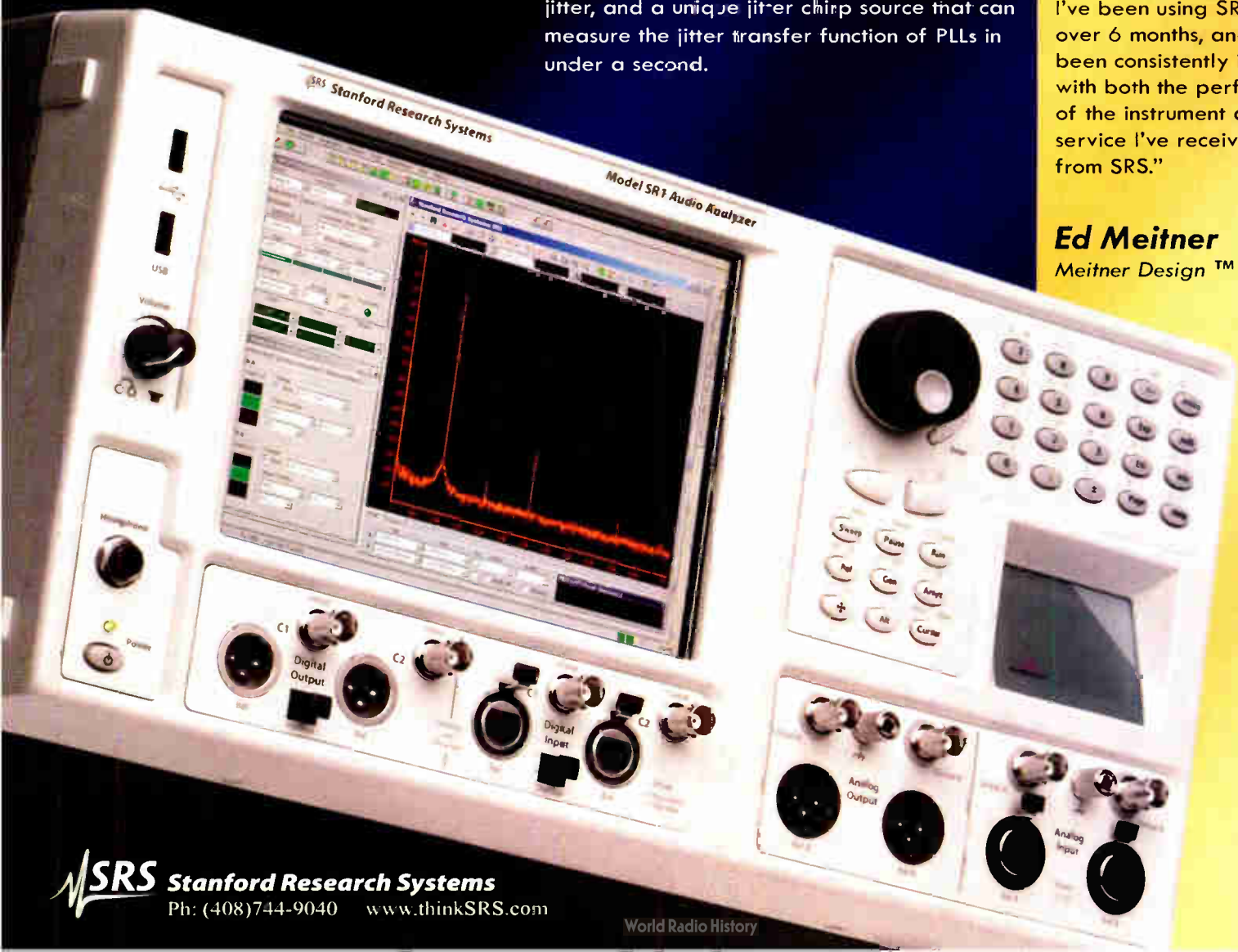
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ROCKSTAR ENERGY DRINK MAYHEM FESTIVAL

Now in its fifth year, the Rockstar Energy Drink Mayhem Festival pulled into the Shoreline Amphitheater in Mountain View, Calif., in early July. The P.A., as it has been since its inception, was all Peavey, with Crest amps, supplied by the companies and partially owned by Jägermeister, a major sponsor of the tour.



Anthrax headlined the Jägermeister stage this year, along with Asking Alexandria and other acts. The main stage headliners this year were Slipknot and Slayer.



"Peavey and Jägermeister and I have had a long and great relationship," says David Summers, tour and production manager for the Jägermeister Mobile Stage. "Jägermeister has been a sponsor and a partner with the tour since the beginning, and I've done every Mayhem show since its inception. We're using the Yamaha M7CL 48-channel console for the Jägermeister stages. A little over two years ago we knew we needed to go digital. We need [the digital consoles] for the ease of memory, recall, and the reduced size and weight.

"My drive rack consists of a Numark iDEC iPod controller/dock, and I have an older laptop to control the system processor," Summers continues. "I have a Furman top-of-the-line power conditioner; next is four channels of Rane DEQ 27 band EQ—I use two channels for left and right, two more channels for frontfill and outfills. Then two dbx 160As for the main left and right; they work great for some soft compression. Last are two [Peavey] Media Matrix 8-in/8-out digital system control."



"All the amp racks for the P.A. and monitors are custom made Jägermeister/Crest amp racks," Summers explains. "We use a total of 49 Crest 200 Series amps—32 for the P.A., and 17 for the monitor rig and fills. For sidefills we have doubled our normal amount. With the change in width and depth of the Stageline 320, we needed more coverage and more overall power. We are using two QW-218 per side and two QW 2F boxes per side; they're powered by Crest 9200 and 8200 power amps and Peavey 26 crossovers."



Ivan Greilick

"This is my first encounter with a digital desk, and the Yamaha M7CL has been very user friendly," says Monitor Engineer Ivan Greilick. "We are straight out of the buses of the desk, into Peavey's VSX 48 processors, then into the Crest Pro 200 amps and on to the QW wedges. We use the 'graphs' in the M7, and while this is a completely usable way to do it, lately I've been using the parametric EQs on the M7 bus outputs and the EQs in the VSX 48. I ring the rig more aggressively because you can't go for pretty with metal bands. It's all about sound pressure, and they'll tell you as much."



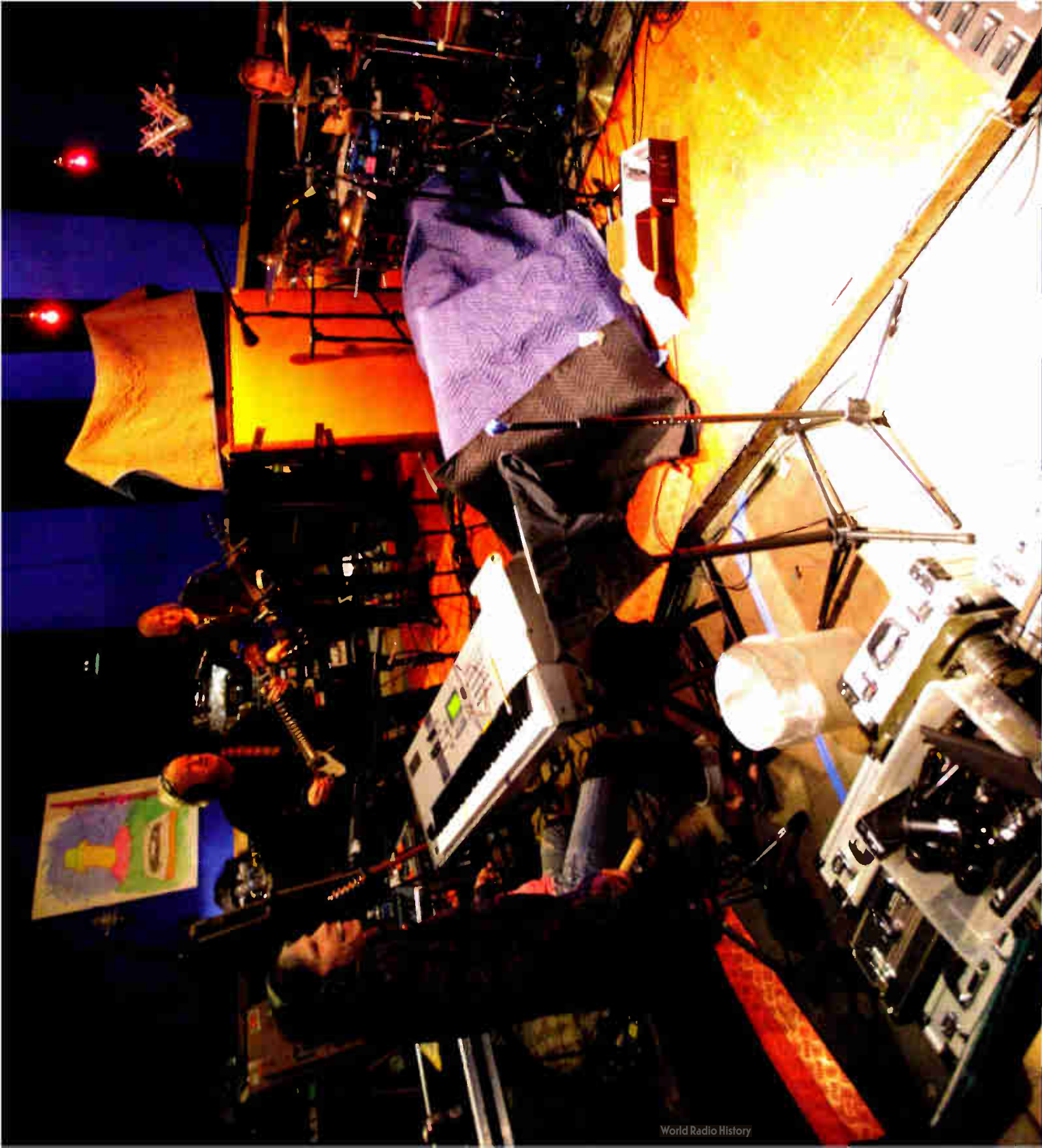
Peavey Versarray 212 cabinets are flown 10 per side. "They are a great three-way box with amazing smooth top end," Summers says. "We fly the system quickly and the coverage is great." Also pictured are QW wedges being loaded in, 124 of which are carried by production. "They're a great wedge that have great clarity and volume when needed," Summers says. "We run them bi-amped and use 10 on the deck all the time, with a couple spares."



For the frontfills, Summers uses two of the 212s. "I run them in mono off a separate send from the console," he explains. "That way I can completely control what's in front. For the outfills, I have four Peavey QW 1s."



The Jägermeister stage featured 16 Versarray 218 subs, shown here with the P.A. going up. "I group them in clusters of four to control the 'power alley' so that they don't couple so much in the middle and I get better overall coverage across the crowd area," Summers says. The subs are powered by 16 Crest 9200 amps.



AEROSMITH IN A "NEW DIMENSION"



These are good days for Aerosmith. The Boston Bad Boys, now two years past their 40th anniversary, just completed their first album of original material in 11 years—*Music from a New Dimension*, due out in early November. The debut track (and video), “Legendary Child,” has been warmly received by longtime fans and radio alike, and beginning in mid-June the band embarked on a huge summer jaunt with Cheap Trick dubbed the Global Warming Tour. Intra-band relations appear to be good at the moment, and at least one past point of contention between singer Steve Tyler and guitarist Joe Perry was resolved in mid-July: Tyler has vacated the judge’s chair he’s occupied for the past two years on *American Idol* to give Aerosmith his full attention once again.

Music from a New Dimension reunites Aerosmith with legendary producer Jack Douglas, who helmed four of the group’s groundbreaking albums in the ’70s—*Get Your Wings*, *Toys in the Attic*, *Rocks* and *Draw the Line*—as well as countless live and compilation albums by the band, the 1982 *Rock in a Hard Place* (sans Perry and guitarist Brad Whitford) and the 2004 blues bash called *Honkin’ the Bobo*, which was their last studio album. (Douglas’ CV also includes scores of albums by a wide range of artists, including John Lennon, The Who, Cheap Trick, Patti Smith, Alice Cooper, Slash, Graham Parker, the Michael Schenker Group, Michael Monroe and many others.)

Joining Douglas and the group—Tyler, Perry, second guitarist Brad Whitford, bassist Tom Hamilton and drummer Joey Kramer—for this outing was British-born engineer (and occasional producer) Warren Huart, whose Swing House Studios in Hollywood had been used by Douglas on a few projects. Huart has made a name for himself working with such acts as The Fray, Better Than Ezra, James Blunt and Howie Day, and shares Douglas’ passion for great analog equipment and natural-sounding albums. Also, Douglas says, “He’s a very hard worker and I needed somebody who was willing to work ridiculous hours and pretty much give his life over for almost a year.”

As it turned out, *Music from a New Dimension* took “only” nine months to make—though it was not nine solid months. Roughly speaking, the flow of the album’s recording went this way: The first three months, which consisted of songwriting and recording of basic tracks for most songs, took place at Aerosmith’s Boston studio, Pandora’s Box. The studio was originally built a decade ago by Douglas, designer John Storyk and the group’s longtime (now former) engineer Jay Messina, then updated by Douglas about a year ago. Additionally, Perry recorded some guitar parts at his own fabulously equipped Boston studio, The Boneyard. From there, the action shifted to Huart’s (and co-owner Phil Jaurigui’s) Swing House complex.

Many overdubs, some re-tracking and ground-up work on two cover tunes—The Temptations’ obscure “Shakey Ground” and The Yardbirds’ “I’m Not Talking”—as well as a new ballad by Diane Warren called “All Fall Down” (featuring Carrie Underwood) were done at Swing Time. Additional recording (such as Underwood’s lead vocal) and some mixing took place at Huart’s personal studio, Spitfire.

Several tracks were mixed by Neal Avron (Linkin Park, Fall Out Boy) on an SSL 4000 G-Plus at Paramount Studios in Hollywood; others by the prolific Chris Lord-Alge on the 72-input SSL 4000 E Series board in his Tarzana (L.A.) studio; the rest were handled by Huart and Douglas on Spitfire’s 40-input SSL 4000 G.

Join us over the next several pages as we offer a photo essay by noted SF Bay Area photographer and video director Michael Coleman (you love his SoundWorks Collection Website devoted to film sound), who captured the entire process of making *Music from a New Dimension* from its formative days in Boston to final overdubs in L.A. Accompanying the photos are quotes and information supplied by Jack Douglas and Warren Huart.

Photos by Michael Coleman; text by Blair Jackson

Jack Douglas on first sessions in Boston: "First is the writing process. The idea of the album was to write it and make a record that really sounds like the band. They come into my office with dry [acoustic] guitars and I have an old cassette machine and I start recording. I'm writing stuff up on a chalk board behind me, with fake titles attached to the different riffs and ideas. [Notorious Boston mobster] Whitey Bolger had just been captured so we had one song that was called 'Welcome Home, Whitey!' There was one called 'Butt Weight' [as in the late-night commercial offers that say 'But wait!']. There was another with the working title 'We Know Where Your Kids Are.' Then we would take them to the next room over, which is a bigger conference/rehearsal room where we had a piano, some small amps and their instruments, and we would record into my computer and start to work the licks up. Everybody is sitting at this big table and each guy is putting in ideas. We would work stuff up in there, record it and listen back to it for a couple of days, make changes, and as soon as it got to be a recordable song, we'd go right into the [main studio] room and cut it while it was fresh."



More on Pandora's Box: The control room at Pandora's Box is equipped with what Douglas calls a "Frankenstein console," originally put together by Douglas and Jay Messina using mainly Class-A components from '70s and early '80s Neve consoles, as well as API line amps. One Douglas innovation

at Pandora's Box was taking four patio umbrellas, stuffing them with foam and felt, and then deploying them as needed in the recording room. "I can raise them or lower them over drums," he says, "or turn them around depending on whether I want them for dispersion or absorption." Douglas adds, "We have

tremendous flexibility [in Pandora's Box] because it's built in a gigantic warehouse, and the way I designed the room you can open double-doors in the back and spill the sound out to many thousands of square feet of open space, so it's like a natural chamber. We had mics everywhere—30, 40 feet up."

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Warren Huart on Steven's vocals: Most of Steven Tyler's keeper vocals were cut at Swing House with a Neumann U 48 that Huart had used previously on The Fray, James Blunt, Adele and others. Other pieces of the chain included a Brent Averill Enterprises 1073, "and then I mult to two sets of compression and I parallel compress. I have two [dbx] 160 VU's, which I set pretty lightly, like 2-to-1 or 3-to-1. I split those out of a mult and then each of those goes to an 1176 set to limit on 20:1 and they just catch the peaks. I've got one for verses and softer vocals, attacking it lightly, and then when he goes into that louder, crazier Steven thing I have another set of compression set at half that. They're multed back together and that's the vocal sound. What it does is give you huge, fat vocals all the time. I ride the 1073—I'll click the gain settings up and down depending on where he is on the vocal. It's pretty old school. As an engineer, you're blessed to work with a singer of that quality, because he makes your life very easy."



On Tape and CLASP: Douglas and Huart joined the growing ranks of producers and engineers to embrace the Endless Analog CLASP system, which Huart says "gives you a sound only tape can give you. You can't fault it on drums—it gives you a nice little low that's never going to be the same if you just EQ. You can also boost the top end on your overhead in the mix without it sounding brittle." For this project, the recording team used CLASP in conjunction with three Studer A800 two-inch analog recorders—a 16-track (for drums) and a 24-track at Pandora's Box, and another A800 24-track at Joe Perry's Boneyard.

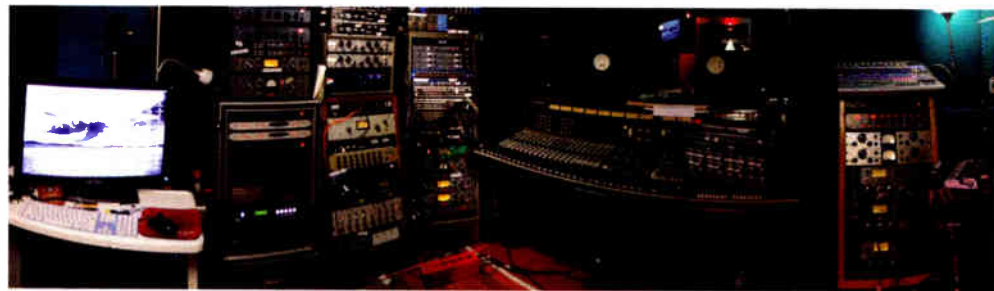
Douglas on Swing House: "The vibe [at Swing House] was totally relaxed. It's like a clubhouse. Crystal Method was in there awhile, Marilyn Manson. And we had visitors, too—Richard Lewis, Rick Nielson, Jack Black, Johnny Depp, so it was a lot of fun." Depp and Julian Lennon are among those who helped on backing vocals.



Douglas has done so much work at Swing House over the past five years that he has merged much of his personal equipment with the studio's, including his (now-rare) SPL Charisma dual-channel processors and some Retro gear, such as the 176 (the modern version of the 1176), which he lauds for its highpass filter. "Also, their version of a [1950s-era] Gates Sta-level [compressor] and passive EQ are very good."

Other favored pieces of gear included Pulse-Tec's modern versions of the classic Puittec PQ-1 and PQ-2; and the Vertigo Sound Quad Discrete VCA Compressor, which Huart likens to the "the classic dbx 202 VCAs that are in the original [SSL] 4000 bus compressor, though the control over it is much better. What I like about it is the highpass filter, which is very modern. It's set at 60 and 90 and it really allows the bottom end to breathe."

Both of Swing House's two main rooms were used for the Aerosmith project. The control room of Studio A includes a vintage 20-channel API console, a Cadac sidecar and an assortment of Calrec and Neve mic pre's. Studio B features a gorgeous vintage 24-channel, 8-bus Neve 8058.





Joe Perry's Guitars: "I always let Joe go first," Douglas says. "He'll pick a guitar and an amp and maybe an effect, and that gives me an idea of what he's thinking. This is an artist's record; it's not a producer's record. So the first person I want to hear from is the artist. He'll say, 'I have this in mind.' 'Okay, that's a good idea, Joe, but we're going to have to work to fit that sound into the track, so we might need to do this with it, or try this alternative, which is similar but slightly different.'"

In addition to double-close-miking the wide variety of large and small amps Perry used—everything from Fender Princetons, Deluxes and Champs to Marshall Plexis, Vox AC15s and AC30s to Bogen and RCA P.A. heads modified to be guitar heads—Huart says that the guitars were always also captured with room mics and recorded direct. For the close mics on the amps, typically they used a Royer R-122V tube ribbon and a Shure SM57. "We had multiple rooms going," the engineer notes. "I had the large room going with maybe a stack or a half-stack

out there, and then an overdub room on the right-hand side where we put combos and we'd record those at the same time. We also did things like take a DI signal, put it through a 1073, and overdrive it." Douglas: "The direct was after all the pedals, so if there wasn't quite enough of something later when I was mixing I'd have more control."



Joey Kramer's drums: "When we were in the main tracking room, I'd use multiple mics and I'd take the kick and the snare and the toms and feed them back through a P.A. behind the studio tracking room and then mike up the room. That's an old Jack Douglas trick from [Aerosmith's album] *Rocks*. The best low one were these new Lewitt mics, which are [AKG] 414-style mics. Those had the warmth we needed, and then the high rooms were Shures [KSM313S] that were amazing. I used different [drum] overheads for different applications. We got a matched pair of Peluso P67s [styled after the Neumann U 67], which were fantastic. On those I'll either use an X-Y over the top or I'll do a spaced pair, and then I'll use an RCA 44 or some equivalent ribbon mic pulled back as a mono. I'll set it up like an equilateral triangle over the drums."

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Tom Hamilton's bass: "There's a lot on the album that was tracked using his original [Fender] Jazz bass," Huart says, "but we also used a Duesenberg on the cover of 'I'm Not Talking,' The Yardbirds' song by Mose Allison. We also used his blue Sadowsky Tele bass." For miking, one of the favored models for the bass cabinets (Ampeg flip-tops, Marshall guitar heads, etc.) was a Sontronics Delta ribbon. As for

the bass DI, "I have a Demeter and Countryman and these others, but what I liked best was a Radial DI," Huart comments. "I don't want to have an argument with GearSlutz people over this, but we printed them all and we actually believed the Demeter was the Radial. It's really clean—it gives you a beautiful signal."

Sontronics also makes a Blumlein ribbon mic called the Apollo, which Huart says was used on such musical touches as Tom Scott's horn parts and a string by the Section Quartet.



Brad Whitford: Though not the maniacal collector that Joe Perry is, Brad Whitford knows his axes, too, and revels in the different sounds and textures each offers. Huart says a Shure KSM313 ribbon "was a major component of Brad's guitar sound. We mixed that with 421s, 57s, 414s and all the usual suspects."



Douglas: "Knowing a band from the formative stage really makes a difference. When we made those early albums, we were all kids growing up and learning together and experimenting together, and that makes a difference with how we work together now. This album is exactly where they should be. They're all playing great. They all still have a lot of enthusiasm. Steven's voice has more character than it ever had. He's older now and it's got that nice edge to it. He used to try really hard to get more dirt out of it; now it's got rocks rolling around in it naturally. He's smart, funny and he drips charisma." ■

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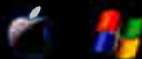


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SMALL-FORMAT STUDIO CONSOLES

Music Production Mixers for Space-Challenged Control Rooms

By Michael Cooper

As music production moves increasingly into smaller recording studios, manufacturers are responding by creating consoles combining modest footprints with grandiose capabilities. And while the pace of new product introductions has slowed recently, the technologies being offered break fresh and exciting ground.

From the guy in a garage band who's cutting his teeth on engineering, to the seasoned producer mixing an established act's single, owners of small studios present a wide range of up- and down-market requirements and budgets. Manufacturers are addressing both niches with compact digital mixers that cost as little as \$1,300, and small-frame analog consoles boasting sterling vintage circuitry that run in the tens of thousands of dollars.

CONTEMPORARY TRENDS

FireWire and USB-formatted I/O are becoming ubiquitous. Inexpensive digital mixers are being bundled with entry-level DAWs to present turnkey solutions to new engineers. For example, the PreSonus StudioLive 16.0.2 comes with the company's proprietary Studio One Artist DAW, and the Yamaha 01V96i comes bundled with Steinberg's Cubase AI.

Computer-based editor-librarian software—programs that remotely manage scenes and effects presets for mixer channels—have been around for years, and it's now practically expected that a new digital console will include such a program for free. What's new is that some consoles are now using iOS apps (run by Apple devices such as iPads and iPhones) to control ancillary computer cum mixer software from afar, allowing applications such as “more me” personal monitoring.

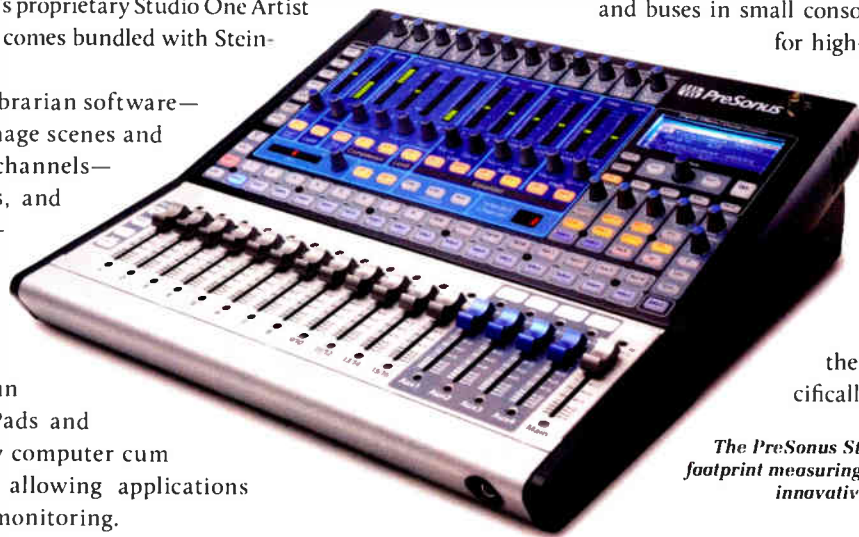
Built-in effects processing for low-cost digital mixers is becoming more sophisticated, too. Effects that model vintage analog processors are no longer the sole domain of DAW plug-ins but are being incorporated into Yamaha digital consoles. Digital effects algorithms from popular outboard processors are also being ported into these consoles.

Digital mixers differentiate themselves in other ways. Less-expensive consoles might keep costs down by offering non-motorized faders and hard-coded I/O routing (where input 1 has fixed routing to channel 1, input 2 always goes to channel 2, and so on). Consoles that provide freely assignable routing, on the other hand, allow you to route any input to any channel; for example, you can route a 2-track return to an input channel equipped with EQ or quickly conform a client's DAW routings to your console's mixing template. Motorized faders provide continuous WYSIWYG feedback of current levels while mixing, which is especially critical when new scenes are recalled.

New analog consoles are also meeting the needs of smaller studios. Automated Processes, Inc. (API) is loading its reissued vintage signal processors into small-frame consoles and adding new features—including 5.1 mixing and monitoring, and boutique à la carte signal chains—that oblige modern production techniques. Companies such as Toft Audio and Wunder Audio are installing knockoffs of classic Trident, Neve and API channel strips

and buses in small console frames, lowering the entry price for high-end vintage sound. Meeting at the crossroads of analog and digital technologies are Solid State Logic's AWS Series consoles, which offer pristine analog audio paths and DAW-control hardware under the same roof.

Let's take a closer look at the innovative small-frame studio consoles introduced recently and their practical applications. We'll specifically explore those consoles having 25



The PreSonus StudioLive 16.0.2 digital console has a footprint measuring less than two square feet and provides innovative remote-control capabilities.

fader strips or fewer, multiple buses to accommodate multitrack recording, facilities for cue monitoring and a desktop (versus rackmount) configuration. I've excluded from this investigation dedicated control surfaces and boards that have a matrix section (found on consoles primarily intended for live sound reinforcement).

REMOTE-CONTROL

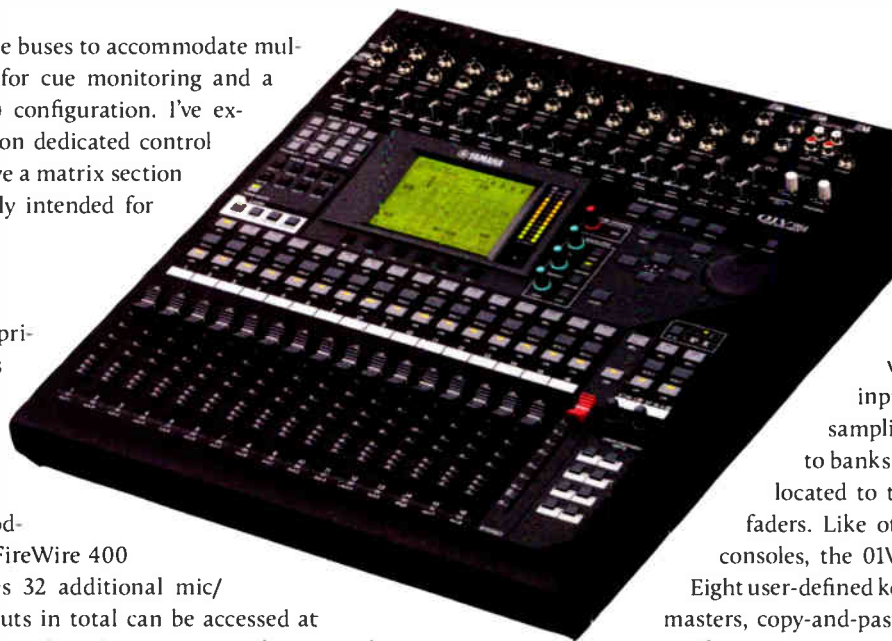
An innovative suite of proprietary software programs bestows a host of remote-control capabilities on the PreSonus StudioLive 16.0.2, a Lilliputian mixer that provides hard-coded 16x16 I/O via a built-in FireWire 400 port. (The console provides 32 additional mic/line inputs, but only 16 inputs in total can be accessed at once.) Open the included Virtual StudioLive (VSL) software, and you see a complete visual representation of the 16-channel console on your FireWire-equipped Mac or PC. Inside VSL, you control key functions of the mixer using a mouse, trackpad or trackball. For example, you can load your custom gate, compressor and EQ settings—individually or as a channel strip—into any channel of the 16.0.2 simply by dragging and dropping a preset onto the desired mixer channel in VSL's GUI. Console-wide snapshots (mixer scenes) can also be loaded in a drag-and-drop jiffy. You can download (from the mixer) an unlimited number of scenes to your computer, name them, and then send them on a disk or via email or IM to a buddy who also owns a StudioLive mixer.

VSL can be used together with two apps (both available for free from the Apple App Store) to control your 16.0.2 from afar. The StudioLive Remote app turns your iPad into a remote controller for the mixer, while the QMix app (released at this year's Winter NAMM) gives similar capabilities to an iPhone and iPod touch. Using StudioLive Remote, you can use your iPad to see and control signal-processing (gate, compressor and EQ) parameters, aux levels and so on in VSL, which then passes the control signals on to your 16.0.2 via FireWire.

Also, if each band member owns an iPhone or iPod touch, download the QMix app to each device, and they will automatically and wirelessly sync to the aux channels of the 16.0.2 console, creating up to four independent "more me" mono cue mixes (or two stereo cue mixes if the auxes are linked).

ANALOG EMULATOR

The 24-bit Yamaha 01V96i digital console is giving leading DAW plug-ins a run for their money with its Virtual Circuitry Modeling technology. VCM effects emulate classic analog compressors, equalizers and stompbox phasers from the '70s and the tape and circuitry characteristics of Swiss and American tape recorders from the '70s and '80s. Fans of the Yamaha SPX2000 Multi Effects Processor will also appreciate that the REV-X reverb algorithms have



Analog-modeled effects, freely assignable I/O and motorized faders are some of the key features offered by the Yamaha 01V96i digital mixer.

been ported over to the 01V96i.

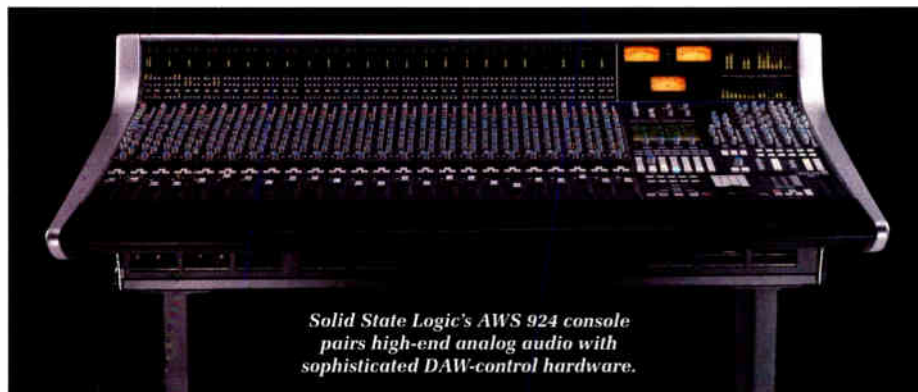
The 01V96i provides up to 40 simultaneous inputs—including 16 bidirectional channels via USB 2.0, eight channels via ADAT Lightpipe and 16 mic/line inputs—and 20 buses at up to 96 kHz sampling rate. The 40 inputs are assigned to banks (fader layers) that are alternately allocated to the console's 16 motorized channel faders. Like other contemporary Yamaha digital consoles, the 01V96i features freely assignable I/O. Eight user-defined keys can be configured as mute-group masters, copy-and-paste prompts for channel settings or virtually any other console function, providing shortcuts for your most frequently performed tasks.

All the console's parameters can be controlled using the included Editor software. With Editor, you can store your mixer scenes and patch lists offline and load them into any 01V96i console. The patch lists comprise your console routings for inputs, outputs, inserts and direct outs, as well as assignments of effects presets to multiple channels.

HYBRID SOLUTION

Solid State Logic's AWS (Analogue Workstation System) consoles combine pristine, high-headroom SuperAnalogue circuitry with DAW-control hardware. The latest model in the series, the AWS 924, features 24 inputs (with as many faders), two classic EQ curves for every channel (the EQ is 4-band), two assignable SSL Dynamics, the legendary Stereo Buss Compressor, Total Recall and 5.1 monitoring with bass management. A 48-input variant, the AWS 948, is also available.

The 924 interfaces with your DAW via MIDI over Ethernet and provides dedicated transport controls (buttons to initiate play, record, rewind, fast-forward and stop), LED-fitted V-Pot rotary encoders, digital scribble strips and a TFT display. The 924's faders use the Mackie Control protocol to tweak your DAW plug-ins from the console, while the TFT display shows plug-in param-



Solid State Logic's AWS 924 console pairs high-end analog audio with sophisticated DAW-control hardware.

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eters. The V-Pots can execute routing assignments or show DAW channel and send levels on its LEDs. The classic Ultimatum-based automation facilities have been recently updated to include a new A-FADA mode, in which the motorized analog faders follow DAW automation data.

The 924's jog/shuttle wheel can be used to scrub your DAW tracks. You can zoom and select DAW objects directly from the console. Other controls mirror most of the functions that would otherwise be executed by a QWERTY keyboard, making the 924 a virtually self-contained DAW-control environment.

ANALOG BASTION

API's 1608 console updates the vintage API 1604 mixer with new, modern features. Each of the 8-bus console's 16 input channels incorporates a classic API 212L mic preamp. Twelve input channels are fitted with the '60s-era API

Console Manufacturers

There are many consoles on the market besides those featured in this article. Some have more channels and I/O suitable for very large productions. Others are primarily boards designed for live sound but which can do double duty multi-tracking in your studio. And don't overlook older digital mixers, some have had potent software updates that greatly expand their capabilities.

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550A three-band equalizer, the other four channels with the vintage API 560 10-channel graphic equalizer (from 1969). Both equalizers utilize the legendary 2520 op amp and proportional-Q circuitry, which progressively narrows the filters' Q at extreme boost and cut settings.

The 1608's rear jack panel has more routing capabilities than air traffic control. In addition to the expected mic and line inputs and insert send and return jacks, every input channel provides a post-fader direct output, 1/4-inch high-impedance instrument input and 1/4-inch jacks for the equalizer input and pre-amp output. One application is you can patch an

price or accommodate the large footprint, you're in luck: The Toft Audio ATB08M is an 8-channel mixer that features the identical 80B 4-band equalizer (plus 80Hz highpass filter) that largely defined the sound of that classic console. Additional features include eight mix buses with outputs, direct outs on every input channel, in-line monitoring (switching the monitor return to the channel fader), eight subgroups (with inserts), six aux sends, eight stereo aux returns and a meter bridge. The aux returns can be used as 16 more inputs during mixdown.

4-, 16-, 24- and 32-channel configurations of the ATB Series console are also available. The 4-channel version, the ATB04M, differs from the others in that it has only

two subgroups and two auxes. The meter bridge, switchable to show levels for either the channel inputs or monitor returns, is optional for 16-channel

and larger configurations. All outputs are electronically balanced.

The Wunder Audio Wunderbar console gives you three vintage flavors to choose from at once: Wunder, Neve and API. Inputs can be routed to one of three stereo buses, each imparting one of these flavors. The Wunder bus is identical to that used in the custom-made, 1971-era Allotrope console owned by John Paul Jones (of Led Zeppelin fame). The Neve and API buses are based very closely on the Neve 1272 and API 312 preamps, respectively; the only differences are some of the components are new. The three vintage buses can be used as mono or stereo subgroups and their signals blended together on the Wunder bus, or they can be used to simultaneously print three discrete stereo mixes (one for each flavor).

The Wunderbar's 8-channel monitor section can be used for aux returns or extra inputs and can be bused to the three vintage-flavored stereo buses. Every input channel features a transformer-balanced direct out and insert and the Wunder PEQ1-style equalizers (incidentally, one of the best-sounding equalizers this author has ever heard). The modular console is available in frame sizes from 12 to 60 input channels (in 12-channel increments) and features in-line monitoring. Third-party ShadowMix automation is available as an option.

ADVANCE GUARD

Expect to see more iOS apps for and analog-modeled effects processing in the digital mixers of tomorrow. Deeper integration with DAWs is quickly unfolding. Witness, for example, Avid's EUCON Phase II update, which adds more than 500 additional Pro Tools commands and complete Pro Tools menu access to the touchscreen controllers on Avid System 5 and Fusion consoles.

Despite ever-expanding capabilities on the digital side, however, there will always be a demand for knockoffs of vintage analog channel strips loaded into console frames. Pick your pleasure. No matter how you like to work, there's a console designed to be a perfect fit. ■

Mix contributing editor Michael Cooper (myspace.com/michaelcooperrecording) is a mix and mastering engineer based in Oregon.



The Toft Audio ATB08M features the classic 80B equalizer that was the hallmark of the legendary Trident 80 Series console.



The API 1608 incorporates the classic 212L mic pre and 550A and 560 EQs.

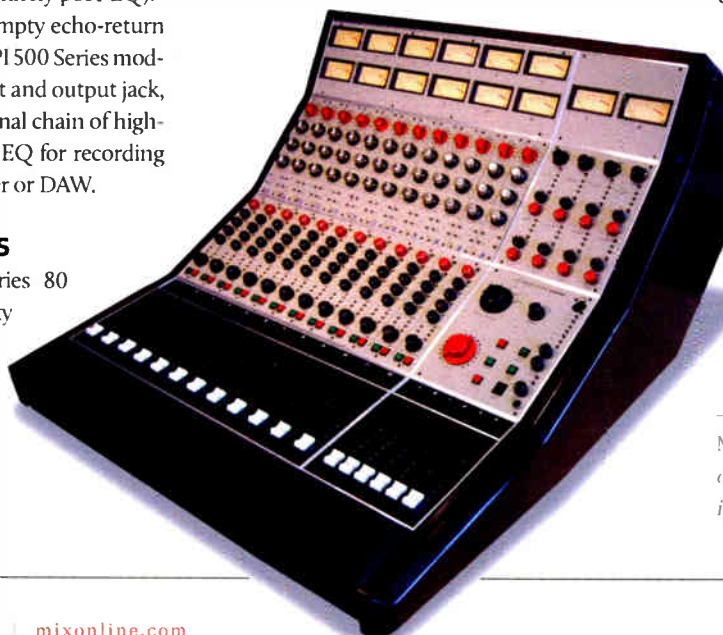
outboard mic preamp directly to a console channel's API 550A or 560 equalizer and then send the equalized signal to other outboard gear via the insert send jack (which is immediately post-EQ).

The 1608 is fitted with eight empty echo-return slots which you can fill with any API 500 Series modules. Each slot has a balanced input and output jack, allowing you to build a custom signal chain of high-end API mic pre, compressor and EQ for recording directly to your multitrack recorder or DAW.

CLASSIC-ANALOG REVIVALISTS

Fans of the vintage Trident Series 80 console who can't afford the hefty

The Wunder Audio Wunderbar analog console provides three vintage-flavored stereo buses, the outputs for which can be used discretely or mixed together. A 12-channel configuration is shown here.



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The Beach Boys, on a summer tour led by Brian Wilson, played an afternoon slot at Bonnaroo 2012.

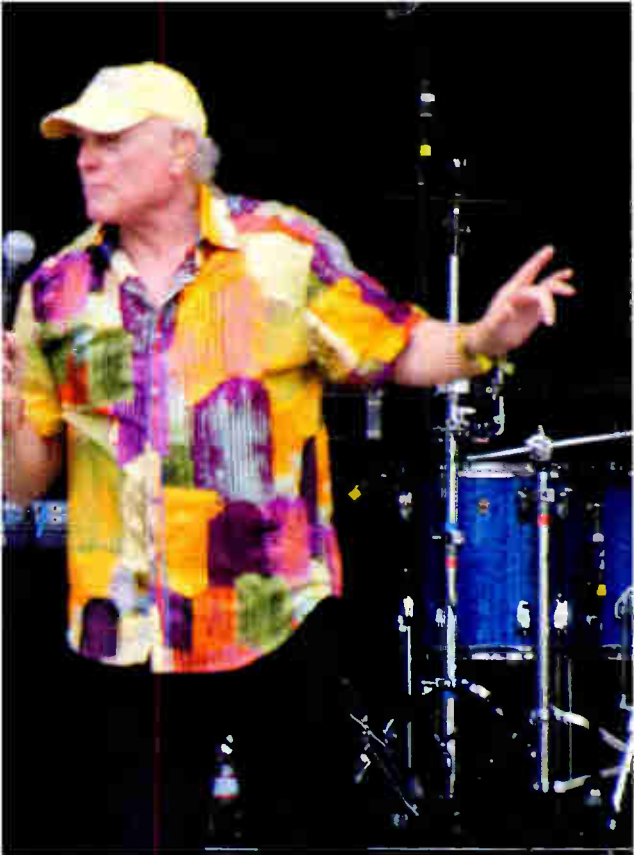
Photos by Dave Vann

BONNAROO 2012

Radiohead, the Peppers, Phish, the Beach Boys, Skrillex, the Roots, Sharon Jones, Alabama Shakes... nowhere else is the musical variety so pronounced as at Bonnaroo. Once again, Eighth Day Sound, of Cleveland, Ohio, provided sound support for the five main stages plus satellite venues.

Beach Boys FOH engineer Mark Newman, left, and Mike Mordente, Audio Systems Engineer for Schubert Systems Group and crew chief for the Beach Boys' ongoing summer tour. "Bonnaroo was such a great experience," says Mordente. "We were able to bring in our entire control package, 100 percent of the audio for the stage and FOH. Then the d&b J Series P.A. from Eighth Day was just outstanding," Newman adds. "Everyone is blown away by Brian's vocal. He's now on a Shure Beta87C and his tone is spot-on, with only a tiny tweak from the Midas XL42 pre. It's thrilling to see 30,000 people singing these lyrics and dancing."





The Red Hot Chili Peppers rocked the What Stage on Saturday night.



Crowd favorites Phish once again closed the festival on the What Stage, bringing out Tennessee legend Kerry Rogers for a most-rare collaboration.



Now playing to his multi-generational appeal, Alice Cooper played the midnight slot in The Tent on Saturday night.



The Shins, led by front man James Mercer, closed the Which Stage on Sunday afternoon.



Many of the bands put on private shows in a makeshift studio/trailer backstage and broadcast over Radio Bonnaroo. Here ALO follows up their set with a five-song performance over the air.



The Roots kicked it Saturday night on the What Stage, setting the audience up for the Peppers.



JOE WALSH MEETS 2012

ANALOG MAN IN A DIGITAL WORLD

BY MATT HURWITZ

Joe Walsh is finally coming around, but it's been a long time coming. "The last album I made, we had recording tape and knobs," the veteran rocker laughs. "This album, we had a hard drive and a mouse. I don't know what happened! What happened while I was gone?"

With the release of *Analog Man* (Fantasy) in early June—his first album in 20 years—Walsh has indeed joined the ranks of his fellow modern recording artists . . . and learned to use Pro Tools. "Joe is definitely an 'analog man,'" says his engineer, Bruce Sugar. "So he had to learn a whole new way to record."

Walsh has fiddled around in a hodgepodge of personal studios over the years, including a converted room in his Studio City home, followed by a slightly more professional space when he moved

into a new home in Benedict Canyon three years ago. He had been actively touring with The Eagles for years at that point, and found himself with a collection of bits and pieces of songs, but with no motivation to do anything with them. "When I'd come home from an Eagles tour, the last thing I'd want to do was play guitar," he says. "I had some songs that were half-done, but I never really got any momentum going because I didn't exactly know how, with no more record labels around."

He played the songs he had for his wife, Marjorie, who urged him to complete them. "She said, 'I really believe in you, and this stuff's good. You ought to get up off your butt and think about finishing them. And by the way, here's Jeff Lynne's number.' She's a closer. So I listened to what was out there and tried to figure out whether I fit in

anymore—should I pay attention to what people were listening to or reinvent myself. Eventually, I just figured, 'Nah—I don't hear anything like what I do out there. I'll just do a Joe Walsh album. I know how to do that.'"

While he held off on calling Lynne, Walsh did put in a call to Sugar, Ringo Starr's engineer, who began showing him the ins and outs of Pro Tools. At Sugar's urging, Walsh had engaged the help of studio consultant Zack Fagan of Under the Wire, who set him up with a Pro Tools 7 rig (which was upgraded to versions 8 and 9 over the three-year production period) and a Digidesign D24 control surface at his old studio. Walsh put the board together himself, including wiring his own patchbays. "Joe's very hands on; he can build just about anything," Sugar notes. "He builds his own ham radios and his

the revolution starts here.

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Michael Cooper, Mix Magazine

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Randy Poole, Pro Audio Review

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own guitars.” Jeff Lynne adds, “Joe is crazy about old radios and amplifiers. I have to say, he is very knowledgeable about them all. He even knows the color codes of resistors!”

Despite a touring schedule that kept him on the move, Walsh was able to start giving his songs some shape. “Bruce would come over and get me set up,” Walsh says. “We’d get a basic groove, with a drum machine or some samples [many of which Walsh would program himself], then he’d set me up and go home and, over two days, I could record some basic tracks. We’d pick the best stuff from several passes; that’s why it sounds like a musician playing along rather than overdubbing.”

An invited guest artist, or Walsh himself, would add bass, and drums—played by his brother-in-law, Ringo—were recorded at the old house. About a year into the tracking process, the Walsh’s Benedict Canyon home was ready, as was its studio, allowing Walsh and Sugar to continue overdubbing in the new room, using an identical Pro Tools setup and miking whatever amp Walsh was using in a simple way, using a Shure SM57 or a Neumann U 87, and passing the signal through a Tube-Tech MEC-1A mic pre.

“When I decided to record again, I went back and listened to a lot of the old stuff I did,” Walsh recalls. “What I used to do a lot was record the rhythm guitar with an acoustic guitar, and then double or triple it. Because when you hear it on the track, it’s there, but it’s not present, like an electric guitar would be. You hear it as a percussive instrument. You hear it differently; it’s transparent, but it’s there. You don’t make the track busy that way, and there’s still a lot of room for other guitars. That’s the secret to good layering of guitars.”

On one track, “Lucky That Way,” the guitar bed includes both 6-string and 12-string acoustics, as well as an electric 12-string made for Walsh by luthier Roger Giffin. “I put an acoustic, and then did another one, but behind the first in volume, so it’s shadowed,” Walsh explains. For the song’s rousing solo, the artist recorded as many as 15 tracks of guitars. “I could have done it all with one guitar, but I wanted to layer those in. So I took the lead part and dissected it into different phrases played on different guitars, and then pieced them together in Pro Tools. Then you put those at different places in the stereo mix, and it opens the track way up.” Sugar adds, “He has some lines doubled and some harmonies, too. That’s a really good example of how Joe made use of Pro Tools’ capabilities.”

CALLING MR. LYNNE

For some songs, Walsh felt he just wasn’t able to create the kind of recording he was looking for, so he followed his wife’s advice and contacted Jeff Lynne. “I met Jeff socially and, at one point, he said, ‘Why don’t you bring your tracks over, and we’ll have a listen?’ So I did. And he had some comments and a few ideas and suggestions. Jeff just has this knack for seeing the finished track in whatever you play him. You can bring stuff that’s half done, and he sees how it would be when it’s done and helps you get there.”

Lynne notes, “Sometimes Joe would come in with a really good riff and some chords, and we’d both plug directly into the desk and jam with it and flesh it out a bit. On other occasions, he’d have the song already in demo form,



Mastering engineer Howie Weinberg, producer Jeff Lynne, engineer Steve Jay, Joe Walsh

Photo: Howie Weinberg



Bruce Sugar and Joe Walsh

Photo: Ringo Starr

and we’d make the recording using that structure.” Lynne, working with recording engineer Steve Jay, typically contributed drum tracks for the tunes, as well as guitars and keyboards.

Of the album’s title track, Lynne says, “He came in with a very rough demo, but I recognized something special in it. We played around with the arrangement a lot, until it locked in and felt right. I also wanted to feature Joe’s slide guitar playing more, so we extended the solo section. I love this solo by Joe.”

Sugar mixed his and Walsh’s tracks at the Benedict Canyon studio, occasionally working on some tunes at his own home studio, which features an identical monitor setup to Walsh’s: JBL LSR4328Ps and Genelec 8030As. Sugar also counted on Tube-Tech’s SMC-2BM stereo multiband

compressor for post-mix adjustments. "It just adds a final stage of compression and equalization on the back end of the mix, after your stereo bus, and warms it up again. It's one of my favorite things to mix through because you can really dial it in."

Howie Weinberg at Howie Weinberg Mastering mastered the album, with both producers and engineers present. "It was great having all of them there because you get immediate feedback," Weinberg says. "There's no gray area, if something I'm doing doesn't work for one of them and needs adjustment. I like working that way. And Joe doesn't like things that are overly bright or overly bass, with a lot of sub-bottom. That's the sign of a guy who comes from the analog era, 100 percent. And I'm from that era, too."

Chris Bellman at Bernie Grundman Mastering cut the album for vinyl release, as well as for a promotional-only cassette. "I'd make 8-tracks if I could," Walsh says. "That cassette sounds great in my car."

Walsh intends to continue his move into the digital age as he builds a new, formal studio at his house, again with the help of Fagan. The new facility will be 2,300 square feet, with a 400-square-

foot Tech Room, and will feature an SSL AWS 924. "The faders on the board control the Pro Tools faders but, with the push of a button, the faders control the analog signal path of the console," Fagan describes. "It's working just like a regular analog 24-input, 8-bus console would function. And for an analog artist like Joe, this made more sense than keeping his C24. We're building him a professional studio; it just happens to be at his house."

Walsh clearly enjoyed his first Pro Tools experience, while remaining cautious of the pitfalls of digital recording. "It's too tempting to fix what doesn't need fixing," he says. "It's tempting to make it perfect. If we'd had Pro Tools when The Eagles were doing *Hotel California*, we'd still be working on it. And you can lose that human feel. It's not like the old days, when you'd get the whole band in there together and press Record. It's all virtual." Or, as he says in the song "Analog Man," "The whole world's living in a digital dream/it's not really there, it's all on the screen."

"I'm not saying analog is better," he concludes. "I'm just asking, 'Now what do we do?' People ask me what's my advice to young musicians? I don't know. I'm trying to figure it out, too." ■

The Talk Box

What Joe Walsh record would be complete without the Talk Box—Walsh's (and later, Peter Frampton's) signature effects device, heard on "Rocky Mountain Way" and other classic recordings? *Analog Man*'s "Spanish Dancer" features the box, whose history and operation Walsh revealed to *Mix*.

The James Gang, of which Walsh was a key member prior to starting his solo career in the early 1970s, were all great fans of country singer Dottie West and her husband, pedal steel guitarist Bill West. "Bill invented two things: the first fuzz tone and the Talk Box," Walsh explains. West created the device for fellow pedal steel player Pete Drake in 1953, for a recording called "Forever." "After that song, it went into Bill West's garage."

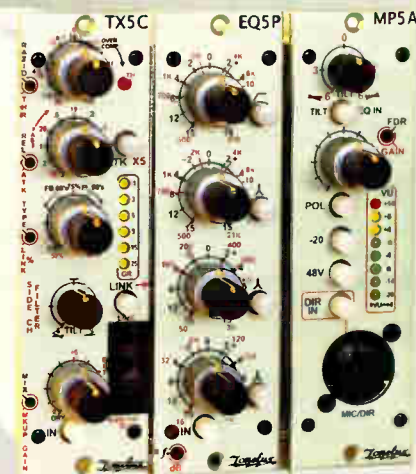
Whenever The James Gang would play Nashville, after the show, they would visit the Wests. "They would invite a bunch of pickers over, and after a James Gang show, we would sit around the living room and pass the guitar around. All kinds of people would come—Glen Campbell, Ray Stevens, anybody was liable to show up." On one such visit in 1971, he recalls, "Bill said, 'Wait a minute—I got something for you.' And he went out and dug around in the garage and got this old dusty, horrible-smelling thing and gave it to me. He said, 'This goes in your mouth, and plug this in... you'll figure it out. You need this.' He gave me the original one."

Bob Heil of Heil Sound is largely credited with taking the "talking guitar" and turning it into a popular device called the Talk Box. It's his version that is heard on "Rocky Mountain Way." The box, as Walsh explains, contains a speaker driver, which is connected to the output of the player's guitar amplifier. Without a speaker cone present, the sound produced by the driver, playing the guitar amp output, is much like that of an electrolarynx, the buzzing device used by throat cancer patients who have lost their larynx. "By itself, it's unlistenable," he says.

The driver is housed in an airtight box with a funnel attached to the front of it, to which is connected a piece of surgical tubing. The other end of the tubing is set adjacent to a microphone near the player's mouth. The player places the tube in his mouth and, says Walsh, "You move your mouth and hold your breath, like you're talking. And the guitar sound from your amp, then, gets modulated in your mouth, and that's picked up by your vocal mic. So it's your guitar talking."

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ANOTHER GREEN DAY FOR MARK ISHAM

BY BUD SCOPPA

Mark Isham's five-acre estate is spread over rolling countryside in the horse-centric West Valley community of Hidden Hills. The renowned film composer's daily commute involves nothing more than a short walk across the lawn that separates his home from his well-appointed studio, housing two large composing spaces and a pair of writing stations.

Along with his film work—he has two movie scores out this summer—Isham has a regular gig scoring the ABC series *Once Upon a Time*, the rare live-action show that uses an orchestra. Each week during production, he composes new music to picture, which is then recorded with a full orchestra at The Bridge in Glendale. Aside from those weekly trips down the Ventura Freeway, he rarely has to leave his complex.

"I've elected to work in a more intimate environment, as opposed to Hans Zimmer, for example, who bought a building," Isham explains. He elected to work at home in order to be close to his wife and four kids, but convenience was a factor as well. "If I have an idea after dinner, I can run next door and realize it," he says. He bought the property with the intention of converting the horse stables into a studio, but soon discovered it would be far more expensive to convert than to build his facility from scratch. "We put the studio where the turnout area used to be," he says. "And then my boys decided horses weren't for them, so the riding rink came down, and the stables became a storage facility for both home and studio."

those two poles together," Isham explains. He sent out cassettes of some of his early hybrid experiments, which led to his first film-scoring gig, for *Never Cry Wolf*, in 1983.

"I worked my ass off seven days a week for four-and-a-half months, realizing I don't know how to do this," he recalls. "But I'm a smart guy, so I can get some help from the smart people around me and figure it out. And I delivered the score for a fairly major motion picture. That kick-started my career."

Isham has gone on to compose dozens of film scores, including *Crash*, *A River Runs Through It*, *Quiz Show*, *In the Valley of Elah*, *Fly Away Home*, *The Mechanic*, *Warrior* and *Dolphin Tale*, while also making records for Windham Hill, Virgin and Columbia. Since 1996, this homebody has been doing it all right here.

He does the bulk of his writing in Studio A, working in Logic and then Pro Tools, in front of a pair of Mac Pros and a Sony TV hooked up to an M-Audio Oxygen 88 piano/controller, with Dan Wallin custom speakers and a Vienna Ensemble Pro 5 serving as the mixing host. The setup contains every conceivable plug-in and virtual-instrument



software package. And if the need arises, he's just a swivel of his Aeron chair away from the Euphonix CS3000 console that dominates the back half of the space.

Isham then leads a guest across the lawn to the main house. "With about 25 percent of my writing, I still use paper and pencil," he says, walking past a grand piano in the living room. "Right there—old-school. For certain types of projects it's just easier to do. It's just quicker, and the sound of a 1928 Steinway is always great."

Two years ago, Isham added a screening room to his house, and it now serves double duty as a 5.1 mixing environment. "For mixing," he says, "everything is done in the box, with a big, powerful computer [Mac Pro 2010 2.4 GHz] controlled by a series of Euphonix fader modules; we pull out as many as we need, depending on the size of the project. There's a connection under the couch. And if we want to watch a movie, we just unplug, move the gear out, and the 8-year-old can run around and not break anything. It's a great

room—all Tannoy monitors with two big 18-inch subs."

On the landing that leads into the screening room, the double entry doors are flanked by stacks of gear. "The front end's powered by the old Cello Class-A amplifiers, and all the video goes through a big pro scaling unit, so it looks and sounds really good," Isham says. "The computer, clocking and interfaces are all here."



For the final mix of an episode of *Once Upon a Time* music, files of the orchestral cues are dropped onto a hard drive at The Bridge and returned to Isham's home studio. When the mix is completed, it goes into a dropbox for pickup by the show. An individual piece might start at the Steinway, move into Studio A for mocking up, go to The Bridge for the orchestration and finally to the screening room for the mix. "That's the simple route," Isham clarifies. "It can make a trip to Studio B or to the music editor; on the paperwork side of it, it makes a trip to the orchestrator and meets us at The Bridge."

And that, in a nutshell, is Mark Isham's world—not counting several trips to Shreveport in the fall to watch his son Nick, who's the starting quarterback for the Louisiana Tech football team. "I have no idea where that gene came from," he admits with a fatherly smile. ■

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THE APPRENTICE



By Gino Robair

One of my greatest regrets is that I didn't learn the crafts of my forefathers. On the Italian side, my paternal grandfather made wine like they did in the Old Country, while my Hungarian maternal grandfather was a farmer and beekeeper. (I should include distilling in that list of artisanal crafts I missed out on, as my maternal grandmother's family supplemented their farming income with a still during Prohibition.)

Sure there are books on these subjects if I wanted to gain enough general knowledge to get started. But the nuances and subtleties of each practice that were passed down through the generations have been lost. The best I can hope for now is to find a class in one of these subjects or to apprentice with an "old-timer."

The same is certainly true for the recording arts: Experience is the best teacher. You can read all the books or watch all the videos you want on the subject—and there are plenty about recording, mixing and mastering—but hands-on learning is the only way you'll become a pro.

While accredited institutions can teach the skills required to operate state-of-the-art equipment, there remains an important body of knowledge that can only be gleaned outside of the sheltered classroom environment: Once you have your Pro Tools Operators certificate and you know how to solder cables, set up mics and set optimum gain levels, there is the ever-changing day-to-day business of finding and retaining clients, project management and the task of keeping a studio up and running through OS and software upgrades. In other words, there is a lot more to it than what you learned in that seminar called "Studio Management."

WHEN I WAS YOUR AGE...

Compared to other art forms, the recording tradition is still in its infancy. Yet many of the skills used to create the classic recordings of the last century are in danger of disappearing because of advances in technology. So, while there is resurgence in vinyl as a delivery format and in analog tape recording, there are remarkably few qualified institutions that teach the skills required to work with either medium. That's where the traditional master/apprentice relationship comes in, and there are plenty of precedents in our field. For me, one particular example stands out.

In his breezy autobiography *Abbey Road to Ziggy Stardust* (2012, Alfred Music Publishing), engineer Ken Scott describes the typical career path for the nascent recording engineer during the '60s within the world's most famous studio. You started by working in the library, learning how to manage the vast quantity of recording assets known as tapes. Stick with that job for a few months, and you gradu-

ated to "button pusher," where you operated the tape machine from a secluded room. If you survived that endurance test, you moved up to mastering, where you perfected the fine art of transferring audio from tape to disc, the primary delivery format of the day. Once you figured out how to manage the limitations of lacquer and acetate, you were ready to move up into the recording booth as an engineer, where the real education began.

At each stage, you were shown what to do by example, watching over the shoulder of the person ahead you in the food chain. Then, you were left on your own to improve your skills. Just as importantly, you were within the milieu of the recording business, and if you were on the ball, you picked up as much information as you could from the environment, which you could put to use in the future. This form of education went beyond simply mastering the technology; you learned studio etiquette—how to run a session, deal with clients, and complete a project. You learned from mistakes, whether it was your own or those of your colleagues.

WILL WORK FOR...EXPERIENCE

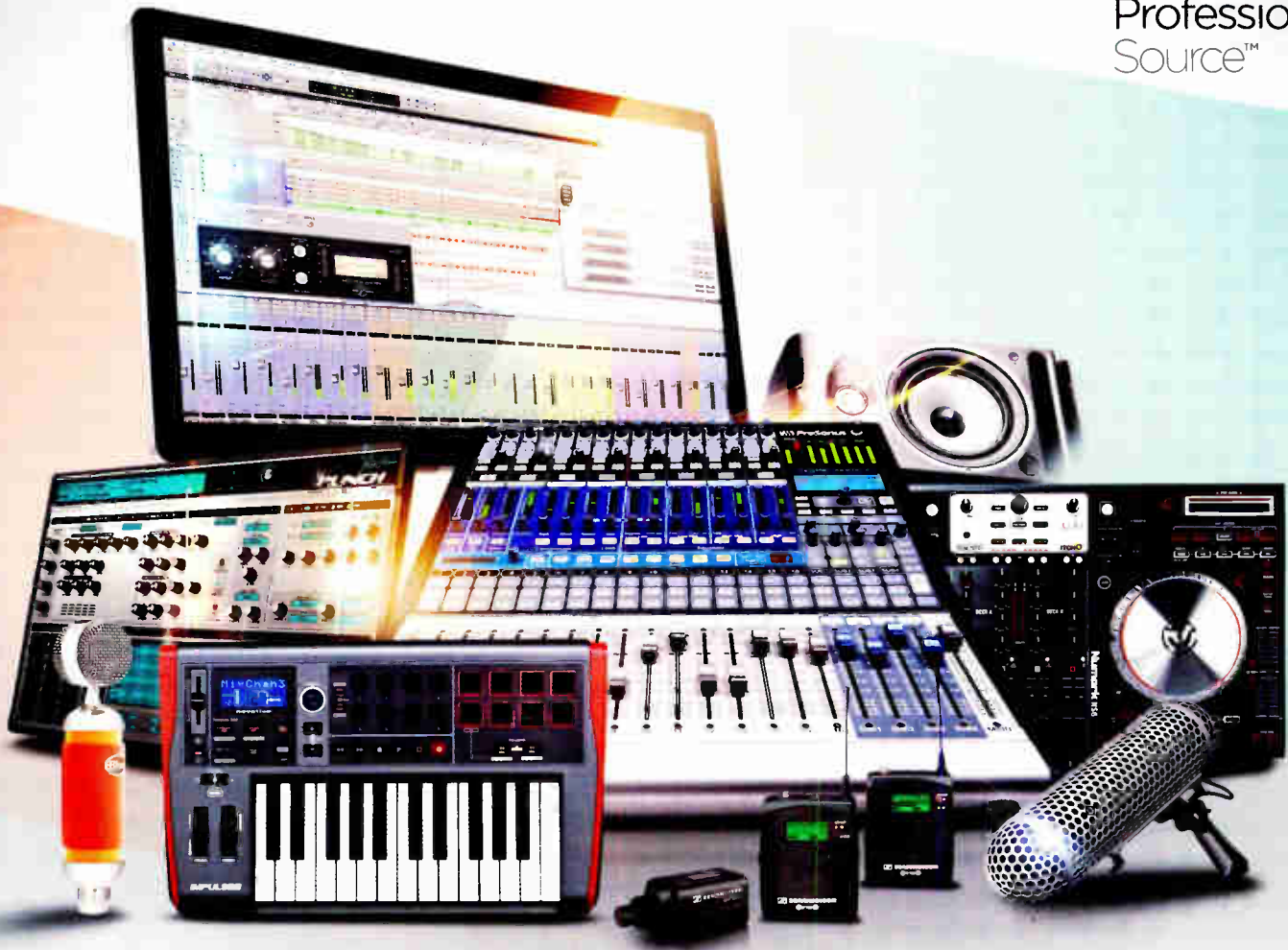
The students in my recording classes routinely ask for advice on getting into the profession. My answer is always the same: find an internship; get on-the-job training and work your way into the biz, whether that means helping somebody record live shows or acting as "audio janitor" in the game-audio biz. Of course, the catch is that there aren't as many jobs at commercial studios, thanks in some part to the personal studio revolution. Consequently, traditional internships are far and few between. Yet, a number of engineers I know who closed their pro studios in order to have a leaner, meaner private setup still need help on occasion, whether it's someone to do setup and teardown, fetch coffee and deli trays, or to document what's on those drives and discs in their closet. That's where a recording student might come in handy.

If you're interested in mentoring someone, you might start by contacting a local school that has a recording program to see if any of the students there are motivated, trustworthy and hungry for work experience. Although you're exploiting them to a small degree for their time and energy, they're getting valuable experience in return (especially when you take the time to explain what you're doing). Share the information you gained from your career. If things go well, you may wind up training a second engineer whom you can trust for those sessions that require more active assistance. In addition, you'll have the satisfaction of knowing that you've made a difference in someone's life and career. And if you're lucky, you may learn something valuable in the process.

TOOLS FOR CREATION



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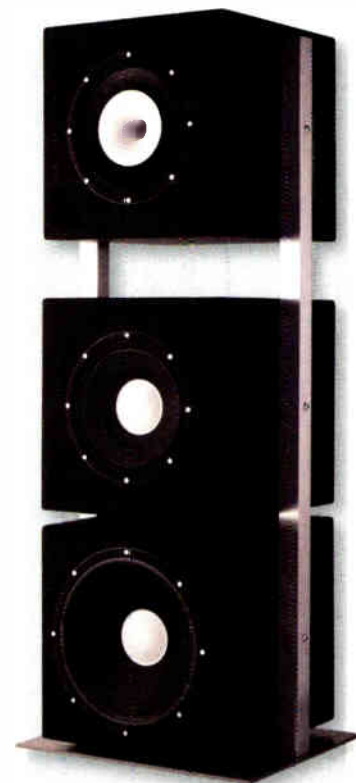
Tech // new products



MOTU TRACK16 DESKTOP INTERFACE

Compact, Feature-Laden I/O

Track16 from MOTU (motu.com, \$595) is a 16x14 desktop studio interface with mixing and effects. The compact device connects via FireWire or high-speed USB 2 to a Mac or PC and features optical digital I/O, MIDI I/O and SMPTE time code sync by way of the included breakout cable. Features include a 16-bus digital mixer with reverb, EQ, compression, audio analysis tools such as an FFT with spectrogram "waterfall," and an instrument tuner. The base unit (approximately 5x8x1 inches) is constructed from solid aluminum cast metal and provides a large multi-function knob, 10 backlit buttons and four pairs of 7-segment level meters. The front panel provides a hi-Z guitar input, 1/8-inch stereo "mini" line input and two mirrored headphone jacks. Track16 can draw bus power from the FireWire port, which is enough to drive 48V phantom power for two independent mic preamps.



KS DIGITAL CX MONITORS

Expandable System

The CX System Monitor from KS Digital (ksdigital.de/en) is a scalable two-way studio reference monitor for free-field use. It can be expanded to a three-way system with one or two 12-inch subs per side, or one or two 15-inch subs per side or with a combination of the two. Components comprise the Top C 120 12-inch + 2.8 coaxial midrange self-powered two-way full-range (\$9,900); Top CB 120 12-inch self-powered subwoofer (\$8,400); and Top CB 150 15-inch self-powered subwoofer (\$9,600). The CX System uses FIRTEC DSP technology and has selectable controls that include "sweet spot" optimization and room tuning. There is also onboard access to full digital equalization including highpass and lowpass shelving, subwoofer contour, time delay and polarity reverse.

ILIO MAGMA

Pack Your Racks

MAGMA from ILIO (ilio.com, \$199) is a virtual studio rack that comes with 65 new effects in single-unit interfaces enabling users to stack dozens of interchangeable effects in a seemingly infinite number of combinations, all in one plug-in. Effects include compressors, EQs, preamps, reverbs, filters and more. MAGMA offers drag and drop of effects to any rack position, four easy-to-use Virtual Racks and a presets browser window for managing the 600-plus supplied presets.

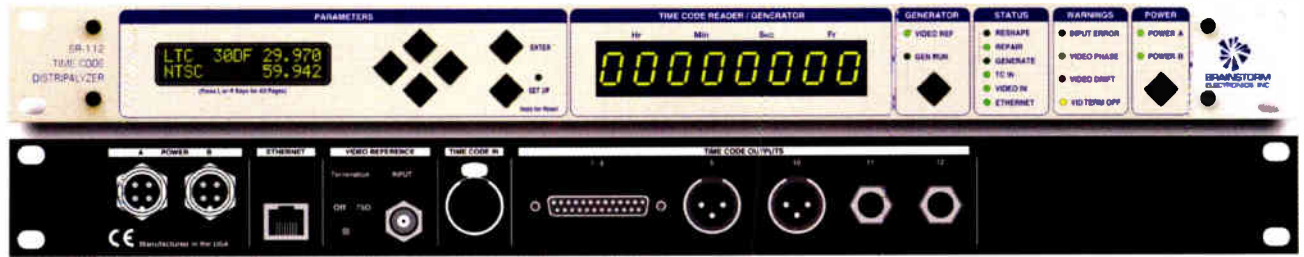


MINNETONKA AUDIOTOOLS SERVER

Quick Change Artist

Minnetonka's AudioTools Server (minnetonkaaudio.com, starting at \$3,695) is a software system for file-based workflows allowing users to manage and process linear PCM, Dolby E, Dolby Digital and Dolby Digital Plus content, as well as the audio essence in MXF and QuickTime clips. The scalable system is sold as an individually configured, turnkey software package that can be upgraded as needed by adding codecs and processing functionality to an existing AudioTools Server installation. Some, but not all of the functions include Loudness measurement and correction according to current ITU, EBU and ATSC standards; channel management and program replacement; watermarking; sample-rate conversion; pop, click and dropout detection; upmixing and downmixing to both LtRt and LoRo; and more.





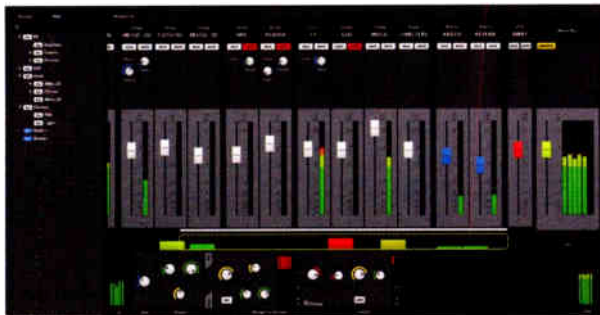
BRAINSTORM ELECTRONICS SR-112 TIME CODE DISTRIZALYZER

Time Code King

Brainstorm's (plus24.net) new SR-112 Time Code Distrizalyzer (\$1,500) is a timecode reader, distributor, reshapener, analyzer and generator in a single-rackspace unit. Intended to replace Brainstorm's SR-15+, the SR-112 features an analyzer that indicates format, frame rate, errors and video phase, and outputs a comprehensive report. The 1x12 distributor reshapes the signal; the optional generator repairs dropouts and generates new code. All SMPTE and EBU SD/HD rates are supported. Ethernet is included for reporting, updating firmware and setting parameters.

FIRELIGHT TECHNOLOGIES NEW FMOD STUDIO MIXER

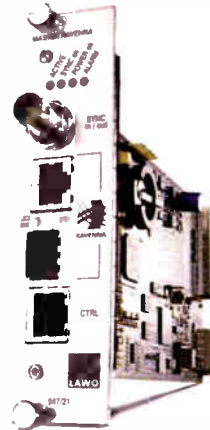
Game Changer



The FMOD Studio Mixer (fmod.org) brings mixing for games to a familiar level using a common channel-strip interface with buses, sends and returns, VCAs, effect chains and sidechaining. VCAs can be used to scale or control a group of buses at once, adjusting their levels relatively. The "effect deck" allows the user to add effects, including processing from iZotope, McDSP, AudioGaming and SpectrumWorx. The new FMOD Studio API has been designed to make common tasks simple while still allowing full access for advanced usage. Other features include virtual events, mixer snapshots, localization allowing the programmer to switch between multiple languages at runtime, and new codecs (CELT and Ogg Vorbis) assuring high-quality, royalty-free compressed sound.

LAWO RAVENNA CARDS

Audio Over IP



Lawo (lawo.de/en) recently introduced the RAVENNA HD Core Card, RAVENNA DALLIS Master Card and the 8-channel RAVENNA I/O modules, bringing IP to a range of audio devices and setups. RAVENNA provides 128 channels at up to 96kHz sampling rates with the HD-Core promising latency of one sample.

Lawo provides two RAVENNA slot-in cards: the I/O card for the HD-Core, and the master card of the DALLIS I/O system. The I/O card presents the Lawo router with its door to the RAVENNA network, while the DALLIS master card is its counterpart on the Lawo DALLIS stagebox. Cost-effective CAT cables can be used as well as single or multi-mode fiber, allowing cabling over varying distances while managing cost.

UNIT AUDIO SUMMING MIXERS

Passive, Not Massive



The Unit, Milli-Unit and Micro-Unit passive summing mixers from Unit Audio (unitaudio.com) are hand-wired point to point using high-quality components like Neutrik connectors and Xicon resistors.

The Unit (\$335) is the flagship 16x2 mixer featuring 16 balanced line inputs on two D-Sub connectors, plus two pan switches; the Milli-Unit (\$148) is a simple 8x2 summer with no panning; and the Micro-Unit is an upgrade from the Milli, bringing simple L/R panning switches to the mix (\$199).

New Sound Reinforcement Products



PRESONUS AUDIOBOX 1.2

Free and Feature-Packed

PreSonus (presonus.com) AudioBox 1.2 is a free update that significantly enhances the performance and versatility of PreSonus AudioBox 1818VSL interface, plus their AudioBox USB, AudioBox 22VSL and AudioBox 44VSL audio/MIDI interfaces. Support has been added for AB1818VSL Remote for iPad, allowing users to control every parameter in Virtual StudioLive for AudioBox 1818VSL, including volume, pan, aux sends, FX buses and Fat Channel parameters. This allows an AudioBox 1818VSL and USB-connected laptop to serve as a full-featured mixer/recorder for small gigs, rehearsal spaces and mobile churches, with the iPad serving as a touchscreen mixing surface. AB1818VSL Remote is a free download from the Apple App Store.



DBX PMC PERSONAL MONITOR CONTROLLER Individual Stage Mixer

The PMC from dbx (dbxpro.com) is a remote-control mixer located near the performer that lets them easily set up and control their own personal mix of up to 16 channels of audio. Controls include

EQ, panning, stereo width and effects, including a choice of built-in Lexicon reverbs.

Performers can control their mix on the fly in real time and save as many as 16 user-preset mixes. The PMC works with traditional onstage monitor systems, powered personal monitors, in-ear monitors and headphones. The dbx Personal Monitor Controller uses a BLU link audio bus from either the dbx TR1610 or any BSS London system to control 16 channels of digital audio (expandable up to 256).

The PMC can be configured to operate with either 48kHz or 96kHz D/A conversion, and its built-in dbx PeakStop limiting prevents the possibility of signal overload.



ALTO PROFESSIONAL BLACK SERIES

Powerful-Plus

Alto Professional's Black Series comprises five speakers: the Black10, Black12 and Black15 loudspeakers, and the Black15S and Black18S subwoofers. Features include M10 rigging points and rugged, powder-coated speaker grilles; DSP technology; and wireless connectivity. Each Black Series loudspeaker contains the same elements: a 1.75-inch HF driver, 2,400 watts of Class D power and carefully selected complementary components, a 90°x60° coverage field and an extensively tested HF waveguide, which has also been crafted to deliver maximum sonic impact. Other features include wireless capability and a speaker app (iPad or iPhone), for active live sound control.

SENNHEISER AVB MICROPHONE

Groundbreaking Transducer SENNHEISER

Still a prototype but newsworthy nonetheless, Sennheiser (sennheiserusa.com, \$TBA) has announced the first AVB microphone. The networking standard has applications in consumer, auto and pro audio and has been embraced by such companies as Meyer Sound, Avid and others. At the recent InfoComm 2012, Sennheiser featured a prototype product in its booth that is compatible with the AVB standard. Announcements will be forthcoming on its availability.



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in association with *SOUND ON SOUND* magazine.

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WHAT: Multiple Clinics, Q & A session and More.

WHEN: AES 133rd Convention, Oct 27-29, 2012

WHERE: Moscone Center, San Francisco, CA

FREE* Advance Registration:
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** Project Studio Expo is open to the public. Other AES Convention Technical Program events may require separate paid registration*

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Tech // reviews

BRAINWORX BX_SATURATOR

Split-Band, M/S Saturation Plug-In

bx_saturator is a new processor belonging to Brainworx's Rock 'n' Roll line of plug-ins, but it's a scion of sorts. The heart of the mid/side (M/S) plug-in is its XL saturation algorithm, which was first introduced in the outstanding bx_XL plug-in, a mid/side mastering limiter.

You can apply XL saturation (adding third- and fifth-order harmonics) independently to four frequency bands, two for each channel: Mid Hi and Lo, and Side Hi and Lo. (Mono operation uses two bands total.) But facility is not the main talking point. Its excellent sound quality is what makes bx_saturator enthralling.

The cross-platform plug-in is available in AU, VST, VST3, RTAS and AAX formats. I reviewed Version 1.0.3 of the AU plug-in in Digital Performer 7.21, using an 8-core Mac Pro running OS X 10.6.8.

Brainworx belongs to the Plugin Alliance, a strategic consortium of plug-in manufacturers that also includes SPL, elysia, Chandler, Noveltech and Vertigo Sound. The Alliance licenses and distributes member companies' plug-ins and provides after-purchase service. All Alliance plug-ins are activated with just one disk-based license and can be used on as many as three computers. No iLok or other hardware dongle is required.

THE LAY OF THE LAND

In the center of bx_saturator's GUI, separate sliders for mid- and side channels adjust the crossover frequencies for their respective Hi and Lo bands (see Fig. 1). The two sliders can be linked so that they move in tandem when either one is adjusted.

Each of the four frequency bands features independent rotary controls for adjusting the amount of XL processing, drive and gain. The drive control regulates the amount of distortion generated in the band, while the XL control sets the relative balance between the processed and

dry audio at the band's output. A pop-up menu above each band's drive control allows you to select one of two so-called compensation modes of operation; they reduce the band's output level to counteract any boost in output caused by turning up the drive control for the band. In response to my press for more details, Brainworx would only say the compensation modes work in non-linear, dynamic fashion but not like a compressor or limiter. In my tests, compensation mode 2 always provided louder output than compensation mode 1. You can turn gain compensation off, if you wish.

The gain control for each band can be set to adjust gain either before (pre setting) or after (post) the drive control. The pre setting allows you to optimize the level of dry signal feeding the drive control. The post setting

lets you adjust the output level of the band without affecting the amount of distortion dispensed by your drive control setting.

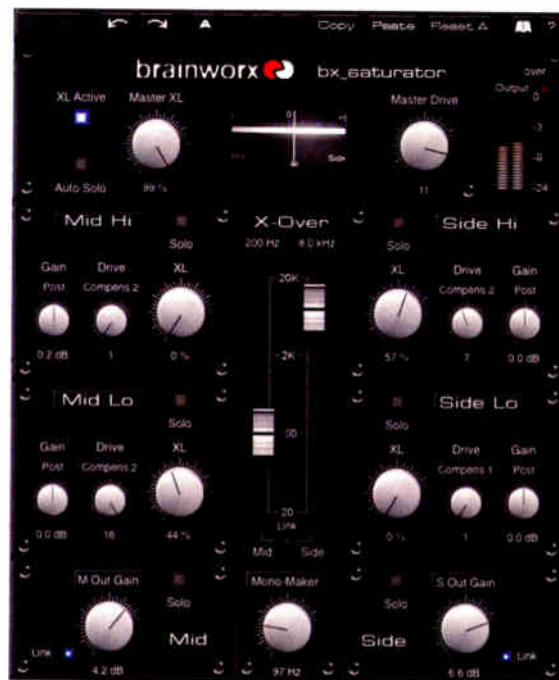
Master XL and drive amounts adjust the XL and drive amounts for all four bands simultaneously while maintaining the offsets among them. Once you have the ratio of processing among the four bands the way you like, you can use these master controls to boost or attenuate the overall amount of processing without screwing up your carefully wrought balance. The slaved controls animate when you adjust their master, providing useful visual feedback.

XL saturation processing can be bypassed independently for each frequency band and globally. When you bypass a band, its signal passes through at unity gain. The global XL bypass does not affect the Mono Maker or mid- and

TRY THIS

For a burpy and thunderous electric bass sound, boost only the Mid Lo band's drive control on the track. Set the mid channel's crossover to 200 Hz and the XL control to roughly 50 percent wet/dry mix. Nosedive the post-drive gain for the Mid Hi band 80 dB to kill all dry signal above 200 Hz. The harmonics generated in the low band will add bass and midrange grit, while attenuating the high band will keep the overall sound from becoming too bright.

Fig. 1. bx_saturator adds independent harmonics processing to two frequency bands for mid and side channels each.



side-channel output level controls (located in the bottom strip of the GUI). The continuously variable Mono Maker control allows you to narrow to mono the soundstage of all frequencies below the corner frequency you select.

You can solo an individual band in one of two ways: Either click on its dedicated solo switch or activate the Auto Solo function for the entire plug-in. The active Auto Solo function automatically solos a frequency band's output when you mouse-click and hold its drive or XL control (until you release your mouse). Soloing makes it easier to hear how much distortion the XL processing is adding in a particular band.

Separate output-gain controls are provided for mid and side channels. Link the two gain controls to adjust the plug-in's overall output levels. Unlink the controls to tweak the stereo image; for example, boost the side-channel's gain to increase the track's stereo width and overall ambience. An innovative Mid/Side meter shows the relative balance in output between the two channels. Dual LED-style meter ladders show output levels for left and right channels. An Over indicator lights when your stereo output clips.

The top toolbar in the GUI allows you to bypass the plug-in, execute as many as 32 steps each of Undo and Redo, and store your custom control setups in four discrete workspaces for comparison purposes. The toolbar also provides one-click access to the operating manual.

SOAKING TRACKS

I could use *bx_saturator* on loads of tracks with impunity, as it imposed very light drain on my CPU. The plug-in's operation was easy to learn. When you instantiate *bx_saturator* on a mono track, the Mono Maker and all side-channel controls become grayed out and unavailable, as is logical (see Fig. 2).

On kick drum, I set *bx_saturator*'s crossover to 5.8 kHz. I cranked the Mid Hi band's drive and XL controls in compensation mode 2, then lowered its post-drive gain a couple dB to keep the kick from sounding too clicky from the added high-frequency distortion. The flattering result was a kick-drum track that popped more.

bx_saturator sounded outrageous when I used it on drum room mics on a rockin' country production. I applied generous amounts of drive to the Mid Lo channel below 200 Hz and to the Side Hi channel

PRODUCT SUMMARY

COMPANY: Brainworx
PRODUCT: *bx_saturator*
WEBSITE: plugin-alliance.com
PRICE: \$229 MSRP
PROS: Excellent sound quality, M/S and split-band processing. Easy to learn. Light CPU drain.
CONS: Wet signals lack LPFs. No stereo or dual-mono mode. Heightened signal peaks require following the plug-in with a brickwall limiter for mastering use.

above 8 kHz. Setting the Mono Maker to 97 Hz tightened up the bottom end, and goosing the side channel's output gain cranked the ambience and widened the stereo field. Linking the output-gain controls allowed me to adjust them both simultaneously and proportionally to optimally drive a downstream compressor plug-in set to *stun*. The result sounded explosive.

I could get a variety of great vocal sounds using *bx_saturator*. Light XL processing above 12.7 kHz and moderate post-drive gain added sweet air to a female vocal track. Lowering the crossover to 422 Hz made the track sound more broadly present, if perhaps a tad too bright when

the vocalist sang at the top of her range. The solution was to boost the Mid Lo band's gain a couple dB (without applying XL processing to that band). That restored body to the track and perfectly complemented the sparkling clarity added by XL processing in the Mid Hi band. The only downside was that sibilance was slightly amplified. I found myself wishing for an adjustable lowpass filter (LPF) for each of the Hi bands' wet signals. LPFs would help quell sibilance and generally allow greater processing depth without sounding edgy.

bx_saturator sounded great on stereo electric guitars, adding crunch (XL processing added primarily above 200 Hz), tightening the bottom end (setting the Mono Maker control to 104 Hz) and widening the stereo image (setting the side channel's output gain a couple dB higher than that for the side channel).

I got mixed results using *bx_saturator* in a mastering session. Applying extremely light XL processing equally across all bands made the mix sound richer, but the additional gain inherent to the processing forced me to lower the plug-in's outputs around 6 dB to prevent snare hits from exceeding 0 dBFS. Doing so lowered the mix's RMS levels and made it sound significantly quieter. The Brainworx *bx_XL* mid/side limiter plug-in is a better tool for mastering, as it places a defeatable brickwall limiter after XL processing in the signal chain to rein in excessive peaks.

bx_saturator also lacks stereo and dual-mono modes that would be useful for both mixing and mastering. For de facto stereo operation, set the crossovers for mid- and side channels to the same frequencies and match the control settings for identical frequency bands.

THE UPSHOT

bx_saturator would provide even greater harmonious latitude for processing depth if it offered adjustable LPFs for its Hi bands' wet signals. But even missing this refinement, the plug-in is an outstanding tool for adding sparkle, luster and grit to tracks during mixdown. There are many saturation plug-ins on the market, but *bx_saturator* is one of the best sounding of the lot. ■

Mix contributing editor Michael Cooper (myspace.com/michaelcooperrecording) is a mix and mastering engineer based in Oregon.

Fig. 2: When used on a mono track, Mono Maker and side-channel controls are grayed out



LECTROSONICS VENUE HH

Systems-Based Approach to Wireless Transmission

The RF environment for pro audio has turned into a nasty place. Increased activity, decreased bandwidth and more competition from broadband devices make life over the air anything but a breeze. The Lectrosonics Venue Handheld Wireless System was engineered to fight these issues and deliver rock-solid performance.

The HH transmitter provided for review was furnished with Lectrosonics' HHC Cardioid Condenser Capsule, which threads onto the transmitter body (the transmitter also accepts capsules from Heil Sound, Audix, Shure, Electro-Voice and Telefunken). Two AA batteries power the HH with a rated life of five hours for alkaline—we easily got two soundchecks and two shows per pair on the recent Blue Öyster Cult tour—and eight hours for lithium. The battery compartment has an eject lever for removal, and though changing batteries was a bit fidgety, they're secure once installed.

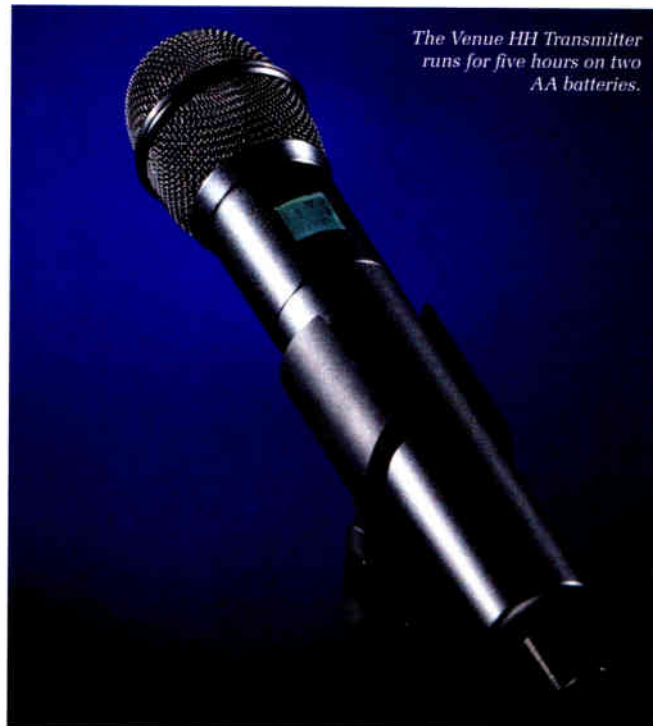
THE SYSTEM

Because the transmitter is but one part of a larger system, it bears explaining how it all goes together. The Lectrosonics Venue Receiver (VR) is a "mainframe" accommodating up to six independent receivers that quickly snap into the chassis. Two different receivers are available: the VRS (Standard) and the VRT (Tracking), the latter employing narrow-band RF filters to improve selectivity in busy RF territory. Each receiver is factory-configured to tune across one of nine 25.5 MHz blocks (frequency groups) ranging from 470.1 to 691.1 MHz for use in the U.S.; VRs operating over different frequency ranges are available for use outside the States. Receivers may be tuned to any frequency within a block.

A VR chassis with multiple receivers may be configured in several different modes. Switched-diversity allows each receiver to operate independently from separate transmitters. OptiBlend (ratio diversity) pairs two receivers set to the same frequency for use with a single transmitter. Choosing ratio diversity for one of the paired receivers automatically sets the other receiver to the identical channel. Frequency Diversity employs two transmitters and two receivers set to different frequencies. Audio from the receivers is mixed and routed to both XLRs in the pair, so you can patch the outs to one or two channels on a mixing desk and have redundant RF systems.

HOLD MY HAND

The HH transmitter's control panel features six membrane switches, two LEDs and an IR port for future use. When turned



on, the HH does not transmit RF; you have to either continue to hold the power button or select via the RF on/off menu. Other menu functions include gain, transmit frequency, button function, highpass filter (35, 50, 70, 100 and 125 Hz), compatibility (the HH is backward-compatible with other Lectrosonics receivers), tuning increment (25 or 100 kHz), transmitter power (50 or 100 mW), phase and backlight timeout period.

If you open the body of the HH and place your mouth in front of the grille, you can view the two modulation-level LEDs (-10 and -20 dB). With the menu on the gain page, it's easy to watch the LEDs while speaking into the mic and adjusting the gain setting. The manual suggests allowing the -20 LED to flicker red while the -10 LED glows green. In situations where gain is extremely high (both on the mic itself and the P.A. system), we heard very low-level "zipper" noise when adjusting gain. When the HH is powered down, it remembers its previous status.

Six hot buttons below the VR's screen provide instant access to parameters for each installed receiver and route the receiv-

er's audio to the headphone jack. Once a receiver has been selected, you can choose a tuning group, scroll the group's eight frequencies and watch the signal strength meter on the LCD. If the meter does not show signal, the channel is clear. You can also put the VR into scan mode, whereby it analyzes the local RF spectrum and displays activity. After the scan stops, the graph remains onscreen. You can zoom in, scroll to an inactive frequency, and the reception channel is automatically set to that frequency. Match the transmitter frequency and you're done.

HIT THE ROAD, JACK

We dragged the VR/HH combination on the road for a few weeks from New Jersey to North Dakota, back through Chicago and Wisconsin. In all cases, setup was quick and easy. At one venue we arrived late and the headline act already had their wireless world running, including several sets of wireless ears, instruments and microphones. No problem. We ran the scan function, found an open frequency and set the transmitter to match. Audio output level was easily set from the front panel for each receiver, and a 1kHz tone was sent as a test signal to the mixer's input.

The HHC capsule exhibits moderate proximity effect. At a distance of more than 4 or 5 inches away, response is pretty flat (accurate), but once you get inside that range, bass response increases. As such we would not recommend the HHC for singers who eat the microphone, or whose voices need help cutting through a mix and like to work close. The low-frequency roll-off control helped tame this characteristic, as did a few dB of boost from a 4 or 5 kHz shelf EQ. Off-axis response is strikingly consistent, with barely a change in timbre out to 90 degrees and rejection at 180 degrees was excellent.

In all situations, RF performance was flawless. Never a glitch, a dropout, a hiccup or a "fffffft." The system was as solid as a wire. The VR system uses Lectrosonics' exclusive Digital Hybrid Wireless technology, through which analog audio is converted to digital information. Digital audio is encoded back into an analog signal, which is then broadcast via FM. We never got the feeling that the transmission process was altering the dynamics of our audio.

We took the VR for a brief spin with LecNet2 control software which (grrrr) runs only under Windows. Anything you can do or see at the

front panel is accessible in LecNet2, including frequency, RF signal strength and transmitter battery status. LecNet2 can store and recall entire VR setups—a great tool for rental houses with steady clientele in different locales.

IT'S A WINNER

It's safe to say that there is no grass growing under the feet of the folks at Lectrosonics.

The combination of the Venue Receiver and HH Transmitter easily meets the needs of the most demanding applications for wireless microphones. RF performance was outstanding and—despite the system's depth and versatility—the user interface was a breeze. If you need a no-compromise solution to handheld wireless, you need to look at the Lectrosonics Venue HH. ■

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Britney Spears

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SAFE MODE

LAUTEN ATLANTIS FC-387

Large-Diaphragm Condenser Offers Three Personalities

Modern large-diaphragm, multi-pattern condenser mics often carry the expected pad, roll-off and pattern switch, but the new Lauten Atlantis FC-387 blows the lid off expectations.

The mic offers three distinct circuit paths that were created with the help of New York engineer Fab Dupont. When testing early versions of the mic, Brian Loudenslager, founder of Lauten Audio, offered a prototype to Dupont, who made suggestions on voicing the microphone for different applications. What evolved after many iterations was the ability to switch between three different circuit paths on the board inside the mic, titled Gentle, Neutral and Forward (G/N/F).

According to Loudenslager, the three settings are not just a simple EQ shelf; each path is tweaking a number of frequencies across the spectrum via different sets of resistors and capacitors. For instance, Gentle is mellowed out at 2 to 5 kHz so a singer can come forward on the mic and not sound harsh. The Neutral setting is lifting the 2k to 10k range and is smoother from 100 to 500 Hz and is intended for male vocals. Forward brings out more top and is more in line with the trends of modern-day recording.

The FC-387 has two 31.25mm diaphragms and can be switched between cardioid, omni and figure-8 patterns. Other features include a +10dB, 0dB and -10dB switch for high or low SPL recording situations. At the -10dB setting, the mic can take up to 130dB SPL at 0.5 percent THD at 1 kHz. The mic comes in a sturdy, velvet-lined wooden box that contains the mic and a well-made shockmount.

AROUND THE STUDIO

I had a pair of FC-387s and used them across a wide range of applications. I often used the pair around a drum kit. After many sessions experimenting with the FCs in an x/y about 1.5 feet above the cymbals, I found myself loving

the Forward setting. Cymbals were crisp but not harsh while toms and snare were beefy. I often found that the overheads, snare and a kick mic were all I'd need for some recordings. When you reduce the number of mics in a drum recording, the issues of phase are greatly reduced, cementing the kit to the track—the Lauten made

this eminently possible. I used a single FC-387 outside a kick drum paired with a Shure Beta 52 inside. I used the Gentle setting and the -10dB pad, which brought out the roundness of the outside head and was perfect when paired with the Beta52, which offered the attack of the beater.

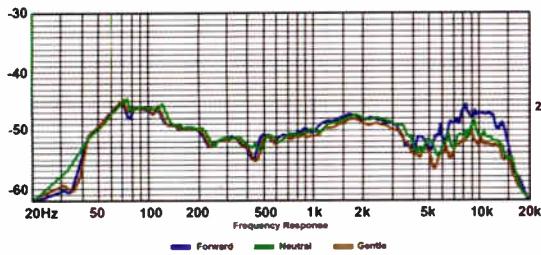
On the same session, I used the FC to record the top of a

low tom. In this case, the Neutral setting gave me the perfect balance of the stick hit and body of the tom. I also tried a single FC-387 as a mono overhead and another back in the room. I used the Forward setting for both mics, and they delivered a nice close/far picture of the kit, which I could then use to add flavor in my mix.



TRY THIS

When placing the FC-387s in stereo pairs up close on a guitar and piano, experiment with the G/N/F switches on each mic, even counterintuitively. For example, try the Forward setting on the low end of a piano or guitar, or the Neutral setting near the bright side of an instrument. Each instrument has a bright and a dark side, and using the three voices can give you combinations that may bring out attributes that better work with your track.



Omnidirectional

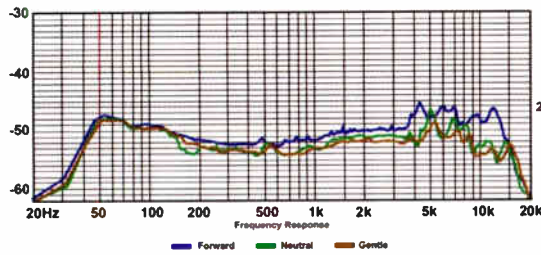
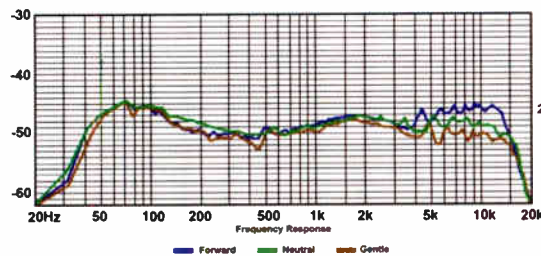


Figure-8



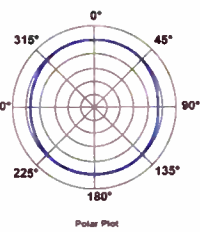
Cardioid

Frequency response graphics for three polar patterns and contour switch settings.

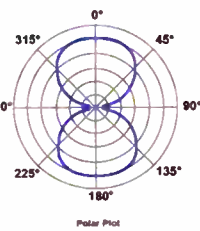
The FC-387's sound great when placed as an x/y on acoustic guitar just off the soundhole. I tried many switch combinations here, using the Neutral on the mic facing the lower part of the guitar, or even Gentle if the guitar lacked body. The Forward setting was great for getting the sounds of the pick hitting the strings up in the mix. I can't say enough about the switches in this application; it's fantastic to be able to tailor your mic's response to the instrument.

Next I set the FC-387's up to record a Yamaha C3 6-foot 1-inch grand piano. The mics were placed close to the strings, one near the center of the hammers and the other closer to the low-end strings. The piano was in a large live room with other players, and the cardioid pattern offered excellent rear rejection. For this particular track, which had an acoustic guitar, soprano sax and a vocalist, the Gentle setting was perfect. It let the piano sit down in the mix, not being overly bright or adversely competing with the other players.

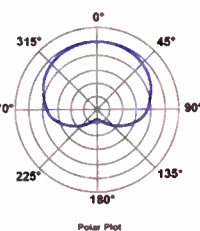
On percussion, the FC's three-position setting came in handy depending on the "toy" being played. For instance, the Forward setting was great for shaker, bringing out the silky top end with no need for EQ. On a VibraTone, which can get very strident when hit with a stick, the Neutral setting was the obvious choice. It took off a bit of the top while still letting the hits be apparent enough in the track.



Polar Plot



Polar Plot



Polar Plot

IT'S FABULOUS

The unique three-position switch on the Lauten FC-387 lets you get the sound correct before you go to the DAW. This ability lightens the EQ usage in your mix, which is always a good thing. And although the FC-387 was created with vocal recording in mind, it would be a

shame to put it into such a small box. The mic offered great sonic deftness when recording acoustic guitar, around a drum kit, acoustic piano and hand percussion. I found myself using the G/N/F switch over and over. The switch is smartly placed on the rear of the mic for easy switching in situ. And it's not just a feature Ninja, the mic sounds great. It has a beefy midrange and clean top end that doesn't sound harsh. Although \$1,499 is a lot of money for some, when you consider that the three voices make this transducer more versatile than any in its class, it takes the sting out of the sticker. This isn't just one mic, it's a triple threat. ■

Kevin Becka is Mix's technical editor.

PRODUCT SUMMARY

COMPANY: Lauten Audio

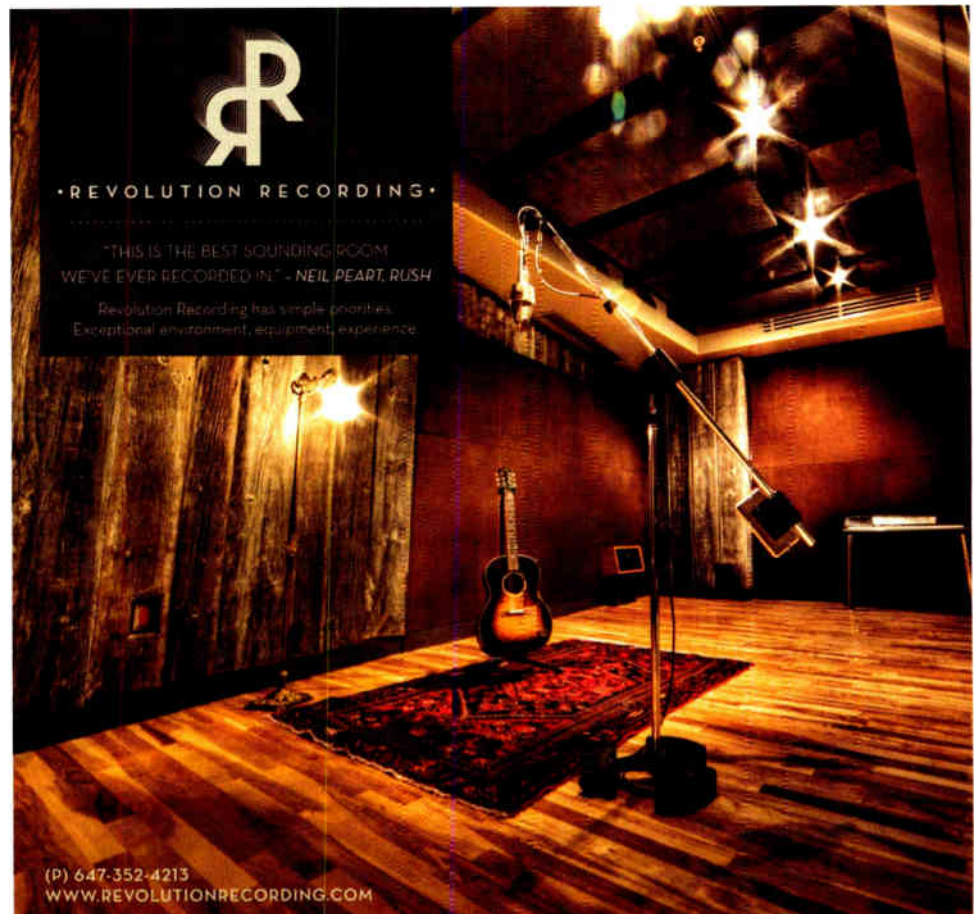
PRODUCT: Atlanta's FC-387

WEBSITE: lautenaudio.com

PRICE: \$1,599

PROS: Three-voice and gain boost/cut switches are very versatile.

CONS: Mic's size may deter tight spot placements.



STEINBERG UR824

Feature-Packed, 8-Channel DAW Interface



The 8-channel UR824 is a 1U rackmount, USB 2 audio interface that offers many handy features; plentiful I/O; latency-free monitoring with reverb, compression and EQ; and good-sounding preamps. The unit integrates automatically into Cubase, but also offers full functionality with other Mac OSX and Windows hosts.

The unit ships with Cubase LE A16 Software, a compact version of Cubase with a 32-track limit. Also included is a disc containing the software drivers and the dspMixFx_UR824 software—required when running hosts other than Cubase, if you want the hardware-monitoring and effects features.

JACKS ARE WILD

The front panel is nicely set up, giving you input control knobs and pad switches for each of the eight analog inputs. There are front-panel inputs for channels 1 and 2 on Neutrik combo TRS/XLR jacks, and hi-Z switches let you set those inputs for high-impedance sources. The rest of the I/O, save for the two 1/4-inch headphone outputs, is on the back panel.

Rounding out the front panel controls are 48V phantom power switches for each channel pair (1-2, 3-4, etc.), volume controls and 1/4-inch TRS stereo jacks for the headphone outs—each of which can output a separate mix, an LED clock-source and sampling-rate indicator—and a large master volume knob. The rear panel contains six more combo inputs. Unlike inputs 1 and 2, these don't have a hi-Z option, so are only for mic or line sources. The UR824 is equipped with Steinberg's D-PRE Class-A mic preamps.

The analog outputs are on balanced 1/4-inch TRS jacks. Next to those are two pairs of optical Toslink ADAT I/O, which give

you an additional 16 ins and outs, or S/MUX-compatible 8-in and 8-out at 96 kHz.

Also on the back are BNC jacks for wordclock in and out (the UR824 is equipped with JetPLL ultra-low jitter technology), a WCLK Switch that toggles the Wordclock In jack between input and output, a USB jack, and the input for the 16V AC power adapter. The unit is not bus-powered. One thing missing from the UR824 is MIDI I/O, which would have been a useful addition.

SOFTWARE SIDEKICKS

If you're using a host other than Cubase, the dspMixFx_UR824 software will be your bridge to the interface's mixing and DSP features. When you open it, it brings up a large mixing console that has channels corresponding to the UR824's analog and digital inputs, and the stereo return from your DAW. Each input channel includes faders, mutes and solos. You also get virtual switches for the high-pass filter, phase reverse, channel strip effect on/off and channel strip effect edit.

Using these controls, you can set up four separate, low-latency monitor mixes and route them to the various outputs of the interface. This is extremely helpful for tracking with live musicians. You can also open the Level Meter window, which has metering for all the inputs and faders, mutes and solos.

Effects can be dialed into these mixes, using the UR824's built-in DSP. One is the Yamaha Rev-X reverb, which sounds

TRY THIS

If you're using Nuendo/Cubase for editing, you can shortcut a clip gain adjustment with a key-stroke rather than a mouse move. Go to File/Key Commands/Audio and define "increment/decrement event volume" to any key command you'd like. This command will then move the clip gain up or down by a dB. You can also create a macro using multiple instances of this key command to do custom dB changes depending on the number of times you insert the key command in the macro.



good and can be tailored to your tastes. It offers hall, room and plate algorithms, with plenty of programmable parameters, and can be edited either graphically or by entering numeric values.

Also available is the Sweet Spot Morphing Channel Strip, which can be opened on any input channel. If you're using the UR824 with versions of Cubase in which the VST version of Sweet Spot Morphing Channel Strip is included (not the case in the version you get with the UR824), you can swap settings between the plug-in from the interface and the one in Cubase itself.

The channel strip includes a 3-band semi-parametric EQ and a compressor. Both compressor and EQ are quite good and provide a fair amount of programmability. The compressor has a sidechain filter that lets you restrict the frequencies that the compressor is effecting.

With the Morph control, the more you turn it up, the stronger both the EQ and compression are. By messing with it as the music is playing, you can find some pretty cool settings. Those who own the VST version might find that it's even more useful as a mixdown effect.

Unlike the reverb, which can only be moni-

tored, the EQ and compressor can be printed by setting the Channel Strip Insertion Location parameter to Ins. FX. This can be set on a channel-by-channel basis.

In Cubase, the UR824's functions are integrated into the software and use Cubase's icon-based user interface. You can set input options from the Edit Channel Settings button on an audio track, and adjust input and output destinations from the VST Connections window.

TEST DRIVE

Getting the unit up and running was a matter of installing drivers, doing some authorizations (I installed the included Cubase LE A16) and getting used to the workflow. The UR824 itself is straightforward and intuitively designed.

The integration with the software, whether it's through the dspMixFx_UR824 or Cubase, requires some manual study. The printed manual does a good job of explaining the various buttons, knobs and switches of both the hardware and software controls of this system, but is a bit light on context.

When tested on a variety of acoustic-instru-

ment sources, the UR824's preamps were warm and detailed, but not harsh. They were more transparent than colored, and compared favorably to the preamps in similarly priced interfaces I've used. They're not going to replace your high-end mic pre's, but they're eminently usable. I also recorded some direct electric guitar parts through the hi-Z inputs and liked what I heard, as well. The sound was clean, quiet and full.

PRODUCT SUMMARY

COMPANY: Steinberg
PRODUCT: UR824
WEBSITE: steinberg.net
PRICE: \$999
PROS: Well-designed interface, word clock I/O, preamps warm and detailed
CONS: No MIDI I/O

YOU ARE 824

Overall, I was impressed with the UR824. It's got plenty of I/O choices, is logically laid out both on the front and rear panels and offers useful software for setting up monitoring mixes and accessing the unit's built-in DSP. The reverb, compression and EQ are all solid, and handy to have access to on input.

I like that the UR824 has eight usable mic pre's. That makes it really versatile for studio or live-recording situations. What's more, its ADAT I/O makes it easily expandable. I could see it functioning well as either a primary interface, or as an add-on to give you more channels on an existing system that offers ADAT support.

The UR824 would be even more versatile if it had MIDI I/O built-in, but overall you get a lot for your money, whether you're a Cubase user or not. ■

Mike Levine is a musician, producer, and music journalist, and the former editor of Electronic Musician.

The dspMixFx_UR824 software, showing channel strips and the Sweet Spot Morphing Channel Strip plug-in



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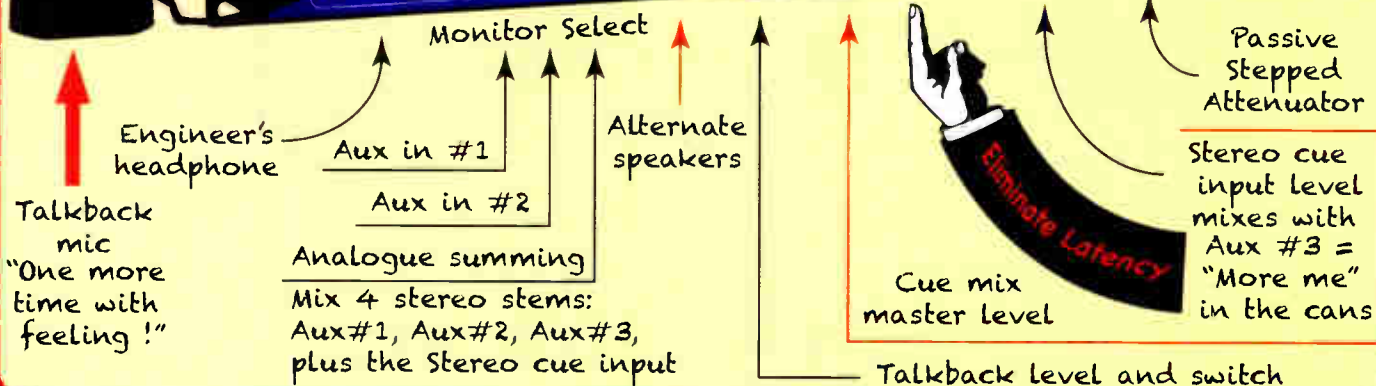
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I'M A SKILL FRACKER



By Kevin Becka

The current political cycle has trashed the term game-changer, and I'm sick of it, so I've coined a new annoying term for this month's column—skill-fracker. This means seeking out information, products, and techniques and using wake-up calls and validation to make yourself better at what you do. The process can either bring welcome news that what you're doing is right on track, or produce a painful realization that you're clueless.

When I was 21, I saw myself as an up-and-coming guitar player and idolized a few people, one of them being jazz great Joe Pass. His style, musicality and interpretation of songs still blow me away. During a jazz workshop I attended that summer, I had the opportunity to be elbow-to-elbow for a lesson with Joe in a small college practice room. I was over the moon. I prepared for the lesson by transcribing his solo on "Cherokee" off his *Two for the Road* record with Herb Ellis. I plopped the manuscript on the music stand and waited for his reaction. "I played that?" he said, surprised. I then asked him what he thought about when he played that tasty, fast and perfect solo. "I think of a D chord." Huh? Say it ain't so, Joe! There had to be something more to it! There wasn't. Joe was an artist and couldn't explain what he does. He just did it. This wakeup call has stuck with me to this day and shaped decisions in my own career(s), which eventually led me out of guitar playing and into recording.

In the past month, I fracked around during the filming and airing of the *Mix* webcast with Dave Pensado, sponsored by Avid. We had gone to Dave's studio just a few weeks earlier to shoot the video. It is a Q&A format with him and I just jawboning about Pro Tools 10, his techniques and his workflow. Dave is deep. He mixes 300 songs a year and has forgotten more than I know. But that's his depth and what makes him so attractive to frackers wanting to up their chops. You have to pay attention and take mental notes, even during casual conversation with Dave because you're going to miss a nugget that will change your game (oops). Like how he triggered a bass drum sample off a snare drum, which he mixed in with his snare track to add depth; or how he doesn't put himself in a box as that engineer who just mixes big-name pop records.

During the past four months, I've been using a snare drum-recording technique I learned from a George Massenburg vid-

eo on YouTube. It involves top-miking a snare with a 57 as you'd guess, but then using a ribbon mic in a counterintuitive way: You place it off-axis and very close to the side of the drum, with the plus (+) lobe pointing up and the minus (-) lobe pointing down to the floor. The top and bottom head are phase-corrected in the mic and it works great—lots of beefy snare thud. It is now on my A-list of drum-recording techniques because when mixed with the top mic and the rest of the kit, it sounds fracking great.

My new favorite way to take the nasty out of tracks is with the UAD-2 bx_digital V2 plug-in. It has the best de-esser I've used. I recently mixed a track that had a B-3 that was big in the mix, but the stop the player used was all whistle and no body. I used three instances of the V2 and set the de-essers at fairly close Hz intervals to reduce the whistle over a broader range. After that I smoothed the track further with a UAD Ampex ATR-102 plug-in. I popped the lid on the ATR-102 and over-biased the machine to dull the top a bit. At the end I had just what I needed, a beefy B-3 with a lot less whistle.

Just yesterday I got validation from mastering engineer Gavin Lurssen. If you've been following this column for a while, you know I've built my own small mix room. The first project out the door was an 11-song set for recording artist Gretchen Harris. I talked to Gavin before he started mastering and voiced doubts that my low-frequency decisions were correct. I thought I was close but not certain and asked him to be brutally honest. It was like waiting for medical test results, but Gavin called back an hour later to say he'd listened to my mixes and I was right where I needed to be. "Keep doing what you're doing," he said.

Great fracking news? You betcha! I've gained confidence in my LF and balance decisions, my room and my speakers, which are Focal SM9s—a breakthrough product that has altered how I listen. Being in a small room, I can now have two sets of monitors in the same speaker enclosure because the SM9s are both a 3-way system with a passive radiator, and 2-way system, each available at the push of a button. It's the perfect way to check what's going on in the midrange and bottom end.

Skill-fracking is a big part of my day-to-day flow because without growth I feel depressed and stuck. Stick with me and this column for more fracking great tips as we roll on. ■

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