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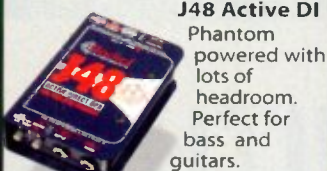
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Black Crowes	Donna Summer	Janet Jackson	Kitaro	Nine Inch Nails	Shakira	The Who
Black Eyed Peas	Donny Osmond	Jars of Clay	The Klaxons	Oak Ridge Boys	Sheryl Crow	Will Lee
Blue Man Group	Doobie Brothers	Jay Leno Show	Korn	Offspring	Simple Plan	Will I Am
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**On the Cover:** V.K.L.A., the one-of-a-kind audio showroom opened in Los Angeles last year by Vintage King Audio, has changed the retail comparison-shopping game.  
**Photo:** Robert M. Knight.

Mix, Volume 37, Number 3 (ISSN 0164-9957) is published monthly by NewBay Media LLC, 28 East 24th Street, 12th floor, New York, NY 10016. Periodical Postage Paid at New York, NY, and at additional mailing offices. POSTMASTER: Send address changes to Mix, PO Box 8518, Lowell, MA 01853. One-year (12 issues) subscription is \$35. Canada is \$41. All other international is \$50. Printed in the USA. Canadian Post Publications Mail agreement No. 40672608. Canada return address: BleuChip International, P.O. Box 25542, London, ON N6C 6B2.

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# From the Editor

## TRAVELS OLD AND NEW

**O**ver the past 30 days, which roughly coincides with the cycle of putting together this issue of Mix, I seem to have bounced back and forth from old school to new school, reverence to discovery, historic to the here-and-now. It wasn't planned; it just happened. And it all took place in the recording industry.

It started at NAMM, with its newfound growth in pro audio and a noisy penchant for everything from apps to vintage hardware. Elton John, a knight (!) and a legend, was seen streaming MIDI data from a Yamaha dealer concert to Disklaviers around the world, which in turn were playing back live. That's pretty cool.

Next stop was the George Strait-Martina McBride arena tour for three nights, with a rare privilege of riding the bus through California and into Vegas. At front of house, John McBride sits at an ATI Paragon console with a rack full of API pre's and a custom rack for the stereo bus that includes an EMI TG12413 limiter and TG12412 4-band EQ, and Neve 33609 compressor. Behind him, mixing George Strait, was George Olson, at an Avid Profile and working entirely in the box. Martina was on wedges, George in-ears. They both sounded fantastic.

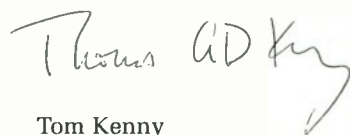
Then I found myself in Los Angeles for a cover shoot at VKLA and met photographer Robert Knight, who told stories of shooting Led Zeppelin on their *first* tour of the States, opening for Alice Cooper. The next day I headed over to the M3 Mobile trucks while they prepped for the Grammy telecast, and they were talking about the bigger-than-life rehearsal for Taylor Swift's opening number.

Then it was back home for some actual work, and I started editing a piece on hot producer Jeff Bhasker (Kanye, Beyonce, fun.), who says he absolutely prefers to program his drums, adding, only half-jokingly, that someday he might record a real one. The next story was on Sound City, a soundtrack to the documentary by analog-rock champion Dave Grohl that oozes with passion for sound and music, from what many consider the golden age of recording. I then edited a product review on Cubase 7 and found myself researching the RCA 44 ribbon mic from 1938, while writing about Wes Dooley's amazing 1998 re-creation.

In the middle of all this, a press release came across my desk announcing that the Library of Congress had released its National Recording Preservation Plan, based on efforts that began in 2000 with the National Recording Preservation Act. Other organizations and individuals have put in a lot of time and effort into similar drives, including Phil Ramone, George Massenburg and the Recording Academy, to name a few.

But we all need to get involved. Preserving the past and future of recorded music, and the technologies that help make the music possible, is just as important to today's artists as it is to yesterday's heroes. Does anyone think that everything now on YouTube and iTunes will be available on all devices 25 years from now? Formats come and go, and masterful performances can get lost in the shuffle. But they don't have to. And it doesn't even have to be a masterful performance. All recorded works should be saved, with documentation, even if they don't make it to the Library of Congress. It doesn't matter if it's your child's first talent show, your first label release or your farewell concert at Carnegie Hall. Storage is cheap. Save your work.

I wasn't lucky enough to work in a castle in the Middle Ages when the minstrel rode in to sing tales of faraway places and bring news through verse. Can you imagine that performance? When music was rare? For the King? Nor did I get to see a Mozart premiere in Vienna or hear Led Zeppelin on their first tour. But I can probably get a copy of the George Strait-Martina McBride show from the other night, and I'll count on the fact that my grandchildren probably will be able to, as well.



Tom Kenny  
Editor

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# Current

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## 55th Annual Grammy Awards Audio Technical Team



Only minutes before the start of the 55th Annual Grammy Awards, several members of the 2013 audio team gathered for a photo. The Recording Academy Producers & Engineers Wing member Hank

Neuberger again supervised the broadcast audio, while fellow P&E Wing member Leslie Ann Jones supervised the house audio. Pictured from left, top row: Audio Coordinator Michael Abbott, System Designer Jeff Peterson of ATK Audiotek; second row from top: Monitor Engineer Mike Parker, System Engineer Andrew Fletcher, FOH Music Mixer Ron Reaves; second row from bottom: Academy Consulting Engineer Doug Mountain, Grammy Award Telecast Sound Supervisor Hank Neuberger, Co-Broadcast Music Mixer John Harris, FOH Production Mixer Mikael Stewart; bottom row: P&E Wing Senior Executive Director Maureen Droney, Co-Broadcast Music Mixer Eric Schilling, Grammy Award Telecast Sound Supervisor Leslie Ann Jones, and Recording Academy Secretary/Treasurer Glenn Lorbecki.

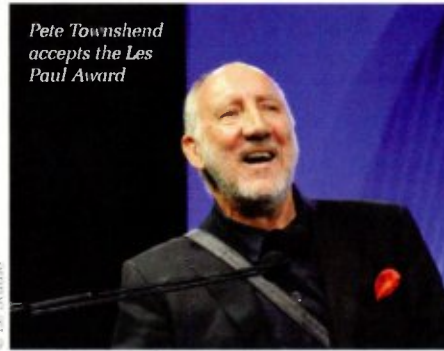
## High-Res Recording, Hi-Res Delivery

This spring, Reference Recordings, the audiophile label headed by Keith O. Johnson, a lifelong devotee of high-quality sound, will release *There's A Time*, a new 13-song set by acclaimed blues guitarist Doug MacLeod. Reference will release it on a 200-gram two-LP, 45 rpm set, half-speed-mastered by Paul Stubblebine, pressed at Quality Record Pressings. A high-resolution digital HRx disc, and high-resolution and conventional downloads will also be available.

Recorded, mixed and mastered by Grammy-winning engineer Johnson, assisted by Sean Royce Martin, and produced by MacLeod and Janice Mancuso, the trio (bassist Denny Croy and drummer Jimi Bott) was tracked in the big room at Skywalker Sound in Marin County, Calif.

"Making this album was different than any other one I've done in the past," recalls MacLeod. "They put Jimi, Denny and me on this huge soundstage at Skywalker Sound, and we sat around in a circle where we could see each other. We played live, no overdubs, just three guys playing some music together."

## 28th Annual TEC Awards Winners



Pete Townshend accepts the Les Paul Award

The 28th Annual Technical Excellence & Creativity Awards were held January 26, 2013, at Winter NAMM, and hosted by singer/songwriter **John Sebastian**. Winners were chosen during December 2012 by voters who included subscribers to *Mix*, *Pro Audio Review* and *Pro Sound News*, as well as select members of NAMM, the P&E Wing of the Recording Academy, G.A.N.G. (Game Audio Network Guild) and Broadjam.com.

Record Plant President **Rose Mann-Cherney** was inducted into the TEC Awards Hall of Fame by recording executive Ron Fair and Slash, followed by the Les Paul Award presentation to renowned recording artist and composer **Pete Townshend**. Film producer and humorist Martin Lewis, and Jeff Salmon, representing the Les Paul Foundation, presented the Les Paul Award to Townshend. Upon receiving the award, Townshend said, "In every hope that I ever had for a device that would do something that I wanted to do, you fabulous people made it for me...I'm so hip to what you guys do, hip to the amount of time that you spend, and as a musician and as a composer, I sincerely want to thank you!"

The winners in the **Outstanding Technical Achievement** category are: **Ancillary Equipment**—Waves Audio WLM Loudness Meter; **Audio Apps Technology for Smartphones & Tablets**—Moog Animoog; **Microphone Pre-amplifier Technology**—Apogee Electronics 8-Channel Mic Pre Module for Symphony I/O; **Studio Monitor Technology**—ADAM Audio

**A77x; Recording Devices**—Zoom H2n Handy Recorder; **Musical Instrument Amplification & Effects Technology**—Line 6 POD HD Pro Guitar Processor/Amp Simulator; **Amplification Hardware/Studio & Sound Reinforcement**—Dangerous Music 'Dangerous Source' USB Monitor Controller; **Computer Audio Hardware**—Universal Audio Apollo Audio Interface; **Musical Instrument Technology (Hardware)**—Moog Minitaur; **Musical Instrument Technology (Software)**—Native Instruments Kontakt 5; **Signal Processing Technology (Hardware)**—Rupert Neve Designs Portico II; Master Buss Processor; **Signal Processing Technology (Software)**—Universal Audio Ampex ATR-102 Mastering Tape Recorder Plug-In; **Sound Reinforcement Loudspeaker Technology**—Meyer Sound CAL Column Array Loudspeaker; **Microphone Technology/Sound Reinforcement**—Telefunken Elektroakustik M81; **Microphone Technology/Recording**—Blue Microphones Spark Digital; **Headphone/Earpiece Technology**—Sennheiser HD700 Headphones; **Wireless Technology**—Shure Axient Wireless; **Workstation Technology**—Avid Pro Tools 10; **Sound Reinforcement Console Technology**—Avid VENUE SC48 Remote; **Small Format Console Technology**—Rupert Neve Designs 5059 Satellite Mixer.

The winners in the **Outstanding Creative Achievement** category are: **Record Production/Single**—"Somebody That I Used To Know", Gotye; **Record Production/Album**—*Wasting Light*, Foo Fighters; **Tour Sound Production**—Foo Fighters' "Wasting Light" Tour, Delicate Productions; **Remote Production/Recording for Broadcast**—*54th Annual Grammy Awards*, CBS; **Film Sound Production**—*The Dark Knight Rises*, Warner Bros.; **Television Sound Production**—*Breaking Bad*, AMC; **Interactive Entertainment Sound Production**—*Journey*, Sony Computer Entertainment; **Studio Design Project**—Dreamworks Animation Studios, Glendale, Calif.;

View a photo gallery of the 28th Annual TEC Awards at [www.tecfoundation.com](http://www.tecfoundation.com).

## Rock, Photos, Covers!



This month's *Mix* cover was shot by legendary rock 'n' roll photographer Robert M. Knight (pictured at left with Slash), a 40-year veteran of the studio, the stage, the backstage, the airplanes, the chateaus...anywhere else that the guitar gods and rock stars have gathered since Knight left Hawaii in 1968. He was one of the first to shoot Jimi Hendrix with guitar, one of the first to greet Led Zeppelin on their first trip to the States (opening for Alice Cooper), and he was there when Stevie Ray Vaughan came off the stage on his final

night. Also, Janis Joplin, Eric Clapton, Aerosmith, Sick Puppies, Maroon 5, plus hundreds of others.

He also is the subject of a recent documentary, *Rock Prophecies* (available on Netflix), which focuses on his career and introduces a now-well-known axe-slinging prodigy, Tyler Dow Bryant, whom he also now manages. He has books, too, the latest of which is all about Slash. You can find out more at [robertmknight.net](http://robertmknight.net).

## Stefan Kudelski, 1929-2013

Stefan Kudelski passed away in Switzerland on January 26, 2013, at the age of 84. He founded the Kudelski Group in 1951 and invented the Nagra, the first portable professional recorder. Kudelski developed a range of recorders used in the radio, motion picture, television and security industries, and led the company until 1991, when his son André succeeded him as Chairman and Chief Executive Officer. In 1983, he entered the hall of fame of motion picture and television by receiving the John Grierson International Gold Medal, joining luminaries of the Society of Motion Picture and Television Engineers that include Louis Lumière, Thomas Edison, Lee de Forest, George Eastman, Walt Disney, Samuel Warner, Léon Gaumont, Ray Dolby and Vladimir Zworykin. He won Oscars from the Academy of Motion Picture Arts and Sciences in 1965, 1977, 1978 and 1990; and two Emmy Awards from the Academy of Television Arts and Sciences, in 1984 and 1986. "The Nagra III absolutely revolutionized the way we made films in the late '50s and early '60s," says CAS Career Achievement Honoree Chris Newman.



Photo courtesy of The Kudelski Group

## Avid Names Louis Hernandez Its President, CEO

Louis Hernandez, a member of Avid's Board of Directors since 2008, is the company's new president and CEO, taking the place of former president/CEO Gary Greenfield, who has resigned from those positions but remains a member of Avid's Board of Directors. Prior to this appointment, Hernandez was Chairman of the Board and Chief Executive Officer of Open Solutions, Inc., a technology provider to financial institutions worldwide, which was acquired in January 2013 by Fiserv, Inc. "It is an exciting opportunity to lead Avid at this very important juncture in the company's history," says Hernandez. "As the industry leader for more than 25 years, Avid continues to set the standard for non-linear-editing, media management, and collaboration in the audio, video, and broadcast markets."

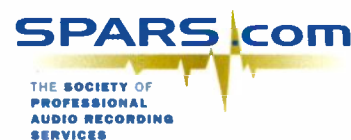


## SPARS Sound Bite

### Studios and the Indies

By Kirk Imamura

In Dave Grohl's documentary, *Sound City*, one can see clearly the various points in history that developing bands' careers took a critical turn that ended in great success. Many factors contributed to the success stories, but it all starts where the music was being generated: at the recording studio. To me, *Sound City* represents all recording studios with rich histories. There are many, many facilities with equally compelling credits still operating today, such as the Record Plant, Sunset Sound and the Village in Los Angeles, Avatar Studios in New York City, Hit Factory Criteria in Miami and others across the country.



While artists can record and mix pretty much anywhere today, I submit that artists whose music lends itself to acoustic recordings can record at carefully tuned spaces, run their music through vintage, large-format consoles and even record to analog tape because these places still offer these options.

As pointed out in the film, it is not just about analog or digital, Neve console or Pro Tools, but the human interaction that occurs inside the walls of a studio—what Grohl refers to as the "human element." Studios are creative musical sandboxes where ideas can be refined collaboratively, and this model has worked for dedicated musicians.

Supporting local studios, especially ones with rich histories, is important because beyond the space, gear and the vibe they offer, they are repositories of recording knowledge as well as the training ground for the next generation of audio engineers.

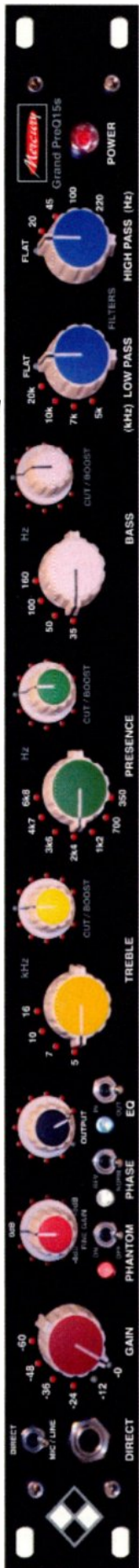
It is also true that many of these studios owe their existence to "indie bands" of yesteryear. One never knows which band might be the next big sensation. Studios depend on artists. In turn, studios can help artists at critical junctures in their development.

The future of the music industry relies on new talent putting out new works, and we know that helping up-and-coming bands is a win-win proposition. In this spirit, Avatar Studios is sponsoring a promotional contest with *The Deli* magazine. The winner will be given a full day to record at Avatar at no cost as our investment in the future of our industry.

Adopting a line from the airlines, "we know you have a choice" of where to record, but you will find recording at a studio with a rich history to be rewarding and inspiring. And you will sound great!

Kirk Imamura is the President and Director of SPARS, and president of Avatar Studios in New York City ([avatarstudios.net](http://avatarstudios.net)).

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## MIXBLOGS



### TechTicker

Some recent observations have gotten me thinking about how we as audio pros must adapt to gear as it becomes more capable. The price we pay is the learning curve, constructing new ways of working and, of course, experiencing some frustration.

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



### Robair Report

In addition to its educational mandate, the Recording Academy has a philanthropic mission: MusiCares is dedicated to helping musicians in need. We'll explore how it helps artists through natural disasters and personal crises, such as substance abuse.

[blog.mixonline.com/mixblog/category/robair\\_report](http://blog.mixonline.com/mixblog/category/robair_report)



### Ask Eddie

I started off 2013 with one less class to teach and was anticipating having extra time to make a dent in my to do list. No such luck! My extra time went into prepping and supporting a Rockabilly session at Minneapolis Media Institute. It was an all-analog, four-day session...

[blog.mixonline.com/mixblog/category/ask\\_eddie](http://blog.mixonline.com/mixblog/category/ask_eddie)

## SoundWorks Collection Update

*MPSE Awards and Cinema Audio Society Awards*

The SoundWorks Collection presents exclusive behind-the-scenes videos from the Motion Picture Sound Editors Awards and Cinema Audio Society Awards presentations, both held in February 2013.



Director Ang Lee was honored with the 2013 MPSE Filmmaker Award.



Anne Hathaway (left) and Willie D. Burton, CAS, presenting the 2013 CAS Filmmaker Award to Jonathan Demme.

## Cool Spin:

*The Mavericks: In Time (Valory/Big Machine)*



The Mavericks' first studio album in a decade, *In Time*, is as euphoric as any of the alt-country group's early albums, and exhibits many of the same musical influences: Tex-

Mex/Latin folk and pop, Roy Orbison-esque balladry, rockabilly and surf guitars.

[mixonline.com/cool-spins](http://mixonline.com/cool-spins)

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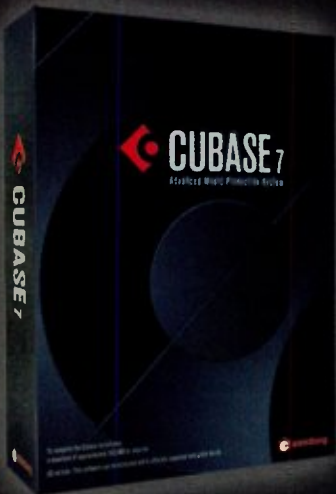
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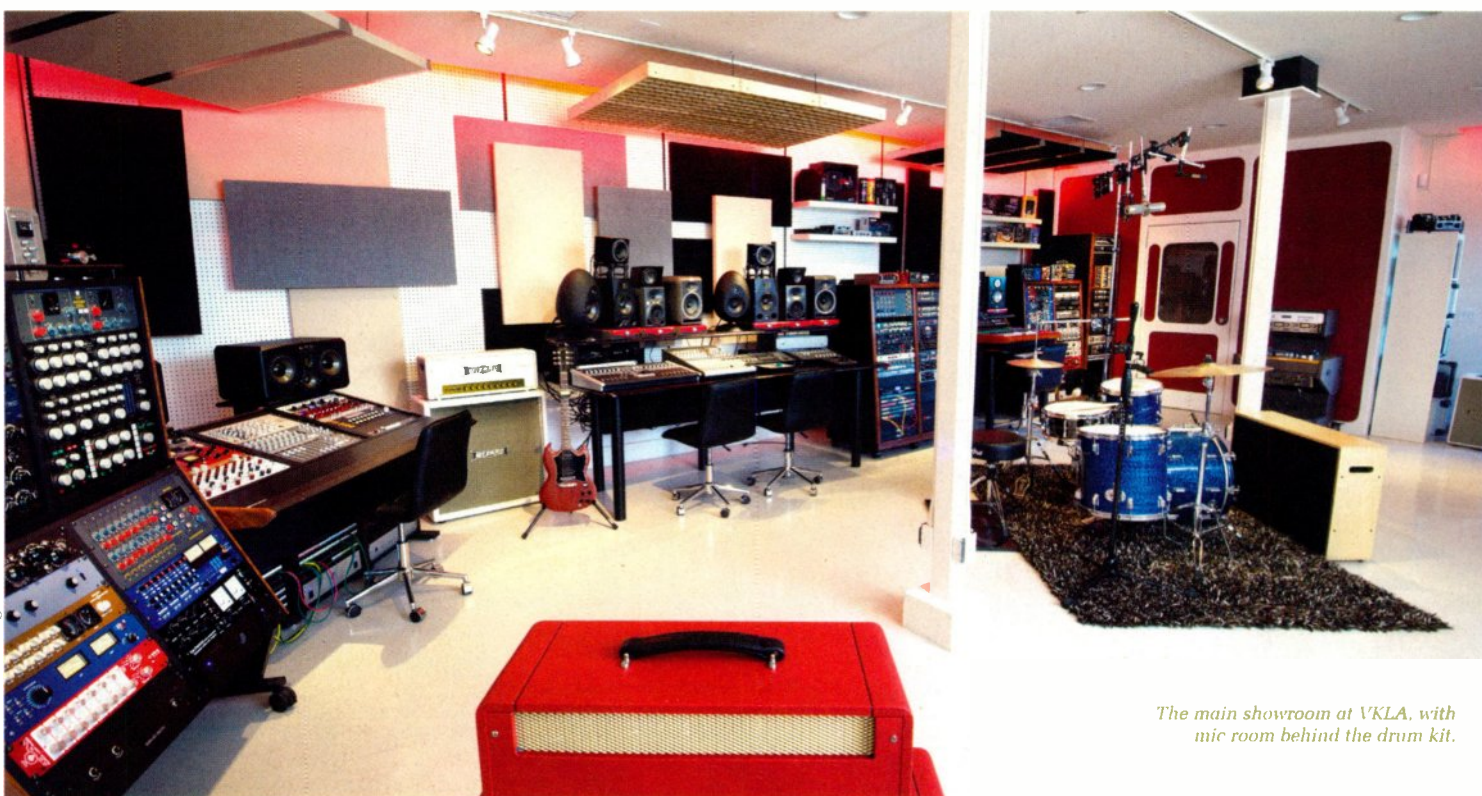
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# On the Cover

By Tom Kenny

## VINTAGE KING LOS ANGELES

Photo: Robert M. Knight



*The main showroom at VKLA, with mic room behind the drum kit.*

**I**n a technology industry that has maintained its foundation built on boutique gear, VKLA makes sense. The mom and pop pro audio stores, the ones based on personal contact and trusted opinion built up over years, have all but disappeared, replaced by larger retailers with discounted prices and vast selection. That's how the world works, and it has happened in nearly every industry. VKLA, however, has chosen to swim upstream in this age of Amazon, opening a brick-and-mortar showroom based on comparison shopping and instant evaluation. In the relatively tiny retail world of pro audio, their bet is paying off.

The concept is deceptively simple: A producer/engineer/artist makes an appointment and brings in whatever audio they like, in whatever format they prefer; then they can play back and compare whatever gear they want, from mics

to pres to effects to monitors, instantaneously, evaluating units at the switch of a button in a controlled listening environment.

"It's not easy hearing the nuance of all this classic—and modern—gear," says Vintage King co-founder Mike Nehra. "Not everyone is capable of deciding on their choice over the phone or via Internet sales. Many customers want to feel comfortable, no pressure, in a dedicated and semi-private space, A/B'ing and comparing gear. Many bring their own sessions on hard drives, dongles, iPods, booting them up on a variety of listening stations/DAW rigs we have. We just set our customers up with the type of gear they want to demo, then leave them alone to A/B and compare for a while...Have fun."

It seems a no-brainer, especially in the heart of L.A. But the six-month history of VKLA is rooted in the 20-year history of Vintage King, the

slow-growth, high-impact, now-paying-off venture of the Nehra brothers, Mike and Andrew, out of Detroit. They had a 4-track Portastudio as teens, were in a band, Robert Bradley's Blackwater Surprise, that had some success in the '90s, and they had a studio, The White Room Studio, with clients like early Kid Rock and a local reputation for quality sound. They started out buying vintage gear (beginning with classic Neve modules) for their own use, then quickly realized that if they reconditioned their surplus and turned it around, there was a market out there of producers and engineers and artists just like them that wanted gear that "worked" with a great warranty to back it up. They established Vintage King Audio in 1993, and the business grew, first by phone, then over the Internet; it is still based out of Detroit, where they maintain a vast inventory and a dozen full-time techs. The equipment guarantee is personal.

The popular mic booth with every vintage and modern model you could think of. Just outside, at right, is the wall of mic pre's and more than 120 500 Series modules. The channel strip and plug-in stations are to the rear.



Photos: Robert M. Knight

Jeffrey Ehrenberg was in the Nehra brothers' next band, Chrome Fills, when he joined the VK staff. After five years in Detroit, he proposed taking VK back to his home state of California and establishing a sales presence in L.A., the world's largest recording market. He moved in 2003, and for eight years he loaded his car, then van, and visited studios, auditioning and selling gear. In 2005 he simultaneously opened Infrasonic Mastering with partner Pete Lyman, continuing with studio visits and gear demos/sales during the day. He saw the limits in what he was able to show, and he started to think about bringing his two worlds together. VKLA, all profess, was his brainchild.

"The idea for the showroom was in my head almost from the beginning," Ehrenberg recalls, thinking back a decade. "It took the eight years of running around Los Angeles with demo gear in my trunk for the business to organically grow and justify such a large step forward. There were two principles from the start: The equipment needed to be presented on an even playing field and our clients had to be able to easily bring in music they are familiar with for the comparison."

Finding the right building, one that would house the showroom and new multiformat mastering suites, took more than a year. It needed to be centrally located for the West Side, the Valley, Hollywood, Burbank-Pasadena...they found a spot, serendipitously enough, at 1176 West Sunset, in the Silverlake/Echo Park district, not far from Dodger Stadium or downtown.

The main studio, dubbed the Critical Listening Room, on this month's cover (with near-fields rotating in on motorized lifts) provides the main attraction. More than 5,000 pounds of sand and various isolation techniques have been pumped into the front wall, allowing critical playback from soffit-mounted ATC, PMC, K&H, Dynaudio, ADAM and Focal monitors. Any and all near-fields, from the likes of Barefoot, Focal, Genelec and ProAc, can be popped on the monitor lifts on-demand. A variety of high-end converters handle program material at whatever resolution, switched for A/B through a Z-Systems router; the two consoles are an API 1608 and SSL AWS948.

But the VKLA team has found equal and increasing interest in their microphone vocal booth, with all associated mic pre combinations available at the flick of a switch through a complex distribution system based around the Manley MicMaid. The other stations were developed around a design by VK tech Tim Mead, who designed and built custom distribution amplifiers that take one input, and cleanly mult it out to 48 channels. The output from a high-grade D/A converter feeds the distro, then an entire rack of gear simultaneously.

Just imagine how long that would take to hook up in a working studio to audition as many mic/mic pre possibilities for a new female vocalist, or to compare summing mixers. That ability to instantly compare is repeated at each of seven stations in the main showroom: mono/stereo compressors; EQs; DAWs; post-production tools; channel strips; plug-ins; mic pre's.

"Our vast mic collection is where many people start," says Tom Menrath, a retail veteran and now VK head of strategic development. "The fact that they are all patched to a huge selection of the finest mic pres and channel strips available makes it very easy to select the perfect vocal chain for a particular singer. Over 120 500 Series modules are also in this station; that's a very popular category for us. The key word is 'instantly.' Being able to quickly switch between different pieces of gear, in a controlled setting, allows our clients to make informed decisions very efficiently. They leave with confidence that they made the best choice."

That's what it boils down to: Choice. Vintage is in the company name, but they sell a ton of plugs and a ton of Pro Tools. But so do a lot of companies. The level of customer service and gear knowledge, combined with the widest array of new, used and vintage is what makes VKLA unique. A complete hands-on experience.

"We've found that even with the continual progress of amazing digital hardware and software, good old analog gear has a charm that users feverishly support," Nehra says. "Whether it's great vintage gear from decades past or some of the new high-quality re-creations of classic designs, to new inventive creations, users are in love with the sound and the ability to 'touch and feel' what they are using, beyond just a mouse, touch screen or keyboard. Real faders, real knobs, transformers, transistors, Class A, A/B, tube, or some great IC circuits...there is a love affair with it all that's real and undeniable. Simply put, it sounds great. It may not all be recallable, but who cares, that's not the point in every facet of making music. Let's write some great songs and record a brilliant performance by musicians as the backbone of music."

"We've learned that the recording community greatly appreciates what we have done," concludes Ehrenberg. "Not only the demonstration space but also the community building events we're putting together, like 'Meet the Maker,' where the recording community has a chance to meet industry icons such as Rupert Neve. We're constantly improving, tweaking and massaging the place to be the best pro audio showroom in the world."

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# Music

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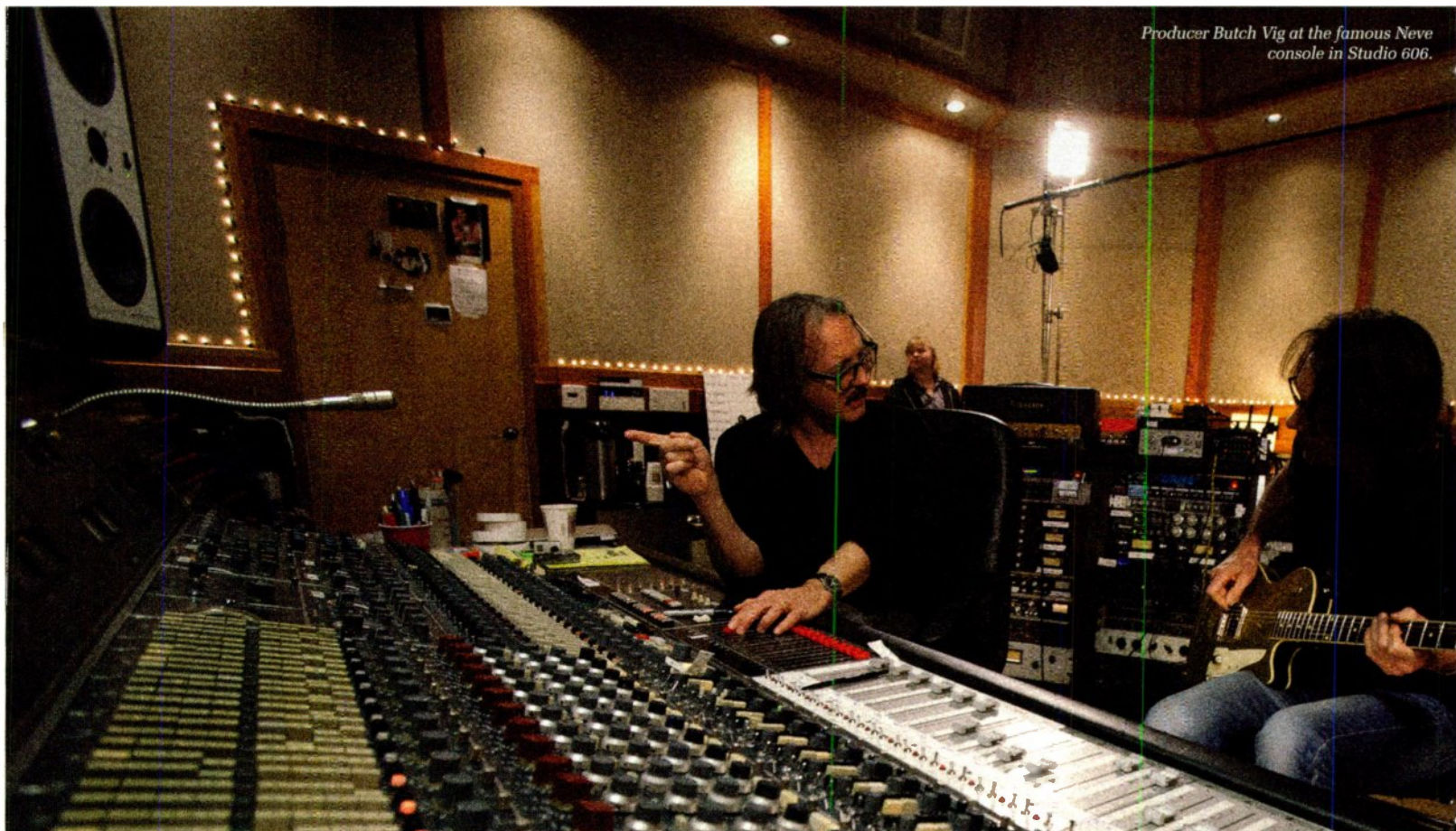
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Producer Butch Vig at the famous Neve console in Studio 606.

Photo: Billy Favone

## GOING TO 'SOUND CITY'

Dave Grohl Honors the Studio, Console That Helped Launch His Career

By Barbara Schultz

**I**t all started with this idea that I wanted to tell the story of the board," says musician and (now) filmmaker Dave Grohl in his documentary *Sound City*. "The conversation became something much bigger: In this age of technology, where you can simulate or manipulate anything, how do we retain that human element?"

*Sound City* is the story of the Van Nuys, Calif., facility—now converted to soundstages and a private studio—where Fleetwood Mac

joined with Buckingham Nicks; where Tom Petty and the Heartbreakers cut *Damn the Torpedoes* with Jimmy Iovine, and *Unchained* with Johnny Cash; and where Nirvana made *Nevermind*. But it's also a larger story, about "that human element": the people who devote their lives to making music and to creating a community of musicmakers, and the ways lives have changed with the decline of commercial studios.

Grohl's film begins with the history of Sound

City—the artists, owners and staff, producers and engineers, and that Neve board, which now lives in Grohl's personal facility, Studio 606. Then, about two-thirds in, the focus of the movie shifts to the process of recording the film's soundtrack: *Sound City: Real to Reel*, an album of new songs written and tracked in 606 with producer Butch Vig and some of the artists who famously recorded at Sound City.

In the film, the soundtrack sessions are super-energized, with musicians mainly cutting



Engineer James Brown at the Neve, with Grohl over his shoulder.

live in Grohl's tracking room—that human element. “Everybody who’s been to Sound City knows exactly why I’m making this record,” Grohl says in the film.

Engineering the *Sound City* soundtrack, and appearing in the film, was James Brown, who has worked with Grohl’s Foo Fighters and was in the thick of Kings of Leon sessions when *Mix* contacted him.

Early sessions for *Sound City: Real to Reel* included John Fogerty, Black Rebel Motorcycle Club, Corey Taylor (of Slipknot) with Rick Nielsen (Cheap Trick), and Rick Springfield. March brought Chris Goss (Masters of Reality) and Rage Against the Machine to the studio. “In April, we did sessions with Trent Reznor and Stevie Nicks,” Brown says. “We all realized we were working on something special, but then we got Paul McCartney and the bar was suddenly raised to a whole other level.”

Some songs were written and arranged on the spot in the studio, as in the film segment that shows McCartney working with Grohl, Pat Smear and Krist Novoselic of Nirvana. “Dave always came to the sessions armed with a riff or a writing demo in his back pocket, mostly as an insurance policy in case there wasn’t a better idea on the day,” Brown says. “But in all cases, 80 to 95 percent of the track would be conceived, recorded and overdubbed during that first day. The tracks always began with musicians playing together at 606, and we’d record that to the house 24-track Studer A827.

“The watch-word for the whole project was ‘real,’” Brown continues. “Pro Tools works just as well as tape at capturing those moments, but it also makes it incredibly easy to correct and perfect things, and that can

be to the detriment of an artist trying to get a feeling across. Working in the analog domain, there’s less temptation to correct idiosyncrasies or human flaws. Tape brings an honesty to the process—

to the production side of things, too.”

Brown set up dozens of mics, to cover the ever-changing musical lineup. “The brief from Dave was, ‘Be ready for anything,’” he says. “We knew we wouldn’t be able to spend a ton of time getting sounds, so it became about creating a one-size-fits-all system. We had a drum kit miked, tuned and ready to set levels as soon as anyone picked up a pair of sticks; we had a bass cabinet miked and ready; we had four guitar stations with mics routed to tape and ready to slot in whatever amp we wanted; we had four live vocal mics; we made provisions for keyboards, ready to patch, and so on.”

In the preamp department: “The Sound City console took care of drum, bass and guitar recording; an extra 8-channel lunchbox of Neve 1073s took care of the vocals and acoustic guitar; and 16 channels of Pat Schneider custom preamps took care of keyboards and percussion,” Brown explains. “We also had a full back-line rig in the live room with Ian Beveridge on hand to mix monitors, and a slew of Mackie headphone mixers waiting for balances to be dialed in if that was the preferred method of monitoring. We tried to be all things to all men and women.”

Brown miked live vocals with Shure Beta 58s. He says that, with wedge monitors in the room, he appreciated the 58s’ tight pickup pattern. “Those would go through a 1073 pre/EQ,” he says, “and then get compressed to tape using an Empirical Labs Distressor; I like that you can smash a vocal with it without it getting too sibilant.” For re-recording or overdubbing vocals, Brown says he would switch to a Bock 251 mic, also through a 1073 and to another Distressor or UREI Blackface 1176.

To capture the multitude of electric guitars, Brown says, “I like pairing a condenser with a ribbon; you have two very different, and two very complementary, sounds to blend, regardless of whether you need an amp to sit above or in a track. Two amp stations had a Josephson E22 and Royer R121 each; the third had a pair of Butch Vig’s RCA BK5 ribbons to cover harsher-sounding amps; the fourth, a pair of Shure SM57s. I also had a Sennheiser 421 on hand in case I wanted a more scooped tone. All of these mics were handled by the console preamps, and they would get some light limiting on their way to tape using UA LA3As.”

As would be expected of the talent roster on this project, the soundtrack recordings rock hard, with a lot of spontaneity and heart. “The McCartney/Nirvana session was a highlight for all of us; not just in a career sense, but in a life sense,” Brown says when asked about memorable moments. “How many people do you know who can tell their children they were in the room when the Mozart of our generation wrote a song?”

However, Grohl points out in the film that, to him, almost as important as the human element is the unsung hero of these sessions and so many others: the Neve 8028 console that Tom Skeeter paid twice the price of his own house for in 1972. Obtaining the Sound City Neve must have been bittersweet for Grohl; he’s one of many musicians who found it hard to say good-bye to the studio. But as long as he’s got that board, Sound City lives, in a way.

“I think they knew I wasn’t going to bubble-wrap it and stick it in a warehouse,” Grohl says in *Sound City*. “I was going to f-king use it. A lot.” ■

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Read engineer James Brown’s song-by-song breakdown of the tracking sessions. [mixonline.com/march.2013](http://mixonline.com/march.2013)



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## THEY MIGHT BE GIANTS NANOBOTS

You can count on They Might Be Giants; for more than a quarter century, they've been making smart and quirky albums. Engineer/co-producer Patrick Dillett has worked with them since he was the assistant engineer on *Flood* (1990). Over time, the group developed a system where the Johns (Flansburgh and Linnell) make song demos in their home studios, and then bring them to Dillett to record with the rest of the band: guitarist Dan Miller, bassist Danny Weinkauf and drummer Marty Beller.

"The band will play them live multiple times, and we'll do drum comping or other fixes as we go. These are very much band records, but the songs have been laid out first in skeletal form by John Flansburgh and John Linnell."

TMBG's latest, *Nanobots*, was made using this general approach: a great rock 'n' roll band adding to, and subtracting from, the frontmen's



computer-realized song ideas. The album is amusingly varied, with more conventionally shaped songs accompanied by what Dillett calls a "song suite" of mini songs that range from 6 to 42 seconds in length. But at the core of their sound, of course, is the warm but ironic sound of the Johns' vocals.

"I have a Neumann U 48 that sounds good on them," Dillett says. "They both have a midrange-y vocal tone, especially when they really dig in, so it's nice to have a warm mic and some warm limiting. I used the U 48 with a Neve Kelso pre and a Summit TLA100."—Barbara Schultz



## MILK CARTON KIDS, THE ASH & CLAY

The latest release from the Milk Carton Kids, *The Ash & Clay* (Anti) evokes nothing so much as stripped-down Simon and Garfunkel: the sweetness and beauty of two voices singing in harmony, the delicate interplay of two acoustic guitars, and the beauty and strength of great songwriting. This record was made by a small but mighty crew of three: the

Kids—Joey Ryan and Kenneth Pattengale—and engineer Ryan Freeland (ryanfreeland.com), who recorded, mixed and mastered the album in his personal studio, Stampede Origin (West L.A.).

"When they rehearse, they stand close together, facing each other and looking at each other, so we recorded that way. That's how they're most comfortable, so I put the mics as close together as possible and worked with it," Freeland says.

Five mics did the trick during the week-long session: "I had two M 49s on their vocals, two U 67s on their acoustics, and an AEA A440 active ribbon in between them; that caught a little bit of a mono version of everything. I didn't use any compression or anything else; I wanted the mics to be the vibe-y part of it."

"One song, 'Promised Land,' sounds different from the rest because Kenneth had just finished writing it and was sitting on the floor in the corner, away from the mics, rehearsing," Freeland continues. "After he played through it Kenneth came in and said, 'Can we listen to that?' And I was like, 'Oh, what? You were playing a take in there?' Thankfully I'm always in Record. That first pass became the master take on the album."—Barbara Schultz

## WAYNE SHORTER: LIVE, WITHOUT A NET

The incomparable tenor and soprano saxophonist Wayne Shorter may be turning 80 this August, but he's not slowing down and his music is every bit as vital as ever. His latest release is the live *Without a Net*, featuring the acoustic group he's fronted since 2000—Danilo Perez (piano), John Patitucci (bass) and Brian Blade (drums). The nine-song collection



serves up a mixture of sonorous melodies, dissonant excursions and complex pieces that visit many styles; all Shorter compositions except "Flying Down to Rio," from the Astaire-Rogers film.

*Without a Net* was recorded to iZ RADAR by Shorter's "sound traffic controller" since 1995, Rob Griffin, on a seven-show tour of Europe in the fall of 2011. "I was very fortunate to have a group endorsement with DPA Microphones," Griffin says, "so all the mics on there, except on 'Pegasus' with the Imani Winds [from the Disney Concert Hall in 2008], are DPAs, and I couldn't be happier."

He used four mics around Blade's kit—a wide cardioid 4028 on the kick, 4021 cardioids as overheads "from his ear position, angled down to get his dynamics and tone from his perspective," and a tiny 4061 omni "taped to the side of the rack tom as a center-kit mic." Piano was three 4021s—low, mid and hi inside. Bass was a 4021 on a clip between the bridge and tailpiece, as well as a David Gage piezo pickup and Rolf Spuler Woodi. Shorter takes a 4028. "I don't go for a room sound," he says. "I want it to sound as if the audience is right in front of the band, six feet from Wayne. I like the humanity that comes forth when you're close, the little quirks of energy."—Blair Jackson

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Rubinson and Catero did some pre-production before tape started rolling, knowing that the middle part of the song could become a sonic playground for them, but there was no rehearsal per se, and when they launched into the song, all the band members wearing headphones, they had no idea what was about to happen. As the song unfolded, Rubinson and Catero started messing with reverb and echo, creating hallucinatory effects.

"You'd take the signal from the microphone," he explains, "and as you were feeding it to the 8-track, you were also feeding it to another tape machine, which had a slight delay, called tape reverb, then you would send that signal off the playback head to an echo chamber. The speed at which you ran the tape machine determined how long it was between the original and the delay. Then, if you take that signal and you feed it back to the tape machine again, it starts a loop, so you're going: input, record head, playback head, echo chamber, output from the echo chamber, back to the record head, back to the playback head, back to the echo chamber and so on. And instead of getting one repeat you start getting multiple repeats. So the cowbell would go 'tick-ck-ck-ck, tock-ck-ck-ck,' and you could regulate how much and how fast the reinsertion of the original signal was. Eventually you have this sound refolding on itself over and over, and ultimately it turns into white noise."

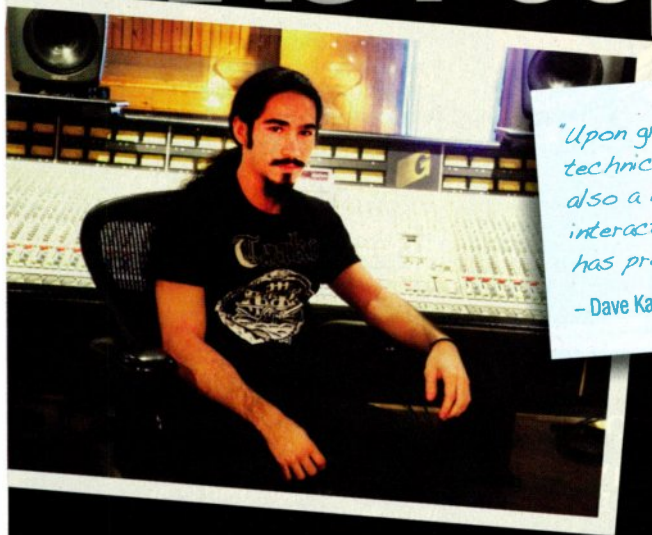
As the effects started coming through the band's headphones, they reacted spontaneously with their own screams, shouts and laughs "and I reacted to what they did with the speed of the tape machine. Also,

if I flicked the tape, it would go in and out of phase and make these weird sounds, and it just got crazier and crazier. But from having seen them live so much, I knew exactly when the crazy part was going to end—Brian was going to play this big drum fill and it was going to come back to 'Now the time has come...' so I was able to shut everything off exactly on cue. We grabbed lightning in the bottle—boom! When they finished, they were screaming and yelling and came running into the booth and we played it back and it felt so good."

Rubinson was so excited he had Clive Davis come down to the studio at midnight to hear the track, and that is what finally convinced Davis to commit to putting out a whole Chambers Brothers album. Rubinson made an edited single version of the song, eliminating the long psychedelic section, "but an engineer at KFRC in San Francisco made his own edit, which was frankly better than mine, and [Columbia released] a second single based on the KFRC edit and it swept the country, beginning in San Francisco, where it was a Number One record." Between the single and the album version, "Time Has Come Today" was inescapable in the summer and fall of 1968.

Rubinson and Catero would later make other Chambers Brothers albums, including *Love, Peace and Happiness* (which was ubiquitous in 1970), and the original group continued touring successfully through the early '70s. "Time Has Come Today" has been used in many films and TV shows through the years—few songs conjure the psychedelic '60s more. And no rock song ever used a cowbell more effectively. ■

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# Live



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## GEORGE STRAIT AND MARTINA McBRIDE

By Tom Kenny // Photos by Jill Trunnell

**T**he adulation for George Strait has to be experienced to be believed. The stats are amazing: 66 Number Ones, 20 Platinum records, 72,000-seat sellout in Houston this month. But numbers don't prepare you for the roar that accompanies his entrance into an arena. It's like teenage girls greeting N'Sync in 1999, no lie...except these are cowboys, and the roar has a bigger low-end.

This is after Martina McBride, a headliner in her own right who is opening 20 of the 21 dates, and who gets four to five standing-Os a night, gets in on the action, shouting out in the middle of her 70-minute set that she's the luckiest girl in Nashville because "I get to open for George Frea-

kin' Strait!" At which point the crowd goes ballistic. Crazier than you're even thinking right now.

You couldn't ask for a better pairing at the start of this two-year "The Cowboy Rides Away" tour: Strait, one of the last of the cowboy troubadours, and McBride, who has always had one ear in Patsy Cline and another in today, with one of the most pure and powerful voices in any genre. On a recent three-day run of Sacramento-Fresno-Las Vegas arenas, the two worked up a two-song duet—"Jackson" and "Golden Ring"—and debuted them on the second night to thunderous applause; it was rumored to be the first time in over 30 years of touring that Strait has brought an artist on stage that he

hasn't made a record with. They are obviously having a ball on this last run through the States.

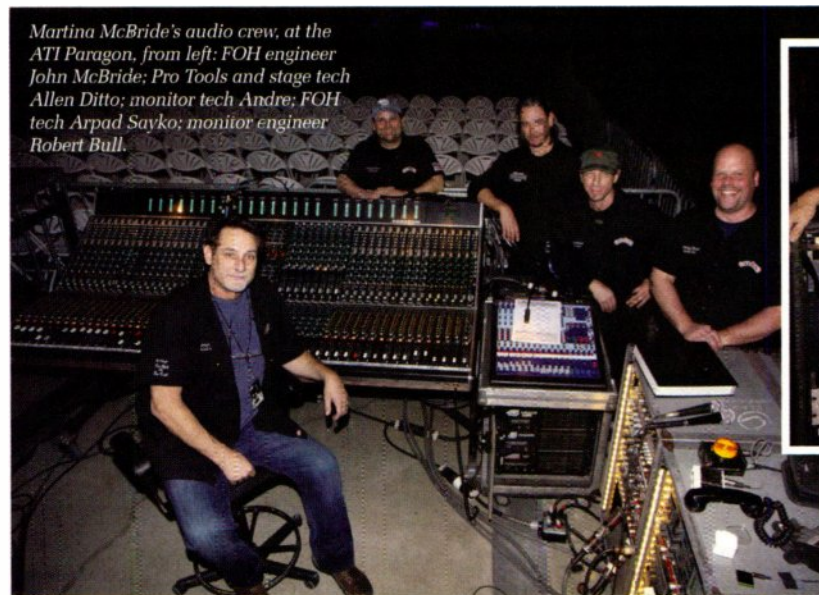
The P.A., always hung in the round for a George Strait show, was supplied and supported by On-stage Systems of Dallas. It's an original V-DOSC rig, supplemented by the addition five years ago of alternating columns of Kudos, on an inside-outside configuration, two columns of each per side in the arena setup. There are four Lake LM44 processors running Lake Controller 6.0 with Smart 7 analyzer bridge. Other than that, the audio setups couldn't be more different between the two camps, with McBride on a decidedly analog signal chain, complete with wedges, and Strait on ears, with an all-digital FOH and monitor package.

George Strait's audio crew at the Avid Profile, Las Vegas, from left: Fly and FOH tech Ernie Gonzalez; production manager Paul Rogers; FOH engineer and audio crew chief George Olson; monitor engineer Josh Kaylor.



"We switched to the Avid Profile a few years ago, moving off the 5D, so George has been all-digital for a while now," explains six-year Strait FOH mixer and audio crew chief George Olson, who works closely with Fly and FOH tech Ernie Gonzales. "We work pretty much entirely in the box. There are a lot of great plug-ins out there, but we've settled on the Maag EQ4 for vocal EQ on each of George's four mics around the stage, then across that group of four I put a touch of McDSP ML4000 for compression, just to keep his voice up in the mix.

"Let's face it, people come to hear that amazing voice," he continues. "It's a fantastic band, but I might get two minutes to get them where they need to be before George walks in and the crowd goes nuts. That's actually the hardest thing! For the first two songs I'm just trying to relax and not fight the crowd. Keep the vocal on top, don't push the band too much and let the crowd settle in. Then we have a great show!"



Martina McBride's audio crew, at the ATI Paragon, from left: FOH engineer John McBride; Pro Tools and stage tech Allen Ditto; monitor tech Andre; FOH tech Arpad Sayko; monitor engineer Robert Bull.



McBride at his custom EMI rack, featuring the EMI TG12413 limiter and TG12412 4-band EQ, and Neve 33609 compressor.

FOH and monitor consoles, both Profiles, are clocked externally with a Black Lion Audio Micro Clock. At monitors for Strait is Josh Kaylor, who says, "George has been using the Sennheiser G2 IEM system with Westone ES3 in-ear molds for about four years now. Unlike a lot of artists, he likes his mix to sound like the CD, so I like to keep things simple—there is a lot of room noise when you're in the round, so I use zero effects and just a little LA-2A on his voice. For his two guitars we use the Shure UHF-R system. We have a Professional Wireless GX-8 combiner and two helical antennas for the ears. He sings into a hard-wired KSM9 capsule, one on every corner. When Martina took the stage with him, I just copied George's mix and brought down guitars, fiddle, steel and the like. Then she just asked for a little more high end on her vocal and it went well. She can sing."

John McBride, Martina's husband and engineer, has been mixing her since the early 1990s, and the sound they have developed is as good as it gets live. McBride mixes at an ATI Paragon console, with a Midas sidecar for returns. He carries a rack filled with API mic pre's and some

standard effects, but to his left is a rack you won't find on a lot of tours: two EMI TG12412 4-band EQs and two TG12413 limiters, along with a Neve 33609 compressor ("the metal knobs," he insists) and a classic Klark-Teknik DN360 ("in 6dB mode"), all across the stereo bus.

"It would be pretty hard to screw up Martina's voice," McBride laughs. "She sings into a Shure UHF-R wireless, SM58 capsule. From there it goes into an API 212 mic pre, then into the console, where I add a couple inserts—a dbx 160a compressor and a second ATI channel in a rack. Martina believes less is more when it comes to reverb. But I do sometimes use a Lexicon 480L. There's a particular vocal plate that she likes."

At monitors, also at an ATI Paragon, is longtime McBride colleague Robert Bull, known simply by his surname. For the in-the-round shows, he brings 18 of the original McBride MD1202 wedges, spaced at 20-degree intervals around the stage. "Her vocal comes in to the console, hits

an API mic pre, gets a small bit of EQ and out it goes. No compression, ever! She needs to hear everything, but not in her face. You almost have to sneak it into her wedges as she moves; it's a dance every night. Getting the wedges to work well together in the round, and with the house, is the daily challenge. But her band is amazing in how they almost mix themselves; all pretty straight-ahead for me."

There is one more run of some 20 shows before *The Cowboy Rides Away*. This year's version ends in his hometown of San Antonio to an expected sellout of 73,000. How many other artists can sell out a stadium on their own? Stellar performances, smokin' hot bands, a couple of artists at their peak—it's a show not to be missed.





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## LITTLE BIG TOWN

Little Big Town is on the cusp right now, that magical place where 14 years of hard work on the road is about to pay off. You can feel the buzz. The CMA Award for Single of the Year, "Pontoon," a track from the September 2012 release of *Tornado*, the Grammy last month for Best Country Duo/Group Performance for the same song. A Letterman appearance. Last summer opening for Rascal Flatts, this summer out with Keith Urban. It's happening.

But right now they are in the midst of a five-month headline tour to support *Tornado*, playing 1,500 to 3,500-seat sold out venues. *Mix* caught up with them at Irving Plaza in New York City in early February.

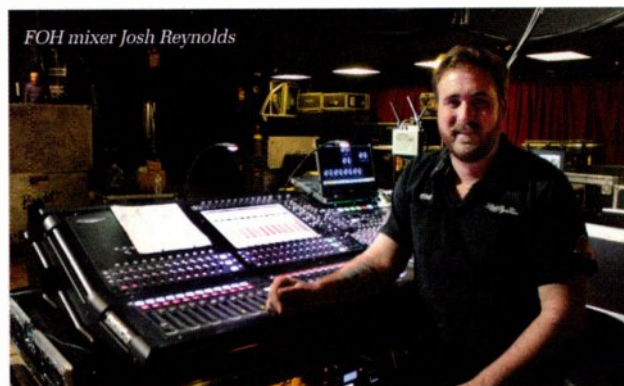
"This is a vocal-based band, with real harmony blending, and that's why I'm enjoying this run so much—my parents are both vocalists, and we would sing four part harmonies as a family," says FOH mixer Josh Reynolds, who has been with the band since May 2012. "And besides the four principals, the three other backing band members played on the record. It's a great band, and a great show."

The Clair-supported tour is carrying consoles, mics and stage package, switching this year to DiGiCo SD10s at FOH and monitors and loving them for the processing [16 effects engines, dynamic EQ, multiband dynamics] and routing flexibility. The four leads sing into Shure SM58s, through UHF-R wireless, then straight into the SD Rack. Reynolds says that he uses the snapshot automation primarily for mutes and effects scenes from song to song. Within a few weeks he will be trying out the new DiGiGrid Waves server. Mixing monitors is Production Manager Chris Diener, a fellow Belmont University alum.

"Because this band is all about the vocals, the biggest issues we face are build-ups in the low-mids and around 2k when four powerful vocals come together and get really loud," Reynolds says. "I use the Lake LM44 processor inserted on the vocal group, then combine that with the band at the matrix level as it's going out of the desk. I love having such a flexible EQ on that group as well as the outputs. The first couple of songs each night, I'm focusing on the vocal summing to make sure it's filling the room clearly but not getting muddy, leaving space for the lead lines to punch through."



Photos: Todd Berkowitz

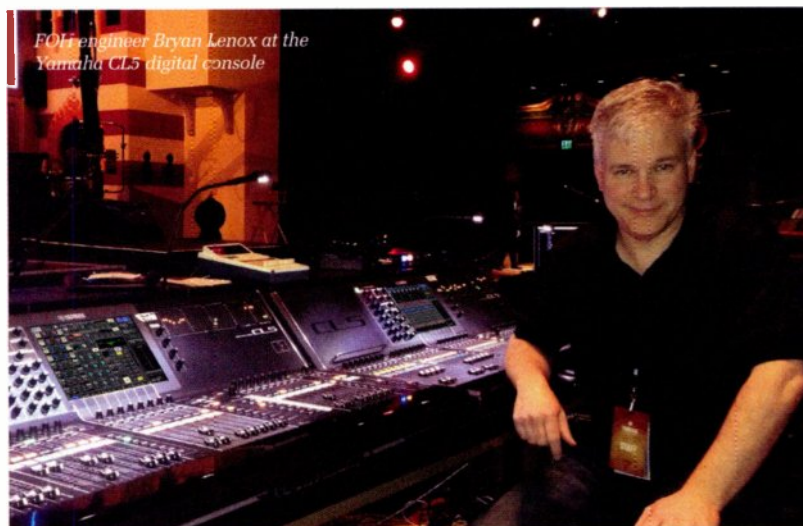


FOH mixer Josh Reynolds

## ELTON JOHN HEADLINES YAMAHA DEALER CONCERT

As part of Winter NAMM 2013, Yamaha presented its 125th Anniversary Dealer Concert at Disneyland's Hyperion Theater in Anaheim, Calif. The three-hour event was streamed live and featured Elton John performing with a 60-piece orchestra, as well as Amy Grant, Chaka Khan, Dave Grusin, Earth, Wind & Fire, David Foster, Dave Koz, James Newton Howard, LEOGUN, Landon Pigg, Lucy Schwartz, Michael McDonald, Sarah McLachlan, Sinbad and Toto. Bass player Nathan East served as the evening's musical director.

Yamaha Commercial Audio Systems provided the live sound system for the concert, which included three Yamaha CL5 digital consoles at front-of-house (one designated for orchestra, one for the house band, and one for guest bands), two CL5s at monitors, two DME64N digital mix engines for Dante Network Bridging and FOH speaker system processing. It also had NEXO NXAMP4x4 for amplification with NX-DT104 cards. The new NEXO STM line array was used as FOH mains, with NEXO RS18 and S118 subwoofers, NEXO PS10 speakers for front fill, and NEXO 45N-12 stage monitors.



FOH engineer Bryan Lenox at the Yamaha CL5 digital console

# se·lec·tion [ səˈlekSHən ]

noun

1. the action or fact of carefully choosing someone or something as being the best or most suitable
2. a number of carefully chosen things
3. an extensive variety of tones for a sound engineer's sonic palette

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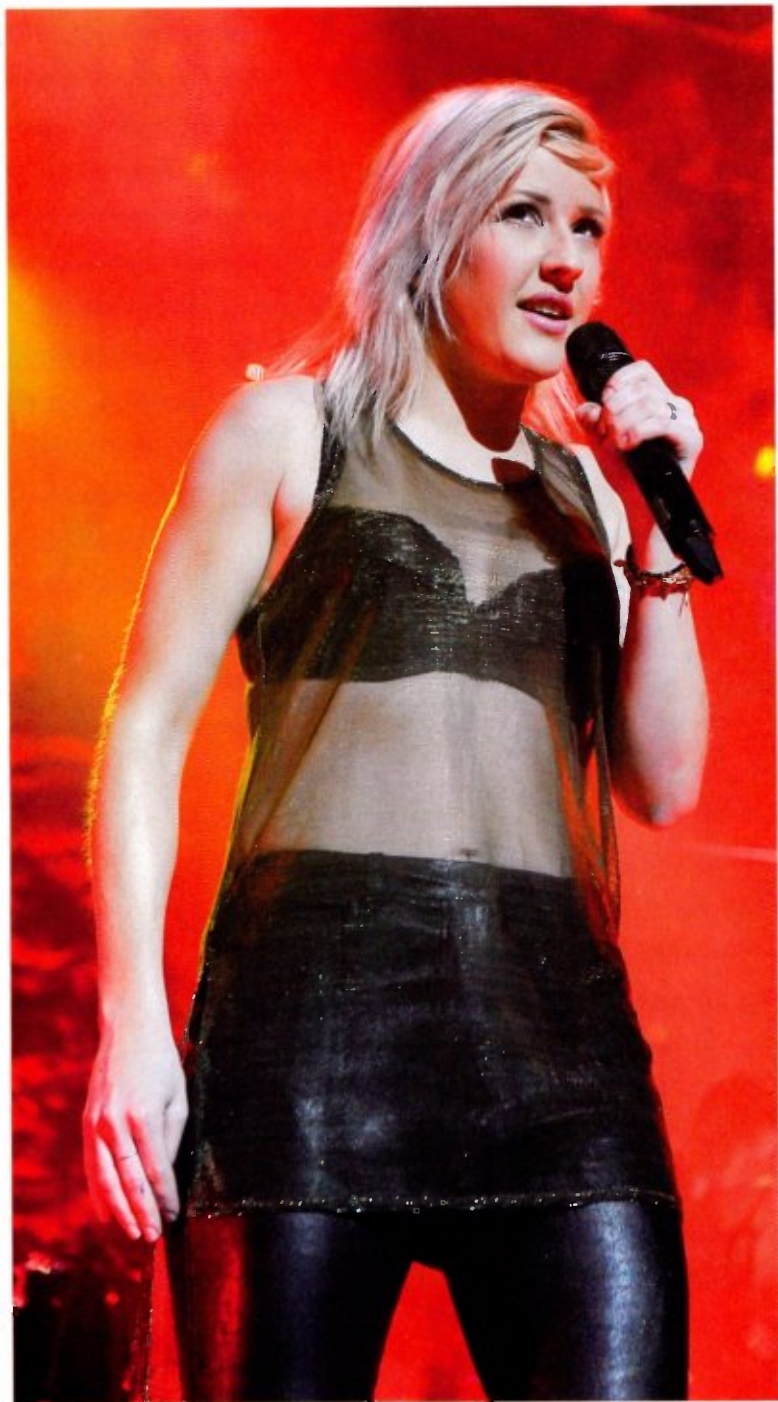
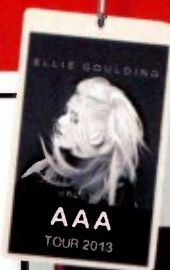
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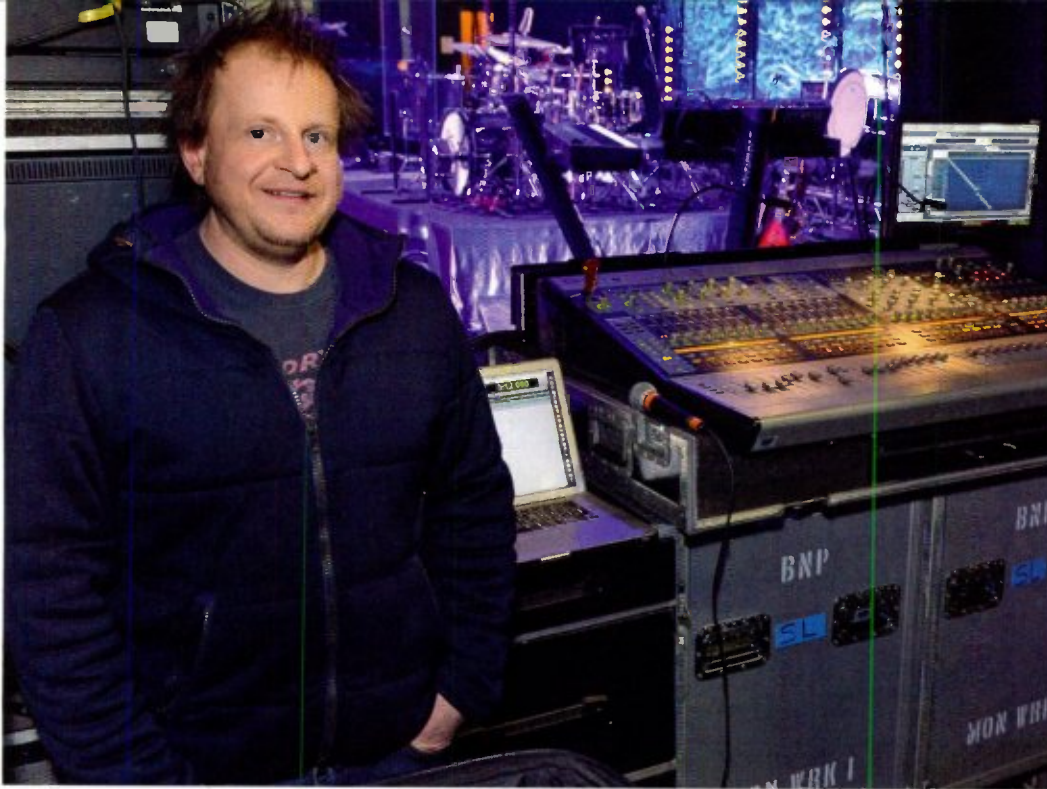
## ELLIE GOULDING



"I've been using the Avid/Digi Profile [pictured] for a few years now," says **FOH mixer Oz Bagnall**. "With the help of Scott Penderson at Waves, I have put together a package of plug-ins. The toms all have Trans X (transient designers). Kick has an SSL channel, H-comp, Renaissance Bass and Phoenix Luster. Snare, SSL channel, H-comp. Overheads, C4 multiband comps. Kick and snare are all time- and phase-aligned with In-phase. SSL Comp over the group. The only non-Waves plug-in on the drums is the TC Electronic VSS3 reverb. For acoustic guitars I use C6 or C4, Renaissance EQ6 with a McDSP M4000 over the acoustic group, TC VSS3 reverb. On electric guitar, SSL channel, Bass H-comp, Renaissance Bass, In-phase. On keys, McDSP M4000 over the group. C6 on the piano and Renaissance Bass on the Bass Synth. Ableton Live, McDSP M4000 over the group and SSL comp on the melody tracks. For vocal I use Renaissance EQ6, C6, Renaissance Deesser. And McDSP M4000 on the group.

"I have a MacBook Pro running Mainstage, which has some additional vocal effects," he continues, "all triggered from snapshots in the console via MIDI. The same Mac is running Smaart 6, which receives a source from Ellie's vocal using the software in spectrograph mode so I can quickly identify any areas I need to change. Chris Chierello, our P.A. tech for this tour, also has a few PCs, one running Smaart and the other running the Lake controller software that is balancing and EQ'ing the system."

British singer-songwriter/multi-instrumentalist Ellie Goulding is on a worldwide tour to support her 2012 sophomore release, *Halcyon*. *Mix* caught up with her at the Fox Theater in Oakland, Calif., in early February.



"I've also been using the Avid/Digi Profile for a number of years now," says **monitor engineer James Neale**. "I love the plug-in facility. It's the closest you're able to get to working in studio without carrying racks and racks of analog units, and I'm using a lot of plug-ins. McDSP is making a lot of really good products. I'm using their G channel on more and more inputs. They have emulations of SSL, API and Neve channel EQs that are really good. I'm also using their ML limiters. This really helps on Ellie's vocal, which is really dynamic. Other plug-ins used are Waves C6, H comp and delay, SPL Transient Designer and Twin Tube, and the TC VSS reverb, which is stunning. No other outboard gear.

"We're using the Sennheiser Series 2000 IEMs and a system 2000 handheld with e945 capsule," he continues. "Their products are rock-solid and easy to use. We used a variety of different capsules in rehearsals, and the 945 just really suits Ellie's voice."



"Ellie, as well as singing and playing guitar, also plays a Korg padKontrol MIDI studio controller, a Roland SPD-SX sampling pad, and floor tom," [pictured] says **backline tech Steven "Rusty" Russell**. "On stage left we have Maxwell Cooke on a Moog Voyager, Yamaha CP1 and Case acoustic guitar; at stage center we have Simon Francis on bass, using an Ashdown Engineering amp [pictured]. He also plays a Moog Voyager and floor tom [pictured]. And then on stage right is Chris Ketley on a Yamaha Motif XF7 and XF8, Korg padKontrol, and acoustic and electric guitars [pictured]. The DI rack has two Avalon DI's for the bass and Chris's acoustic; Ellie and Mazwell's acoustics are on the Sennheiser radio systems with the Radial DI's as backup."



"In the Ellie Goulding live show every member of the band plays either keyboards or sample pads or both, so there is a lot of MIDI coming from the stage at any one time," says **Will Sanderson, backline tech/MIDI**, not pictured. "I have two systems offstage receiving this MIDI via the MIDI Solutions M8—one running Mainstage, which handles the keyboards, and one running Ableton Live to handle the drum triggers, sample pads and track. While this rig lives offstage, during the show it is operated entirely by the band onstage via their instruments so they retain complete control of the show."



# MIX REGIONAL: AUSTIN

## SXSW BIGGER THAN EVER



South by Southwest (SXSW) Conferences & Festivals, the ever-growing part film (SXSW Film), part music (SXSW Music), part tech-y (SXSW Interactive) event in Austin, takes place this month March 8-17, marking its 27th year celebrating new music, new film-directing talent and new creative technologies.

SXSW Music recently announced a number of additional acts—including Yeah Yeah Yeahs, Nick Cave and the Bad Seeds, Killer Mike and The Flaming Lips—to the already 2,000-plus artist lineup, which also boasts Vampire Weekend, Toro Y Moi, Tegan and Sara, and Eagles of Death Metal.

Foo Fighters' frontman and budding filmmaker Dave Grohl is slated to be the keynote speaker for SXSW Music. Best-selling author and creator of the Web comic *The Oatmeal*, Matthew Inman, is scheduled to be one of the keynote speakers for SXSW Interactive. And the SXSW Film Awards are scheduled to take place Tuesday, March 12, at the Paramount Theater. For more information and a complete list of sessions, artists and films, visit [sxsw.com](http://sxsw.com).



### *The Relatives at Public Hi-Fi*

Jim Eno, aka the drummer for Spoon, engineered and produced The Relatives' gospel album *Electric Word* in his studio, Public Hi-Fi. Band and vocal tracks were captured in separate sessions, with those soulful harmonies going down in only two days. "When they all sang together, I'd have a close mic for each—either a Neumann U47 or U67 through an 1176—plus a Coles stereo pair in front, and a Neumann SM69 stereo tube room mic. They needed to get those harmonies right because there was bleed, but that's not really a problem for them."

### *Wayne Hancock In the Zone*

Wayne Hancock's latest, the Sun-style *Ride*, was recorded, mixed and mastered by Pat Manske at The Zone, in the hill country just outside Austin. "All the players except Wayne were sitting in the main cutting room, semi-circle-like—upright bass, three electric guitars and pedal steel," Manske says. "Upright sounds best in the big room, with a mic about 15 feet away, blended with a closer mic. We had enough booths around the big room to isolate all the guitar amps. We got a little bleed on the bass mics but it wasn't a problem; the bass room mic gave the tracks a sense of depth, three-dimensionality."



### *East Cameron Folkcore's The Shelter*

Jam/alt folk band East Cameron Folkcore operates a nine-room studio, The Shelter, where the band recorded their latest, *For Sale*. "I have two go-to mics for vocals, depending on the sound I am going for," says chief

engineer Chris Seyler. "All the vocals on this record were recorded with either the Mojave Audio MA-300 or a Heil PR-30. For all of the acoustic instruments, I used a combination of the MA-300 blended with either Shure KSM137s or Royer R121s."



# GUITAR GREATS: ERIC JOHNSON HOSTS OZ NOY



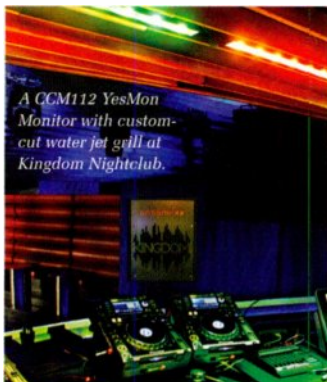
From left: Anton Fagg, Eric Johnson, Roscoe Beck, and Oz Noy

Jazz/rock/funk/fusion guitarist Oz Noy completed the first tracking session for his next solo album for 2013, *Twisted Blues Volume 2*, in Grammy Award–winning rock guitarist Eric Johnson’s private studio in Austin, Saucer Sound. “I built my studio so that I would always have a place to practice, jam, rehearse and compose,” Johnson says. “Also, I put in a control room so I could record anytime the inspiration occurs. It’s my laboratory.”

As with *Volume 1* and Noy’s previous solo outings, Noy is collaborating with varying combinations of musicians, depending on the particular sound and feel that he is after for a given song. When recording with Johnson, Noy chooses to fly out to Austin. “It’s a beautiful room with high ceilings,” Noy says of Johnson’s studio, “and he’s got a lot of really good gear. They have really good amps.” Engineer Kelly Donnelly recorded the session to 23 tracks in Nuendo using Euphonix converters monitored through a 48-channel Tonelux surround console. “All the musicians played together in the main room with

headphones,” Donnelly says. “The bass amp was iso’d in the piano room. E.J.’s [Marshall] Plexi [amps] were set up in the small lounge outside the control room. [Noy’s amps were] set up in the rear loading/storage area. Both guitar room doors were left open enough for the players to hear their amps, and bleed was minimal.” Noy adds, “That way, we could get the air from the amps going when we record. That’s the most important thing.”

## AUSTIN VENUES ADOPT BASSMAXX LOUDSPEAKER SYSTEMS



A CCM112 YesMon Monitor with custom-cut water jet grill at Kingdom Nightclub.

Photo: Lian Amber

Austin-based loudspeaker design and manufacturing company Bassmaxx ([bassmaxx.com](http://bassmaxx.com)) reports that it is finishing up its ninth and tenth local venue installations, with three more in the works. The company has strong ties with the community; Austin native David Lee and fellow designer Johan van Zyl founded Bassmaxx in 1999 in Houston, originally to design and build subwoofers. Subsequently, they expanded to full loudspeaker systems, relocated to Dallas, and then Austin in 2010.

Austin’s Barcelona Nightclub—said to be one of the first dubstep clubs in the U.S., playing host to UK producer/DJ Hatcha and Skrillex—installed a set of Bassmaxx SSP218 “Dub-ill” Profundo subwoofers, while Kingdom Nightclub, another fixture in Austin’s electronic dance music scene, built a system around four SSP218 Dub-ill Profundo Subs, four Z-5/D Motiv Horns, five AT312 Attuned Tops, and two customized CCM112 YesMon Monitors. An upscale lounge, Rain, also replaced its system with Bassmaxx equipment. Live music venue One2One Bar, dubbed an intimate listening room and a SXSW venue, features two AT312 Attuned Tops and two Z-5/D Motiv Horns. Also on the acoustic side of the Austin scene, The Scottish Rite Theatre, a non-profit housed in a 19th century opera house that hosts performances, festivals, summer camps and year-round school programs, has two SSP218 Profundo powered subs and two Attuned Tops. Plus, projects including The Nook Amphitheater, a live music-oriented open-air development; Amped, a two-level club featuring a dance floor system upstairs and a live music room downstairs; and Castro’s Warehouse are scheduled to open in spring 2013.

## Gary Clark Jr. Debuts Maverick Music Festival



Photo: Frank Maddocks

On Saturday, March 23, the Maverick Music Festival will launch in downtown San Antonio’s Maverick Plaza inside La Villita Historic Arts Village featuring Texan headliners Gary Clark Jr., The Toadies, Girl in a Coma, Arum Rae, and Henry and the Invisibles. Austin native Clark, along with his management team and partners in San Antonio, founded this festival to reinvigorate the music scene in San Antonio and bridge the gap with Austin, located 80 miles away. All-ages daytime programming featuring local musicians runs from 10 a.m. to 5 p.m., followed by national acts from 6 p.m. to midnight. Daytime events are free and open to the public, while tickets for the nighttime lineup are available for purchase in advance for \$28 plus fees at [maverickmusicfestival.com](http://maverickmusicfestival.com).

# WILLIE NELSON

## *New Album, Big Changes For Country Legend*

by Barbara Schultz

Since 1995, engineer Steve Chadie has been working on Willie Nelson's (and other) projects at Pedernales Studio, 30 miles outside of Austin. Nelson's latest, *Let's Face the Music and Dance*, is a sweet, fresh interpretation of traditional pop songs, including "Walking My Baby Back Home," "I Can't Give You Anything but Love," and of course the romantic title track, written by Irving Berlin and introduced by Fred Astaire in 1936.

"He loves to play these classic old-time tunes," Chadie says of the material, which is mostly played in a spare, folk-leaning jazz style—warm and beautiful, with Nelson's voice up front.

Chadie captures Nelson's sessions in largely the same fashion he's used for almost two decades: "They're all primarily in the same room, except Bobbie [Nelson, Willie's sister] is in the piano room. Willie is in the room with Mickey [Raphael, harmonica] and Kevin, the upright bass player, so I baffle them off and try not to worry too much about leakage. Things sound too sterile to me when they're completely isolated and in-your-face anyway, so, I try to get a little space [between instruments and mics]. With the piano especially, I like to move the mics back and get a natural sound. You don't listen to a piano with your ear up against the strings."

On Nelson's vocal, Chadie says, "I run a U47 into the Neve [console] and then run that directly out of the preamp into a TubeTech compressor; then I go into Pro Tools. I don't EQ it; there's no need. [Butch Carr] might EQ it when he mixes, but I was trained that rather than use EQ during recording, to move things in the room, and that's been the winning combination with Willie."

Nelson celebrates his 80th birthday this coming April, and a couple of developments on the business side will alter the outlook for his future work and Chadie's. For one, Nelson has signed a label deal with Legacy Recordings, which will release his new albums and work with him on enhanced reissues with handpicked bonus tracks.

The other big development: Pedernales—the studio that Nelson has operated for decades with his nephew Freddy Fletcher and Freddy's wife, Lisa—has closed for commercial use and is now a private facility; the gear has been moved to its sister studio, Arlyn, in the heart of Austin.

"Pedernales was Willie's building with our equipment," explains Lisa Fletcher. "For years, we've run both studios: Pedernales and Arlyn, the



studio my husband built in 1984. For 10 years, we leased Arlyn to a recording school, MediaTech. But we had been talking about taking Arlyn back, because not only does Arlyn have these custom, Steve Durr-designed, great-sounding rooms, but downtown Austin is so vibrant. Also, Freddy is a partner in Austin City Limits Live at the Moody Theater and has a production company within ACL; they stream and film a series of shows and they can do post-production and editing here. It just seemed like the right time to bring everything under one roof."

The Fletchers have spent the past several months refurbishing Arlyn. The SSL 4048 G+ from Pedernales now lives in a brand-new Durr-designed Studio B. And the '70s Neve will arrive soon, as part of a unique hybrid console; it's being connected to Arlyn's existing API by Fred Hill, who also designed a custom center section. At press time, the one-of-a-kind, 56-channel board was set to arrive before the end of February, just in time for a grand re-opening celebration during SXSW.

"We told Willie that if he wants to re-open Pedernales commercially, we'll help him with that, but we just put fresh paint on our parking spaces, and Willie has a space with his name on it," Lisa Fletcher says. "Willie has always felt at home here. He's owned the Austin Opera House venue in the same building, and he's the person who initially convinced Freddy to build Arlyn."

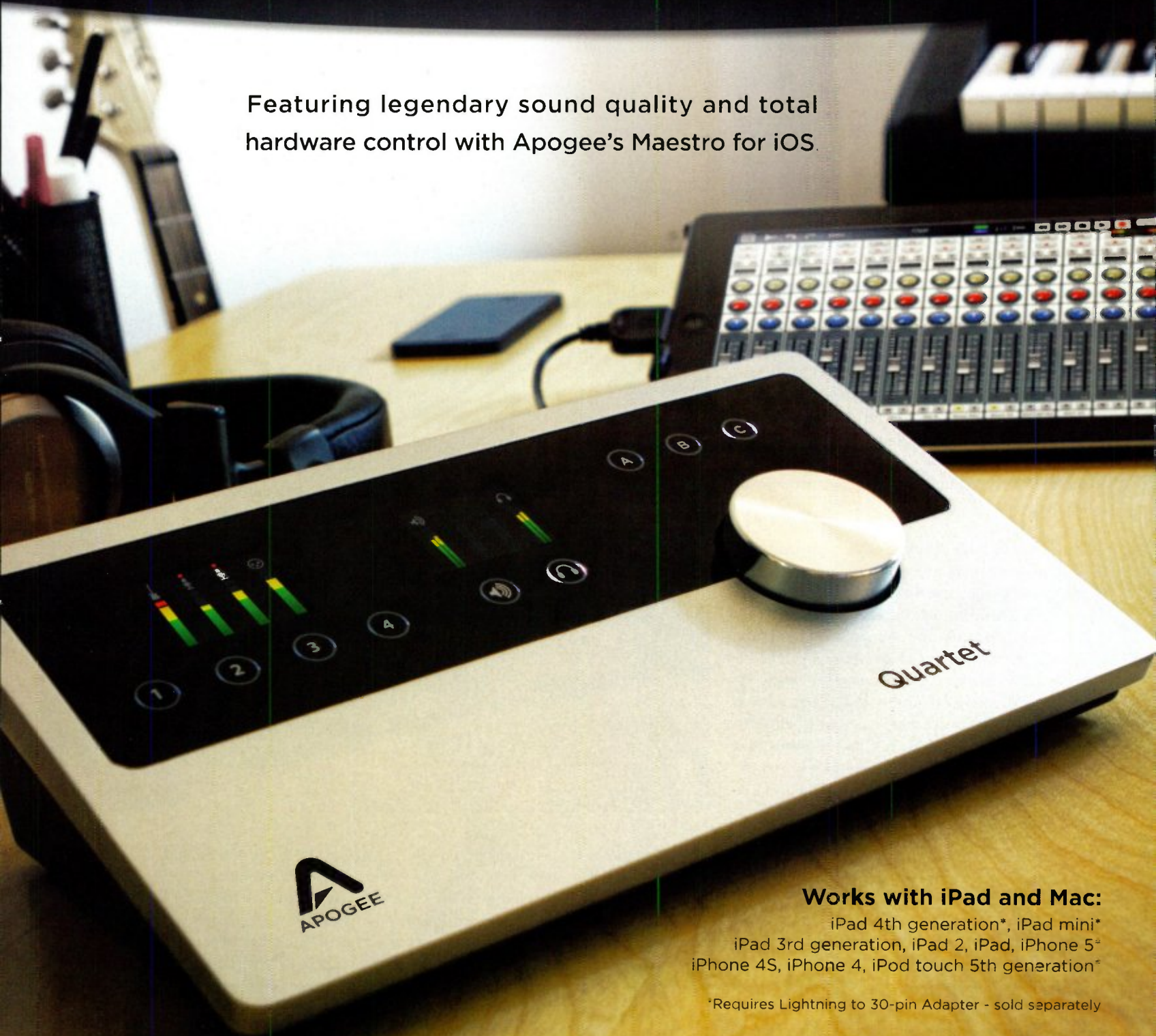
WILLIE  
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## CJ EIRIKSSON

**E**ric Jarvis, president of the Texas chapter of the Recording Academy, turned Mix on to CJ Eiriksson. We had asked about Austin, and he came back with a list of what's going on, who's hot. "CJ might be the ideal subject," he said, "He's starting to write a lot, too, with everyone from Alien Ant Farm to up-and-coming Austin hip-hop artist Zeale."

The Canadian-born Eiriksson, after a stop in Los Angeles, has settled in to Austin and its music scene, while continuing to work far and wide. The producer/mixer/engineer/songwriter, managed by Sandy Robertson of World's End, has a discography that includes U2, Matchbox Twenty, Jack's Mannequin, The Rocket Summer, Hoobastank, LIVE, Incubus, Phish and many, many more. He's also governor for the Texas chapter of the Recording Academy. We asked him to answer a few questions about what he's seeing in and around town these days, and how he likes to work.

***You seem to have this knack for working with major artists and up-and-comers/locals. How would you describe the basic differences in the approach to recording?***

I work with the same drive and passion with any artist, whether it's Bono or a kid recording in his bedroom. Obviously, having a big budget can make the studios a lot nicer, and lunches tastier, but music is music; every successful musician at one point was unknown. I have worked with several bands that went from just starting out to huge success over the years, including Incubus and Hoobastank, so I've seen first hand that no one is born a famous rock star, but anyone has the potential. Sometimes it's nice to have lots of time to work, but I almost prefer to have limitations. It gives you a sense of urgency to commit and get things done; over-thinking is the enemy of music.

***I also notice that while you work in a wide variety of genres, you seem to have an affinity for rock. How do you get a great electric guitar sound, from mic to pre to effects to mix?***

I am a fan of all music, including some Austin hip-hop I'm currently producing/writing, like breaking-out artist Zeale or the duo RAS, Riders Against The Storm. But I definitely have had a lot busier career in the rock/pop world. I tend to keep things simple when recording electric guitars, usu-



ally just a 57 and a Royer 121 pretty close-up, straight and a 45-degree angle, into either a Neve or API mic pre, sometimes busing both together through a compressor, like an LA2A if its more of a lead part. Then I commit both sounds to one channel. I tend to mix as I'm recording, always looking toward the big picture, making decisions and not leaving too many questions for later. If you work quickly and get a lot done fast, it's really easy to sit back afterwards and see what the song needs or is missing.

***How do you approach a rock male vocal? A singer-songwriter vocal? Do you like them in the room, a booth?***

I'm a fan of quite a bit of compression for vocals, again with a Neve or API

pre, followed by an 1176 compressor, as well as a limiter to keep things steady, usually an LA3A or LA2A. I want to be able to feel that vocalist up close, hear every vowel and nuance of a vocal, so it sits right up nice in the mix. An old tube mic like a Telefunken U 47/48 is always great, but I'm not at all against having a singer get loud and proud in the control room with a 58, cranking the studio monitors and giving the vocalist a nice exciting vibe to sing in. Recording and being in the studio to me is all about feeling comfortable and having fun. This will always come across in the performances. Anyone in music is pretty lucky to be doing this, we should always be having a good time I think. I can make anything sound good, fix notes, timing, whatever needed with Pro Tools, but there is no plug-in for a great performance!



**Where do you like to work in town?  
And why?**

The music scene, along with the great amount of really good, reasonably priced studios, is what made me move here seven years ago. Places like The Wire, the newer one Austin Signal, and classics like the newly renovated Arlyn/Pedernales studios in the heart of the city—all great and my go-to places depending on what vibe/gear I'm looking for. Sometimes I may want to use an API desk, others only Neve pre's, or I can mix on the SSL at Arlyn.

I mostly mix at a semi-private studio just outside Austin on a friend's beautiful ranch, called BlueWorld

Music. The setup there is a mixture of old and new school, Dangerous summing mixers, but a ton of classic outboard gear that is all normalized in the outputs. When I mix, I like to work fast, get the songs to a really good place quickly, then let the artist listen and give input, and follow up with recalls until it's right, which is usually in one or two more passes. I always keep all my outboard at exactly the same settings, then do all my moves—any extra EQ, compression, effects—in the box for each song. This way I can literally go through a whole album's worth of songs a couple times in a day quite easily. I use a lot of plug-ins for mixing; I don't think I could mix without Waves...

At the end of the day though, the most important thing is the song. We are making music for people to enjoy, and there is no better feeling in this business than to create a song that people love, relate to, and live their lives through the music. That's why I do this. I love music and how it makes me feel. I want to make others feel the same!

**Austin is forever pushed as the "live music capital of the world."  
How does that influence the local studio scene?**

Austin has an amazing, vibrant music scene. I have a pool of local musicians who are all good friends and super easy to get whatever I need done. I think that just about everybody plays guitar in Austin! When it comes to tracking, I am a fan of getting the band all set up, playing together and making sure tempos are good, but then really focusing first on getting drums, and go through each musician individually, fine tuning their parts, tones etc. There is probably a lot of "live off the floor" tracking being done in Austin, but that's not always how I roll. I like to make sure everything everyone does really counts.

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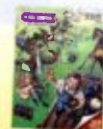


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# 3 STUDIOS, 3 BUDGETS

## What Would You Buy?

Technology changes so rapidly, and equipment prices come down so dramatically, that once a year we like to revisit a popular *Mix* feature where we ask three writers, "If you had x amount of dollars, how would you outfit your studio?" The only common assumption? We don't make them buy a computer; we presume they are already working with their favorite.

### MUSIC CREATION: \$10,000

By Markkus Rovito

It's not everyday that a person gets to start fresh. Say your bedroom studio burns down, but thanks to your online backup of all your music and \$10,000 in insurance money, all is not lost. In fact, everything is gained, as your options for a new project studio configuration run toward the infinite. Rather than go for as much stuff as we can grab for 10 grand, we're targeting quality over quantity, with each piece meant to be indispensable, and all at a footprint that will fit on a mid-sized, flat desktop. (All prices are MSRP.)

Perhaps the most crucial decision for any music maker is what DAW software to choose, and then which hardware to pick for controlling it. The modern trend is for software makers to also create or at least endorse specific hardware for their DAW, thereby ensuring lockstep interaction between the hardware and software. If you're already firmly attached to a specific DAW (see Craig Anderson's great column on switching DAWs, <http://bit.ly/WuVas6>), you may want to stick with such software/hardware combinations as: Avid Pro Tools 10 with Mbox Pro interface and Artist Control controller (\$2,766.90 total); Steinberg Cubase 7 with UR28M interface and CC121 controller (\$1,648.98 total); or Propellerhead Reason 6.5 with Balance interface and Nektar Panorama P6 keyboard controller (\$1,229.98 total).

However, in this scenario, we're choosing a setup with open-ended hardware meant to be software-agnostic. And in the spirit of a clean slate, we're going with the surprising upstart DAW, PreSonus Studio One 2.5 (\$449.95, Mac/PC). When

Studio One launched about two years ago, it seemed dubious to unleash another such program to a DAW-saturated world. But with an efficient, musician-friendly interface and constant development, the recent Studio One 2.5 was released to critical acclaim and has garnered a rabid following. In addition to its well-rounded expected features like guitar-amp modeling, and a complement of effect and instrument plug-ins, Studio One 2.5 incorporates integrated Melodyne pitch correction, a cool approach to comping, track transform from virtual instrument to multitrack audio and back, Soundcloud inside the browser, editing of multiple instrument tracks at once, and many audio quantizing, organizational and internal mastering features.

In short, Studio One is a full-fledged DAW perfect for refreshing your approach to music making, and it supports the Mackie Control protocol, which leads to the Mackie Control Universal Pro (\$1,499). This popular and time-tested controller offers near-instant mapping for almost every DAW software available today, nine 100mm motorized faders, eight channel strips with the ability to control as many software channels as you need, full transport controls with jog wheel, LCD display, many assignable function buttons, MIDI interface and more. You can also expand it if needed with the Mackie Control Extender Pro.

For an audio interface, we need something that finds the sweet spot between high audio quality, affordability and flexibility. MOTU's interfaces in general fit that bill, and specifically, the Track16 (\$595) utilizes a 44-inch breakout cable to keep the footprint of the 8.4-by-5-inch interface small, while still offering 16 ins and 14 outs, including optical I/O, MIDI I/O, two guitar ins, two mic ins,



Novation Impulse 61



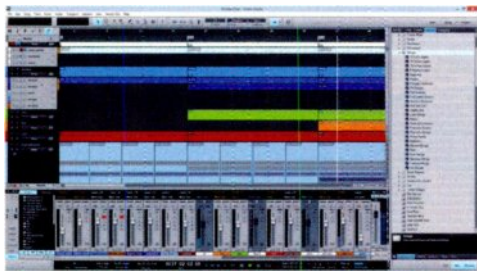
Mackie Control Universal Pro



Neumann TLM 103



Shure SRH1840



PreSonus Studio One 2.5



MOTU Track16

and four line-level I/Os. It has both FireWire and USB, as well as an internal mixer with DSP for dynamics and effects. If needed, you can expand it with another MOTU interface.

Rather than investing in some amazing hardware synths or a master keyboard workstation, which can run into the thousands of dollars, we're sticking with a package of software instruments and effects, a MIDI keyboard controller, and one analog synth module for that irreplaceable warmth. For a collection of stellar virtual instruments and effects, you can't go wrong with Native Instruments Komplete 8 Ultimate (\$1,099, Mac/PC). You get it all: 50 software products, including the Kontakt 5 sampler, Reaktor 5.6, Guitar Rig 5 Pro, Absynth 5, FM8, Massive, Battery 3, tons of drums, keys, piano and orchestral soundware; and a hard drive for the 240 GB of data. We also recommend another external hard drive for hosting samples and/or recording to. The Glyph GT 062E (\$475) gives you 4TB of capacity at 7,200 RPM with FW800, USB 2.0, eSATA connectivity and RAID compatibility. Glyph has earned its reputation as reliable backup.

For reining in all those NI plug-ins, as well as your other MIDI needs, the Novation Impulse 61 (\$499.99) gives you the crucial Automap 4 technology, which detects the active

plug-in and maps the Impulse's controls—including nine faders with buttons, eight knobs, eight pads, and transport controls—accordingly. With 61 semi-weighted keys, USB and MIDI I/O, the Impulse 61 has a handle on both your instruments and your DAW.

With companies like Moog Music and Dave Smith Instruments (DSI) going strong, analog synth lovers can enjoy all the lush sound of the golden age of analog along with new modern processing features, USB MIDI integration, and endless patch memory. Every studio can benefit from some analog signal path. We wanted a polyphonic analog synth module to control with the Impulse, and the DSI Prophet '08 (\$1,699) provides eight amazing-sounding voices at a price that fits our budget. The all-analog signal path includes two oscillators, three envelopes, four LFOs, and a gated sequencer per voice, as well as a Curtis lowpass filter. The one thing missing from the Prophet '08 is an external input for processing audio through the filter. If you're looking for that, check out these monophonic options from Moog: the Minimog Voyager Rack Mount (\$2,795), the Slim Phatty (\$845) or Minitaur (\$679).

If you're anything like Nas, all you need is one mic. So, why not make it a good one? Our choice is the modern classic, the Neumann TLM 103 (\$1,099) large-diaphragm condenser. With a capsule from the legendary U87, transformerless circuitry, and the ability to handle SPLs up to 138dB without distortion, the ultralow-noise TLM 103 will treat your recording right, whether it's a buttery smooth vocal or the thunderous crack of a snare drum. In lieu of acoustical room treatment, we'll pair the Neumann with the SE Electronics Reflexion Filter 3.5 (\$399). Another modern standard, the Reflexion Filter mounts to a standard mic stand and uses six layers of sound diffusion to substitute for full-room treatment on your vocal and instrument recordings.

You don't want to skimp on monitoring options, so we've chosen the Dynaudio DBM50 active speakers (\$1,250 a pair) and the Shure SRH1840 headphones (\$875). The DBM50s give you Dynaudio's dependably accurate sound and a 50W bi-amped design that is angled upward to give you a reliable sweet spot when they're situated at desktop height. Generous EQ switches in the back let you dial in the sound for your room. Finally, the SRH1840 cost a pretty penny, but they concentrate on

super-audiophile quality, as well as comfort over long listening sessions. The open-backed headphones give you a spacious sound, and you get an extra set of luxuriously cushy earpads, as well as a variety of detachable cables.

**Total cost (MSRP): \$9,939**

## THE MIX ROOM: \$25,000

By Kevin Becka

In this budget class, you have to be careful not to overthink your studio's capabilities. For instance, you're not going to be able to track a band in this category without cutting serious corners and settling for tools that will make your job a tough one. For that reason, I'm limiting my gear picks to mixing in the box, mastering and simple overdubs like vocals, acoustic guitar or other mono or stereo recording channel workflows. I'm shopping for price here, as well, so we're talking street, not retail.

Let's start with the transducers at the front end since this will be where you'll spend most of your money. You need a good pair of microphones for stereo applications and a single, versatile mic for recording vocals. The DPA 2011C mics reviewed in this issue are a great place to start (\$799 each). DPA pitches these for live sound use, but I think that's an underestimation. The 2011C is moderately priced by DPA standards, is versatile, sounds great and can grow with your studio. The capsule is interchangeable with other DPA products so you can mix, match and upgrade easily. Their design is optimized for excellent rear and side rejection, meaning they're great for close-quarter recording where off-axis noise may be a problem, like a control room. They also take a ton of level at 146 dB SPL, so they excel across a range of applications from screaming guitar cabinets to acoustic guitar and piano.

Next is the vocal mic, and the Lauten Atlantis FC-387 is a great choice (\$1,499.) It is a large-diaphragm condenser with three distinct circuit paths, meaning you can essentially EQ within the mic. If you're recording a brash saxophone, kick it down to the gentle setting, or if you're recording hand percussion and want more top, move the switch to the Forward position for added upper-frequency definition.

It would be great to have one great analog recording channel, and the Retro Powerstrip or Millennia STT-1 are both excellent choices. The Powerstrip (\$2,895) is a tube unit with a vintage vibe featuring a transformer coupled Class-A tube microphone pre-amplifier, passive EQ, variable-mu tube compression and both a highpass filter and a separate highpass sidechain filter. The STT-1 is also a channel strip with EQ, compression and a high-quality mic preamp. It is just a bit more money (\$3,067) but offers Twin-Topology so you can choose whether to go tube or solid-state at each stage: The EQ, compressor and preamp are all separately switchable between paths. With these two choices you can add personality to your vocal or single-channel recordings before you get inside the box.

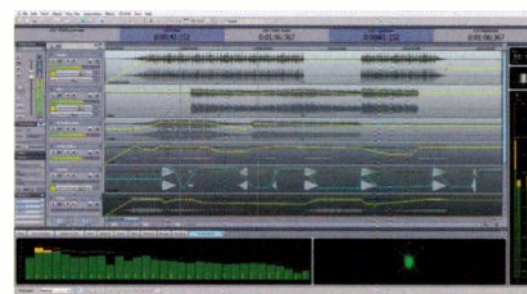
For an interface, I've chosen the Universal Audio Apollo Quad (\$2,499), which as a bonus offers some excellent preamps and access to UAD-2 plug-ins. It's also Thunderbolt-ready for portable use, has an integrated software mixer, and, recently announced at NAMM, is



Focal SM9




DPA 2011C



MAGIX Sequoia 12

expandable by chaining two together. This buys you more DSP power for the plug-ins, plus an extra four preamps. Growth potential is always a great bonus when you're buying gear, and these extra preamps get you within the range of a larger tracking room for no extra money—just add more mics.

The Apollo comes with a small collection of classic plug-ins, but we'll need more. I chose the following UAD-2 plug-in bundles: the Magnetic Tape (\$599), Classic Compressors (\$399), EMT Classic Reverbs (\$359), Ampex ATR0-102 Mastering Tape Recorder (\$349), and Fatso Jr./Sr. (\$299). To expand the plug-in options on the Native side I've chosen the McDSP




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The big question is which DAW to use, and that depends on whether you're Mac or PC-based. For Mac I've chosen Pro Tools 10 (\$699), which is a real bargain since we don't need HD horsepower for this room. I've also chosen to add the Complete Production Toolkit (\$1,999) which offers expanded track counts (256), disc caching, surround mixing, advanced automation functions and more. If you're on the PC side of things, then it's Sequoia 12 from Magix. This audio production powerhouse features 64-bit or 32-bit operation, many mastering features, the latest loudness metering for broadcast and post users, spectral track editing and much more.

Now that we're done inside the box, let's get out to our monitors using the Dangerous Music Source (\$899). This affordable back end features two speaker outputs, two headphone outs, the ability to monitor digital, analog and USB sources separately or together, and more.

For speakers we're going big with Focal SM9s (\$3,595 each). Although this is our biggest expense, we're saving money and real estate because the SM9s offer both two- and three-way operation at the push of a button. This allows you to optimize the space in your listening area while getting another reference for your mixes—without buying a second pair of monitors. The SM9s




Dangerous Music Source



Universal Audio Apollo Quad

Emerald Pack V5 (\$1,495), SoundToys Native Effects Bundle (\$495), Waves Native Platinum bundle (\$1,600), Celemony Melodyne Studio (\$569) and Antares Auto Tune (\$299). These native options offer other plug-in flavors, plus the ability to tune up your performances for the final mix.

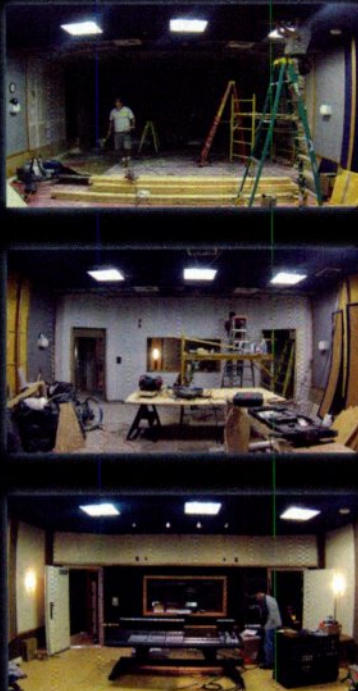
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

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they are all high-quality choices that will give you the best-sounding tracks possible, and ultimately, that's what is going to make you happy when you hit the space bar.

## TRACK AND MIX: \$100,000

By Wes Maebe

In this world of working in-the-box, I prefer to bring audio out of the screen territory. That's why this is going to be an analog-based setup.

We have to track and mix, so we're going to spend the bulk of the budget on an amazing-sounding desk; I've chosen one of my all-time-favorite-sounding boards, the API 1608. This beast comes in at \$52,400, but don't be put off by the price tag, as you get a lot of bang for your buck. This 16x8x2 API comes loaded with 16 548B mic/line pre's, each with their own direct output. You'll have the use of 8 auxes and 8 echo returns.

The console features 12 classic 550A and 4 560 equalizers. A full VU meter bridge helps you keep an eye on levels, although with the ridiculous amount of headroom that the API gear provides, levels should not be an issue. Keep in mind that the 1608 has a bunch more empty 500

have an extended bottom end via the top-mounted passive radiator, negating the need for a sub, which is also a money saver.

So there you have it. The total comes in just above the \$25k mark, but with some nips, tucks and creative wrangling you can get it under budget. What's great about this particular group of products is that



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Series slots, which we'll fill with a selection of different flavors later on.

Even though we're playing with the larger budget here, we still need to watch the pennies. So, rather than spending an extra 11 grand on the automation fit for the 1608, I'm putting in an Avid Artist Control (\$1,500). This will allow hands-on access to DAW automation, plug-ins and provide a very useful and time-saving transport section.

Having been a Mac user since I started out as an audio engineer, I'm putting in the latest Mac Pro 12 core (\$3,799). And although this machine comes with a 1TB internal drive, I like to keep the audio from the system drive, so I'm adding a Glyph GPT50 500GB external drive. Now we need to get audio into the Mac.

Our next major tool for the machine room part is Universal Audio's Apollo quad core interface. For \$2,499, this interface will give you a great sound and some killer plug-in action. The Apollo allows you to record 24-bit/192kHz, gives 8 analog inputs with 4 preamps, 14 analog outs and 10 digital I/Os.

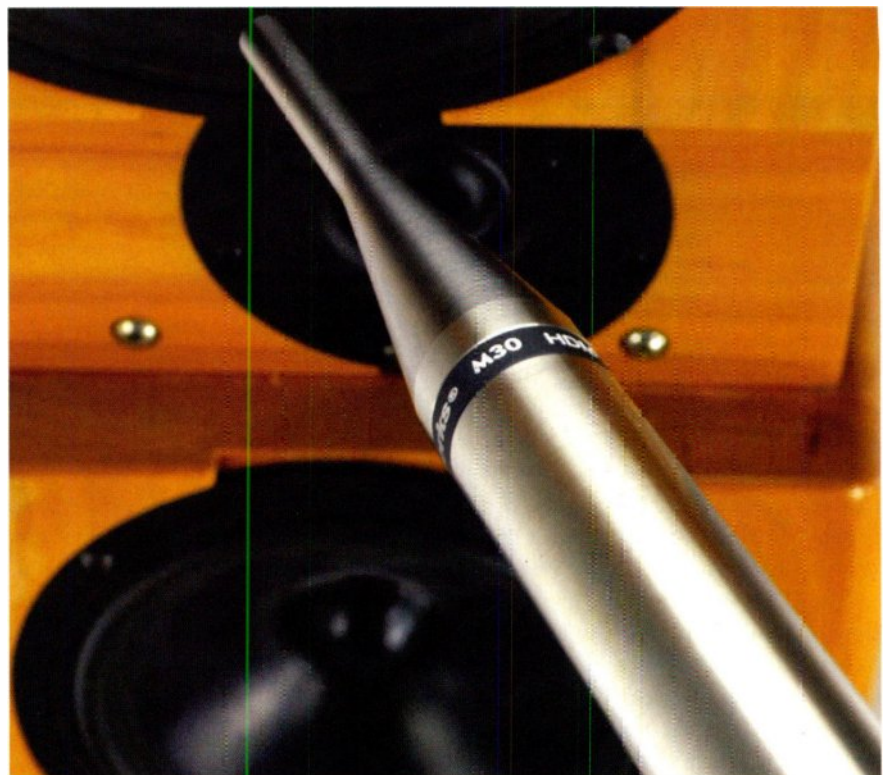
It comes out of the box with the UAD LA-2A, the 1176 and the Pultec EQP-1A plug-ins. We're also going to add a handful of extras.

Now that Avid has made Pro Tools open to third-party hardware, we can run Pro Tools 10 with our UAD Apollo and benefit from the Pro Tools ease of use and fast editing power. And that's going to be our main DAW.

Besides the artist and your ears, the mics are your most important tools in the studio. They're the ones that will capture all these magical moments. As you'll be tracking a wide variety of instruments in this room, we need to stock up on useful and character-filled microphones, so this is



Pro Tools 10



M30

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Saeco Odea

Continued on p. 65

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# SPEAKER ISOLATION

## Affordable Acoustic Treatment Solutions

Generally, when you're talking about acoustic treatment, it means first figuring out where your room's problems lie and then doing a general or focused application of material on walls, corners and ceiling to remedy the problem. This of course comes with the residual hit on your wallet. But there is one affordable acoustic treatment anyone can bring to their setup that will instantly improve the sound of their system: Speaker isolation.

By decoupling your speakers from their stands or console top, and providing a solid, stable platform for your back-end transducers of choice, you can remarkably improve your low end and stereo image. Below are six affordable solutions for improving the phase relationships between you and your speakers—resulting in a better listening experience when you work.



**Auralex ProPads and ProPads XL** ([auralex.com](http://auralex.com)) measure 8x13x2.125-inches and 19x13x2.125-inches, respectively. The ProPads will isolate most standard mid- and close-field monitors using 5.25-, 6.5- or 8-inch woofers, while the ProPAD XLs are compatible with many larger twin-woofer, horizontally oriented monitors. The design features a .075-inch Melamine-wrapped MDF base covered with a thick layer of ISO-Plate, an isolation material made from 100-percent recycled rubber.

**The Carillon Audio Mofo** professional studio monitor foam isolation pads ([carillonaudio.com](http://carillonaudio.com)) are available in two sizes and weights suitable for any range of monitors with 4-, 5-, 6-, 7- and 8-inch LF drivers. They offer a 5-degree slope for optimal positioning and promise to eliminate contact-borne vibration and resonance. Each unit comprises a 3.5mm steel plate, a no-slip EVA pad and a high-density foam base.



Offering a simpler solution for monitor isolation, Sound Network's **China Cones** ([chinacones.co.uk](http://chinacones.co.uk)) are energy conversion devices that reduce oscillations in audio systems. When positioned as a tripod under a speaker, they promise better realism, dynamics and stereo focus. Self-adhesive rubber pads (included) are used to prevent the points from sliding, and if necessary, thin double-sided tape may be used to secure the cones to the underside of your speakers.



**IsoAcoustics speaker stands** ([isoacoustics.com](http://isoacoustics.com)) are built with a unique, patented isolation technology that eliminates energy transfer to surrounding surfaces, promising enhanced bass and improved image. They come in three sizes, can adjust between 3 and 8 inches in height (model dependent), and can be tilted up or down by using the included inserts. The stands can accommodate most manufacturers' speakers and are also integrated into Argosy Console's new Spire i-Series stands. The Isolator's are made of a high-modulus co-polymer with the opening, internal taper and concave, void end resulting in a compliant element to contain the supporting tubes or rods.



**Primacoustic** ([primacoustic.com](http://primacoustic.com)) **Recoil Stabilizers** come in 12 downfire, horizontal or upfire models designed to work with most speakers and subwoofers. They comprise a heavy ¼-inch, laser-cut steel plate, a thin neoprene top surface and foam base designed to eliminate vibration-borne resonance. The stabilizers promise to reduce a speaker's backward recoil as the coil pushes energy forward improving sharpness and definition of the resulting impulse.



**The Pro-coustix Isoflex** monitor isolation pads ([hypedupacoustics.co.uk](http://hypedupacoustics.co.uk)) are purchased in pairs for each speaker (four pads total for two monitors). The pads are each 100x40x290 mm, made from high-quality polyester black foam offering high-compression load deflection properties. The pads can be interchanged, allowing five separate speaker-positioning angles, and also have a precision-designed curved front to reduce planar reflections.

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# JEFF BHASKER'S AMAZING YEAR

**KANYE, ALICIA, JAY-Z, BEYONCÉ,  
DRAKE, TAYLOR, THE STONES  
AND A BIT OF FUN.**

BY BUD SCOPPA

**I**N 2012, PRODUCER/SONGWRITER JEFF BHASKER TURNED OVER A NEW LEAF, AS HIS RUN OF HITS WITH TOP R&B/HIP HOP ARTISTS—INCLUDING ALICIA KEYS’ “TRY SLEEPING WITH A BROKEN HEART,” JAY-Z’S “RUN THIS TOWN,” DRAKE’S “FIND YOUR LOVE,” BEYONCÉ’S “RATHER DIE YOUNG” AND KANYE WEST’S “ALL OF THE LIGHTS”—LED TO PROJECTS WITH TOP ACTS IN FAR DIFFERENT GENRES, INCLUDING THE ROLLING STONES’ “DOOM AND GLOOM,” LANA DEL REY’S BORN TO DIE AND SOME NIGHTS, HIS WILDLY SUCCESSFUL COLLABORATION WITH THE PREVIOUSLY OBSCURE BAND FUN. THE LATTER RESULTED IN SALES OF CLOSE TO A MILLION ALBUMS AND MORE THAN 10 MILLION TRACKS BETWEEN “WE ARE YOUNG” AND THE TITLE SONG. ACCORDING TO SOUNSCAN, LEADING TO A BEST NEW ARTIST GRAMMY FOR THE BAND AND A SONG OF THE YEAR GRAMOPHONE FOR “WE ARE YOUNG,” SHARED BY THE CO-WRITERS—THE THREE BAND MEMBERS AND BHASKER.

But long before those awards, he got a call from Taylor Swift, resulting in his producing two tracks on her massively successful album *Red*. He then undertook what is rapidly becoming his signature move, merging two distinct genres in the pairing of Dido and Kendrick Lamar on her current single “Let Us Move On.” His contributions to Keys’ *Girl on Fire* and Bruno Mars’ *Unorthodox Jukebox*, including both albums’ lead singles, topped off Bhasker’s remarkably diverse breakout year.

That a white kid from a small town in the middle of nowhere would earn the distinction of being the go-to guy for Kanye, Jay-Z, Beyoncé, Keys, Drake, Kid Cudi and other stars of contemporary black music is surprising, to say the least, but for Bhasker, it was just a matter of connecting the dots.

The Socorro, N.M., native cut his teeth on Hendrix, Santana, Pink Floyd, Led Zeppelin and Kiss before becoming transfixed by jazz when his piano teacher gave him a cassette with Oscar Peterson’s *Night Train* on one side and Chick Corea’s *Hymn to the Seventh Galaxy* on the other. “I was 12 or 13, and it was exactly what I’d been looking for,” he recalls. “The texture of those jazz chords was magical. Then I got heavily into Miles Davis and imagined myself in the jazz tradition where you’d practice playing and a bandleader like Miles would pick you up and you’d go to school under him.”

The notion of following in the footsteps of the jazz greats continued to motivate Bhasker, as he started writing charts for his own satisfaction on his PowerBook 520 using Overture, which also gave him his first taste of programming. Some friends then introduced him to the craft of making beats for rappers to freestyle over, and he came to view rapping as an extension of jazz improvisation. Making beats led Bhasker to try his hand at songwriting, and after graduating from Berklee College of Music, he moved to L.A. and got a job doing demos for renowned pop songsmith Diane Warren. “The experience helped me to appreciate the power of a great, well-written song,” he says. “That got me away from the mental masturbation that serious music can lead to, and I started trying to condense an idea into a digestible message.”

## SOME NIGHTS



Bhasker got his big break in 2007, when Kanye West, impressed by the youngster's ability to write, arrange, program, engineer and play any instrument by ear, hired him as music director for 2008's *Glow in the Dark* tour, followed by a key role in the writing and recording of *808s and Heartbreak*. "In a lot of ways," says Bhasker, "Kanye ended up being my Miles Davis: he's always innovating, he's intelligent and he's proud of being black but he also explores European music, fashion and life in an intellectual and soulful way."

To say that Bhasker learned his lessons well would be an understatement, to say the least. These days, no producer is more in demand than the 28-year-old hit-maker. So it was that he found himself in a Paris studio last August with the Rolling Stones and longtime producer Don Was, co-producing "Doom and Gloom," the band's first new recording in seven years. The track both honors and subtly transforms the legendary band's iconic sound, starting with Charlie Watts' massive, walloping drums. Turns out Bhasker's posse provided a bit of enhancement to the recording.

"The idea was to combine the room culture with what I do," Bhasker explains. "The band cut the song live in the studio, and we got the files and we tempo-mapped Charlie's performance. Then Emile Haynie, who did Lana Del Rey and the fun. album with us, did a drumbeat with his samples, which are like chopped-up bits from old records. Emile's beat exactly follows Charlie—just kinda beefed up. On the original recording, the snare's kinda ring-y, and the sound of the room accentuates that. So having our snare sample in there masks that ringiness and makes it more solid. With the kick, also, you don't so much hear the drumhead; it makes the speaker go *BONK*. In hip-hop, people use speakers in a whole other capacity, so that's part of it, too, compared to a normal rock recording.

"With drum programming, it's just not fair," he continues, riffing now. "You can put five different samples together and get the punch exactly right. I stopped using drummers because I have so much more control and it sounds so much more interesting. A little drumhead just ain't gettin' it nowadays—it's 2013. Production is a snapshot in time. When you hear an older Stones record, you picture the '60s. You see it in black-and-white, almost. Those beautiful recordings like 'Gimme Shelter,' the mood that it creates—it evokes that time. So the challenge was to make it still sound like the Stones but give it a contemporary spin. And there's a couple editing breaks—a little one percent of Skrillex in that editing breakdown. We got into that, man. Mick was like, 'Give it that swampy feel.' So we added a Moog bass, which is a big staple of my productions, and we replayed the bassline a little heavier, me and Darrell Jones. And some owls on the bridge from Emile's collection of animal sounds. I heard it on the radio, and it came out sounding killer."

Like "Doom and Gloom," the fun. project was a collision of cultures, the premise being to pair Nate Ruess' heady pop songs with Bhasker's visceral hip-hop beats. "When we met," says the producer, "Nate told me that he'd varied the tempos in a lot of his songs, and he said, 'I want to stop doing that. I want to put our music against a solid beat.' So I was trying to stick to that and I made the beat, and we recorded him singing the verse with the same tempo as the chorus, over that beat. And as we listened to it, he said, 'Oh, it doesn't quite sound right. The verse needs to be faster.' I got a little frustrated. I said, 'But you said you wanted to do it against the beat.' And then I realized—because I had been the music director for Lady Gaga and Kanye West—we used

to do that for the shows. We'd do a Pro Tools session for the backing track for the show, with sound effects and stuff, and we'd change the tempo for each song. We had a big session for the whole show, a two-hour session with, like, 5,000 tracks stemmed out in quad sound. So I said to Nate, 'You know what? You're right.' Elastic Audio had just come out on Pro Tools, and we used his same verse but sped it up. And if you listen closely, it has this supernatural quality to it, because it

was recorded slower and then speeded up.

With its brisk verses and measured choruses, "We Are Young" inverts the dynamic of so many recent EDM-based pop records, which progressively build the intensity in the pre-chorus with synths that sound like air raid sirens, setting up the requisite double-time chorus explosion. Perhaps that's one of the reasons "We Are Young" sounded so fresh on the radio. "And it has a stellar hook—giving you something," Bhasker points out.

There's a similarly intriguing wrinkle on the follow-up smash. "Some Nights," which for the most part consists of little more than an overdubbed choir against a supercharged martial beat, most dramatically displayed in the whoa-oh choruses. This combination of apparent melodic sparseness and pumped-up rhythmic muscle has enabled the track to fit comfortably alongside such alt-folk crossover hits as the Lumineers' "Ho Hey" and Of Monsters and Men's "Little Talks," despite the fact that it's coming from a far glossier idiom, more spandex than flannel.

"I consciously tried to check all the boxes," Bhasker says, "not to prove a point but because I heard it in the music. That's another thing I learned from Kanye. You want to be able to play a piece of music in any environment, in your apartment, your car, your club. Not every record can be everything, but it was interesting to have the opportunity to put those two worlds together."

Bhasker's indispensable pieces of hardware are his Moog Voyager, Juno-106, Roland MP60 and acoustic piano. "When I'm writing, they're like my little band," he says. He also has an ample assortment of mics; typically, he'll connect a Sony C800 to a Neve or Chandler preamp and a Pultec EQ. But he adjusts his hardware according to the situation. "I use a handheld sometimes, too," he says. "Dido sang the vocal to 'Let Us Move On' into an SM57 in the room with the speakers on—on my couch. Came out great. We tried redoing it. I brought in the best mic I could find, and the quality of the recording was better, but the performance wasn't as good. It's about capturing the performance; when the magic happens, you need to be ready to go to work."

Having just completed his second album with English provocateur Natalia Kills, Bhasker intends to clear the decks and finish the solo album he's been working on between projects for the last several years. It will bear the alias Billy Kraven, one of a number of stylistic alter egos Bhasker has dreamed up (his hip-hop alias, for example, is U.G.L.Y.). He's uploaded a number of tracks from the nearly completed album—a loosely narrative song cycle about a G.I. during and after the Iraq War—on his Kravenworks YouTube page; powered by churning hip-hop beats and topped by his rangy, emotive classic-rock-evoking lead vocals, they sound ominous, melancholy and trippy in a Floydian way.

Does he hear himself in his body of work? Is there a Jeff Bhasker sound? "There's definitely a sonic similarity between all the songs," he answers. But I'm trying to evolve it, too. I'm always searching for two contrasting things—putting together things that aren't supposed to go together. Those are always the most exciting things artistically, in any field." ■



## FEATURED MIC

In 1960, Neumann launched the U67, a three-pattern tube mic that was intended as a replacement for the U47. By the mid-'60s, the company was into development of a solid-state version of the U67, and the transistorized U87 was unveiled in 1967. It used a K87 capsule that was acoustically identical to the K67 capsule in the U67 but did not require an external power supply. This was a

major convenience, although as phantom power was not universally available in 1967, the original U87 had a internal battery compartment housing two 22.5-volt batteries as an alternative to phantom power. Two decades later, phantom power was well established as a studio standard. The U87's difficult-to-find 22.5V cells were removed and a DC/DC converter was installed in its place. The result was the new model U87A, which offered improved performance, with a 4 dB lower noise floor and an output that was 6 dB hotter. Once the Tuchel output connector was replaced with

a standard XLR jack, the mic was designated U87 Ai. The model is still in production, and it remains one of the most popular studio microphones in the world.

## TRY THIS

Versatility in a BLUE Bottle



"If you are going for something at three feet or less, I would go with the BLUEs," says Brian Ahern. "When the Neumann [M50s] get in around three feet, they get brittle

because they are reaching out for an orchestra. We started with the M50s on Emmylou [Harris] vocal and we realized that they don't like to be up close, so we wound up using a BLUE Bottle on her voice, with the exception of one song, where we used my old AKG C-24.

"The BLUE mics have an interesting feature," he continues. "Instead of having pads for loud recordings, they have a control over the voltage that is supplied to the capsule. So if you want to record something gentle, like an acoustic guitar being played with fingers, which we did, you would crank it up so that it would highly sensitize the capsule and then jump when it heard something. If you were recording a gnarly banjo, you would back the setting off a little so it wouldn't overreact to the harsh tones of the instrument. The BLUE also has interchangeable capsules, so I tried the BLUE B6 capsule on Ricky Skaggs' mandolin with an M50 looking over his shoulder. When he heard that back, he was pretty impressed."

—Producer Brian Ahern,  
*Mix*, December 2004

## WHERE TO USE THEM

Side-address condensers are typically large-diaphragm mics and work well for recording studio vocals, over a drum kit, for upright bass and grand piano, or anywhere you're trying to capture an instrument or ensemble at fairly close range.

## WORDS TO KNOW

**Condenser Microphone:** a microphone that picks up sounds via an electrically charged, metalized diaphragm which is separated from a conductive backplate by a thin air layer. Sound waves striking the diaphragm cause a minuscule voltage change, which is increased by a tiny amplifier circuit within the mic body.

**Cardioid microphone:** a microphone with a direc-

tional pickup pattern that is most sensitive to sounds coming from the front and sides while rejecting sounds coming from the rear. The pickup pattern is roughly heart-shaped when viewed from above, hence the name "cardioid."

**FET (Field Effect Transistor):** A particular type of transistor that behaves like a triode (tube). FETs have a high input impedance and respond in a linear fashion.

**Hypercardioid:** a variation of the cardioid microphone pickup pattern. A hypercardioid microphone is most sensitive at the front and sides, while rejecting sounds entering 120° to the rear.

**Polar Pattern:** A circular, 2-D plot that indicates the directional response of a transducer. While polar patterns are commonly used to show microphone pickup patterns, they can also indicate the dispersion of a speaker.

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## FEATURED MIC

The DPA 4006 first appeared in 1982, following the company's purchase of B&K and the assets of the popular reference mic of the same model number. This omnidirectional mic, which has since been updated to include a variety of nose cones, an AE version and a transformerless version, is known for its high sensitivity, low-noise and extremely linear frequency response. Since

its release, the 4006 has been found in orchestras around the world, up close on strings and acoustic guitar, as overheads to capture the "room," and just about anywhere an engineer needs transparent, quality recording at the source.

## TRY THIS



"Steel pans are like an orchestral thing where you have different ranges, just like with strings—violin, viola, cello. My normal setup is to have three pans on the gig, which would be one solo soprano instrument, and a double alto sax range instrument, which is called the double second. "For the double second, I used the [Neumann] KM64s. I used a 451 on the soprano, and we put a pair of KM84s on the lower two pans. When I played the soprano instrument, which used the 451, I found that I liked the sound much better if I left the other mics on. The room sound I was getting off of those KM64s was so beautiful that it just warmed up everything.

—Andy Narell,  
The Caribbean Jazz Project, *Mix*, 1997

## WHERE TO USE THEM

Front address condensers are usually small-capsule mics that exhibit excellent off-axis frequency response. Use them for high-end recording (orchestral, jazz, choir), over a drum kit, in stereo pairs on acoustic guitar, grand piano or anywhere you'd like your room to be accurately depicted in the mix. High-voltage microphones fit in this category; typically they can handle extremely high SPL (150dB+) and supply power to the capsule separately from the audio, so they are well-suited for audiophile-quality studio recording and test and measurement applications.

## WORDS TO KNOW

**Condenser Microphone:** a microphone that picks up sounds via an electrically charged, metalized diaphragm which is separated from a conductive backplate by a thin air layer. Sound waves striking the diaphragm cause a minuscule voltage change, which is increased by a tiny amplifier circuit within the mic body.

**Front Address:** describes the perpendicular position of the diaphragm in relation to the body of the mic.

**Pad:** an electronic circuit designed to attenuate the output of a device by a given amount. Some mics have such high output that they can overdrive the input stage of many preamps. To prevent this, many manufacturers include a switchable pad on the output stage of the mic.

**Phantom Power:** a method of powering condenser microphones by sending DC current (typically 9 to 52 volts, usually 48) over the same mic cable that carries the audio signal.

**Spaced Pair:** a stereo microphone technique where two mics are pointed directly at the source separated by two feet or more. See also X-Y miking.

## CLICK FOR MORE

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## FEATURED MIC

First released in 1966, the Shure SM57 and its twin (similar capsule, some acoustical differences; no windscreen grille) the SM57 have been the industry standard for rock 'n' roll touring for more than four decades, both on main vocals and up against a guitar cab or on top of a snare. Mick Jagger, Roger Daltrey...and every U.S. President since Lyndon B. Johnson has sung (or spoken) into one. A highly effective, built-in spherical filter minimizes wind and breath "pop" noise. A unidirectional (cardioid) pickup pattern isolates the main sound source while minimizing unwanted background noise. And it's durable. But it's not just for live sound; the SM stands for Studio Microphone, and for many vocalists, especially those who impart a "live feel" in their productions, it works. The only way Sylvia Massy ever damaged one was by demolishing a piano with sledgehammers, then shooting it up with guns, all while keeping tape rolling during a Tool session. One SM57 was damaged. It is arguably the best-selling mic in history.

## WHERE TO USE THEM

Dynamic moving coil microphones are very comfortable around high SPL, and they are the bread and butter of the touring industry. Use them for close-miking kick, snare and toms on a drum kit, guitar and bass cabinets, and challenging vocalists both live and in studio.

fortable around high SPL, and they are the bread and butter of the touring industry. Use them for close-miking kick, snare and toms on a drum kit, guitar and bass cabinets, and challenging vocalists both live and in studio.

## WORDS TO KNOW

**Dynamic microphone:** a transducer that relies on the law of induction, with an output proportional to the velocity of a moving element within a magnetic field. The most common type is the moving-coil microphone, which

picks up sounds when sound waves strike a diaphragm attached to a coil of wire. When the coil moves within the magnetic structure of the microphone, it creates an output voltage. The process is exactly the reverse of the way a speaker operates. Moving-coil dynamic microphones tend to be extremely rugged, making them well-suited for most sound reinforcement applications. The other common type of dynamic microphone is the ribbon mic.

**Feedback:** a condition where the output of a circuit recycles through its input. Acoustic feedback is a whine or howl that occurs in live audio situations when an amplified sound re-enters a sound system through the same microphone (or guitar pickup) that reproduced the original source, creating a loop. Feedback also can be used in signal processing; for example, part of a signal routed through a digital delay can be fed back into the delay to create a more complex effect. This is also called "regeneration."

**Max SPL (Sound Pressure Level):** the highest sound pressure level a mic's electronics can handle before distortion. Typically referenced to 0.5% distortion at 1 kHz. The presence of an attenuator switch may allow an increase in volume level to the mic before distortion kicks in.

**Proximity effect:** a boost in the low-frequency response of a directional microphone that occurs when the sound source is relatively close to the microphone. The phenomenon begins when the source is about two feet away from the mic capsule and becomes more noticeable as the subject gets closer to the mic. Used properly, a singer can use the proximity effect as a means of adding fullness to a voice; however, the effect can also emphasize nondesirable low-frequency noises such as breath sounds and popping consonants ("p" and "b" sounds).

## TRY THIS

### Heil Sound: All About the Drums

The PR30 and PR40 worked well as a team on a low tom, with the PR30 on top and the PR40 providing added low tone from underneath. When I flipped the polarity on the bottom mic, which is naturally out of polarity due to its opposite placement, the sound was thunderous. One thing I noticed was that the PR30 has a tendency to round out the transient in a beneficial way, almost as though it mildly compresses the signal. This was subtle, yet noticeable in a number of high-transient applications. Heil claims that this sounds like the response you would get from a ribbon mic, and I'd have to agree that the effect is similar to that. I then used the PR30 on a snare drum with good results. The mic has plenty of great-sounding upper-mids and top end for a dynamic model, and reacted well when I tried to dig out 150 Hz to make the bottom end sound a bit bigger. As mentioned, the mic has a tendency to round out transient hits when used with a high-SPL source, and the snare was no different.

—Kevin Becka, *Mix*, August 2007



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- Maximum input sound level**  
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## FEATURED MIC

Wes Dooley's re-creation of the classic RCA 44BX from 1936-1938, the AEA R44C, "looks, feels and sounds like the original," according to film scoring engineer Shawn Murphy. Known for its smooth character and warm sound, the original RCA unit could be found in high-end orchestral recording spaces around the world, but by the 1990s had become hard to find. So Dooley, a colorful character in his own right who had repaired the original for years and was the point man in the States for the famous Coles 4038, began building his own. By all accounts, they are beloved—by rock guitarists, singer-songwriters, orchestral engineers and soulful producers.

## WHERE TO USE THEM

Dynamic ribbon microphones are very comfortable around high SPL but handle with care – ribbons are fragile and prone to breakage around moving air. Use ribbons for close miking a kick drum (not near the hole!), guitar and bass cabinets, hand percussion or even vocalists with an "edge" you'd like to tame.

## WORDS TO KNOW

**Ribbon microphone:** a type of dynamic microphone that uses a thin metal ribbon placed between the poles of a magnet. As a "velocity" microphone, a ribbon mic responds to velocity of air molecules rather than the sound pressure level, making them highly fragile in non-studio situations. Ribbon mics are typically bidirectional, meaning they pick up sounds equally well from either side of the mic.

**Figure 8:** A polar pattern in which the mic is nearly equally sensitive from the front and rear, but not sensitive to sounds from the sides. The 2.D representation resembles the 8. Also known as bi-directional.

**Blumlein Pair:** Named for Alan Blumlein, engineer at EMI London in the 1930s, this technique incorporates two bidirectional mics set up at 90 degrees to each other. When done properly, known to provide a wide stereo image and room ambience.

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## TRY THIS

### Royer 121 Goes Live

"Brian [Setzer] plays through early 1960s Bassman amps, and initially I used mics that had been spec'd previously. I'd listen to his amp, then listen to what I was getting in the PA system, then listen to the headphones, and I thought, 'How am I going to fix this?' I tried the Royer R-121 on Brian's amp, and it was like, 'Are you kidding me?' This is what I wanted. I have the R-121 a quarter-inch from the grille, roughly half-inch off the dome angled toward the paper cone about 30 degrees. Lately, I have been mixing that with a Mojave Audio MA-201 FET condenser, and I am getting really good results."

—Jimbo Neal, Mix, July 2011



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**B5** Large Diaphragm Pressure Omni:  
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**B6** Cardioid Large Diaphragm Dual Backplate:  
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## FEATURED MIC

Words like “industry standard” get tossed around a lot in these days of sometimes overdriven marketing hype, but in film and TV production, it is safe to say that the venerable Sennheiser MKH-416 is an industry standard. Everyday users will tell you it works best when the conditions are the worst. It’s a compact pressure-gradient mic with short interference tube, and is highly immune to humidity due to its RF condenser design.

## TRY THIS

### Audience Miking With AKG

“I typically select shotgun mics as a first choice in audience miking, and among shotguns, the AKG CK69-ULS is my current favorite. My typical audience miking setup includes two microphones, one on either side of the stage, facing the audience. I try to locate them as close to the null of the main loudspeakers as possible. By the null, I mean to the side of any loudspeakers, not the rear where you’ll get a fair amount of low-end energy, and not the front, where you have all the horns and high-frequency drivers. Yes, low frequency is omnidirectional; however, typically most of the low end is rolled out of audience pickup mics anyway, so it’s not a major issue. Another possible audience mic position is at the front-of-house mix position, where a stereo pair would do nicely, though signal delay relative to the main loudspeakers and any onstage mics will be unavoidable. (The delay can be matched during mixdown, of course, but only if there is a mixdown—not likely for a live radio broadcast—and if the audience tracks are recorded separately.) The room ambience picked up on audience mics, with or without the delay between the stage and at the front-of-house position, can be a very exciting artifact to include in a mix.

—Bob Skye, *Mix*, January 1999



Featuring high directivity, low self noise, high consonant articulation and feedback rejection. Supercardioid/lobe pattern, and it works well with windscreens!

## WHERE TO USE THEM

Use a shotgun when you need superior cancellation off-axis, high directivity or when the microphone can’t be closely placed to the subject. Excels in many applications in film, TV and video production; also used by nature and sound effects recordists.

## WORDS TO KNOW

**Cardioid microphone:** a microphone with a directional pickup pattern that is most sensitive to

sounds coming from the front and sides while rejecting sounds coming from the rear. The pickup pattern is roughly heart-shaped when viewed from above, hence the name “cardioid.”

**Hypercardioid:** a variation of the cardioid microphone pickup pattern. A hypercardioid microphone is most sensitive at the front and sides, while rejecting sounds entering 120° to the rear.

**Shotgun Microphone:** A type of microphone that exhibits an extremely directional polar pattern. Can be condenser or dynamic. Notable for their long tube protruding from the front, where the series of slots acts a phase canceling device for sounds coming from the rear.

**Lobar Polar Pattern:** A type of pickup pattern found in many shotgun mics. Supercardioid and hypercardioid are slightly less directional.

**Windscreen:** A device placed in front of or around a microphone to minimize the effects of wind when recording. Typically made of foam.

**Zeppelin:** A microphone shock mount and windscreen combination that involves placing the mic inside a cage-like unit fitted with windscreen. Typically used with a boom pole in film and TV production.

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## LET THEM MAKE MUSIC



By Gino Robair

**D**uring the MIDI 30-year Anniversary panel discussion at NAMM 2013, featuring Dave Smith, Tom Oberheim, Alan Parsons, Jordan Rudess, George Duke and Craig Anderton, the question was raised whether MIDI democratized the music-making business “so that anybody can make bad music.” While it may seem like there’s already too much crap being generated, and that the noise level of new releases has far exceeded our audience’s bandwidth, Anderton reminded the panel’s attendees that it is important for people to have the ability to express themselves musically. “When you make music, you learn about yourself,” he noted. I absolutely agree.

Indeed, MIDI has helped make it possible—and easier than ever—for anyone with musical ideas to realize them, no matter how “bad” they may be. And if you consider the current slump in recording sales, what better way is there to get non-musicians interested in supporting music again than to have them experience creativity first hand. Despite the millions of products that automatically generate beats and accompaniment for anyone who can afford an app, there will come a point where the novice realizes that making *great* music isn’t as easy as they had originally thought. It takes talent, skill, imagination and time, and it might be worthy of financial investment.

When you give non-musicians and amateurs access to creative tools, they develop an insatiable appetite for more music, beyond what they can get through traditional distribution methods. It doesn’t matter if they’re a wannabe guitarist, drummer or DJ, once they get an insight into the techniques of performing and recording, they will dig deeper to increase their own skills.

Consider all of the interactive music tools available and how we use them. Only a few years ago it seemed crazy that a band at the level of Nine Inch Nails or 311 would allow free, online distribution of the multitrack files for one of their songs. Since then, numerous bands have used the concept to encourage fans to remix their favorite tunes. With the ubiquity of multimedia editing tools on every platform, today’s audience expects nothing less than full access to session material—both audio and visual.

One only has to look at a popular service such as Jammit (jammit.com), which offers instrumentalists access to multitrack material by well-known artists for educational purposes. Once you download the song you want to play, you can isolate the part you’d like to learn, slow it down if you need to, remove the recorded version from the

mix so you can jam along, and even do a video-capture of yourself as you jam with the track. Each song costs a couple of bucks: Fun for the fans, and another revenue stream for artists and rights holders.

By the time my students are old enough to attend my college-level recording course, they already know how to use a mixer and how to source a *cappella* vocals from their favorite songs to create mash-ups. They’re merely taking my class to learn how a mic works and to increase the quality of their work. The technology is already second nature to them.

I’m always amazed to hear professional musicians and producers complain that “there’s already too much music out there,” or that “no one is making good music anymore.” It’s easy to feel that way if all you do is listen to Clear Channel stations or read *Billboard* magazine. Gain the trust of a high-schooler, and he or she might share their favorite music with you: That’s often where the innovation is. To put it in corporate-speak: There are vast populations of young people who are not being served by the music industry, so they’ve created their own ecosystem to fill the vacuum.

We all agree that music sales will never return to the way they were. Fortunately, the artists who were born in the ’90s are blissfully unaware of earlier paradigms, so they don’t carry the expectations of previous generations. They make and distribute art, period. They find clever ways to sell music and merch, play concerts in places that are off the radar of the local press, and communicate using social media that you won’t hear about for a year or two. Most importantly, they don’t think in terms of scarcity like we do. Exposure is their currency. Even if they’re just posting their mash-ups or machinima on YouTube, their goal is to put as much compelling content online as possible and use it to build an audience (while generating serious Google AdSense revenue).

It’s important to note that the concepts of sharing, collaboration and community are ingrained in these youngsters, and they gravitate naturally toward technologies that enable them. Good ol’ MIDI 1.0 remains an integral part of it.

And despite what some of the NAMM panelists suggested, there is indeed a concerted effort by many manufacturers and developers in the M1 space to collaborate on the follow-up to the MIDI 1.0 spec, as evidenced by the move toward finalizing the HD Protocol Specification ([midi.org/aboutus/news/hd.php](http://midi.org/aboutus/news/hd.php)). What few realize is that this project will play an important role in saving the music business by enabling innovation that helps future audiences regain an appreciation and respect for content creators. ■



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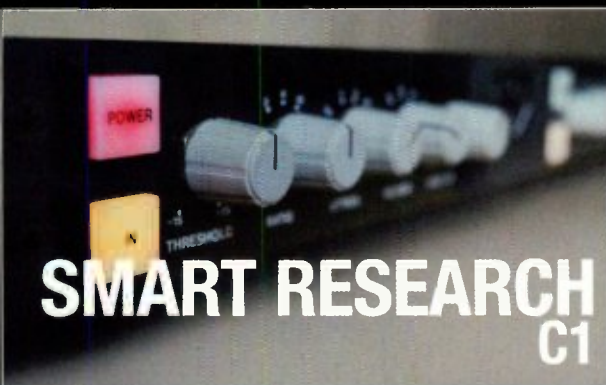


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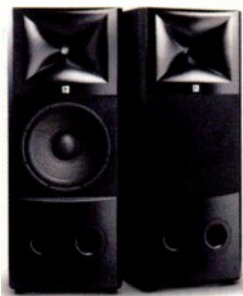
# NAMM 2013 // A Whole Lotta New!

The foot traffic seemed about the same as NAMM 2012, as did the general enthusiasm from attendees. But at NAMM 2013, held in late-January in Anaheim, there were definitely a lot more new product introductions. It started with a PreSonus pre-show debut of 10 new products, including new monitor lines for live and studio, through Music Group's matching 10 and Aphex with a handful more, DiGiCo and Waves, Universal Audio, a big new speaker from JBL. There was a lot to look at.

**PreSonus** ([presonus.com](http://presonus.com)) had a number of announcements, including their licensing of Audinate's Dante digital-media networking technology, which they incorporate into networking cards for several of its new products. They also launched the StudioLive 32.4.2AI 32-channel performance and recording digital mixer and StudioLive AI-series Active Integration Loudspeakers, which intelligently speak with the new StudioLive console. And that's not to mention two new speaker models for the studio!



Reaffirming its commitment to the high-high end, **JBL** ([jblpro.com](http://jblpro.com)) had the first public showing of its M2 Master Reference Monitor. Incorporating no less than seven new patents, the design features the D2 dual-diaphragm, dual-voice coil compression driver, the 2216Nd Differential Drive woofer, an all-new image control waveguide, and intelligent in-room tuning and integration. It also has a frequency range of 20 Hz to 40 kHz, with a max SPL of 123 dB. And the monitors are only 14 inches deep, which makes them suited for studio use or behind a screen.



**Avid** ([avid.com](http://avid.com)) launched the Pro Series line of AAX Native and AAX DSP plug-ins, featuring the Pro Compressor, Pro Expander and Pro Limiter. It also launched the "Get Discovered" Song Contest in collaboration with Abbey Road Studios. Also in the Avid booth, Sibelius showed a massive upgrade with Version 7.1.3 and announced a Sibelius Certification Program.

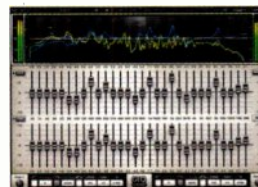


**Universal Audio** ([uaudio.com](http://uaudio.com)) announced a gaggle of new products and system features, including multi-unit cascading of its Apollo interface, which elegantly combines two units via FireWire or



Thunderbolt. UA also released the Teletnix LA-2A Classic Leveler collection, API 500 Series collection and Softube's Vintage Amp Room, Metal Amp Room, Bass Amp Room, and Acoustic Feedback Deluxe plug-ins for the UAD Powered Plug-Ins platform and Apollo.

**Waves** ([waves.com](http://waves.com)) had a range of announcements, including a new collaboration with Soundtracs (reintroduced after 10 years) and DiGiCo, who support DiGiGrid, enabling users of Native DAWs, Pro Tools and MADI-enabled live and broadcast mixing consoles to have access to Waves SoundGrid audio networking and real-time processing. Waves also released custom plug-ins developed in collaboration with Grammy Award-winning mix engineer Manny Marroquin, GEQ graphic equalizer plugin, IR-Live Convolution Reverb for Live Sound and eMotion Mixer for SoundGrid.



**Music Group** ([music-group.com](http://music-group.com)) announced 10 new products, including four new versions of the fast-selling Behringer X-32 mixer line: Compact, Producer, Rack and Core. Also shown, the Behringer iX16 iPad mixer dock and a rash of new live speakers, including the Nekkt K5 and K8, and, in the Eurolive line, the B112W and B115W—12-inch and 15-inch portable, pole-mount speakers. Plus, there were a number of affordable interfaces.



**Aphex** ([aphex.com](http://aphex.com)) showed six 500 Series rack modules, including the J PRE 500 Mic Pre; EQF 500 Parametric Equalizer; DUAL RPA 500 Mic Pre; A PRE 500 Mic Pre; the COMP 500 Optical Compressor; and the EX-BB 500 Aural Exciter/Big Bottom module. It also showed its groundbreaking USB 500 USB interface, allowing users to connect 500 Series modules to a digital audio workstation via USB.



**Rupert Neve Designs** ([rupertneve.com](http://rupertneve.com)) showed two new 500 Series modules. The 511 mic preamp with Silk features the same circuitry as the company's 517, the sweepable highpass filter from the 5012, and the power of a variable Silk cir-





cuit derived from the flagship Portico II Channel. The 542 Tape Emulator with Texture offers intuitive and dynamic tonal control.

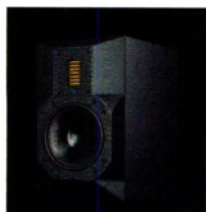
**Auralex Acoustics** ([auralex.com](http://auralex.com)) celebrated its 35th anniversary by releasing the ProMAX stand-mounted 2x4-foot, x3-inch deep Studiofoam panels, the DeskMAX panels intended for recording, mixing and performance applications, and the Studiofoam T panels for eliminating standing waves and flutter echos.



**Slate Pro Audio** ([slateproaudio.com](http://slateproaudio.com)) showed its compact Raven MTi multi-touch controller, which sports a 27-inch LED-backlit IPS HD LCD panel, Raven DAW Controller software and extensive monitoring capabilities.



**Audio-Technica** ([audio-technica.com](http://audio-technica.com)) showed its System 10 2.4GHz Digital Wireless system. System 10 promises easy setup plus three levels of diversity assurance: frequency, time and space.



**Emotiva's** ([emotivapro.com](http://emotivapro.com)) new Stealth 8, bi-amplified (200-watt) speakers feature the company's airtotiv fold-ribbon high-frequency transducer, an 8-inch woven polypropylene low-frequency transducer, and cabinet with a 3-axis CNC-milled MDF front panel, extensive internal bracing, and Three-Phase internal damping.



**Apogee Electronics** ([apogeedigital.com](http://apogeedigital.com)) showed the Symphony 64 | ThunderBridge, a 64-channel interface for connecting Apogee converters to any Thunderbolt-equipped Mac computer that is currently shipping.



**Aviom** ([aviom.com](http://aviom.com)) launched the A360 digital mixer featuring an advanced 36-channel mix engine that can be used to mix up to 17 mono or stereo channels, plus mono or stereo ambience. Users can adjust volume, tone and reverb. The A360 works with the new AN-16/i v.2 input module, which converts 16 line-level analog audio channels to a Pro16e A-Net digital stream.



**Cakewalk** ([cakewalk.com](http://cakewalk.com)) announced the CA-2A T-Type Leveling Amplifier plug-in, with support for VST, Audio Units and SONAR X2 Producer's Pro-Channel. The modeled T4 circuit uses an electroluminescent panel to determine



the exact attack time and an optical photo cell to determine the release time, all while carefully modeling the amplifier's tubes and electro-optical device—just like the original hardware unit.

**Tascam** ([tascam.com](http://tascam.com)) unveiled the US-322 and US-366 USB interfaces featuring on-board digital mixers and digital effects, low latency monitoring, improved HDDA (High Definition Discrete Architecture) mic preamps, and versatile analog and digital IO.



**PMI Audio Group** ([pmiaudio.com](http://pmiaudio.com)) debuted a host of new 500 Series modules from Studio Projects, Trident (A-Range), joemeek, and a special "Sunset Sound" model in honor of the legendary L.A. facility that was home to the Doors, Van Halen and hundreds of others, and is still going strong.



**Radial Engineering** ([radialeng.com](http://radialeng.com)) spun heads with the release of a large range of new products, including the StageBug SB-1 acoustic guitar DI box, PZ-DI allowing the user to properly impedance match the input source, and the Voco-Loco preamp, which allows you to add guitar effects pedals to a live vocal performance. They also bowed several 500 Series units, such as the SubMix line mixer, Tossover filter box, PreMax pre-amp/EQ and PreComp VCA compressor.



**IsoAcoustics** ([isoacoustics.com](http://isoacoustics.com)) showed the Isolators, which are adjustable speaker stands that eliminate energy transfer to surrounding surfaces in a truly unique manner and promise enhanced bass and improved image. The Isolators are made of a high-modulus co-polymer with the opening, internal taper and concave, void end resulting in a compliant element to contain the supporting tubes or rods. They are also integrated into Argosy Console's new Spire i-Series stands.



**RME** ([rme-audio.de](http://rme-audio.de)) released five new single rackmount routers and converters, including the ADAT Router; ADAT converter; MADi Router with four groups of three different MADi IOs each; the AES3 Router which can split, combine and convert real-time signals; and the AES3 Converter, which has the same flexible AES3 technology as the Router but without routing capabilities and the need for control.

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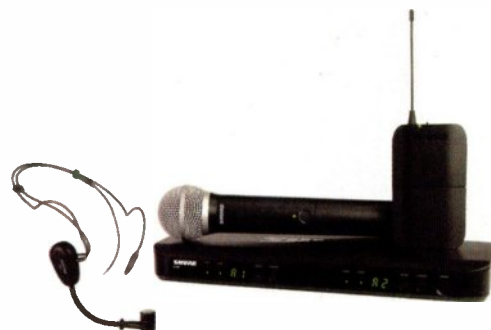
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**LIVE SOUND PRODUCTS**



Shure (shure.com) introduced the BLX Wireless Systems, which have a performance range of up to 300 feet, with up to 14 hours of battery life from two AA batteries. They are available in a wide offering of bodypack and handheld configurations with multiple handheld, lavalier, instrument, and headset microphone choices.



Soundcraft (soundcraft.com) introduced the Si Expression series of consoles in three frame sizes. Si Expression 1, 2 and 3 offer 16-, 24- and 32-fader and mic inputs, respectively. All three can be expanded to 66 inputs via any Soundcraft stagebox, including the two new Mini Stagebox 16 and 32 (16x8 and 32x16) models.



Peavey (peavey.com) released Elements weatherproof loudspeakers, offering a combination of innovative cabinet construction and proven, weatherized components designed for direct contact with the elements in the most demanding climates.

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**ExpressBox 3T**  
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Mackie (mackie.com) showed the all-new DL806 8-channel mixer, featuring total control from the Apple iPad. It also bowed its DLM

Series powered loudspeakers, including the DLM8 and DLM12, both full-range, 2,000W powered loudspeakers with an integrated digital mixer with 16 effects and robust system processing. The DLM12S is the companion 2,000W subwoofer with ample system protection and processing.



AKG (us.ake.com) introduced its new line of digital automatic microphone mixers: DMM6 and DMM12. With an intuitive user interface, numerous DSP functions and high signal-to-noise ratio (S/N), the DMM series provides users with the highest quality in automatic mixing technology.



Vue Audiotechnik (vueaudio.com), the relatively new kid on the P.A. block, has introduced a wide range of speakers over the past year, including the i-Class, h-Class and a-Class. Now the company has entered the line array market with the al-4

Subcompact Line Array System, featuring a beryllium compression driver, Kevlar/Neo LF transducers, precision amplification and DSP, and up to eight elements per block.

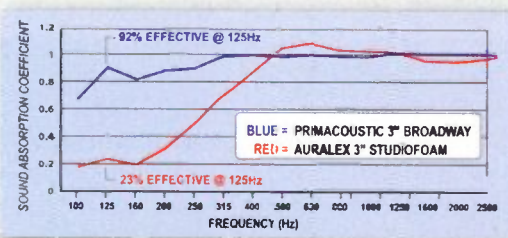
Cerwin Vega (cerwinvega.com) introduced its new P-Series professional P.A. system, which includes two active speaker products: the P1500X and the P1800SX. The P1500X is a two-way, 15-inch bi-amped, full-range bass-reflex speaker, while the P1800SX is a powered subwoofer featuring an 18-inch woofer with a custom 2,000W Class-D amp. ■



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- B Broadway™ Broadband panels
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- E Broadway™ Control Columns
- F Recoil™ Stabilizers



~ Rob Wells  
(Backstreet Boys, Cyndi Lauper, Mika, Justin Bieber, Selena Gomez)

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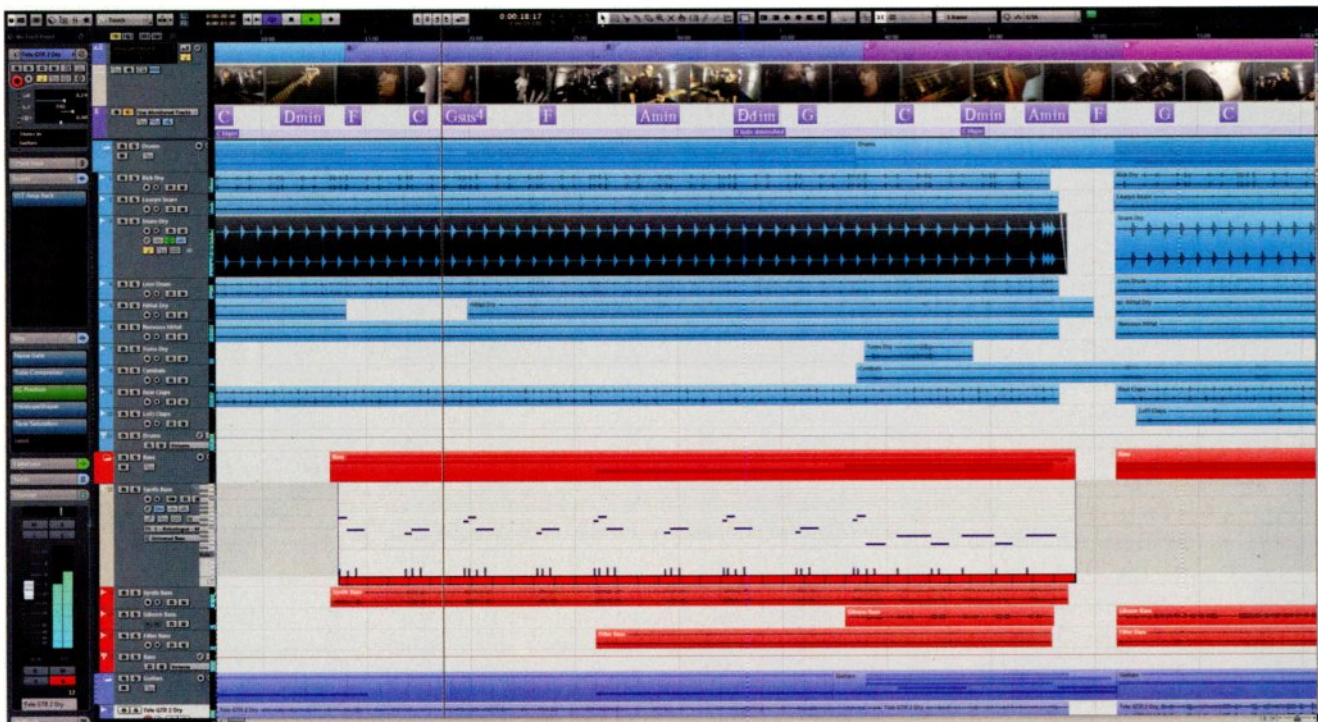
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# Tech // reviews

## STEINBERG CUBASE 7 DAW SOFTWARE

Solid Workflow Enhancements, New Mixer and More



If you've used the term ASIO or VST, then you are referring to a technology developed by Steinberg Media Technology GmbH, a professional audio stalwart since 1984. Whether you are an Atari platform veteran or a Cubase newcomer, it doesn't take long to see why Steinberg's attention to detail has served them so well, especially when it comes to the company's latest release.

Cubase 7 (Fig. 1) offers a new MixConsole, many workflow improvements, a new channel strip, a meter that's compatible with the EBU R128 loudness standard, support for many hardware controllers, a full version of Voxengo's CurveEQ, and much more. But before you can get to any of those features, there's the install, and the news is good.

### INSTALL AND BOOT

As a longtime integrator, beta tester and studio nerd, I have learned to always allow plenty of time to set up a DAW that you

will need to use that same day. I started by booting my system and sliding in the Cubase 7 disc to begin my installation. After simply clicking next and allowing the installer to establish default locations, I was literally booted into Cubase in less than 30 minutes. At first, I thought that the installation hadn't been completed correctly, as it seemed to go far too quickly; but lo and behold, I was ready to rock.

The first thing you will notice is that the landing page has some cool new features such as the Steinberg Hub (Fig. 2). Right out of the gate, it gives you access to downloads, video tutorials, user forums, a knowledge base and other utilities, along with the normal Project window.

When opening Cubase 7, I was surprised to find that the inter-

### TRY THIS

When playing, mixing and recording live, use channel strip presets on your input/output channels. After a quick headphone monitor mix during soundcheck to get levels, you can create a mix-ready print in real time. Throw a mastering preset on the Master output, and you can literally bounce your project the moment you hit Stop.

## PRODUCT SUMMARY

**COMPANY:** Steinberg Media Technologies GmbH

**PRODUCT:** Cubase 7

**WEBSITE:** steinberg.net

**PRICE:** \$499.99

**PROS:** Well-written software, feature-rich and super stable.

MixConsole upgrade is life changing.

**CONS:** More features than you know what to do with. Steep learning curve. Needs a CTRL+Z undo function on the mixer.

face looked quite different from the Cubase 1 I was used to. This was by far the biggest change I've seen in all the upgrades. To give you an idea, I use three monitors set up in a pyramid formation. The top is a 37-inch HD monitor, while the bottom two are 32-inch HD displays. My workflow is such that I use the top monitor for my main mix window, and the bottom two for stretching my mixer/console view. One of my biggest pet peeves regarding previous incarnations of Cubase was the inability to float the Console in full screen height. As I opened the project and pressed F3 to bring up my console view, I got a full screen mixer, which introduced me to Steinberg's new approach to mixing.

## THE NEW MIXCONSOLE

Just as its name suggests, the MixConsole is a virtual console mixer. Much like an analog console, each channel strip contains a Limiter, Gate, Compressor and EQ, as well as a Tube/Tape Saturator and Transient Envelope Shaper. The only drawback for me is that it lacks a CTRL+Z undo function, but I remain optimistic.

Besides having killer effects and EQs with spectrum analysis, each strip has a collection of presets that are spot-on. Steinberg brought in producer Allen Morgan (Taylor Swift, Nine Inch Nails) as the exclusive third-party content provider for the MixConsole presets. When Morgan and I had a chance to catch up, he said, "The content I created for Cubase 7's new mixer consists of a combination of 300 mixer presets and audio track presets designed to be used

in any project. You will find everything from a floating electronic vocal, an upright acoustic bass to master bus settings for hip-hop productions and countless variations in between."

## WORK SMARTER

There are plenty of great workflow enhancements worth mentioning in Cubase 7, but here are some favorites. ASIO-Guard is a caching system that provides an additional buffer to your audio to avoid pops, clicks and lockups; Mem-Zap memorizes and recalls edit positions, zooms and locations, enabling quick-changes between different track views being edited; and Safe-Start Mode lets you temporarily boot using factory preferences to avoid having to do the dreaded Trash-Preferences.

*"The content I created for Cubase 7's new mixer consists of a combination of 300 mixer presets and audio track presets designed to be used in any project. You will find everything from a floating electronic vocal, an upright acoustic bass to master bus settings for hip-hop productions and countless variations in between."*—Allen Morgan

Steinberg has also improved its VariAudio 2.0 function. You can now simultaneously edit multiple monophonic voices—quantizing, correcting and even creating harmonies and background vocals, all from your original tracks. VariAudio 2.0 integrates with Chord Track and analyzes your song, providing suggestions for melodic progression and chordal variations; however, the melodic suggestions are sometimes a bit wacky.

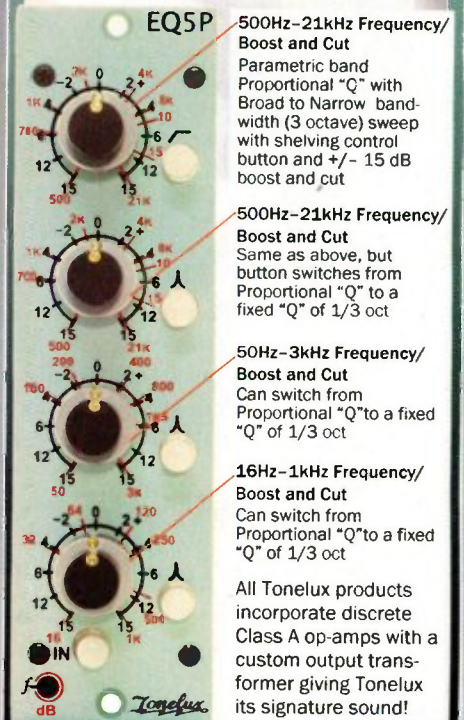
VST Connect SE is a collaborative plugin found in the Other section of your inserts. It allows peer-to-peer connection via

# Tonelux

From the Mind of Paul Wolff

## 500 Series

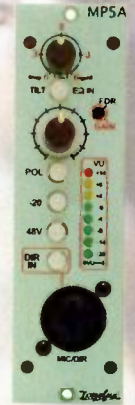
### EQ5P Equalizer



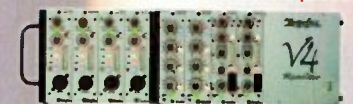
### TX5C Compressor



### MP5A Mic Pre



V4 + X4 = 8 Slot Option



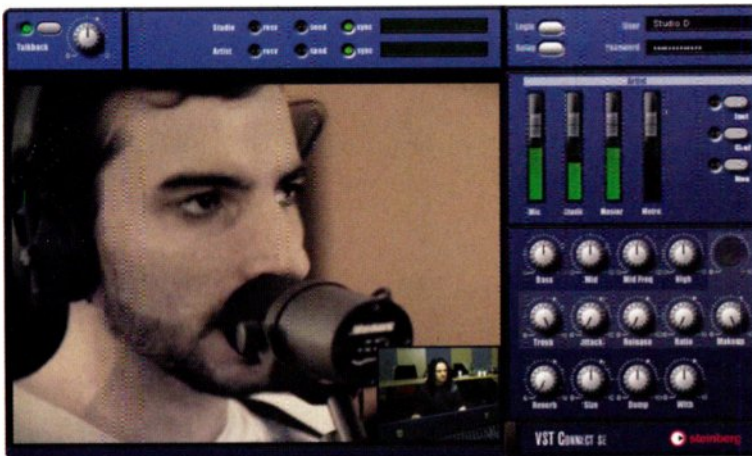
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the Internet so you can record and connect with musicians, clients and engineers. For example, your client downloads a free software called VST Connection SE Performer onto their computer, and from there, you can EQ, compress, add reverb and record them onto your Cubase project, all in real time with talkback while video chatting. This is, seriously, one of the coolest functions I've ever seen in any DAW. But, be mindful that fast Internet speed/bandwidth is a necessity.

#### PROOF IN THE PUDDING

After monkeying around with Cubase 7 for a few days, I threw caution to the wind and took it out for a real-world test drive, recording my band live

during a gig. But to up the ante, I decided that I would also play through the house sound system live using my DAW returns at 64 samples. I then asked the other musicians to select one of Allen Morgan's presets of their choice for their individual channel strip. We tuned, checked levels and lit up the red light. An hour later we ended our set without so much as a hiccup. I was using Cubase 7 Full version, a Steinberg UR824 and a Rain Livebook AFX running Windows 8. For our second set, I decided to throw one last curveball. I shut down, switched my interface to a PreSonus AudioBox 1818VSL, and reopened the project. We lit up the Record light again, and played through our second set—again, without an issue.

#### WHAT'S THE VERDICT?

The toughest pill for me to swallow when I first booted up was the change to the MixConsole. However, once I got used to it, the GUI felt completely natural. I did rely heavily on the training material in the Steinberg Hub to get me going, but once I became familiar with the new features, I wondered how I ever mixed without them. For newbies, Cubase is not a platform that you are going to jump into and learn overnight. Before you get started, you best eat your Wheaties and pack a lunch, but the payoff is that Cubase 7 delivers. It's stable, powerful and up to professional standards—it's that simple. ■

*Jami McGraw is the VP of Technology at Rain Computers, and a New York City-based based producer.*

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"Lectrosonics gear is built like a Mack truck. We travel the world and in all the time we've been using this gear, I've never, ever had any issues. Lectrosonics' durability is, in my opinion, unsurpassed." - Lorenzo Banda, Monitor Engineer, Foreigner

Pictured: Kelly Hansen, Foreigner lead vocalist with the HH transmitter.

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## \$100K Equipment List

### Hardware

API 525: \$1,100  
 API 1608: \$52,400  
 Avid Artist Control: \$1,500  
 Cranesong Falcon: \$1,125  
 DAV 501: \$400  
 Glyph GPT 150: \$170.49  
 Lexicon PCM92: \$1,800  
 Mac Pro: \$3,799  
 Massenburg 2020 (+9015 PSU): \$7,000  
 Moog Analog Delay: \$899  
 Radial X Amp: \$250  
 Teenage Engineering OP-1: \$849  
 UAD Apollo: \$2,499

### Software

Cranesong Phoenix: \$450  
 Metric Halo Production Bundle: \$699  
 Pro Tools 10 Native: \$699  
 Sonnox Elite Bundle: \$1,174  
 UAD plug-ins  
 ATR: \$349  
 EMT 140: \$199  
 EP-34: \$199  
 Fairchild: \$149  
 Little Labs Phase: \$99  
 Neve 33609: \$249  
 Shadow Hills Mastering Compressor: \$299

### Microphones

AEA KU4: \$4,500  
 AKG 451: \$500  
 Audix D6: \$200  
 BeesNeez Jade: \$2,100  
 Lauten Audio Torch ST221: \$1,600  
 Neumann KM184: \$850  
 Royer 121: \$1,295  
 Sennheiser 609: \$110  
 Sennheiser 421 x 3: \$1,230  
 Shure Beta 91: \$240  
 Shure SM57 x 2: \$198  
 Shure SM58: \$99  
 Shure SM7B: \$350

### Monitors

AE Pro 22: \$1,299  
 beyerdynamic DT 250 x 2: \$400  
 Focal Twin 6BE: \$3,700  
 Iso Acoustics ISO LE 8E200: \$150  
 Rane HC6S: \$419  
 Sterling Custom 1608 monitor bridge: \$630

### Stands

K&M boom stands x 7: \$560  
 K&M short stands x 2: \$170  
 sE Reflection Filter: \$300

### Odds and Sods

Lava Lamp: \$30  
 Saeco Odea coffee machine: \$600

### Grand total: \$99,886.49

\*I donate the remaining \$13,511 to Kevin Becka, as he ran over a little.

Continued from p. 41

going to be another area where we'll be spending a good chunk of cash.

To cover all the bases, our list contains the usual suspects like Shure, AKG, Sennheiser, Royer and Neumann, and we'll add some exotic large- and small-diaphragm condensers, a couple of valve mics and a ribbon or two. Once again, refer to the full list for these, but let's have a closer look at a few of the lesser known ones that made the cut.

For the main vocal mic, I've decided on the Australian-made BeesNeez Jade. This large-diaphragm valve mic is in their producer series. I've always been a fan of a Neumann Valve U47 on vocals, and these mics are really hard to come by—especially if you want one that's in good working condition. When I heard the Jade, it blew my mind. It sounds exactly like a 47, with a nice full body, a crisp top end and the balls you expect from a valve mic. Almost every time I use this mic on vocals, I end up not using EQ when it comes to mixing.

As we're talking about vocals, just to add another flavor to the mix, I really like the AEA KU4. This hypercardioid ribbon mic is stunning. I used it in combination with my favorite 47 on vocals. The result was unexpected and utterly amazing. It's so warm and open at the same time and gives you a very smooth, vin-



BeesNeez Jade



Cranesong Falcon 500 Series



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API 1608

round warmth from a valve mic, combined with the crisp, small-capsule sound. These mics may well turn out to be your main workhorses for strings, drum overheads, acoustics, room mics and piano.

You can have the best microphones in the world, but without great monitoring you'd be driving blind. Our main monitors are going to be the Focal Twin 6Bs. These monitors give you a clean and true representation of what's going on in the recording process and will provide you with honest monitoring at the mix. In addition to the Focals, we'll have a set of the AE Pro 22, giving us a more hi-fi/domestic reference. Sterling makes a nice custom monitor bridge for the API 1608 to hold the speakers and save on space. We'll put our main monitors on a pair of Iso Acoustics decouplers, which do wonders for the sound.

For headphones, we run a Rane HC6S headphone amp, giving extra volume control for the artists and yourself, and the cans of choice are a pair of classic and very comfortable Beyerdynamic DT250s.

Although this unit does not really belong in this category, the main reason we procured the Lexicon PCM92 is mainly to dial in some reverb for the artists while recording. Naturally this machine can be used in conjunction with the API when mixing.

With the API, the UAD and our extra plug-ins, we are pretty much

tage sound. It's not cheap, but you will instantly fall in love with it.

We don't have the biggest room, and that is why I have steered clear of too many stereo-miking options. However, we will be setting up drums in here and we can be pretty certain that we'll end up recording small string sections, acoustic guitars and other acoustic instruments. One hot stereo pair of mics will cover that nicely. The Lauten Audio Torch ST221 are a matched pair of small-diaphragm valve condensers, and they sound ridiculously sweet. Once again, you get the

# MAXIMUM VELOCITY

When working fast to capture an emotional performance, you need tools that deliver a big sound with a straight-forward setup. Famed producer/engineer Vance Powell (*Jack White, Buddy Guy, The Dead Weather, Red Fang*) uses AEA RPQ500 preamps and R92 Big Ribbon™ mics to create his multi-Grammy® winning records.

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**AEA Audio Engineering Associates**  
Handmade in Pasadena, California



Focal Twin 6B

covered, but it's always nice to have some extra flavors at hand. The 1608 gives us a bunch of extra 500 series slots, acting like a big lunch box and allowing us to expand our tool chest quite significantly.

I've put in a Radial X Amp 500 Series to help out with re-amping bass and guitars, the brand new Cranesong Falcon 500 Series compressor for character and warmth, an ultra-clean DAV 501 preamp



Teenage Engineering OP-1



George Massenburg Labs 2020

which has an amazing DI and tons of headroom, an extra API 525 compressor to complement the rest of the 1608 vibe and Moog's new 500 Series Analog Delay.

On top of all the extra 500 modules, I've specified a top-class workhorse: the Massenburg 2020 channel strip, which will give you another taste of mic pre, an extremely versatile compressor and another great EQ. It's a costly unit, but you can use it on anything and it'll come in real handy when it is time to mix the vocals.

Right, we're set up with all this amazing high-end gear, but there are a few bits and pieces we still need to tie it all together.

Our impressive microphone list would be rather useless without their stands, so let's add in seven K&M boom stands so we can mike up the drum kit, put up the vocal mics and our Lauten Audio stereo configuration, a couple of K&M short stands for the kick, snare and guitar cabs and an sE Reflection Filter so we can avoid any unwanted room sound on certain instruments and vocals.

And just in case you need to do some keyboard programming, the Teenage Engineering OP-1 keyboard will give you all the functionality you need to get the job done, and then some!

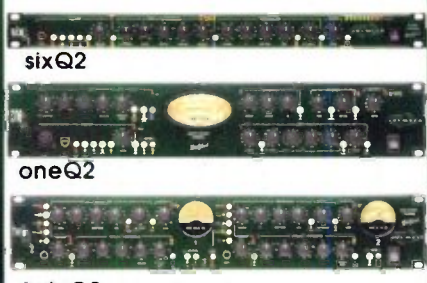
You're going to be spending a lot of time in this fabulous setup, with a lot of different people and egos and the vibe will always be important. So, by means of "wombification," let's purchase a nice lava lamp and the piece de resistance, a Saeco Odea coffee machine. Ask any producer/engineer or artist what they like about a studio, and except for the equipment, 9 out of 10 will say, "the coffee!" ■



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## DPA 2011C TWIN-DIAPHRAGM CARDIOID MICROPHONE

Slender, Versatile Performer for Stage and Studio



**D**PA Microphones is known for its high-performance, uncolored transducers for studio recording, broadcast and live performance. The 2011C is targeted at Live Sound users, but as we found out, it's an able performer in the studio, as well. The mic handles an incredible 146dB SPL and has a small footprint due to the short MMP-C body. The mic is part of DPA's Reference Standard group, meaning the capsule and body unscrew for easy integration with other DPA products, such as the higher-end MMP-A or MMP-B bodies, or the 4000 Series capsules. This is a system you can grow with.

The mic comes with a handy lyre shock-mount, and an optional stereo mount is also available. For this review I had a pair of the 2011Cs plus the stereo mount, which I'd highly recommend. It makes it incredibly easy to place and accurately aim the mics as a pair.

The technology in this capsule is something new and worth mentioning as it allows the mic to deftly reject the side and rear, yet still sound natural off-axis. From the outside, the look is odd—the mic appears to be a stubby shotgun. Inside, there are two separate capsules mounted back to back and integrated into a single front-address unit, instead of two diaphragms that share a single backplate, as seen in other side-address designs. Whatever is happening acoustically with this dual capsule—coupled

with the ports on the side—does the trick: These mics sound great.

The front capsule is mounted at a considerable distance from the end of the mic, something my ears told me when I tried to place them end to end in an X/Y configuration: The center image was swimming all over the place. I called Bryce Boynton at DPA, and he gave me the lowdown about the capsules; that resulted in a non-intuitive move, so my X/Y was centered back from the end, which instantly fixed the problem. From then on, I knew not to cross the capsules at the end as you would with any other front-address pencil mic.

### TOP PERFORMER

I used the mic on a range of sessions—first, around a drum kit. As an overhead stereo pair in X/Y, the 2011Cs rendered the kit beautifully. The stick on cymbals had a sweet woody ping with little hype at the top end, perfectly real and natural. I tried the mics on toms, too, which worked very well. Stick hits and transients were well rendered, and off-axis rejection of cymbals was very good, making the toms sit up in the mix. Next, I tried the 2011C out-

### TRY THIS

With the optional DPA stereo bar, you can easily jump between ORTF and X/Y setups for different applications. I like using X/Y over a drum kit because the snare hits both capsules at the same time, resolving any phase issues you'd get from a spaced pair. Inside a piano, I like ORTF because I can accurately target the low and high end of the instrument, giving me a wider stereo picture if I need it, or I can pan in a bit to make the piano sit more toward the center of my mix.

## PRODUCT SUMMARY

**COMPANY:** DPA Microphones

**PRODUCT:** 2011C

**WEBSITE:** [dpmicrophones.com](http://dpmicrophones.com)

**PRICE:** \$799

**PROS:** High-SPL handling, excellent rear and side rejection, sonically excellent.

**CONS:** Low output calls for excellent preamp in low-SPL use.

side a kick drum, which was a winner. Partnered with a Shure Beta 52 inside the kick, it gave me a great combination of tones to mix, giving the bottom end plenty of point and chest thump.

For many of these sessions I used the Moon 3500MP preamp (reviewed in *Mix's* February 2013 issue), which offers an incredibly powerful and clean gain stage, even at extreme levels. This later became important when recording some finely detailed Foley work. While the footprint of the 2011C makes it easy to place anywhere, the dues owed for the 146 dB of SPL handling are that the mic has low output. For detail work at low SPL, you have to gas it quite a bit to get it to a decent level in your recorder. Even though the Moon was able to provide the clean gain necessary for this application, I would still use a mic with higher output in situations like these so you don't have to fight the noise floor introduced with other less pristine preamps.

Next, I gave the pair to a trusted colleague who was recording acoustic guitar through an API Legacy Plus console. The 2011Cs were placed on two stands in front of the instrument with the bottom mic pointing just below the bridge, while the top mic pointed straight in at the fifth fret. Generally, when I hear mics placed this far apart on a guitar, one sounds much darker, requiring a move to tuck them in so the image left to right isn't so stark. Even when placed this widely, it was remarkable how natural the instrument sounded. It's a review cliché to say, "It was like the player was sitting in front of you," but that is honestly how it sounded. It wasn't too bright or boomy, and the image was hyper-real.

The pair was next employed for record-

ing a small orchestral ensemble comprising a tuba, trumpets, saxophones and French horns. The A-rig for getting the room picture was a Decca tree on an AEA mount using three Blue Omni Mouse microphones. To see how they'd fare in this situation, the 2011Cs were placed behind the Decca tree in an ORTF pattern using the DPA stereo mount. The result was great by itself and even better when mixed with the tree. Again, the "reality" cliché comes to mind, but there's no better way to describe it. The stereo picture was excellent, especially when blended with the omni microphones. The left to right and center image was very well defined, and the brass sounded, well, like brass—no hype at the top but just enough sparkle to make the horns pop.

I recorded a three-piece jazz ensemble for *Mix's* Focusrite RedNet Series Webcast and used the 2011Cs on acoustic piano, mounted in an ORTF configuration using the stereo mount. The band was in tight quarters with the upright bass on the piano player's right and the drummer just on the other side of the open lid. Again, I used the Moon 3500MP preamp and the piano sounded great. The rejection was remarkable, even though the players were close to each other. The piano sounded rich and natural, with beautiful transients when the player hit it hard and an even tone when he held chords—lovely.

### HOW WAS IT?

The DPA 2011C is an excellent performer and excelled in a wide variety of applications. It sits well below the \$1k range, and you can easily upgrade your setup by buying a higher-end DPA body, or another capsule or two. Its compact design and high-SPL handling make it perfect for use around a drum kit or guitar amp, or in other hot situations. The only downside is its low output, which means you'll have to gain it up quite a bit for low-SPL detail work, which unveils the noise floor of your gain stage. Used as a pair in front of an instrument or ensemble, this mic has a knack for making the setting sound uncannily real. I experienced it on two separate occasions where I was drawn into the musical performance and forgot the tech—and that is priceless. ■

*Kevin Becka is Mix's technical editor.*



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## MERCURY GRAND PREQ15S

Versatile Old/New-Style Preamp With EQ



**M**ercury Recording Equipment Co. is the brainchild of David Marquette, founder of Marquette Audio Labs. Since 1994, Marquette Audio Labs has been giving new homes to classic console components in custom, rack-mounted housings, fit for the modern studio. Having a strong familiarity with vintage gear, Marquette began creating handmade, modern tributes to his favorite designs under the brand name Mercury. His first designs addressed popular classics like the Fairchild 660 and Pultec program equalizer, but eventually led back to familiar home turf in re-creations of console components.

The GrandPreQ15s gets its name from the console preamplifier/equalizer module that inspired its design, the Calrec PQ15s. Vintage Calrec consoles are known for their distinctly British sound, resembling a Neve-like tone, but with its own unique flavor and character. Mercury's take on this classic console echoes the original with a single mic preamplifier with a 3-band equalizer, plus highpass and lowpass filters, all between transformer-coupled inputs and outputs. The new design builds upon the original, though, with a few bells and whistles of its own.

### ON THE SURFACE

The GrandPreQ15s is a single-rackspace unit with a separate DC-1 power supply, which is connected by way of a proprietary cable with a 5-pin XLR-type connector on either end. Besides the power supply connector, the back panel of the unit features two standard XLR-type connectors, one for input and one for output. The front panel updates the ergonomics of the original console-bound unit.

The unit's input section features a coarse gain control that is detented at 12dB steps, ranging from 0 to 60 dB of gain boost. While clicking between these settings, a relatively loud thud is produced through the circuit, however Mercury's Dave Marquette promises this issue has been addressed in later production models. The fine-gain control rests in a groove at the 12 o'clock position, at which point it has no effect. A boost or cut of 8 dB is produced by twisting to the left or right. Given this effective

16dB swing, an overlap between the coarse gain settings is produced. At first, getting the hang of setting levels using this pair of controls was a little cumbersome, but as I got familiar with the preamp's tone and how color changed as I applied more gain, it became a more intuitive process.

### AN EQ WITH PERSONALITY

The preamplifier circuit is followed by the equalizer section, which features three bands of fixed-Q equalization, as well as highpass and lowpass filters. The three bands—named Treble, Presence and Bass—are distributed from left to right in this order. Though this arrangement appears backward when compared with a modern, rackmounted equalizer, it is important to note that, were this a console channel strip, the highs would likely be on top, and thus, swung 90 degrees, they are now on the left. I'll admit that more than once I reached for the wrong knob when attempting to make an adjustment, but I'm sure that purists would complain if it were any other way.

It took me a few tries to get used to the EQ. There is subtle overlap in the Presence and Treble, but a gap from 160 Hz to 350 Hz between the Presence and the Bass. A few times, I idly searched for something around 250 Hz and came up short. The two upper bands exhibited a bandwidth that seemed tight and focused, which made the effect seem subtle until the boost or cut became more pronounced, but there was more than enough boost or cut for it to get the job done. It didn't feel like the API EQ, which has a fixed Q but narrows its bandwidth as gain is increased. Instead, the higher bands seemed consistently tight, while the Bass band seemed subtly wider. The equalizer's character, however, had a

### TRY THIS

Boosting upper midrange frequencies is an easy way to make a vocal pop in a mix. Likewise, boosting lows simulates proximity effect and makes that vocal sound more in your face. However, adding EQ can add coloration and change the natural timbre in those frequencies. Try cutting low-midrange frequencies instead to make the lows and highs pop even more. Boost the EQ and sweep between 300 and 500 Hz and when you hear a crowded sound, scoop out that frequency. That way you can boost the gain on the pre and use more of its flavor without adding so much EQ.

distinct personality, producing interesting overtones and musical effects uncommon in a more sterile, modern, utilitarian equalizer.

#### IN USE

Whether I used the Grand PreQ15s for voice-over, musical vocals, guitars, or even recording Foley footsteps, the first thing I noticed each time I fired it up is how stunningly clean the signal is. I could crank the gain and never hear so much as a hiss or a hum from the circuit. Its overall tonality was extremely pleasant. The lower frequencies had a melty quality reminiscent of Neve electronics, but the high frequencies were a bit different. The upper midrange had a certain bite to it that could make a vocal really pop, cutting through a bed of midrange-y guitars. It also gives you the right combination of controls to really exploit this.

In addition to the input gain controls, there is an output gain that follows the equalizer and serves as an effective equivalent to a fader. Juicing the input, boosting the presence at around 2 kHz, scooping the low midrange and backing off the

fader, I could saturate the transformers and slightly singe the hot peaks in a vocal. The result was a gritty Jack White/John Lennon type of sound.

While this channel strip did great things for vocals and created an interesting vintage flavor on acoustic guitar, I was probably most excited by the sounds that I captured when plugging a guitar into the direct input. I could back it off and pull out really fat, clear, clean tones. The GPQ15s gave me great detail in the top end, bringing out the subtle articulation of the performance. It was a bonus that I could pick up a little grit from the preamp before feeding it to a software amp like IK Multimedia's AmpliTube. The preamp couldn't produce a sustained drive, but AmpliTube has never sounded better than it did after being fed signals from the GPQ15s. The subtle analog drive that preceded the software really did something special to the sound.

At times, the EQ was a little tighter than what I was looking for when tracking electric guitar, but it was fine when I made subtle adjustments. When I plugged in an electric/acoustic bass that was being picked by the bassist, the equalizer

was hitting in all the right places to enhance the thump and the pick attack, producing a spectacular tone. It wasn't the type of tight bottom end you hear from an API or SSL. It was that warm, buttery bass that can hit hard but gels in a mix. The top did feel a bit like an API with a tight, snappy clarity that clarified the intricacies.

#### DO I WANT ONE?

It was a pleasure using the Grand PreQ15s. Once you hear it, you want to use it on everything. Anyone who is consistently disappointed with the DI'd guitar tones they've been getting needs to check this out. If I were going to invest in just one high-end channel strip as my go-to for everything, I would say that the lack of Q controls in the equalizer and the distinct personality of this EQ would limit its versatility. Additionally, there is no insertion point for placing a compressor between the preamplifier and equalizer. However, if you are looking for that missing piece that will warm up your tracks and shine some new inspiration on your projects, you've got to try it. Just a warning, though: It might be hard to settle for just one. ■

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## SOFTUBE GRAND CHANNEL

Plug-in Bundle Faithfully Models Tube EQ, Compression



Over the past few years, the Swedish software company Softube has built a sterling reputation for creating DAW plug-ins that model tube gear with punctilious precision. Their newest product, Grand Channel, emulates the Summit Audio TLA-100A Tube Leveling Amplifier and EQF-100 Full Range Equalizer (a passive equalizer with tube output stage). The two processors can be used in composite configuration (the Grand Channel) or as discrete plug-ins.

The cross-platform bundle is available in VST, VST3, AU, RTAS and AAX formats and for 32- and 64-bit hosts. An iLok is required. I tested Version 1.3.10 of the AU plug-in in Digital Performer 7.21 on an 8-core Mac Pro running OS X 10.6.8.

### CHANNEL SURFING

The EQF-100 component provides four overlapping parametric bands—low, low-midrange, high-midrange and high—with seven fixed frequencies each. Each of the bands can be switched to either boost or cut and can be independently bypassed. The bandwidth controls are a bit counter-intuitive, in that their “0” setting produces a narrow bandwidth while “10” is wide—the opposite of what a Q control would effect. All four bands provide peaking filters, and the high and low bands can be alternatively switched to provide shelving boost or cut. Adjustable low- and high-cut filters are also included, along with VU-style input and output meters.

The EQF-100 generates harmonics—principally sweet second-harmonic distortion—when its output level exceeds roughly -3 dBFS. When the output meter shows level exceeding 0 dB (equal to -9 dB RMS), the plug-in begins to saturate, producing modeled tube compression.

The TLA-100A component features soft-knee compression akin to that found in opto-electronic units but is capable of faster attack and release times than those types of compressors typically afford. The TLA’s attack and (program-sensitive) release times can each be switched to a preset fast, medium or slow setting. You raise the gain reduction control to lower the threshold and increase the compression ratio at once. The TLA-100A’s VU meter can be switched to show either the amount of gain reduction or output level.

Raising the TLA-100A’s saturation control decreases the modeled compressor’s headroom, promoting distortion that’s edgier in character than that produced by the EQF-100. Its main application is taming transients on drums and other percussive tracks. An associated LED lights when distortion is being generated. When the TLA-100A is instantiated in stereo, its two channels are arbitrarily stereo-linked. While this helps preserve the level balance for the stereo image, in my experience it can also collapse the image slightly. For that reason, I wished the channels could be unlinked.

The EQF-100 and TLA-100A each have an output-gain control; the compressor’s follows its saturation control, while the equalizer’s follows the EQ controls and drives modeled output tubes (thereby acting simultaneously as both an output and de facto saturation control). The two processors can be independently bypassed and their order in the audio path reversed. No matter the order, the EQF-100’s input and output meters always show I/O levels at the respective beginning and end of the Grand Channel’s entire signal chain (not necessarily those for the equalizer).

### KICKING THE TIRES

Grand Channel dramatically improved the sound of a weak kick drum track. Setting the TLA-100A (pre-EQ) to provide around 5 dB of compression—using fast attack and release times—mowed down the kick’s attack, creating a sound that heavily highlighted the drum shell’s sustain. Raising the parallel inject control halfway

### TRY THIS

Mult your lead vocal track. Instantiate the TLA-100A on the original lead vocal track. On the mult, boost 3.3 kHz heavily in the EQF-100, using a bell-curve filter and wide bandwidth. Remove the mult from the mix bus, and bus it to the TLA-100A’s external sidechain. The TLA-100A will compress more heavily when the singer hits the top of her range, automatically putting a safety lid on choruses.



(producing a 50 /50 mix of compressed and un-compressed signal) rekindled the original attack and married it to the enhanced shell sustain. I then boosted generously with the EQF-100 below 56 Hz (shelving) and at 3.9 kHz (peaking) to enhance both aspects of the kick, giving the track more heft and attack. The finishing touch was cutting slightly at 560 Hz to attenuate a residual stiff, cardboard-y aspect of the sound. The combined sonic result of these tweaks was a remarkable improvement.

The same project's snare drum track required lavish EQ boost at 220 Hz and 5.6 kHz to give it more punch. Even boosting these frequencies close or fully to the max, the sound was very smooth. That said, I wished the EQ boost was a tad more responsive; even with 220 Hz fully cranked with the broadest possible bandwidth, I didn't feel like I got as much upper-bass boost as I needed for this particular track. I was also disappointed that the gain knobs for each band were not marked in decibels. A readout along the GUI's bottom strip displayed precise decimal values for each control I moused over, but those for the bands' gain con-

trols were based on an arbitrary scale.

The EQF-100 sounded incredible on electric bass. After boosting the bottom end and rolling off the highs, I cranked the output volume until the output meter read -1 to +1 VU on peaks. That added wonderful distortion that would give any high-end, tube-based hardware unit a run for its money. The bass was burping like a dyspeptic fast-food junkie (cool!), but the output was occasionally clipping. Patching the TLA-100A downstream, I set a slow attack and fast release and shaved 2.4 dB off the output gain. That made the bass pulse and simultaneously prevented clipping. Switching the compressor's low-cut control into the audio path was the final touch—its continuously variable nature allowed me to more precisely dial in a rumble filter (at 39 Hz) than if I'd used the EQF-100's stepped controls for that purpose.

#### NICHE PERFORMER

The TLA-100A sounded very transparent on vocals and other tracks in need of natural and smooth-sounding opto-type compression. That said, it wasn't an effective de-esser. The attack

time was too slow to catch the leading edge of fricatives. And because the gain reduction control adjusts the two parameters inversely, I also couldn't get enough compression depth without lowering the threshold too much and throwing the baby out with the bathwater. I also found it odd that the sidechain could only accept stereo input for a mono instantiation of the plug-in.

The compressor didn't impress me on drum room mics. Even set to "fast," the attack and release times weren't zippy enough to create the explosive, hyperventilating sound I was after.

Grand Channel also lacks A and B workspaces and Undo/Redo facilities. Also, the GUI's graphics are a little too realistic for their own good: Certain gain-reduction settings become impossible to see because virtual glare on the knob blots the control's white hash mark.

The TLA-100A is a smooth-sounding compressor but limited in the breadth of applications. The pearl in this oyster is the EQF-100A. Whether you're after pristine equalization or lush, hyper-creamy tones, the EQF-100A delivers the goods in spades. It's worth the \$329 admission ticket alone. ■

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Photo by Peter Ellenby

"Last year Tiny Telephone partnered with Minna Choi and her Magik\*Magik Orchestra, a modular group of symphonic players that can be ordered up as needed, from a single bass clarinet, to a 60-piece ensemble.

The enormous amount of string and orchestral work we started doing revealed startling flaws in our vintage mic collection: between problems of self-noise, variations within pairs, and issues of fidelity, we just couldn't rely on 60 year-old microphones to get us through a live chamber ensemble.

Then I discovered Josephson Engineering. I was blown away. It was like summer love. After a decade of collecting tube mics, I quickly auctioned them off and bought everything Josephson Engineering made."

- John Vanderslice  
(Owner, Tiny Telephone - recording studio)

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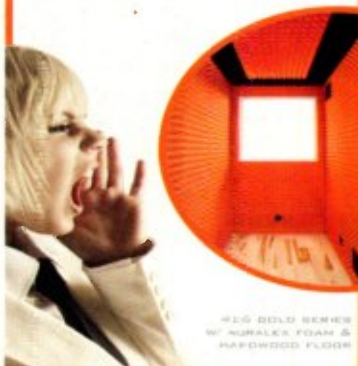


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## Apple iMac

### Performance and design. Taken right to the edge.

With third-generation quad-core Intel Core i5 or i7 processors, the latest NVIDIA graphics, Thunderbolt, and groundbreaking new storage options, the slimmest iMac yet is also the most powerful, with faster quad-core performance and up to 60 percent faster graphics. The all-new Fusion Drive option is a breakthrough concept that combines the high storage capacity of a traditional hard drive with the high performance of flash storage. Disk-intensive tasks — from booting up to accessing large sample libraries — are faster and more efficient. The new iMac is powerful enough, and beautiful enough, for even the most well-appointed MOTU desktop studio.



## MOTU Track16

### Desktop audio I/O with effects and mixing

Track16 offers elegant one-touch operation: press an input or output and turn the knob. It's that simple. With plenty of I/O available for a well-equipped personal studio, Track16's pristine mic preamps, balanced line-level audio connections, and renowned MOTU engineering deliver world-class audio quality.

## Novation Impulse

### The professional USB/MIDI controller (25, 49 or 61 keys)

The Novation Impulse features a precision, semi-weighted keyboard, 8 drum pads and a full control surface. It comes with Novation's award-winning Automap (version 4), the original, most powerful, and now, easiest-to-use control software.

This makes getting hands-on with Digital Performer and your plug-ins fast and simple.



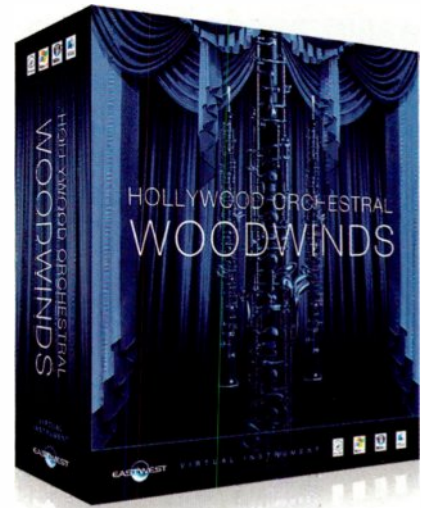
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### Shure Beta 181 Stereo Set Ultra-compact side-address instrument mics

Designed for discreet placement and control in live or studio environments, the Sweetwater-exclusive Beta 181 Stereo Set includes interchangeable cardioid, supercardioid, omnidirectional, and bidirectional capsules for superior versatility. The small-diaphragm design provides superior audio with consistent, textbook polar response in a form factor small enough to get close to the source in the tightest conditions. High SPL handling, ultra-smooth frequency response, and interchangeable polar patterns make this the perfect stereo mic pair for any technique in the book. This must-have mic bundle comes with two mic bodies and eight capsules in a custom case.

### Genelec 8040A Active bi-amplified studio monitor

With performance comparable to much larger systems, but in a compact package, the bi-amplified Genelec 8040A is ideal for use in MOTU studio situations where wide frequency response is needed but space is limited. Use the 8040A for nearfield monitoring in project/home studios, edit bays, broadcast and TV control rooms, and mobile production vehicles.



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## THE PRICE OF CAPABILITY



By Kevin Becka

**S**ome recent observations have gotten me thinking about how we as audio pros must adapt to gear as it becomes more capable. The price we pay is the learning curve, constructing new ways of working and, of course, experiencing some frustration.

I recently had the opportunity to step outside my comfort zone and sit in front of a Studer Vista 9 console with Studer Technical Services Manager Paul Shorter, who took me through the system. The Vista 9 is deep because it needs to be capable of working in broadcast, theater, tour sound, music production and just about anywhere else. On the surface it looks and is user-friendly, but below the surface it is very complex. Take labels for instance: There are system labels, inherited device labels (!?) and user labels. The inputs are then mapped to virtual channels (from mono and up), which sit in vertical and horizontal layers that exceed the boundaries of your physical console. These are then assigned to channels on the surface, which can each have three separately switchable inputs. Amazing depth and power, but sound confusing? You're feeling the price of capability.

Outside of console workflows, we all experience the expected DAW software updates, and the need to learn new interfaces as manufacturers stretch the boundaries of hardware and plug-in EQs, preamps, reverbs, compressors and other processors we use every day. However, there are other systems just released and coming soon that stretch the barriers of gear descriptions and offer new ways of working.

For instance, in February I hosted a *Mix* Webcast sponsored by Focusrite chronicling my use of its RedNet system in a live studio session (available On Demand at [mixonline.com](http://mixonline.com)). The RedNet 1 through 5 interfaces offer analog, digital and Pro Tools HD I/O, which can then be networked over Cat-6 cable at great distances. Along with the setup of your DAW's I/O interface, there is the Audinate Dante I/O GUI and the RedNet GUI to set up. Like the Vista 9's labels, this is a one-time-per-workflow design that can be saved and altered offline for other uses on other systems. Very cool, but at first it is a mind-bending experience and certainly worth the price if you're looking to network quality audio between stage, front of house, studio and more.

In some cases, another company's hardware upgrades have spawned new systems for using plug-ins and applying processing within your DAW. At NAMM I sat with Waves product specialist

Luke Smith, who took me through their new SoundGrid Server, which will provide the DSP for Waves AAX plugins on older Avid I/O cards and 96 and 192 I/Os, essentially extending the life of these products beyond Pro Tools 11, which is imminent and jumping to 64-bit operation. Waves promises latencies that are low enough to operate Waves plug-ins live and in tracking situations, not to mention during your mix.

***"We all experience the expected DAW software updates, and the need to learn new interfaces...However, there are other systems just released and coming soon that stretch the barriers of gear descriptions and offer new ways of working."***

In Waves' own words, "The SoundGrid Server is the 'number cruncher', which performs the audio processing. Audio is streamed from the audio interface (e.g., WSG-Y16) to the server, gets processed at low latency, and is streamed back to the interface." Smith explained that for tracking, the system runs audio from both the computer's Ethernet port and Avid's Digilink I/O, keeping the audio in the digital realm, which is how they promise low latency numbers. All that wired operation is simply plug-and-play—but to operate the system, you have to jump between your DAW's GUI to Waves' MultiRack SoundGrid host application, where you instantiate and interact with your plug-ins.

Again, this is the price of capability. What this buys you is the ability to keep your currently running Pro Tools HD system intact without having to upgrade your computer, older Avid cards and I/Os, which are all going the way of the dodo. The SoundGrid's price is not set and it is still in development, but compared to a system upgrade, it will save you dollars. Also, Waves is all-in with SoundGrid, meaning you won't be able to access Waves AAX plug-ins outside of this system, even with new Avid HDX cards.

So, what does all this mean for us? Or as my friend and *Mix* writer Bobby Frasier says, "Because ultimately this is all about me!" All these new technologies, steeper learning curves and accompanying frustration is exciting because it brings speed, positive workflow changes and the ability to stretch the life of older gear, which all result in more \$\$ in your pocket—and that doesn't suck. ■



**REDNET**



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RedNet is based on industry-standard Dante™ 'audio over IP' architecture. This proven, robust system employs economical, standard Ethernet cabling and standard managed GigE switches – minimizing costs and maximizing flexibility. Eliminate the downsides of traditional audio wiring, while enjoying superb Focusrite quality sound anywhere you need it.

Whether you're in the studio, auditorium, school or place of worship, there's a RedNet system for your application. Contact your GC Pro Account Manager or Sweetwater Sales Engineer today or visit our website for further information – and wire your future with RedNet.



**REDNET 1** – 8 channel A-D/D-A interface



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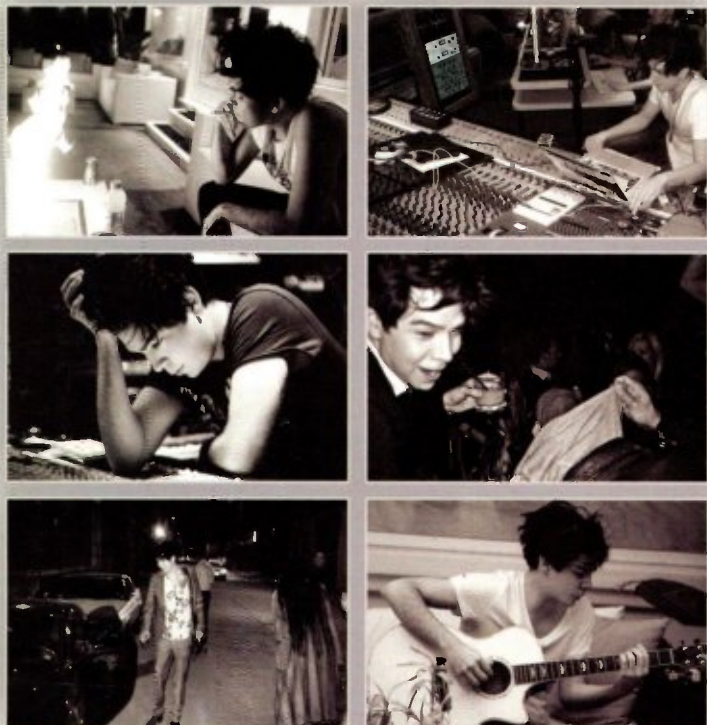
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