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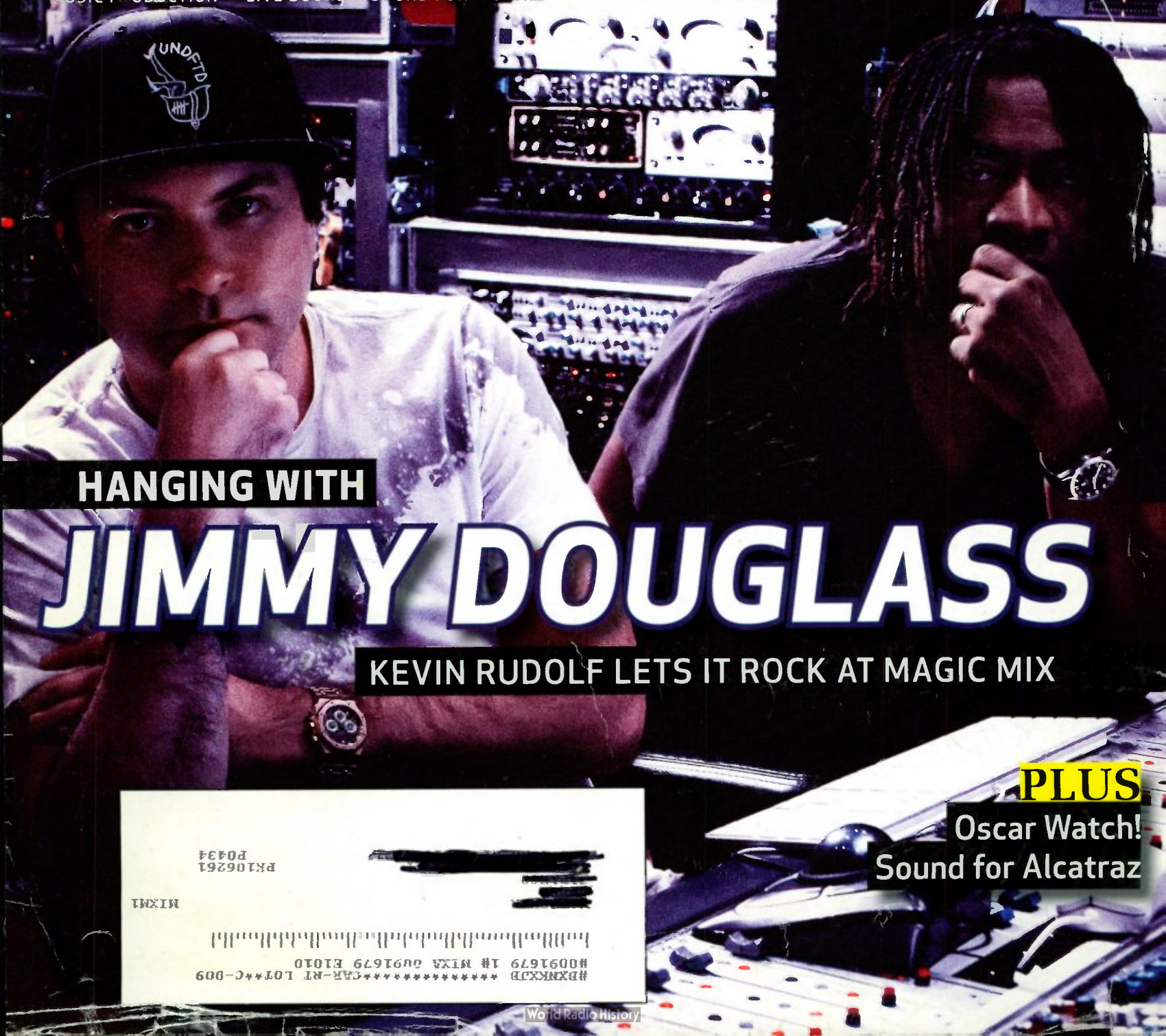
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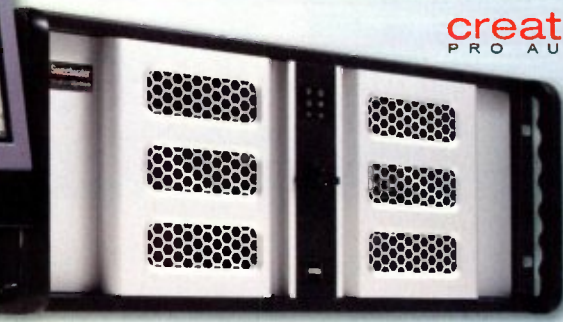


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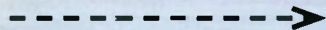


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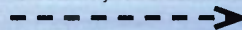


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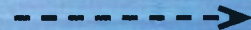
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On the Cover: Engineer/producer Jimmy Douglass, pictured here with producer/artist Kevin Rudolf, built himself a Magic Mix Room in Miami, based around a Neve VR72 console. Photo: Douglas Voisin
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Mix, Volume 36, Number 2 (ISSN 0164-9957) is published monthly by NewBay Media LLC, 28 East 28th 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 \$40. All other international is \$50. Printed in the USA. Canadian Post Publications Mail agreement No. 40612608. Canada return address: BleuChip International, P.O. Box 25542, London, ON N6C 6B2.

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GRAMMY AWARDS: MORE THAN JUST SHOW

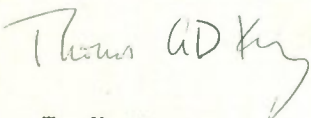
The Golden Globes were on the other night, mid-January, as I write this. The Oscars will be held at the end of February. And smack dab in the middle, we have the Grammy Awards, to be aired February 12 from the Staples Center in Los Angeles. Each event is a big deal for the winners, and often the nominees, prompting boosts in sales, re-introductions of projects and lots of attention on the stars. Each also provides a showcase for the organizations that put them on: the Hollywood Foreign Press Association, the Academy of Motion Picture Arts and Sciences, and the National Academy of Recording Arts & Sciences. But of the three, it's the Recording Academy that has proven to be the most forward thinking over the past decade, and yet it seems to be the one that also gets the most public criticism for shaking things up.

Years ago, many complained about the increased number of performances and the lack of actual award presentations on the telecast. But you know what happened? Viewership increased and record sales went up post-show. For the past two years, *Billboard* has rated the Top 50 outlets/appearances leading to bumps in sales for any artist. Number One, far and away—ahead of heavy rotation on Pandora, Top 40 radio, festival headlining, or getting a song on *Glee* or *American Idol*—is an appearance on the Grammy telecast. No question, we'd all like to see our peers in Best Engineered, Non-Classical, or Producer of the Year get their moment in the primetime sun. The Grammys recognized this and put together a dynamite online presentation of what they call the "pre-telecast." You can go to grammy.com hours before the main show and stream the complete awards presentation. Every category. It's fun, it moves quickly and our peers do get their moment.

This past year, the Recording Academy made a dramatic change in the number of awards handed out, dropping from 109 to 78 and consolidating across the board. A lot of folks got upset, some rightfully so. I'm not here to defend the decision, except to say that all things must change. We still have insiders who don't want to recognize rap or electronic music or DJs. To which I say, "Look around you! Look at what people are listening to!" An organization has to set standards, no question. But an organization has to evolve or it will become irrelevant. There will no doubt be category tweaks in the years to come. At least NARAS is recognizing change.

And finally, the Grammys are about so much more than the Sunday night show. If you happen to be in L.A. representing your local chapter or as a nominee, then you know about Grammy Week, where you can go to events for Grammy in the Schools, Music Preservation, the Producers & Engineers Wing (nearly half the voting members!), MusiCares (this year honoring Paul McCartney) or follow the legislative efforts in the Entertainment Law Initiative. It is a true Industry Week, nearly all of it outside of public view but as important to the legacy and future of our industry as the Sunday night extravaganza. And none of these even touches on how much behind-the-scenes work the Recording Academy does on a local level through the P&E Wing and the 12 chapters across the country.

So while it's trendy each year for bloggers and pundits to trash the winners or ridicule a particular performance, keep in mind that the voting is truly peer-to-peer, and that no professional organization does more to promote its industry or community outreach than NARAS. You may not always agree with the direction, but you can't ignore the commitment.



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FOUNDED IN 1977

BY DAVID SCHWARTZ, PENNY RIKER AND BILL LASKI

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GIBSON CREATES PRO AUDIO DIVISION

Through the acquisition of the Stanton Group (KRK Systems, Cerwin-Vega!



and Stanton DJ), Gibson announces its Pro Audio division, headquartered in Nashville.

"Right now we have an extremely powerful brand that people recognize and value, but the musical instrument category is inherently limited because people who purchase instruments also need to know how to play them," says Henry Juskiewicz, chairman and CEO of Gibson Guitar. "This new division... expands our reach to fellow music lovers and allows us access to 20 in 20 consumers instead of the one in 20 we currently hit."



Strobe Sessions A Success

Strobe Recording's (Humboldt Park area of Chicago) latest performance in their "Strobe Sessions" artist series was the band Electric Hawk, a local instrumental trio. Each artist receives a high-quality video from the session and the audio from the entire gig. For the recording, in-house sound engineers Nick Broste and James Wagner manned the Studer A80 tied to Pro Tools 7 and Cubase SE with Firepod for remote recording. Strobe Sessions was created to promote the studio and cultivate local artists by giving them a comfortable place to perform.

2012 TECHNICAL GRAMMYS

The 54th Grammy Awards show will air on February 12. The following are some glimpses inside the Technical Awards.

The Recording Academy president/CEO Neil Portnow on honoring Jimmy Iovine for his commitment to excellence and ongoing support for the art and craft of recorded music: "The work of the Producers & Engineers Wing is essential to ensure that the importance of sound quality and the integrity of recorded music continue to be acknowledged and preserved in our evolving landscape. This year, we pay tribute to an industry leader, Jimmy Iovine, who has made an indelible impact as a recording engineer, producer, founder of Interscope Records and now entrepreneur focused on audio quality."

—Iovine will be honored at a special event on February 8 at The Village in L.A.

Celemony and the late Roger Nichols are this year's Technical Grammy Award honorees. Winning the 2009 Musikmesse International Press Award for its pitch-correction software, Melodyne Editor, Celemony is also known for its Direct Note Access, which allows individual notes with chords and polyphonic recordings. The late audio engineer Nichols had worked with artists such as Plácido Domingo, Diana Ross, James Taylor and Stevie Wonder. In the 1970s, he began a decades-

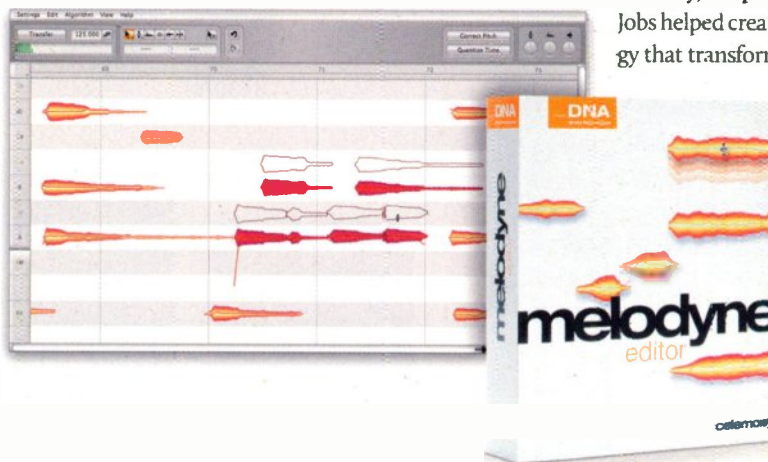


long relationship with Steely Dan, which earned him six Grammy Awards including Album of the Year for his engineering work on *Two Against Nature* (2000). He also earned a Best Musical Album for Children award in 1997 for producing the John Denver album *All Aboard!* In addition to his work as an engineer, he was an innovator in creating new technologies for audio tape preservation, mastering and digital synchronization.

On Steve Jobs being awarded a posthumous Grammy, a Special Merit Award: "Steve Jobs helped create products and technology that transformed the way we consume

music, TV, movies and books. A creative visionary, Jobs' innovations such as the iPod and its counterpart, the online iTunes store, revolutionized the industry and how music was distributed and purchased."

—The Recording Academy statement



WHY ANALOG?

By Chris Mara

As the owner of an all-analog recording studio, Welcome to 1979, when potential clients come in with their engineers, the clients are enthralled with the idea of recording analog, yet the engineers are at a bit of a loss as to how to use the equipment. What? Huh? Really?

Perhaps my frustration is the reason for my (out-of-left-field) answer to their oft-asked question, "So, Chris, what do you like best about analog recording?" My answer is simply that recording on analog equipment forces you to learn the art and craft of recording. I then propose a theoretical experiment: Take two 18-year-old kids. Give one an 8-track analog recorder and an 8-channel mixer. Give the other an all-in-one 8-channel DAW rig, each to use for one year. At the end of that year, have them switch recording setups. If my theory is correct, the kid who started analog will easily transition to the DAW and not miss a beat, yet the kid who started with the DAW will have learned how to use that particular software program and will have to re-learn how to use the analog setup.

I should point out that I'm in no way anti-technology. I use a DAW almost every day and am equally comfortable recording all analog or all in the box. I'd like to point out a few things I've noticed that engineers are forced to learn when recording on analog, yet can skirt by without learning on a DAW:

Plan ahead. Even on 24 tracks you have to plan ahead for all of the overdubs, from day one.

Song structure and counting bars/beats. Choruses don't "look bigger" on tape; you have to count along and jot down counter numbers for different song sections.

How to communicate about music. "Punch me in after the first chorus" instead of "punch me in at the big purple blob."

How to fix your mistakes. There's no Undo button. If you make a mistake, you learn how to fix it. Sometimes this means admitting you really messed up.

All of these skills are useful in any and all sessions. So the answer to "why I like recording analog"? Over the years, it has allowed (albeit forced) me to become a better recording engineer. Oh, and it sounds warm and punchy, too.

Chris Mara, www.welcometo1979.com



Moses Tapped for AES Executive Director

Longtime AES member and officer, product designer and technologist Bob Moses has been named executive director of the Audio Engineering Society. He replaces Roger Furness, who stepped down in late July of last year, but remains onboard throughout 2012.

"My initial task is to identify where the AES provides maximum value to its membership and the industry, and to advance new ways to enhance this value," said Moses. "Sixty-three years ago, the AES was *the* place for the scientific community to share ideas. Over time, AES conventions evolved as the best forum for manufacturers to exhibit professional audio products. But today, the Internet and persistent economic challenges worldwide have changed the game. Based on my own experience as an AES member, author and exhibitor, I know the AES remains a vital resource for audio professionals. We need to clarify that value and communicate it better. I'm ready for the challenge."

In 1987, after graduating from McGill University with an Electrical Engineering degree, Moses joined Rane Corporation as a digital audio product designer. In 1995, he invented a means of transporting audio over FireWire and co-founded Digital Harmony Technologies (DHT) to deploy this technology. Moses worked as a consultant to numerous consumer and professional audio manufacturers until 2006, when THAT Corporation hired him as program manager of its integrated circuit business. As part of the AES, he has been a member of the Board of Governors since 1999, VP Western region from 2001 to 2006, and president from 2007 to 2008.

Plug-In Pact

Brainworx CEO Dirk Ulrich has formed a new plug-in company, Plugin Alliance LLC, comprising Brainworx, SPL, Elysia, Vertigo, Millennia Media, Charter Oak, Määg Audio, Neve Custom Series 75 and Chandler Limited. The alliance's site, plugin-alliance.com, will provide downloads, tech support, sales, news, etc., for all plug-ins manufactured by alliance members. The alliance will also offer bundles

from multiple brands for specific needs (mastering, mixing, etc.). Customers can open a free account with the alliance, which will honor all existing iLok licenses and offer affordable or free upgrades to 64-bit and the new native AAX. Licenses purchased from Brainworx, SPL, Vertigo or elysia will be available in a free Plugin Alliance account, and the alliance will guide its members via email.

MIXBLOGS



Hot Gear From CES 2012

As always, CES takes consumer audio gear (and often prices) up a notch, but it's always worth a look to see what's hot at the show. Here's what's in the news so far.

>>blog.mixonline.com/mixblog/category/techticker



DIY Sub Kick Options

Students often get asked about sub kicks, and while I have not experimented other than to prove a speaker can be a microphone—I get plenty of low end from the kick without trying...

>>blog.mixonline.com/mixblog/category/ask_eddie

ONLY at mixonline.com

Studio Unknown Update

One minute, Ben Rice is in L.A. writing with British music producer/songwriter Ted Hutt; the next, he's in his New York City studio (Newkirk) working on a full-length album with Band of Thieves' Peter Smith; the next, he's fronting his band, The Blackbells, at New York City's Mercury Lounge. And when he does come up for air, it's used to give interviews to magazines like *Vogue Italy*, which recently covered The Blackbells in a recent piece. Rice is certainly making a name for himself in the music world. In the February issue of PopMark's "Confessions of a Small Working Studio," we'll show you what a "day in the life" of this producer/engineer/songwriter/studio owner looks like.

>>mixonline.com/studio_unknown



Photo: Brad Hamilton

SoundWorks Collection Update

The Girl with the Dragon Tattoo is a 2011 English-language drama/thriller film. It is the second film to be adapted from the Swedish novel of the same name by Stieg Larsson. The first was a 2009 Swedish-language/English-dubbed film. The 2011 film was written by Steven Zaillian and directed by David Fincher.

Daniel Craig stars as Mikael Blomkvist, and Rooney Mara stars as Lisbeth Salander. In essence, the film follows a man's mission to find out what has happened to a girl who has been missing for 36 years and may have been murdered. We talk with composers Trent Reznor and Atticus Ross, sound re-recording mixer Michael Semanick and re-recording mixer/sound designer and supervising sound editor Ren Klyce.

>>mixonline.com/post/features/video_sound_works_collection



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Cool Spin

Adele Live At the Royal Albert Hall
(Columbia Records)

With a slew of canceled show dates due to throat-health surgery and numerous Grammy nominations for her smash *21*, the release of Adele's *Live At Royal Albert Hall* CD and DVD package couldn't have been better timed. For fans who were not lucky enough to catch this stellar performer during her latest tour, this is a must-listen/watch.

Read more online.

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It's hard to know where to start with Hilo, so let's begin with the most important – audio quality. Hilo is the best sounding converter ever made by Lynx. The pristine, open, transparent audio quality of Aurora has been kicked up a notch or two, for mastering quality AD and DA conversion using Lynx's BiLynear™ conversion technology.

Hilo completely redefines the two channel converter genre. In addition to the primary analog Line Out, Hilo provides Monitor and Headphone outputs. Digital outputs include USB, AES/EBU, S/PDIF coax, S/PDIF optical, and ADAT. To top it off, each output has its own unique mix of all input sources courtesy of the 32-channel internal mixer.

Hilo's headphone technology adds a world-class headphone amplifier to the mix. It is capable of driving today's low-impedance headphones with extremely low distortion while maintaining accurate inter-channel gain matching.

With all of the options available, it was obvious that the standard push-button/LED meter front panel would not be sufficient to control and monitor all that Hilo can do. As we called each other on our touch screen cell phones, the answer became obvious. Hilo's innovative LCD touch screen monitors and controls all routing, metering, and settings.

This high resolution screen allows Lynx to provide the analog style meter seen here, as well as several bar style meters.

Hilo is open-ended as no other converter has ever been. The updatable FPGA-based design and versatility of the LCD screen allow Hilo to accommodate enhancements to features, screens, functions, and utilities. The LSlot expansion port provides an upgrade path to future interface protocols as they become available. So the Hilo you buy today will be continually improved and morph into a device that will also meet your needs in the future.



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On the Cover

By Tom Kenny

JIMMY DOUGLASS AND MAGIC MIX ROOM, MIAMI



Photo: Douglass Voisin

Jimmy Douglass (left) and Kevin Rudolf seated at the Neve VR 72 in Magic Mix Room's Studio A.

Spending time with engineer/producer Jimmy Douglass is a bit like stepping in to the center of a jazz combo in the middle of a free-form riff. He smiles, he laughs, he scats, he bops, he goes off on crazy solos every now and then. But the focus is tight, the energy infectious. He eats, sleeps and breathes music, and he can't remember a time that he didn't.

His discography is massive, covering nearly four decades and nearly all genres—save country—since he broke in as a 16-year-old at Atlantic Records under the tutelage of Ahmet Ertegun, Arif Mardin, and the legendary Tom Dowd. The guy engineered the first Foreigner album in the '70s, for goodness sake. He worked on *Love You Live* and *Some Girls* with the Stones, he worked with Aretha, then after

a brief sojourn into the New York jingle world, where he learned to work fast, he came back on fire in partnership with the groundbreaking work out of Timbaland's camp in the '90s. He engineered early Justin Timberlake, Ginuwine, Missy Elliot and countless others. He has mentored a slew of top engineers, and he has won Grammys. He is all about the music, all about the sound. He is by no means a button-pusher.

Those early days at Atlantic, first as a tape duplicator then as engineer, taught him the value of *The Hang*—the complete production process, from songwriting to studio recording to mastering, all the time speaking the language of music, whatever the genre. "You just went in and did it," he says. "No lessons, no lectures. No real assisting. Watch what's going on and do it in your own way. Step right up."

That approach has carried through to this day; in fact, he considers his style of engineering a "philosophy of recording."

THE HANG

After years in New York studios, and countless trips up and down I-95 to Virginia Beach and South Florida, Douglass built his own place, Magic Mix Room, in the summer of 2009 in Miami. It's based around a Neve VR 72, Pro Tools, JBL monitoring, vintage outboard, and tons of instruments. "The industry had changed, and not just to digital," he says. "The price structure changed, too, and it got to the point where they could afford me or the room, but not both. I had collected more gear than most studios, so I thought, 'Why not get me and the room?'"

(continued on page 73)

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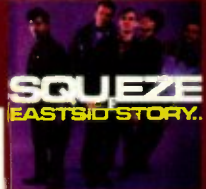
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MUSIC



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From left: Nick Wheeler, Tyson Ritter, Chris Gaylor and Mike Kennert

THE ALL-AMERICAN REJECTS

Band Re-Connects With Hit Producer Wells

By Blair Jackson

It's been a couple of years since The All-American Rejects' infectious "Gives You Hell" was ubiquitous on Top 40 radio (and everywhere else). But this is not a band given to just churning out material. In the first 10 years of their existence, the Oklahoma rockers put out only three albums, but each was hugely successful, and all produced hit tracks, including "Swing Swing," "Dirty

Little Secret," "Move Along," "It Ends Tonight" and the aforementioned chart-topper, "Gives You Hell" (which sold more than 4 million copies).

Now the band has returned with its first new album in a little over three years, *Kids in the Street*, which serves up more punchy, hook-filled pop-rock gems certain to satisfy the group's ravenous fan base. While not diverging radically from the quartet's past approach, the album feels a little deeper and richer sonically, and their magnetic lead singer/bassist/

lyricist Tyson Ritter believes "it sounds like The All-American Rejects finally got their shit together and wrote a record that's going to keep them around." In addition to Ritter, the group consists of lead guitarist Nick Wheeler (who has been playing and writing with Ritter since high school), rhythm guitarist Mike Kennerty and drummer Chris Gaylor.

The group turned to producer/musician/songwriter Greg Wells to help them make *Kids in the Street*—Wells has been hot, hot, hot on the charts the last few years, working with everyone from Adele to OneRepublic to Katy Perry to Adam Lambert. Despite that impressive pop resumé, he notes that he earned his rep largely from years as a



Photo: David Black

songwriter, multi-instrumentalist and producer on “more indie projects where we weren’t even going for pop radio necessarily.”

Teaming with the Rejects turned out to be serendipitous. “I had been a fan of theirs since their first album,” Wells says, “and I really love the record they made with [producer] Eric Valentine, with ‘Gives You Hell’ on it. In fact I still listen to that song as a mix to beat.” (Wells and Valentine have become fast friends, and Wells is even buying a high-end custom console from Valentine’s and Larry Jasper’s 3-year-old company, UnderTone Audio.)

Kids in the Street was made over a period of about five months in 2011, with the band, Wells and engineer Ian MacGregor (who has also designed equipment for Shadow Hills Industries and Standard Audio) recording the first half at The Village in L.A., and the second half at Wells’ state-of-the-art Rocket Carousel Studio in nearby Culver City. It was mixed by the ever-busy Serban Ghenea (Beyonce, Pink, Kelly Clarkson, Katy Perry, et al).

“They are very methodical,” Wells says. “Every sixteenth note you hear on this album, every sound, every breath, every tiny little detail has been democratically voted on. It took me a couple of weeks to get used to that, because I’m used to shooting from the hip a little more. But they go through every little thing and argue about it and talk about it and they’ll try a million different options. They really take their time. They always think it can be better. And 98 percent of the time they are right.

“I’ve gotta say, Tyson is a bad-ass talent. He is really something else. He would walk into the studio, on-time, often there before me. He would sit down in the chair and never get up—he never

checked his email, never texted anybody; no matter what was going on, whether we were cutting drums or rhythm guitar overdubs. He was there the whole time, pushing, pulling, stretching, suggesting, conducting, and I realized early on, this guy is a volcano of really stunning ideas.”

Kids in the Street is an eclectic album, with tunes that remind us that the group can be a primal, thrash-y Warped Tour act or easily slip into more sophisticated textures that employ horns or strings (recorded on Warner Bros.’ Eastwood Scoring Stage) or odd instrumental accents. “Sometimes what you’re hearing is live off the floor, sometimes it’s more piecemeal,” Wells comments. “It’s really case-specific. Each song requires its own unique approach. On some of their songs there’s definitely a wall of guitars, with different mikings, different amps, different guitars, sometimes different cables—way out on the plank of being totally indulgent. Sometimes that’s what it needs to get that *choir* of guitars.”

Other tracks, however, are more minimal, letting, for instance, Ritter’s lead vocal (usually a Neumann U47 through a Neve 1073 preamp and an 1176 compressor) and bass cut through relatively unadorned for a passage, or having spare guitars chiming elegantly as punctuation rather than as pulverizers.

“We spent a lot of time on all of these songs. Each song got eight or nine days, some probably more. They’re interested in putting as many evocative colors on a track as it will take.” Wells added everything from toy piano to Juno 60 synth bass to B-3. “We also all have a bunch of weird instruments, so we tried all sorts of things. There was no shortage of ideas in the studio,” he laughs. “Fortunately, they knew when the cake was baked, so things always kept moving.”

WSDG TO THE ACOUSTIC RESCUE

After two years of searching for a location, producer/engineer Louis Benedetti moved into his new space, Thompson Studios (thompsonstudiosnyc.com), in a former bank building in the Soho area of New York City. When the dust settled after the renovation, Benedetti was faced with unanticipated isolation issues, which led to a call to the Walters-Storyk Design Group.

WSDG project manager Joshua Morris found isolation problems between the live room, the SSL Control A and the Neve Control B, all of which are structured around a common lounge. “We also encountered leakage from Control Room A into a neighboring space on the same floor,” Morris says. “Studio C—a small writing/production room equipped with Pro Tools, Logic and Final Cut Pro—and the galley kitchen were unaffected by the isolation issues. Our tests determined that,



even though the control rooms were completely floated, room-within-room installations, and had been tuned with low-frequency control treatments, the interior walls between Control Rooms A and B and the live room needed to be replaced.” The solution was to remove the original walls, replace them with non-acoustic walls and reseal them with a third fully treated wall.

“Flexibility was a priority for this project,” John Storyk of WSDG says. “Louis Benedetti has assembled a considerable collection of keyboards, synthesizers, and analog and digital gear. Because he works on a wide range of projects, from jazz to rock, to movie soundtracks, he needed a studio that would function flawlessly for any type of artist. This impressive space is situated in a rock-solid building. Louis’ original design was extremely creative. By engaging sophisticated room-tuning technology and resolving critical isolation issues, we’ve polished a true gem.”

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Grammys 2011

BEST ENGINEERED ALBUM, NON-CLASSICAL

Of the five works that were nominated for Grammys this year in the Best Engineered Album, Non-Classical, category, three could be filed under "Americana," one is an alt-pop release with Americana leanings (it has a banjo, anyway), and one is a traditional pop/big band extravaganza. All are from-the-heart recordings, captured by some of the best in the business.

SARAH JAROSZ **FOLLOW ME DOWN** (Sugar Hill)



ENGINEERS: Brandon Bell and Gary Paczosa. Mastering: Sangwook "Sunny" Nam and Doug Sax

On her second album, young singer/songwriter Sarah Jarosz sets her personal roots music, and a couple of covers, a bit more on edge than on her debut, incorporating modern/jazz influences in her singing style and in the superb playing by Stuart Duncan, Viktor Krauss, Bela Fleck, Jerry Douglas, the Punch Brothers and others. This is a remarkably mature album boasting a wealth of versatile musicianship, all guided by the 20-year-old Jarosz and her co-producer Gary Paczosa.



GILLIAN WELCH **THE HARROW & THE HARVEST** (Acony)

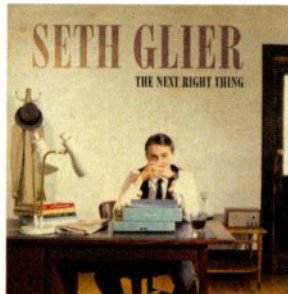
ENGINEER: Matt Andrews. Mastering: Ste-

phen Marcussen.

Fans of the dark and beautiful old-time Appalachian-style music made by Gillian Welch and her partner, David Rawlings, waited eight years for an album of

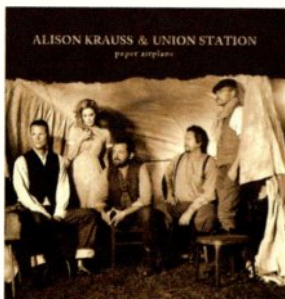
new material, and *Harrow & the Harvest* is a great reward. Rawlings produced this achingly gorgeous record on which he and Welch played every note, and wrote and sang every word. Also nominated for a Best Folk Album Grammy, *Harrow* has a truly timeless quality that very few roots artists can even claim.

SETH GLIER **THE NEXT RIGHT THING** (Mpress)



ENGINEERS: Seth Glier, Kevin Killen, Brendan Muldowney and John Shyloski. Mastering: John Shyloski.

Singing came first for artist/composer Glier, who recorded all the vocals on these original songs in his own home studio before expanding on them at Carriage House Studio (Stamford, Conn.) with some great engineers and musicians, including co-producer/multi-instrumentalist Ryan Hommel. Together, they created a compelling fusion of folk, pop and rock to showcase the artist's well-crafted songs. The spare arrangement of the bluesy, vocally processed title track is particularly strong.



ALISON KRAUSS & UNION STATION **PAPER AIRPLANE** (Rounder)

ENGINEER: Mike Shipley. Mastering: Brad Blackwood.

With their first album together since *Lonely Runs Both Ways* (2004), Alison Krauss & Union Station again show their impeccable taste in material and

their genius at making bluegrass music that's as fresh and relevant as it is lovely. Krauss' sweet, vulnerable voice is, almost always, at the center of all the virtuosic musicianship from cohorts Barry Bales, Jerry Douglas, Ron Block and the wonderful Dan Tyminski, who sings the lead on Peter Rowan's "Dust Bowl Children."

SETH MACFARLANE **MUSIC IS BETTER THAN WORDS** (Universal Republic)



ENGINEERS: Rich Breen, Frank Filippetti. Mastering: Bob Ludwig.

Best known for his work on TV's *Family Guy*, actor/writer/producer/singer Seth MacFarlane and

arranger Joel McNeely have made a '50s-style big band pop album of the highest order: lush strings; swinging, sentimental crooning; punchy horns; and all the respect these charming songs deserve. The album was recorded at Capitol in Hollywood, where MacFarlane reportedly sang into a mic that Sinatra actually used, and if you have a soft spot for Frank or Bing, this might be the cream in your coffee.

more **online** 



For more on the Grammys, go to mixonline.com/february_2012/

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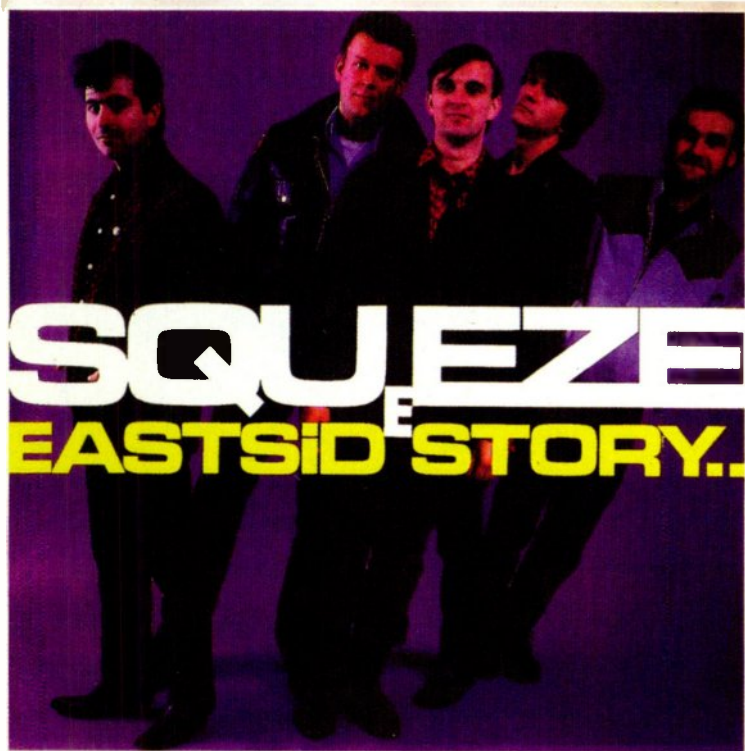
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Classic Tracks

By Barbara Schultz



SQUEEZE “TEMPTED”

Ask a carpenter how to fix anything, and you'll get an answer involving hammer and nails. Ask singer/songwriter/keyboardist Paul Carrack how to fix a song, he'll give you a soulful B₃ groove and a vocal performance that would elevate the ABCs, much less a smart, strong song like Squeeze's "Tempted." Fortunately for the band and their producers, Carrack's considerable problem-solving skills were available during the recording of what is considered Squeeze's magnum opus, *East Side Story*.

New-wave/pop group Squeeze were hitting their stride in 1980 after releasing their third full-length, *Argy Bargy*, which featured memorable songs such as "Pulling Mussels From a Shell." That breakthrough album made them a really happening band—in the UK and among the college radio crowd in the U.S.—and impressed some famous fans. It was while touring in support of *Argy Bargy* that the band met Elvis Costello.

"We met him on tour in the UK and hung out a bit," lead singer/guitarist Glenn Tilbrook said in a 2005 interview. "We were digging each other's work. We were friends. It was an exciting time...Elvis liking us gave us credibility."

The friendship between Tilbrook and Costello resulted in the former performing on Costello's *Trust* (1981) and Costello being asked to co-produce *East Side Story*, with co-producer and engineer on the album, Roger Bechirian.

"Elvis Costello and myself were both being managed by Jake Riviera at the time," says Bechirian. "I had just finished *Trust*, and Glenn Tilbrook was hanging out in the studio. Then Jake came to me, and said, 'Squeeze really want the both of you to produce their next record.'"

In London's Eden Studios, where Bechirian regularly worked, the co-producers worked out a game plan to streamline Squeeze's typically laborious creative process.

"Squeeze were used to working months and months on a record," Bechirian says. "They'd spend a lot of time in the studio. With Costello and myself—certainly on all the projects I'd worked on with him—it was all about spontaneity. So we both decided we were going to make the record as fast as possible, which really did shock them."

The Squeeze lineup that went into Eden with Bechirian and Costello had changed somewhere on the way from *Argy Bargy* to *East Side Story*. Longtime keyboardist Jools Holland, whose boogie-woogie playing style had brightened up so many songs, had opted out of the group. He was replaced by Carrack, a former member of Ace and Roxy Music who was more identified with blue-eyed soul.

Generally, on these sessions, Bechirian says, he and Costello each had their specialties as producers: "I think Elvis and myself worked very well together," he says. "Elvis always has been, as you can imagine, very sharp on lyrical content and lyrical ideas, and so he was very good at coaxing both Chris and Glenn on their performances and their techniques. Elvis looked after more of the vocal stuff, and then certainly the sound of everything was very much my domain."

"But if Elvis hadn't liked something, obviously there would have been a compromise. I wouldn't ever have gone ahead without him, and I think the two of us bounced ideas off of each other quite effectively. It all added up to make a very interesting record. But 'Tempted' is the most bizarre of the bunch on the album."

It seems that "Tempted," an artful song about longing and infidelity written by Difford and Tilbrook, was for some time a tough nut to crack.

"It just didn't work," Bechirian recalls. "We tried recording it very early on in the session, and it just never felt very good. Every now and again, we'd say, 'Let's try "Tempted" again.' Glenn would say, 'I've got an idea for a country and western version.' So we'd do a country version and it was awful. Or, 'Let's do a punk version,' so we'd do a punk version. 'What about a rock version?' I actually have tapes of all of these different versions, but it never worked. The problem was the song is actually quite long and wordy. It seemed like you couldn't hold the listener's attention. Glenn was very frustrated with this."

"But one morning, I got to the studio quite early to set up," Bechirian continues, "and Paul was already in the studio, which was unusual, and he said, 'I think I've got an idea for this. If we approach it in kind of a soulful way...' He

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was at the Hammond, and he started playing the song and singing the opening verse—and of course he sounds wonderful when he sings—and I was like, 'I think that's it.'

"So as soon as everybody starts to assemble, we said, 'You've got to check this out.' Paul does his rendition, and everybody jumps on their instruments and the groove of the track finally came together. By the end of that afternoon, we had nailed the take. We had it, and it was really brilliant."

Bechirian says it was Costello who insisted, after hearing Carrack's interpretation, that the new bandmember take lead vocal duties on the song. And Carrack's soulful bent further inspired the way the backing vocals went down.

"At first, I think we were all a little bit worried about Paul singing the song. It was like, 'Should he be doing this?'" Bechirian says. "We had to get Glenn into it some way so we did this kind of duet-y thing, with Glenn singing lead on one verse."

"Then the more we listened to the track, the more I said it had that kind of Motown feel—you know, with the backing singers all lined up behind the singer, and they'd be singing and dancing at the same time—and Elvis said, 'Let's go ahead and do it' because he got what I meant right away. So I set up a

MUSIC EVENTS IN 1981

February 14: Billy Idol leaves Generation X to begin a solo career.

May 14: Diana Ross signs with RCA Records, leaving Motown Records, her label of two decades. The \$20 million deal is the most lucrative recording contract in history at that time.

August 1: MTV debuts on cable television in the U.S.

December 31: The tenth annual New Year's Rockin' Eve special airs on ABC.

Date Unknown: Ozzy Osbourne bites the head off of a dove at a record label gathering.



Engineer Roger Bechirian, then and now.

row of mics, and Elvis went out there with Glenn, Paul and Chris and got them to sing those 'doot doot's.

"And halfway through that, I think just for a laugh, Elvis sings [in a low register], 'People keep on crowdin' and then 'I'm wishin' I was well' in that falsetto and bursts into laughter. He was thinking it was really funny, but of course it sounded amazing. He was just making fun, and it was one of those magical moments."

Tracking to 24-track Ampex MM1200 tape machine and Dolby A, Bechirian used the mic pre's in the custom console at Eden. "The original circuit designs were based loosely on Neve/BBC designs," he says.

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Then, as now, the engineer captured drums with a mostly close-miking scheme: an AKG D25 on kick, an AKG 451 on snare, Neumann U87s on toms, and either U87s or AKG 414s as overheads. Bottom heads on toms and front skin on kick were removed. "On hi-hat, I used to use Beyer 201s, which I still do. It's a nice, very flat dynamic microphone that takes huge amounts of level, so it's perfect for things like hi-hat so you don't get that awful breakup up at the top end."

Bentley's bass was taken direct, into the line amp in the board, with some UREI LA-4 compression. "In the mix, I would then also use 1176 on bass and guitars," Bechirian notes.

The band recorded all in the room together. Guitar cabinets were miked with a combination of Shure SM57s and Coles ribbon mics, into a Valley People Gain Brain, with the ribbons placed a little farther away: "Not so far as to cause phase problems, but just to give a little more space."

On lead vocals, he used Neumann U47 FETs into Audio & Design F760 compressors, and backing singers, U87s or 67s in omni, again into Audio & Design or UREI compressors. "And then there were all the wild mics that I used to throw up around the room. I used to place these little cheap home-hobbyist Sony microphones that were designed for Dictaphones and things like that, and then I'd put them into compressors like Gain Brains to create crazy ambient sounds. I also used PZMs a lot; I used to have those on the floor around the drums sometimes."

Bechirian says he took most of the electronic keyboards with DIs, but the Hammond B3 that Carrack plays on "Tempted" went through a Leslie, with two AKG 451s for the high end and a U47 for the bass.

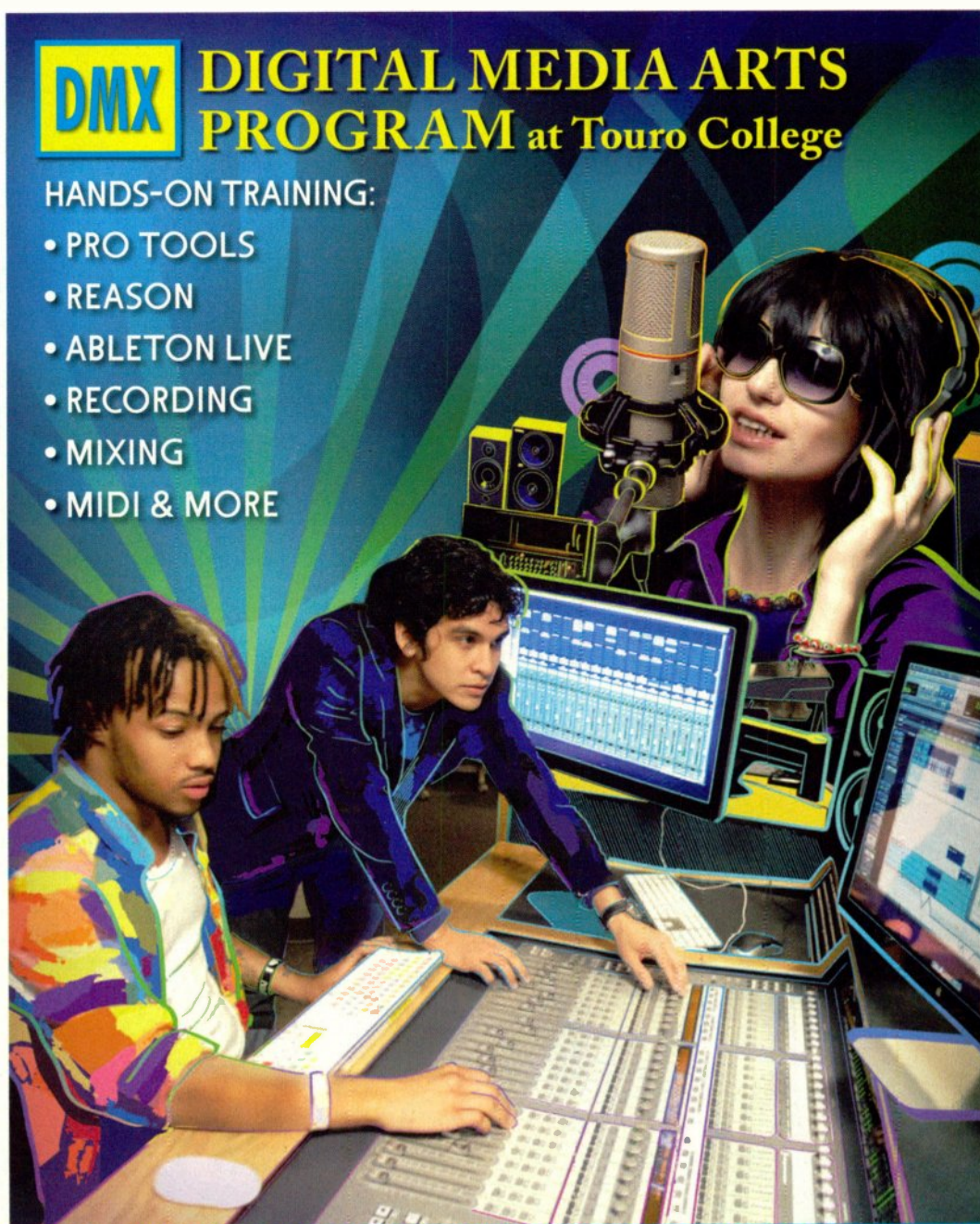
Playback in the control room was via Eden's then-new JBL 4350 mains, which Bechirian says were "the loudest things I'd ever heard in my life at that time. They were insane, but they were brilliant. I used to always EQ and mix on the JBLs, and then reference the balance on Auratones."

When it came time to mix, "Tempted" came together very quickly. "I remember being very excited about it and really wanting to get it finished," Bechirian says. "This was obviously all manual—no computers—but the board was quite small so you could reach from one end to the other. Sitting in the middle, I could reach all 28 faders; the monitor section was in

front of me, and usually all the effects were brought back to the monitoring panel so I could reach right in front to switch reverbs or pan things. You could be quite self-contained.

"I remember I rode the vocals from beginning to end live. I switched reverbs live. I think Elvis switched reverbs on and off for me on the drum kit live. It was that kind of a thing—all hands on deck—but most of the mix was pretty much left alone. It's the dynamic you hear in the studio from the performance."

Ultimately, "Tempted," the track that almost wasn't, became one of Squeeze's best-loved songs, rising to Number 8 on *Billboard's* Mainstream Rock chart and to 49 on the Hot 100.



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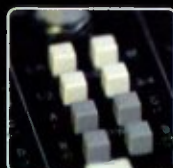
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Live



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Photos: Steve Jennings

AVENGED SEVENFOLD

Thumping System Brings Hard Rock to Arenas

By Sarah Benzuly

If you thought that true hard metal was slowly ebbing away with the onslaught of radio-friendly rock/pop, you need only attend an Avenged Sevenfold (A7X) show. Once the first guitar riff blasts through the P.A., you'll find yourself raising the devil horns and thanking the guitar gods. You should also shout a raucous "rawk" to front-of-house engineer Dave

Nicholls and monitor engineer Bruce Danz, who deftly translate the band's hard-rocking latest release, *Nightmare*, to arenas around the world, including the San Jose, Calif., gig at HP Pavilion, where *Mix* caught up with the act.

Nicholls and Danz are no strangers to the hard-rocking world, as Nicholls previously mixed Slipknot and Danz worked with Marilyn Manson. Both agree that this type of music informs their mix, primarily focusing on gain. "It's all in the gain

structure," confirms Nicholls. "Get that right, and it'll pretty much mix itself. I learned how to mix the songs by emphasizing the 'big bits.' And more than anything the knobs say, *listen*."

Rat Sound is providing all gear for this tour, including Nicholls' Midas Pro 6 FOH console (with Rapide controller, which provides up to 36 KT graphic EQs; all effects are onboard except an XTA D2 dynamic EQ and a Waves Maxx Bass BCL) and Danz's Yamaha PM5D RH, using all onboard effects except for an external word clock on the console to clock it at 96k. "Doing [the clocking] just seems to warm up the sound a bit and free up the console processing to deal with audio faster," says Danz.

According to Nicholls, Rat Sound has a long-



Front-of-house engineer Dave Nicholls (left) and monitor engineer Bruce Danz at the Midas Pro 6 FOH board. Inset: The L-Acoustics V-DOSC rig

standing relationship with the band, and Nicholls, too, has been using the sound company's services for previous tours such as Slipknot and Stone Sour. "On various tours, they always provide what I ask for and even go beyond the call to find certain equipment that is not so readily available," Nicholls says. "So I was more than happy to use Rat's KI system with the mind-numbing SB28 subs." The full P.A. complement included 12 V-DOSC K1s per side, six Kara downfills per side, 12 V-DOSC per side for side hangs, 12 SB28s subs per side and eight additional Karas for front-fills.

While it may be thumping in the arena, onstage, things are a bit quieter, as the band is on in-ears (Shure PSM900 IEM systems with JH Audio JH16s ear monitors), and iso cabs for the guitars and bass are off-stage. "The only mics onstage are the vocals and the drum kit, which is truly an engineer's dream gig to mix at both ends of the snake," Danz says. "These

BACKSTAGE PASS

Sound Company:
Rat Sound
FOH Engineer: Dave Nicholls
Monitor Engineer: Bruce Danz
P.A.: L-Acoustics-V-DOSC. K1. Kara
FOH Console: Midas Pro 6
Monitor Console: Yamaha PM5D RH

days, wireless frequencies can be tough, but in general we have not had too many issues. We use about 12 different frequencies in monitor world with the in-ears and wireless mics, and another 12 for the backline guys and their guitar rigs, which isn't a whole lot of RF, but some days, depending on the area, can be tricky. Our industry really needs to get together and lobby for some bandwidth dedicated for our specific use, but that's a whole different discussion."

The majority of mics onstage are Audix D Series, which were new to Nicholls but he loves the sound of them placed on snare and toms, a D6 and 91 in the kick drum. Additional mics include AT4033s for the two hi-hats, a 4041 for ride and AT4040s for the overheads. "Guitars, as always for me, are 4050s," Nicholls says. "Bruce was already using a 4050 plus a 57 as requested by their previous engineer. We both agreed instantly to change the 57 to a 4050, which gave us far better control of the low frequencies in the guitar tones. We also had some iso cabinets built to make sure we kept the ambient noise off the guitar mics."

All in all, the engineers are enthusiastic about working with the band and look forward to more touring gigs with them. "It's nice to see a band bring a big arena rock show to the fans," says Danz. "They take me back to my youth in some ways and remind me of my faves like Kiss, Iron Maiden and Judas Priest."

PUBLIC BETA: JBL HIQNET

JBL's sound reinforcement system-design software is now available to users as a public beta version. The user interface facilitates the design of touring and live performance venue SR systems. It is fully integrated with JBL's Line Array Calculator II loudspeaker configuration and acoustic modeling software. The public beta version of Performance Manager is available at hiqnet.harmanpro.com; the beta version is functional though users will need to apply for a license key to go online and access certain system devices. An in-depth series of training videos can be viewed at hiqnet.harmanpro.com/training. The full version of JBL HiQnet Performance Manager will be available in early 2012 at an SRP of \$399.

How it works: The user begins by loading templates of the speaker arrays used in the system, and then runs Line Array Calculator II for each array to determine how many and which type of loudspeakers are required to cover a given venue. For each array, Performance Manager automatically loads the passive VerTec or powered VerTec DrivePack DPDA line array configuration into the main application workspace. Loudspeakers can also be manually loaded into the templates if desired.

Once the user defines the required amplifier parameters for the passive loudspeakers within the arrays, Performance Manager loads the correct number of Crown Audio VRACK or other user-determined amplifier racks into the audio system. The software then associates the amplifier outputs with the bandpass crossover inputs for the selected array and programs the amplifiers with the correct JBL preset data, as well as gain shading and JBL Line Array Control Panel equalization parameters that are determined in JBL's Line Array Calculator II. Representations of the bandpass inputs for each loudspeaker section are overlaid onto the arrays.

In addition, the Performance Manager graphical interface provides embedded control panels for array calibration, time alignment and system EQ, which use input section digital signal-processing resources available in either Crown I-Tech HD power amplifiers or JBL DrivePack-powered loudspeakers with DPDA digital audio input modules.

Once system tuning is complete, Performance Manager's Show Mode display is optimized for the live performance, offering appropriate adjustment control ballistics for equalization and dedicated monitoring interfaces for levels, speaker loads, thermal conditions and AC power requirements.

more online



Watch a video of the band on tour. mixonline.com/february.2012



"I was suspect at first, but after a few minutes with the Recoils I realized how much difference they made. They work."

~ Al Schmitt

(Barbra Streisand, Ray Charles, Quincy Jones, Madonna)



"With the Recoils I immediately noticed improvements in low end clarity - to the point that I no longer needed a sub. Incredibly high frequency detail and image localization also improved."

~ Chuck Ainlay

(Dire Straits, Vince Gill, Lyle Lovett, Sheryl Crow, Dixie Chicks)



"The Recoil Stabilizers are great! A huge difference from regular foam pads. They sound more stationary and connected. I'm quite happy with them."

~ Elliot Scheiner

(Steely Dan, Fleetwood Mac, Sting, The Eagles, Queen, REM)



"My nearfields sound better on the Recoil Stabilizers. It's a great product."

~ Daniel Lanois

(Peter Gabriel, U2, Bob Dylan, Emmylou Harris, Robbie Robertson)



"With Recoils, when I listen to my recordings elsewhere, the results are more like what I hear when I record."

~ Ed Cherney

(The Rolling Stones, Bonnie Raitt, Jackson Browne, Eric Clapton)



"With Recoils the low-end is more defined and I hear fundamentals that I never thought were there. Recoils brought new life to my nearfields—they have never sounded so good!"

~ Bil VornDick

(Bela Fleck, Alison Krauss)



"It really is amazing what a simple little thing like the Recoil Stabilizers can do to a system. Suddenly everything got clearer, punchier and more solid."

~ Frank Filipetti

(James Taylor, Foreigner, The Bangles, Elton John)



"The Recoils cleared up a cloudiness in the bass and mid bass that I had been battling in my studio. This is an affordable and very effective problem solving product. I love these things!"

~ Ross Hogarth

(Ziggy Marley, Melissa Etheridge, Keb' Mo', Jewel)



"I immediately noticed a huge improvement in the spaciousness of the sound field in my mixes. I love my Recoils... from now on, I'm not going to do a mix without them!!!"

~ Bruce Swedien

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

If Newton was an audio engineer, he would use Recoils!

You've bought your new monitors, you put them on your desk and start to mix. However when you listen in your car or on other systems you notice that your mixes are not translating well - they don't sound the same as they did in your studio. Why?

Newton's third law of motion states "Every action is accompanied by a reaction of equal magnitude in the opposite direction."

Your loudspeaker works like a piston, constantly pushing and pulling air as the cone is thrust back and forth. The same energy that pushes against the air also vibrates into the desk, causing resonance. This 'comb filtering' effect makes it difficult to mix as it amplifies some frequencies and cancels out others.

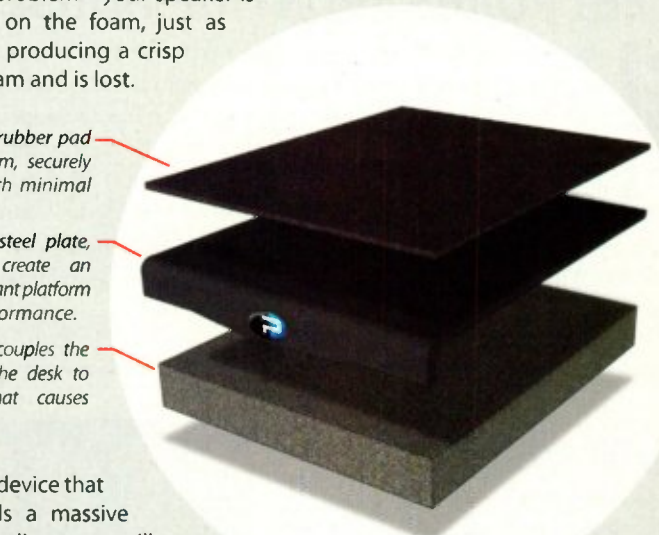
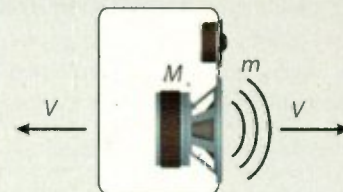
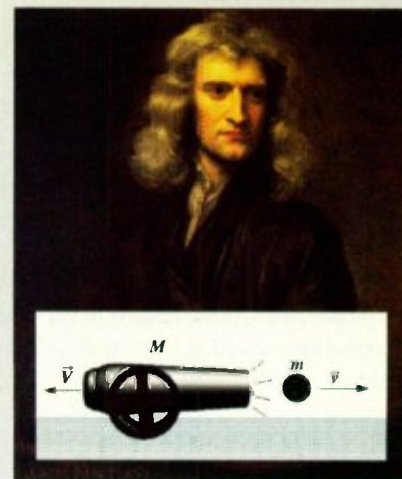
Some would say "just isolate the loudspeaker from the desk with a foam pad" but by doing so, you introduce a new problem—your speaker is now swaying back and forth unhindered on the foam, just as Newton said it would. Energy that could be producing a crisp kick or accurate bass is dissipated into the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



Thin, high friction solid rubber pad cemented to the platform, securely connects the speaker with minimal vibrational loss.

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The Recoil Stabilizer*...
Newton knew it all along!



*Patent pending



There are twelve different Recoil Stabilizers, each calibrated to precisely fit your monitors and mixing environment.



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World Radio History

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YAMAHA, NEXO RIGHT FOR VAUDEVILLE STAGE

Listed on both the National and State Registers of Historic Places, The Union County Performing Arts Center, housed in the restored Rahway (N.J.) Theater, got a system overhaul thanks to Audio Incorporated. Having a longstanding relationship with the theater, Audio Incorporated VP/owner Mike Sinclair suggested installing a NEXO GEO S8 system, Yamaha Installation Series speakers and a Yamaha M7CL-48ES.

The vaudeville house's NEXO rig comprises seven GEO S805s and two GEO S830s per side, and two CD12 subs. "We added a Yamaha IS1218 per side on the stage to add a little more thump from 35 to 100 Hz to the floor of the auditorium," says Sinclair. "And we added a Yamaha IF3115/95 speaker for use as a center-channel speaker for the movie screen." NEXO NX4x4 amps power all of the NEXO speakers, and Yamaha XP Series amplifiers power the Yamaha speakers.



FLEET FOXES FRONT-OF-HOUSE ENGINEER JARED HANKINS

FIXIT On the Super Reverb [amp], I position the [Royer R-121 ribbon] microphone roughly 3.5 inches from the cloth. With the Vibrolux, the R-121 is a bit closer—right about 2 inches from the cloth. In each case, the mics are 2 inches from dead-center of the loudspeaker. With our setup, the amps are essentially all lined in a row, so the nulls help isolate the amps from one another. Because of the nulls on the left and right sides, I get very little bleed, so the guitar signal is very clean. Every time I put up a Royer mic, I get positive results. I remember at one stop, we only had one of the Royers so we had to use something else and, during that time, the one guitarist was heckling the other because he still had the Royer mic on his amp. The guys in the band are very happy with their sound through the Royers. Whether in the studio or out on tour, I've always had great results with my Royer ribbons, and the musicians I've worked with always seem to have a positive response, as well.



MUST READ

Hal Leonard Books' second edition of *The Ultimate Live Sound Operator's Handbook* (\$39.99, halleonardbooks.com) by Bill Gibson features new text, photos, illustrations and video examples. The book breaks down all aspects of live sound into practices and principles—from planning and budgeting to mixing and recording the live show. Also included are a DVD and online content to further enhance the material covered in the book.

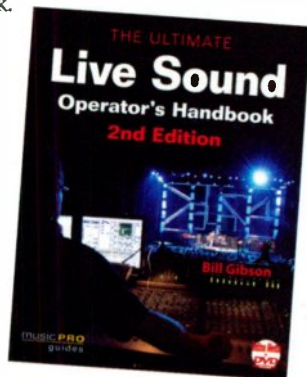


Photo: Getty Images

Artists honored (pictured with host Rob Lowe) were (back row, from left) Jason Aldean, Charles Kelley of Lady Antebellum, Brad Paisley and Dave Haywood of Lady Antebellum. Front row, from left: Taylor Swift, Kenny Chesney and Hillary Scott of Lady Antebellum.

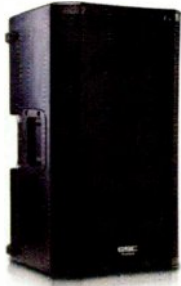
a pair of Clair Global's CF 1090 Fractal Antenna. House P.A. was Clair Global's i3 array. The modular Clair StakRak houses three Lab.gruppen PLM Series amplifiers and a Dolby Lake signal processor. Control and audio passes on Cat-5 cable (along with other standard formats). Additional crew included Rick Schimer, FOH; Josh Macinerny, managing RF; and Paul Cervanansky, chief system engineer.

CMT TAPS CLAIR FOR SPECIAL CEREMONY

Clair Global brought two new products—a custom-built portable RF mic podium and the CF 1090 Fractal Antenna—to this year's Country Music Television (CMT) Artists of the Year show, featuring performances by the five honorees: Taylor Swift, Jason Aldean, Lady Antebellum, Brad Paisley and Kenny Chesney. Wireless First, a Clair Global company, provided live SR and broadcast sound. The RF mic podium is two high-end Schoeps condensers at the top of the stand, with their cables running internally to a base that conceals battery power and a wireless transmitter. For this gig, Clair Global crew chief and production A1 Monty Curry used the hypercardioid microphone when only one speaker was addressing the mic and the cardioid mic otherwise.

Presenters used Sennheiser 5200 Series handheld and bodypack transmitters (some with Neumann KK 105 capsules). Monitor engineer Jason Spence sent his mixes to the performers using a dozen stereo Sennheiser G2 Series wireless personal monitors delivered to the receivers using

NO REST FOR THE RENTED.



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PA for Nike corporate lunch meeting @ the Marriott

3 - 8 PM

PA on truss for Fashion show @ Center City Mall

Tuesday 14

11 AM - 2 PM

PA for Press conference @ City Hall

4 - 7 PM

PA on a stick for happy hour keyboardist/singer @ Cahoots Bar

Wednesday 15

11 AM - 3:30 PM

PA for pianist @ Guido's Italian Restaurant

7:30 PM - 12 AM

Stage monitor for "Slam the Ham" band @ Rock City night club

Thursday 16

4 - 7 PM

PA on a stick for happy hour guitarist/singer @ Cahoots Bar

8 PM - 2 AM

Stage monitor for "Bellzabob" band @ Down & Dirty night club

Friday 17

12 - 2 PM

PA on a stick for Ribbon Cutting Ceremony @ the Rec. Center

5 - 11 PM

Playback PA for Grant High School football game

Saturday 18

10 AM - 4 PM

Ceremony & DJ System for the Stephens Wedding @ Fair Oaks Country Club

6 - 11 PM

DJ System for the Esparza Wedding @ New Beginnings Wedding Hall

Sunday 19

8:30 AM - 12:30 PM

PA for remote church services @ Jefferson Junior High School

7:30 PM - 11 PM

PA on a stick for Open Mic Night @ Cahoots Bar

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MESHELL NDEGEOCELLO



*Meshell Ndegeocello is currently out in support of her latest, *Weather*. Mix caught up with the one-man sound crew at San Francisco's Great American Music Hall.*



Front-of-house engineer/tour manager Jesse Honig is relying on house-provided gear, though he is carrying Ndegeocello's vocal mic (an Electro-Voice RE16), a mono mic for the drums (MXL R44) and a few other "just-in-case" items. At the Great American Music Hall show, he mixed on the house's Avid Profile, which controls an Avid Mix Rack console system. "We also see a lot of Yamaha digital desks," he says. "I like them and find the learning curve good, but many of them need several moves to do things that seem natural to me on an analog desk. The only thing I find better in a digital desk is compressor instances. I don't squeeze anything too much, but I like to compress just about every channel and the mix bus. During the show, I'm making small moves constantly: little mix rides, little compressor tweaks. I don't use fancy effects, just a simple reverb and a mono delay. I'll close the mix bus compressor a bit, and drive the reverb with a bit of its own output. It thickens the whole mix, and when we pull back from the thick moment, I'll dry out the mix and pull the master fader back, and you can feel the whole room zero-in on that moment."



Meshell's bass amp is a Fender Twin driving a 4x10 Ampeg bass cabinet. Honig use a 421 mic about eight to 18 inches away. "I tweak out the distance during sound-check based on how much high-mid drive I want to hit the house," he says. "Also, some mic pre's are faster than others and can translate the punch at a greater distance, where the low-end tone will be better."



For drums, Honig specifies an Electro-Voice RE-20 for kick, but will use an AKG D112 if the RE-20 is not available; he places that mic about foot to a foot-and-a-half away. "I believe in impressionistic sonics," he says. "This requires really talking to the artist, figuring out which moments should be very clear and which moments *need* to be hazy. Sometimes the drums need to be present but subdued. Deantoni plays it that way, but standard close miking doesn't seem to capture it to my ears. I put that [MXL R44] mono mic right in Deantoni's way, but he plays around it. It sits just above his right knee. It's very rugged for a ribbon. I use the figure-8 pattern to tweak the balance; I try to get the ride cymbal and the rack tom in the darkest part of the pattern while keeping the snare and kick in the bright part."



According to Honig, **guitarist Chris Bruce** gets an amazing amount of depth out of his amp, so he'll often use an omni mic, like a 635a or D160. "They seem to capture all of the subtleties of his sound the best, and I always like the reduced proximity effect of omnis," Honig says. "That way, I can get some richness out of the guitar amp without getting too much woof or exaggerated low end. He almost always uses a Fender Deluxe Reverb." Bruce sings into a Sennheiser 441. "Since Chris is on the far end of the stage," Honig adds, "his vocal is most susceptible to adding drum wash to the mix when I push it so the hyper pattern is important."

Keyboardist **Jebin**

Bruno carries a small MIDI keyboard and rents an 88-key weighted controller and a Wurlitzer 200A. Also in his rack is a laptop full of samples he's made of various synthesizers. Jebin uses a Fender Deluxe Reverb (miked with a Sennheiser 421) for his Wurlitzer, and he has a few effects he puts between them. The key bass is DI'd, but Honig sends it to an SVT stack for the stage volume.



The venue's P.A. system is twin arrays of L-Acoustics KUDOS (five per side) hanging above two stacks of single SB118 dual 18-inch subs. According to house engineer Ted Hatsushi, "Two coaxial 115XT HiQ boxes have been installed to supply improved coverage to the side balcony seating areas, with an additional pair of non-HiQ 115XTs addressing the rear balcony. A pair of 112 P monitors are on top of subs for front-fill coverage. The entire FOH system is controlled by a pair of Lake speaker processors and powered by Lab Gruppen amplifiers."

At monitors is Tyler Stone, who mixes on a Yamaha M7CL digital board. Monitoring is via McCauley SM95-2 powered by Crest 8002 amps. The drum fill, a JBL Array Series 4892 on top of a single-18 JBL sub, is powered by a pair of Crest 7001 amps. Of the monitor mix, Honig says, "We always start with very little in the wedges, just the vocals and the DI sources at low volumes. They'll balance the amp sounds to the drums' stage volume, add some more of the DI keys to balance with the stage volume, make sure there's enough vocal, and that's basically it."

OSCAR SOUND 2012

10 For Your Consideration

Many, many great-sounding films but only two statues will be handed out on February 26 at the Academy Awards for Best Sound and Best Sound Editing? Here we present 10 of the best-sounding films released in 2011. This is only our opinion; feel free to send us a list of your favorite tracks from the past year by emailing mixeditorial@mixonline.com.

CARS 2

Disney/Pixar

Re-Recording Mixers: Tom Myers, Michael Semanick

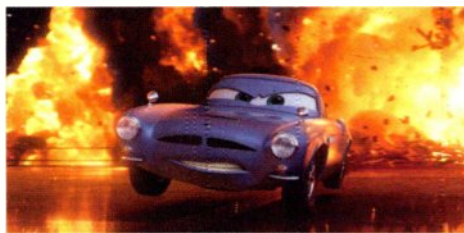
Supervising Sound Editors: Myers, Michael Silvers

Original Dialog Mixers: Vince Caro, Doc Kane, Noah Katz

Music: Michael Giacchino

Re-Recording Facility: Skywalker Sound

Note: The genius of Pixar sound jobs is that they feel so real. Like live-action movies. Think of *Cars 2* as a Bond film, or Bourne, but with Pacers and Gremlins and Aston-Martins. And a tow truck with personality. Lots of authenticity from the original recordings, from accels to steadies to tire screeches and exhaust.



DRIVE

Film District

Re-Recording Mixers: Robert Fernandez, Dave Paterson

Supervising Sound Editor: Lon Bender, Victor Ray Ennis

Production Sound: Robert Eber

Music: Cliff Martinez

Re-Recording Facility: Sound One

Note: The movie is called *Drive*, with a character they call Driver, so audiences will notice the car chases. And they're good. But as supervising sound editor Lon Bender says in a SoundWorksCollection.com video, yes, it's an action film, but it's the quiet moments that grab you, the realism of the environments. At a certain point, the car accelerations fall away and you go inside Driver's head. Great job.



THE GIRL WITH THE DRAGON TATTOO

Columbia/MGM

Re-Recording Mixers: Ren Klyce, David Parker, Michael Semanick

Supervising Sound Editor: Ren Klyce

Production Sound: Mark Weingarten

Music: Trent Reznor, Atticus Ross

Re-Recording Facility: Skywalker Sound

Note: Trent Reznor and Atticus Ross get a lot of "sound" attention, and rightfully so. They nabbed an Oscar for *The Social Network*, director David Fincher's previous film, and the Score for *Dragon Tattoo* is excellent, with an analog synth-based sound. Not to mention the opener with a re-do of "Immigrant Song." But Ren Klyce is the quiet genius behind the Fincher sound. Go back and listen to *Seven* or *Fight Club*. Amazing tracks. So is this one.

HARRY POTTER AND THE DEATHLY HALLOWS, PART 2

Warner Bros.

Re-Recording Mixers: Stuart Hilliker, Mike Dowson, Adam Scrivener

Supervising Sound Editor: James Mather

Sound Designer: Dominic Gibbs, Michael Fentum

Production Sound: Stuart Wilson

Music: Alexandre Desplat

Re-Recording Facility: De Lane Lea

Note: What a run! And now it's over. Usually there are constraints in franchise films; the *Star Trek* doors, for instance, need to sound like *Star Trek* doors. *Potter* has its share of signature sounds, for sure, but each film had its own character, constantly feeling fresh as the leads grew up. Plus, who doesn't love to create effects for an epic battle of good vs. evil? Kudos to the team at De Lane Lea in London for making Harry, Hermione and Ron, Voldemort, Snape and the Malfoys, Quidditch, Hogwarts and Azkaban so fantastical and real over the past decade.

J. EDGAR

Warner Bros.

Re-Recording Mixers: John Reitz, Gregg Rudloff

Supervising Sound Editor: Alan Robert Murray, Bub Asman

Production Sound: Jose Antonio Garcia

Music: Clint Eastwood

Re-Recording Facility: Warner Bros.

Note: Clint Eastwood has good taste, and he knows sound. His director's hand is light, his piano jazz intimate. The real strength of *J. Edgar* is in the evolution of the tracks, moving through distinct periods of American history. Subtle changes in ambience and backgrounds that take us through the mid-20th century. Everything is so real. A stellar editorial/mix crew.

MISSION: IMPOSSIBLE—GHOST PROTOCOL

Paramount Pictures

Re-Recording Mixers: Andy Nelson, Gary Rydstrom

Supervising Sound Editor: Richard Hymns

Sound Designer: Gary Rydstrom

Production Sound: Michael McGee

Music: Michael Giacchino

Re-Recording Facility: Fox Studios

Note: Bond, Bourne, Ethan Hunt...they are members in the very small club of pulse-pounding action-thriller leads, with punches and rapid breathing and explosions and gadgets and vehicles. But when you go back and listen a second time, you begin to notice the quieter moments, the spaces that make the bombast possible. A Gary Rydstrom trademark. And you gotta love composer Michael Giacchino's take on that iconic Lalo Schiffrin theme.

RISE OF THE PLANET OF APES

Twentieth-Century Fox

Re-Recording Mixers: Ron Bartlett, Doug Hemphill

Supervising Sound Editor: Chuck Michael, John A. Larsen

Sound Designer: Chuck Michael

Production Sound: David Husby

Music: Patrick Doyle

Re-Recording Facility: Fox Studios

Note: There's action, there's battles and there's definitely a thrill ride, but the real strength of the track is the interplay between human and animalistic vocalizations embodied in the apes. The team spent three days at Chimphaven, capturing screams, grunts, breathing and feeding, about 9 to 12 hours in total, then combined those with the vocals of Caesar actor Andy Serkis for the interplay. Listen to the transformation, sometimes within the same scenes.

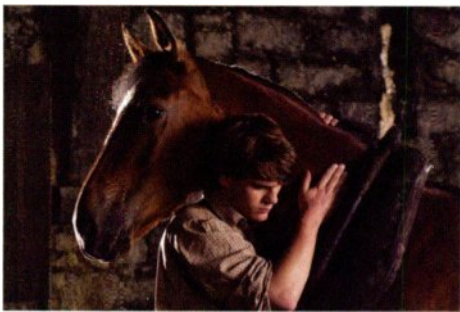
SUPER 8

Paramount Pictures

Re-Recording Mixers: Anna Behlmer, Andy Nelson, Tom Johnson

Supervising Sound Editor: Matthew Wood

Sound Designer: Ben Burt



Production Sound: Mark Ulano

Music: Michael Giacchino

Re-Recording Facility: Fox Studios

Note: There was a whole lot of talk about the train wreck when the film came out, but this is Ben Burt for goodness sake, so there is emotion built into the metal screeches as well as the creature voicing. Listen to the quiet before the bigness, and try to figure out how the team was able to, in the train crash sequence, use no overlapping sounds—each element had its own beginning and end.

TRANSFORMERS: DARK OF THE MOON

Paramount Pictures

Re-Recording Mixers: Greg P. Russell, Jeffrey J. Houbush, Gary Summers

Supervising Sound Editor: Erik Aadahl, Ethan Van der Ryn

Production Sound: Peter J. Devlin

Music: Steve Jablonsky

Re-Recording Facility: Sony Pictures Studios

Note: Michael Bay does not make small films, and this represents his first foray into 7.1. He used it. Lots of original recording, with weapons, rocket launches at Vandenberg Air Force Base and dry-ice-on-metal wild Foley. Greg Russell has mixed some of the biggest films in the history of cinema, and he says this was the biggest. Powerful and huge, but with clarity. You have to give the audience a chance to rest, and these guys know it.

WAR HORSE

Dreamworks SKG

Re-Recording Mixers: Tom Johnson, Gary Rydstrom, Andy Nelson

Supervising Sound Editor: Richard Hymns, Gary Rydstrom

Sound Designer: Gary Rydstrom

Production Sound: Stuart Wilson

Music: John Williams

Re-Recording Facility: Fox Studios, Skywalker Sound

Note: Epic Spielberg drama with Gary Rydstrom leading the sound team and a quintessential John Williams score. *Jurassic Park*, *Saving Private Ryan*... Oscar loves the combination. Plus it's a period piece, and despite the War in the title, the violence is downplayed in favor of family fare. The sound is about character, giving the horse, Joey, a real voice. Listen to the backgrounds, from England, the French countryside, and inside the trenches in Germany. Not to mention the hard effects of period artillery-bys and weaponry. Iconic sounds, less realistic or documentary-style. It works. Nature meets technology in 7.1.

RADICAL RECORDING

Sometimes a Lo-Fi Approach Can Make All the Difference

By Gino Robair

Musicians and engineers are always on the prowl for unique timbres that will help make a track distinctive. While there's no shortage of unusual plug-ins and stomp boxes to work with (or spend money on), you can often get just as much creative mileage pushing the gear you already own—particularly the low-budget stuff—a little harder.

When I ask engineers about their favorite off-the-wall recording techniques, the most popular ones involve low fidelity. "It all comes from wanting to hear band-limited versions of the source that make it more focused on a certain frequency range," notes Eli Crews, whose credits include projects with Tune-Yards, Deerhoof and Beulah. "It can be used to get your attention, or to sit in the mix a different way, or to bring something else out that you wouldn't get if you just heard the source at full resolution."

MYSTERY MIC

A popular technique begins with one or more mics set up in unusual places to capture an in-

teresting mix of the action. The engineers I know typically use low-quality mics for this task, often with a heavy dose of colorful compression, hop-

"I call it my trash mic. I want it to give me another picture of the drum set that we might mix in quietly."

—Eli Crews

ing that the impaired fidelity will yield a uniquely useful tone color.

Crews usually adds at least one oddball room mic whenever he tracks drums. "I call it my trash mic," he says. "I want it to give me another picture of the drum set that we might mix in quietly,

or for a section where the song collapses down to this one crappy mic."

San Francisco Bay Area-based engineer Matt Boudreau—who has worked with Thomas Dolby, Tori Amos and Ziggy Marley—is also prone to sneaking a low-fi room mic into a session. "Once I have all of my mics set up and all of my bases covered," he explains, "I like throwing out what I call mystery mics. 'What's this mic going to sound like?' It's the one chance to experiment while keeping the session flowing and not getting everybody caught up in whatever experiment I want to try. But when those experiments work, everybody jumps on board and loves it."

Both engineers are just as likely to put the mystery/trash mic in some sort of resonant container, which then becomes an acoustic filtering device. "I'll often drop a mic into something like a concrete-forming tube or a conga turned upside down," says Boudreau. "Each container has a resonant set of frequencies that are imparted to the recording. This effect might not work if the tone of the container conflicts with the key of the song, though it can still be very interesting. It can



be used as the primary drum sound, blended in, used as a special effect or featured at some point in the song.”

When I asked him for his preferred mic choice in this situation, Boudreau says he has had the best luck with an omnidirectional dynamic—the Electro-Voice PL5, which is electrically similar to a popular new-gathering staple, the E-V 635a. “I have two of those mics,” he explains. “Sometimes I’ll use one as a mono room mic and dunk the other into a conga or some container. They have this wonderful character to them, and they’re built like a tank so they can take a beating. Because they’re omni, when you put them in a tube, you don’t get a build up of the proximity effect. On the other hand, using a cardioid condenser within a tube and getting proximity effect buildup can also be musically useful.”

Sometimes the mono room mic alone, with extreme amounts of dynamics processing, will yield a surprising amount of natural reverb. “Depending on the room the drums are in, it’s as if you’ve added reverb simply because the signal is so ridiculously compressed,” says Boudreau. “It sounds natural and smooth, in part because of

the nature of the dynamic mic and the fact that it’s rolling off a lot of the top end.” The frequency response of the PL 5 tops out at 13 kHz.

“Another mic I might use is a Shure CB,” he continues. “It transitioned from being a mic that would get placed in a resonant container to a mic

phone, and then mike that,” he says. “It’s reminiscent of re-amping, but through an acoustic object that really changes the sound.

“Some sort of filtering happens whenever you run tracks back out into the world through an amp that is miked,” Crews continues. “There are

“Sometimes I’ll use one [mic] as a mono room mic and dunk the other into a conga or some container. Because they’re omni, when you put them in a tube, you don’t get a build up of the proximity effect.”

—Matt Boudreau

that I hang next to the drummer to get the stereotypical AM-radio sound on the drums—but at the source. Again, it’s another track that we can blend in or use as an effect.”

Crews occasionally takes his acoustic filtering even further. “I might take the vocal and run it through an earbud that’s placed inside a sousa-

three things that can happen: a change in tonal quality, an addition of distortion or harmonics, or the addition of ambience, whether it’s from the room or an amp’s built-in reverb.

“Generally I do this this kind of processing during the mix, if it’s practical. Otherwise, I’ll put it on its own track so I have the capability of



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adding it in a parallel way to add character, grit or space.”

SYMPATHETIC RESONANCE

Bands usually have a lot of guitars sitting around the studio, so why not put them to work? This technique involves using their strings as sympathetic resonators, and it works best when the instruments are in an open tuning in the key of the song. “I have heard of using an acoustic guitar for that,” notes Boudreau. “If we do that with drums, they can overwhelm the mic, and the ratio between drums and string resonance can be at an unacceptable level. It’s easier to use contact mics on the body of an acoustic guitar, or perhaps take a direct sound off of electric guitars.”

Similarly, the strings of a piano will resonate sympathetically with whatever you’re recording if you mike the instrument with the lid open and the sustain pedal held down. Sometimes engineers will lay a small amp inside the piano itself to excite the strings directly.

If you’re looking for more of a plate-reverb tonality, put a large gong, tam tam or cymbal near the action and add a contact mic to the

surface. The convolution-like result will impart the glassy sheen of the vibrating surface onto the timbre of the instruments playing in the room.

DICTAPHONE AS NON-LINEAR PROCESSOR

A similar concept to using acoustic filters or cheap microphones is to employ a mono, handheld tape

“I would pull the tape through the recorder with my hands, which allowed me to radically alter the speed.”

—Ron Anderson

recorder, says Crews. “These devices usually have an onboard mic with a limiter to protect the tape if things are coming in too loud. As a result, you get this crazy, extra compression on the track. It’s

hard to get that sound any other way, and the recorder provides an all-in-one device.”

In this case, he doesn’t use tape as the non-linear processor, but the recorder itself. “You can get cool things if you record to cassette on it,” Crews adds. “But then you have to load that into your DAW and sync it up in the song. And it’s unlikely to be in time because of the tape speed. I generally put the unit in Record mode and run a line from the headphone output, so I’m basically using it as a microphone and a preamp. I’ll use this with a clean, hi-fi sound. For example, about half of the songs on the new Tune-Yards album, *Who Kill* (4AD), was done with a handheld tape recorder and a Blue Bottle mic, so I’d have a hi-fi, very modern sound that I can either blend in or choose for different parts of the song. For the other half, we used the tape recorder and an RCA 77 to get a rounder, vintage-ribbon sound. Her previous record was recorded entirely with a Dictaphone!”

TAPE MACHINATIONS

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tarist/engineer Ron Anderson, whose credits include work with John Zorn and Marc Ribot, has explored the effects that result from abusing the medium. "What I like about tape is the physicality of it— actually touching it with your hands," Anderson explains. "I was purposefully into lo-fi, using ½-inch 8-track tape mostly. Instead of making loops, I would pull the tape through the recorder with my hands, which allowed me to radically alter the speed. With the tape tension set correctly, I could shake my hand, while speeding up or slowing down as I pulled." This technique often yielded organic-sounding, arrhythmic effects.

To find inspiration, Anderson also explored chance elements. "I would cut sections of unused outtakes into small sections, throw them into a shoe box and reassemble them at random." He used this technique to develop rhythm tracks from which he could build songs through subsequent overdubs. Later, he extended the idea into the digital realm.

"I translated the approach to the computer by scraping the mouse over the composition I wanted to edit and dropping edit points randomly, as quickly as possible," Anderson says. "When I get 60 or 70 edits, I group them together, find the ones I like, maybe make a loop of those, and then create another batch the same way. I do this across 16 to 20 different tracks, using the parts that I find interesting. As the process continues, I become more and more selective. What I end up with is a montage of many, many tracks that I edit into unobvious loops for people to overdub over." The added overdubs give the piece a sense of continuity that belies the way it was created.

Anderson's manipulation techniques are not confined merely to cutting and splicing. "I would also crinkle tapes once they were recorded. Initially, I tried pouring beer or coffee on the tapes, but usually those results weren't as interesting to me. If you destroy the tape too much, you just get muddiness. I had hoped it would sound like this [crinkles paper] with something recorded on it, but it never did.

"I found that if you crinkle a tape and play it back at high speed on a reel-to-reel," he continues, "it wasn't as effective as it would be on something really low-tech, like a cassette player.

I'd just pull a length of tape out without opening the shell, as if it had been eaten by a tape recorder. Then I'd crinkle it up and wind it back into the shell. Because cassette tape moves at a slower speed across the head, the crinkled effect was much greater, so you get all kinds of crazy, garbled stuff with glitches and distortion."

Another technique that Anderson used during tracking exploits the mechanics of the tape machine itself. While the musician was playing, Anderson would quickly start and stop the machine in Record mode. The results not only create a sliced effect, but the beginning of each "take" has a sudden pitch-change envelope—"byow, byow, byow," as he describes it onomatopoeically—that adds an exciting element to the chopiness of the rhythms. Listen to the opening of The Beatles' "Taxman" to hear a famous example of that effect. Now imagine that happening, say, throughout a guitar solo.

"Initially, I tried pouring beer or coffee on the tapes, but usually those results weren't as interesting to me."

—Ron Anderson

FINDERS KEEPERS

A very old-school concept, yet possibly one of the most radical things an engineer can do in an era of unlimited track counts, is committing to tape or disc the processing that's on an

instrument rather than waiting until mixdown to choose it. That's the primary working method that multi-instrumentalist Alessandro Cortini (Nine Inch Nails, Ladytron, Sonoio) subscribes to.

"There's always a period of assessment when you mess up a lot, and you have to go back and re-record it again," Cortini explains. "But in the long run, it's much easier and much quicker to commit to things. The sound itself, and the way it sits in the mix, is part of the creative process. So it's not just about writing the song: That doesn't cut it anymore. I need something to keep me interested, and it happens to be how the sound gets printed.

"And I realized if I do it before I hit the computer, I move on to the next phase of the piece much quicker," Cortini continues. "I try not to obsess on something that's linked to the software aspect. If I have a lot of windows open on the computer and am not committed to a certain patch or a compressor or EQ setting, that window will be open forever. That prevents me from getting a sense of closure."






Ryan Hewitt On the New MA-300

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Rodrigo y Gabriela

'Area 52'

Reimagining Their Hits With a Cuban Beat

By Sarah Benzuly

Rodrigo y Gabriela don't just play their acoustic guitars—they live, breathe and sweat through them. The instrument becomes an extension of their soul, their musical endeavors. If you've ever seen them live—or even on a YouTube video—you've no doubt been entranced by their deft skills and their use of the entire instrument to create captivating sounds and melodies.

When their label came to them during the European leg of their *11:11* worldwide tour early last year and asked when they would be entering the studio again, they didn't have an answer. Desiring a much-needed rest after the rigors of being on the road, but not wanting to slap some songs together to appease the label's request, Rodrigo came up with the idea of infusing some of their songs with the depth and texture provided by a 13-piece Cuban orchestra, collectively known as C.U.B.A.

"I sold this idea well to management," Rodrigo relates, "but once we started working on it and getting in touch with the arranger [Alex Wilson] and restructuring every song and every sound to make it different than the original, then we really started to embrace the project."

With the guidance of producer Peter Asher—with whom they had worked on the score for *Pirates of the Caribbean: On Stranger Tides* with Hans Zimmer—they kept their guitar playing front and center, augmented and enveloped by Havana's finest players.

They hooked up with arranger Wilson in March 2011, and he reformulated the songs to include



The horn section was miked with a Telefunken ELA M 251 (trombone), Neumann U87 (sax and room) and an Audio-Technica AT4081 (trumpets).

small orchestra. After a few weeks of demos flying back and forth between Wilson,

Asher and Rodrigo, the arrangements settled into the right groove and the team headed to Havana to record at the spacious Abdala Studios.

"It's a really good studio," Asher says. "We used their engineer [Jorge Gabriel "Benny" Benitez Herrera], who was fantastic. Cuba as a place is different from other places; you clearly realize that you're in a socialist country, but to be honest, we were working all day, every day. I and the engineer would have stuff to do, and we brought Fermín Vázquez Llera, who is Martin Gabb's engineer from Mexico. We had plenty to do all the time, so I didn't really get a day off to go looking around Cuba. But everyone there was charming and helpful and we had a delightful time."

Ensnared in the main tracking room, work got under way, with the orchestra and Rodrigo and Gabriela running through each of the rearranged songs. "We rehearsed everything all at once," Asher says, "and in the recording we did some

layering: the horns and strings separately. But before that, we had adjusted all of the arrangements with that in mind. Rod and Gab played live all the time with the band, even though we replaced a lot of it to get a better sound, a better clarity.

"My approach was to make sure that the essence of Rodrigo and Gabriela and the essence of and genius of their playing did not get covered up," Asher continues. "I mean both literally and sort of conceptually. Literally, in the way we mixed the record you could always hear the guitars, and conceptually in the sense that we didn't end up with a big fancy horn thing in a place where it should be the guitars. I wanted to keep the essence of Rod and Gab intact and reframe it in a Cuban and more exotic, more tropical groove."

Inside the control room, engineer Herrera recorded straight to Pro Tools. The room's SSL board was often employed, though the majority of instruments went straight into a mic pre and into the computer. As for miking the instruments, Asher focused more on placement than models, trusting his engineer to make those types of decisions. "My concern was that I did want to make sure, in addition to whatever close-miking we did, that

we did have enough of the room itself," Asher says. "It was a great-sounding room. I didn't want to end up with everything completely separated. I was glad to have that when it came to mixing the record; I tried to retain as much of the live-ness and as much of the actual studio as possible to get

Photos: The G



From left: Rafa Sardina, Asher and Rodrigo

the character of it, but we tried to give ourselves the best of both worlds."

Once tracking was completed, Rodrigo and Gabriela headed off to their personal studio in Zihuatanejo, Mexico, to work on their guitar parts, while Asher began work on a different project; the team would reconvene during the mixing process.

Ensnconced in the studio, Rodrigo put on his "co-producer" hat to finish up the guitar parts and record—straight to Pro Tools—the additional guest musicians, which included bassist Carles Benavent (Paco De Lucia, Chick Corea, Miles Davis), drummer John Tempesta (The Cult, Testament, White Zombie), sitarist Anoushka Shankar, Le Trio Joubran (ouds) and drummer Samuel Formell Alfonso (Los Van Van).

"It was weird," Rodrigo says, "because while we were working on these recordings here, we were



Peter Asher directing the session

Photo: Niall Muckian

touring for the *11:11* album. But that tour was the older versions. So it was weird every time we came to the studio to work on a track and then go back on the road and try to remember the [original] version.

It was really crazy. In a way, it was a different approach because I wasn't writing the solos like I normally do; it was more improvising. The album had to have more of our original sound, which comes more from the rock side, so we had to blend all these elements and get rid of some of the elements from the Cuban sessions, which were more full of horns and trumpet solos and sax

solos. We recorded them because we didn't know what we were going to use. We put a lot of our stuff and guests in."

When the majority of the tracks were completed, Asher and Rodrigo met up with Rafa Sardina for the mix. Asher had met Sardina when the latter was assisting Nathaniel Kunkel at Conway during some projects Asher was working on.

Rodrigo was insistent about bringing Sardina onboard: "Rafa is an amazing guy. He's worked

with a lot of people, won like 25 Grammys [Editor's Note: Sardina has been nominated for 25] or so, so I picked him and he accepted."

"I have a ton of respect for [Asher] and his work," Sardina says. "Rod is extremely knowledgeable about the music and the pro-

THE C.U.B.A. PLAYERS

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 Ariel Sarduy Mena, violin
 Irving Roberto Frontelo Rico, violin
 Anolan Gonzalez Morejon, viola
 Otto Santana Selis, percussion
 Rene Suarez Zapata, percussion
 Lazaro A. Oviedo Dilou, trumpet
 Juan Kemell Barrera Toledo, trumpet
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 Cesar Alejandro Lopez Martinez, alto saxophone
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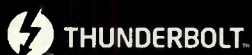
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cess. We saw eye-to-eye on many levels. It was a sheer joy working with him. He had a clear concept of where he wanted to go with the project, and I think we shared the view quite clearly."

Once Sardina began working on the mixes, he would send them to Asher and Rodrigo to make sure that he was headed in the right direction. When I ask Asher what the direction was, he replies, "Just what I told you: that Rod and Gab are the king and queen, and the rest of the stuff largely, as complicated as it may look when you bring up the Pro Tools files, don't forget what this album is all about. It's about the tune they wrote, how brilliantly they play and Gab's extraordinary rhythm feel."

Sardina concurs: "The first track I mixed was extremely dense in terms of the instrumentation. I wanted to make Rod and Gab the main voice in the mix and to cut through. Finding the right space for Rod and Gab without sacrificing the impact of the rest of the instrumentation became my focus. Their sound has an international appeal. The eclectic sound, to a degree, was defined by the instrumentation and arrangements used. However, my goal was to feature the international flavors that spell timeless music and keep Rod and Gab's unique six-string magic at the forefront."

Sardina mixed on an SSL AWS900 at his After Hours (L.A.) studio, which has since been upgraded to an SSL Duality. Monitoring was through NS-10s as his main reference point, though he will often check on JBL LSRs and other options. As for effects, "I have a big collection of analog and digital outboard gear and effects, and I even combine them with plug-ins," Sardina says. "I am a big fan of both worlds and think they can coexist beautifully."

"For half of the mix," Rodrigo remembers, "we were still recording here [in Zihuatanejo] and we were working [with Sardina] online. Through iTunes, we were listening to what he was doing. So we would stop recording at 6 and at 8 we were listening, in real time, to what he was mixing and it was amazing. We did three, four songs like that, and then we finished the recording of the last songs and then I went out to L.A. and worked on the rest of the mixes with him."

Rodrigo was also heavily involved in the mastering process, bringing in a tried-and-true engineer with whom he had worked with many times over: "Robyn Robins is the kind of guy that works on a song for a day or two. He gives me copies and copies and copies to listen to. I was pretty involved. They know I like to be a part of that process." Robins mastered at RR Productions (Wyoming, Mich.).

"The album is called *Area 52* because we felt like Mulder and Scully approaching this—it was just a crazy idea to see if a big Cuban band could play our music, a step in the dark," Rodrigo concludes. "We knew it was out there; everyone has heard of *Area 51*, but we wanted to take it a little further. We saw it as a trip into the unknown."



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ALCATRAZ

Authentic sounds in a mixed-up world.

The intriguing new Fox TV series *Alcatraz* is the latest unusual, offbeat drama to bear the imprimatur of executive producer J.J. Abrams (*Alias*, *Lost*, *Fringe*). The basic premise of the show is that when the notorious Alcatraz prison—on an island in the heart of San Francisco Bay—was closed for good in 1963, the jail’s 265 prisoners were scattered to various other facilities for re-incarceration. Or were they? On the show’s pilot, it appears that a grisly murder in present-day San Francisco was committed by an Alcatraz inmate who had not been seen since the prison closed—and who appears to have not aged a day since 1963. Further, other inmates who similarly “disappeared” under mysterious circumstances nearly 50 years ago, when Alcatraz shut its doors, seem to be turning up and wreaking havoc in modern San Francisco. Part crime/cop show, part sci-fi mystery series, *Alcatraz*, in the grand J.J. Abrams tradition, takes viewers on another puzzling and exciting walk on the weird side.

From a sound perspective, the show offers much different challenges than *Lost* did—after all, that was set mostly on a tropical island and had all sorts of bizarre supernatural elements, from the Smoke Monster to the hallucinatory voices seemingly emitted from the ether to many abrupt shifts in the time-space continuum. *Alcatraz* has a time travel conundrum at its core and plenty of strange, unexplained happenings, but is a bit more conventional sonically.

“Basically, our approach is authenticity,” says supervising sound editor Tom deGorter during a break from working on an early episode at Room 6 of Walt Disney’s Post Production Services facility in Burbank. “We’re trying to be as realistic and correct to the prison as possible. We want it to be as accurate as we can but also bring along a dark element to go with it.”

“We’re a bit more grounded in reality in this show [than *Lost* was],” adds associate producer Geoff Garrett, “although there are supernatural elements—like the fact that people are the same age in 2012 as they were in 1963. But sound-wise we’re playing it much more real in our world.”

deGorter (who is also president of Atomic Sound Post) and effects re-recording mixer Scott Weber are veterans of *Lost*’s post team, while Weber and music and dialog mixer Keith Rogers have also been involved with another popular recent series connected to J.J. Abrams, CBS’ *Person of Interest*. That show and *Alcatraz* each have a *Lost* cast member in a starring role—Michael Emerson in *Person...* and Jorge Garcia in *Alcatraz*. And the first *Alcatraz* episode after the pilot, titled “Ernest Cobb” after the bad guy in the episode (each week features a different nefarious inmate), was directed by Jack Bender, who helmed 37 episodes of *Lost* and was an executive producer throughout the series’ six seasons. But let’s not take the comparisons too far, as *Alcatraz* had different creators and writers and has a wholly different vibe.

The show is mostly shot in Vancouver at North Shore Studios, where elaborate re-creations of the prison’s famous three-story A and B

cell blocks (known as “Broadway”), the infirmary and various other parts of the jail have been meticulously constructed. Vancouver often doubles for San Francisco in films and TV shows (like Prague does for Paris), but it was also important for some of the pilot episode to be shot on Alcatraz and in San Francisco. Garrett invited deGorter and Weber to come up from L.A. for the two days of shooting at “The Rock” (as it’s known) and a third day around the city, and some of the recordings they made became critical parts of the eventual sound design for the pilot and the series.

“We really jumped at the opportunity,” deGorter says, “because we wanted to get all the authentic sounds that are unique to that prison—for instance, there are big 250-pound cell doors, and 12 of them will simultaneously open or close at one time. That’s the type of sound you just can’t duplicate unless you’re there. From our own point of view, now that we’re familiar with the prison, we know that whatever location they’re in [in the show], we have recordings for that location and we know what that sounds like.”

Weber and deGorter armed themselves with M-Audio MicroTrack recorders, a Schoeps stereo mic and a Sennheiser 416 shotgun and recorded all over the deserted and decaying prison, which is now a National Park and popular tourist destination, accessible only by ferry from San Francisco. At one point, their wanderings took them to the roof of the prison—definitely not part of any tour—where they captured what deGorter called “lonely winds” while they took in an amazing view of the city across the water.

“There are also birds on the island,” Weber says, “and at one end there’s a buoy bell offshore that we tried to record. Some of it was too noisy to use, but at least we were able to hear what it sounds like and duplicate it later for our sound mix.”

“Another thing we were interested in recording there were IRs—impulse responses—so we could [later] find reverbs that would match for the dialog, Foley and sound effects. Right now we’re mixing the second episode and we’re using the same settings from the main building, and the solitary confinement is like a metal box and we got IRs in those, as well as just the sound effects.”

“The park rangers were really great,” Garrett adds. “We had one who walked the guys around and opened all the doors—even doors that were locked to the public for years were unlocked and opened and closed, and they recorded the only remaining bell that rings on Alcatraz. They were really accommodating to make sure we got all the authentic sounds. The ranger also talked about some of the processes of opening and shutting the gates and told us about how the guards would always yell ‘Rack em!’ before they’d open these 250-pound doors, so they wouldn’t cut off people’s hands and fingers. I was able to bring that back into the editing—we were able to integrate that into our show, so when the guards are speaking, we try to have them say what they would have said back then, using the right terminology.”

deGorter: “We also got to be there at night when nobody else was around, so it was very eerie and cool at the same time.”

Weber: “We had the place empty, so we could record the doors really cleanly. Toward the end of that, there was a crew that was breaking down



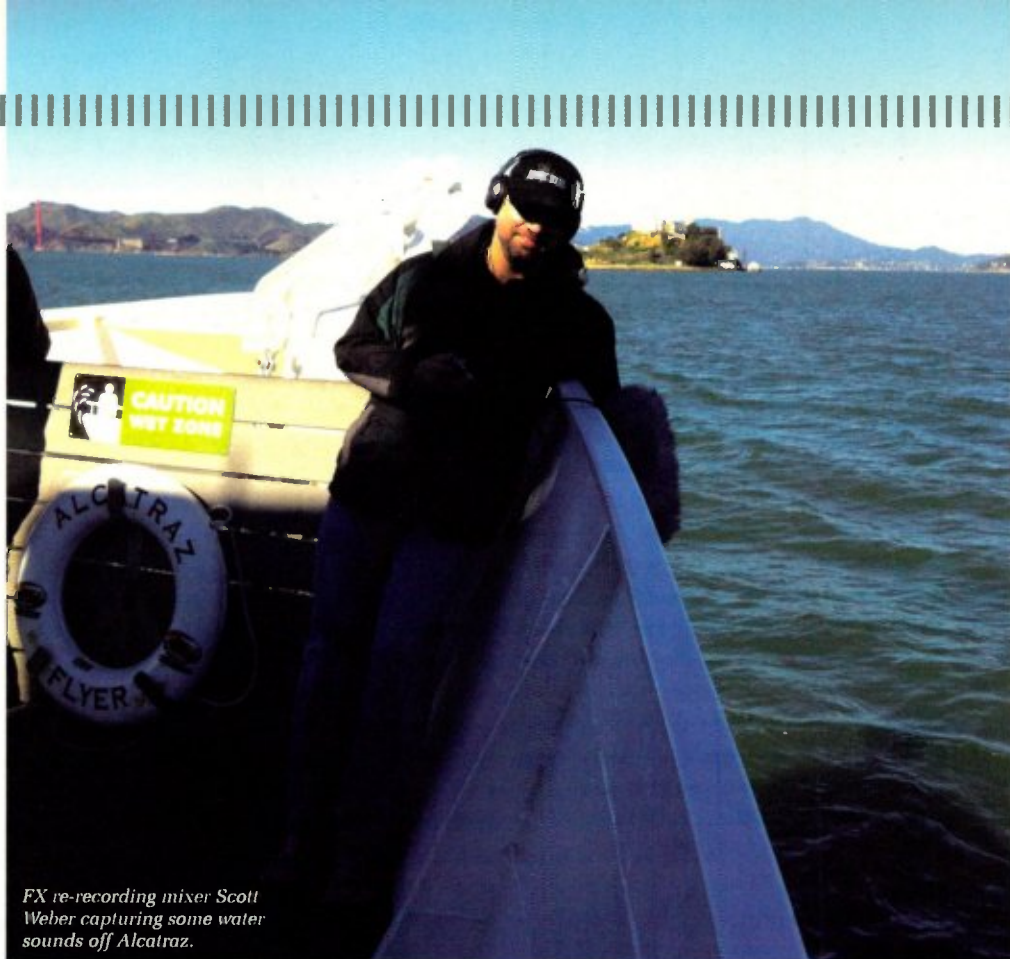
Supervising sound editor Tom deGorter in a spacious Alcatraz cell

the set on the other side of the cellblock and were cleaning up the area, and it sounded like prisoners talking far away. So we recorded a bunch of that from a distance and we're actually using that in the show for some of our offstage prison walla."

Two production recordists worked on the pilot episode: James Kusan and Patrick Ramsey; Ramsey is working the series week-to-week. Brett Hinton is handling ADR, while Geordy Sincavage is in charge of Foley. The haunting and evocative score is courtesy of Michael Giacchino (*Lost*, *Super 8*, *Star Trek*, *The Incredibles*, et al). Mixing is done on Avid Icon D-Control consoles.

Post on the pilot was aided by the fact that deGorter and Weber "came on very early and we were getting cuts and scenes while they were finishing them, and then we would go ahead and cut the scene and give it back to the picture editors," deGorter says. "They would then put it in their Avids and play it back for the director."

"The normal process of doing a Foley pass and full dialog edit and sound design took place like it would on any other episode, so by the time we got into mixing the pilot, we had a full-on edited and sound designed show," Weber adds.



FX re-recording mixer Scott Weber capturing some water sounds off Alcatraz.

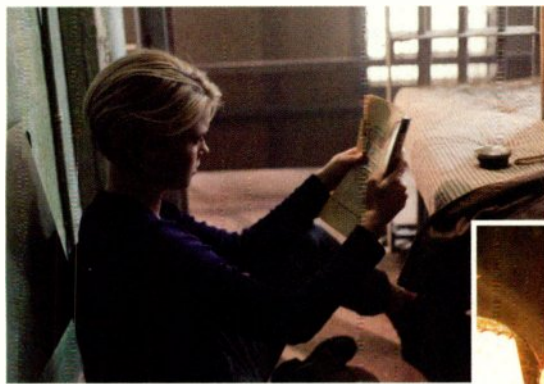
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Weber: "The whole opening of the pilot is really cool, because it's got rain, it's got thunder, we go into the cell house and it's spooky and its eerie and that's what it felt like to be in that place. It really sets it up so well. The first five minutes is great."



Asked to pick a scene from the pilot that was particularly interesting from a sonic standpoint, our three interview subjects each mention different moments:

deGorter: "One of my favorite scenes is when we come back to the island in a flashback and the prisoners are all coming out of their cells and there's all this walla and guards calling out and bells... All of that we re-created and it really sounds like you were there. Everything about it turned out right and it was a lot of fun to do it."

Garrett: "One scene I like is very subtle. Our inmate of the week, Jack Sylvane, is being visited by his wife and they're having a very serious discussion. When you were at Alcatraz, the inmate had to hit a button to talk—like a radio talkback—and the

sound they found for that [when it's activated] is just this wonderful high-pitched clinking sound that added a lot of authenticity, and added to the feeling of here's this prisoner looking across the glass at his wife and he's far away and can't get to her."

Inquiring minds want to know: Is there some equivalent of the low rumble that was used on *Lost* to signal that there had been a time shift? "There is, actually," Weber says with a laugh. "There's an effect that's like a combination of a jail door and a whooshing sound that crashes us into time transitions between modern day and back in the day."

Might we expect more weirdness in story and sound up the road as the story unfolds? "We'll see," deGorter says cagily. "We didn't want to bring in any weird sci-fi stuff—at least not now. When that happens, we will modify our approach, but again, everyone wanted it to be as realistic as possible. I think going back to 1963 and making it sound like you're really there, with all the hardships that are on the island, gives us a great palette to work with. Every single thing we do, we have to think about what it was like and what we have to do and make it sound authentic—phones, loudspeakers, everything. We've got a lot to work with."

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Robair Report

By Gino Robair

THE YEAR OF LIVING SILENTLY



Crossing into 2012, it seems appropriate to focus on the role that sound plays in our lives, if only for the fact that this year marks the centenary of composer John Cage's birth, a man who changed how we hear the world around us. To many, Cage is notorious for composing *4'33"* (1952), the so-called "silent"

piece, where the performer is given the instruction *tacet* for each of the three timed movements. While the theatricality of the piece is obvious, listeners soon become aware of the environment around them. In other words, the piece is a "showcase for unintentional sound," as James Pritchett puts it in *The Music of John Cage* (1993, Cambridge).

Cage is also notable for stating that there is no such thing as silence, which he discovered when he spent time in an anechoic chamber in 1951 and heard only his circulatory and nervous systems. Pritchett points out that to Cage silence and noise are terms often used to describe unintended sounds, and a piece such as *4'33"* has the potential to make every sound intentional.

As I write this, I can hear someone using a leaf blower next door, while another gardener uses one down the block. The resulting counterpoint only becomes interesting to me when I think of it in musical terms. It requires my attention. Otherwise, the incessant whine blots out all other sounds, and occasionally my attempts to concentrate. There are days when I'm unable to view the sound world around me in a Cageian way, though it certainly helps when I can. Today, I can't help but refer to the concert outside as noise in a pejorative sense.

It's often not the noise itself that we react against, but the volume level and timing. New York Philharmonic conductor Alan Gilbert recently stopped a performance of Mahler's *Ninth Symphony* when it was interrupted by the familiar ringtone of an iPhone. This type of disruption is such a common occurrence in daily life that I'm surprised it made national headlines (except for the fact that it happened in New York City and near the end of a 90-minute performance of a symphonic warhorse).

Sometimes it's not even the ringer that is the problem. Cell phones have become ubiquitous at shows as people feel the need to document and immediately upload everything they experience. Usually the amateur photographer is unaware of the sounds they're making—the sampled shutter click of the camera or the chime when the video recorder starts and stops. This isn't a problem in the loud environment of a stadium or auditorium, but it's extremely annoying when it happens in a quiet concert hall or club.

DEFINE SILENT

Perhaps the answer is isolating the musicians and audience from each other in the acoustic environment. I've recently become intrigued by the concept of the silent gig, where the audience wears headphones to hear a

performance being transmitted via FM. As little of the musicians' sounds as possible are allowed into the room itself; all you hear without headphones are naked voices in front of a mic accompanied by the strumming of unamplified guitar strings and sticks hitting drum triggers. Of course, this begs the question of why someone would go out at all if the entertainment is on headphones, when they can have the same experience at home without having to stand behind someone who smells bad and blocks their view.

The silent-event concept—promoted, not surprisingly, by a company called Silent Event—is already an international sensation in the form of the silent disco, where the dancers wear headphones with built-in FM receivers. It's a clever solution to situations where a subwoofer-driven sound system wouldn't be tolerated. So while such an event could be called silent compared to a real disco—if you think the combined stomping and hooting of a room full of people can be considered quiet—it is likely that the sustained volume level in each of the headphones doesn't meet OSHA standards. But that's to be expected when you go to a dance club; you know your ears will ring for a few days.

Many musicians and engineers I know already accept the threshold shift of prolonged exposure as part of the job description, though not just in amplified situations. A 2008 *New York Times* article detailed efforts in Europe to protect orchestral musicians from work-related hearing damage by asking them to wear earplugs during passages where the decibel level reaches potentially hazardous levels. Other mitigation efforts included isolating the louder instruments (percussion and brass, for example) or using absorptive panels in order to protect the other musicians in the ensemble. As you can imagine, this satisfied no one. It simply made it more difficult to play expressively, while altering the acoustics in the hall and giving professional musicians yet another reason to complain.

WHAT WILL THE FUTURE SOUND LIKE?

The overall sonic environment we endure isn't getting any quieter, whether we're outside or in our own little world wearing earbuds. And our ears aren't evolving quick enough to deal with the prolonged high volume exposure we subject them to. It's simply adding to the sensory overload we get from digital media in general.

I recently heard a prediction that future generations will pay a premium for places that are devoid of everyday electronic stimuli—no access to WiFi, 4G, radio, cable television or phone technology. It was pointed out that high-end hotels already charge a premium for not offering connectivity. I certainly wouldn't be surprised if there was a backlash to the overwhelming amount of social media we currently bathe ourselves in. It's becoming increasingly obvious that, in a world where basic resources are becoming scarce, the one resource we rarely consider, not to mention cherish, is peace and quiet; the ability to find an uninterrupted place where we can hear ourselves think or simply meditate on the sounds within.

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TWEAKING FOR TONE

4-Track Session, 24-track Guitar Amp Mod



Those of us who have suffered with uncooperative guitar rigs are especially appreciative of guitarists who can not only play, but who intuitively know which axe to use and how to complement it with electronics and effects. From an outsider's perspective, it may seem like black magic, but in reality, there is a scientific method to the madness, even if it's distilled from obsessive woodshedding and successive approximation, aka trial and error!

Matching up instruments, pickups, effects, amplifiers and speakers can be a very spendy tweak-fest. Or is it a very tweaky spend-fest? As my students are not bathing in the warm glow of green cash, I sometimes help with affordable guitar amp tweaks from the inside out. We always start by asking these questions...

Q1: IS THE GUITAR AMP CONSISTENTLY NOT IN THE BALLPARK NO MATTER WHO IS PLAYING THROUGH IT, AND NO MATTER WHICH AXE IS CONNECTED?

If yes, try connecting the amp to another speaker cabinet. If the sound improves, it could be the speaker, so proceed to Q5. For combo amps, there is also the possibility that one or more of the tubes are microphonic—that's addressed in next month's column, but one of the reasons an alt cab might not improve the sound.

Q2: DOES THE INSTRUMENT SOUND GOOD WITH ANY OTHER AMP

AND SPEAKER COMBO?

If yes, proceed to Q4. If no, proceed to Q3. If confused by all that, just read on...

Q3: IS IT MY AXE OR MY AMP?

Assuming the axe is fun to play and capable of being in tune—up and down the neck—there are plenty of pickup options. Back in the day, Fender amps were intended for Fender instruments, and the same applied to Gibson's products. It was the geek version of an "arranged marriage." Cross-pollinating the two heightened one's awareness of pickup and preamp variations, and while pickups are not my area of expertise, their relationships with electronics are. If you have a second- or third-hand axe, have someone who knows guitar innards to inspect the wiring. For something so simple, it is amazing how messed up some can be...

Q4: DO INSTRUMENTS HAVE SPECIAL RELATIONSHIPS WITH THEIR AMPLIFIERS?

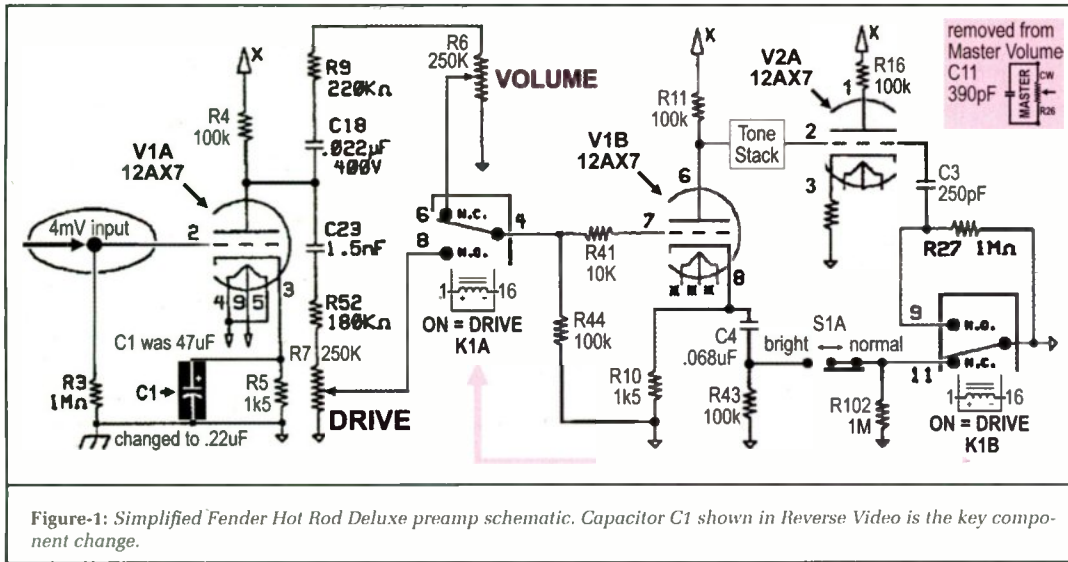
Why yes! The EQ section of guitar and bass amps—known as the Tone Stack—can be genre- and instrument-specific, but the circuitry is simple as you'll see at the Hot Rod Mods heading.

Q5: THERE ARE SO MANY SPEAKER OPTIONS. HOW DO I CHOOSE?

Vintage and retro speakers can be expensive, but instrument speakers are neither high fidelity nor fancy—they act as filters and resonators—which is why we generally prefer their "altered" tone to a full-range hi-fi speaker. Table-1 shows how speaker diameter changes two (of many) loudspeaker parameters: Frequency Response and Free Air Resonance (Fs). For the

	8-INCH WOOFER	10-INCH WOOFER	12-INCH WOOFER
DIAMETER			
Response	65 Hz-4.5 kHz	65 Hz-4.5 kHz	38 Hz-2.5 kHz
Free Air Resonance (Fs)	65 Hz	38 Hz	38 Hz
Link	www.mcmelectronics.com/product/55-2950	www.mcmelectronics.com/product/55-2951	www.mcmelectronics.com/product/55-2952
Price	\$13.38	\$17.50	\$25.72

Table-1: Three woofers built from the same materials, allowing comparison of the effect diameter has on two parameters resulting in what we might perceive as warm or bright, for example. Compared to vintage and retro designs, these three are available at a price that won't break the bank, allowing a place to start with some wiggle room to experiment.



same raw materials—cone, surround and spider—increasing cone diameter increases mass, which degrades high-frequency response (filter) and shifts the Free Air Resonance (F_s) down. The hi-fi cure would be to reduce the woofer's mass by using "space age materials," like a thinner—but equally rigid—cone material. A dark woofer is preferable when it hides the less desirable high-frequency distortion artifacts.

Put your ear close to a disconnected woofer and tap on the cone: thump, thump, thump! That's the Free Air Resonance. (F_s is the parameter you're looking for in a sub kick woofer.) Now short out the speaker terminals with a clip lead or a dollar coin and notice how the resonance disappears. This exaggerated difference is similar to the way vacuum tube and solid state amplifiers affect a speaker's personality, an effect known as "damping factor." You can do a similar test with a powered monitor's woofer. Starting in the Off state, tap the woofer a few times to get used to its tone and then power up, dry as a bone!

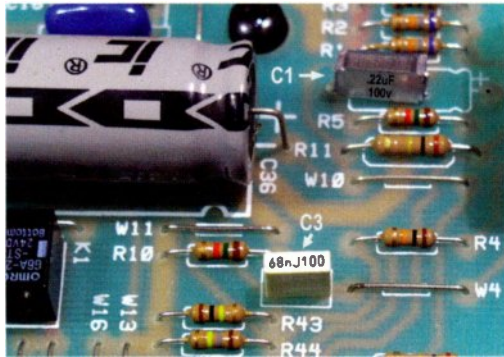


Figure-2: Locating C1 and C3 in the preamp section

HOT ROD MODS

The seed for this column started with an analog recording session to 4-track half-inch tape. My class was doing a demo for a student band. Drums and bass were mixed to Track 1, the lead vocalist went direct to Track 2 and two guitars got their own space on Tracks 3 and 4. The lead guitarist had his parts and tone, but the rhythm guitar needed nuance on multiple levels (production, tone and performance) and his Hot Rod Deluxe amp wasn't helping...

What we gleaned from the demo experience was applied to the 24-track session. We found sweeter cymbals, replaced the snare head and swapped out the Hot Rod Deluxe for my own customized studio amp—a Fender Pro Junior (with the 10-inch speaker in Table-1, MCM part number 55-2951). We also swapped

out the electric (rhythm) guitar for an acoustic with a pickup.

After the session, my assistant, John Kargol, told me that his Hot Rod Deluxe had similar problems. A quick Web search yielded a schematic. During our tweak session, John adjusted his amp based on hours of experience and I listened, tried to dial in a better tone and concurred with his analysis: too much gain and too much bottom.

HOT ROD 101: TONE MOD

From the outside, a Hot Rod Deluxe chassis has a vintage, Tweed-era look. But modern amps are expected to toggle between Rhythm and Lead (Drive) settings—via footswitch or front panel—and doing that requires relays (K) and switches (S). The letters relate to "part designations" on the schematic (see Figure-1).

Like most modern amps, the printed circuit board (PCB) construction does not lend itself to tweaks as compared to older turret board designs. This "restriction" guided us to choose the low hanging fruit approach. We clipped out the component in question and tacked in a decade box to audition alternate values.

Afterward, the PCB was removed and the new component properly soldered in.

While a guitar amp's EQ—aka the Tone Stack—has no "unity" setting, the Tone controls should be able to live in their center region to allow boost and cut. This was not the case with the Hot Rod Deluxe and so it became our goal. Rather than attack the Tone Stack, we started at the First Gain Stage, which is one-half of a 12AX7 (V1A). There, Capacitor C1 is in parallel with cathode resistor R5 (1k5Ω). NOTE: "uF" = microfarads.



Figure-3: The Master Volume control and its lowpass filter C11.

Removing C1 (47uF) will reduce the gain by 6dB (allowing local negative feedback).

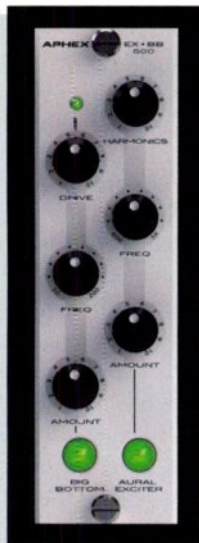
Replacing C1 with a smaller value (.22uF) creates a highpass filter, restoring the gain in the desired frequency range (low-midrange and up) while reducing enough low-end so that the Bass control could live in its mid position. This is similar to what Drive Relay (K1B) does at the second gain stage (V1B) when (S1A) is set to Bright. (See Figure-2.)

In Drive mode, C23 and C4 act as highpass filters, reducing the low-end mud that results from pushing an amplifier into distortion. C3 and C11 act as lowpass filters, polishing the rough trebly edges off of the less-desirable distortion artifacts. With the Rhythm/Clean channel greatly improved and Drive mode moving toward the goal, the last step was to remove C11—a 320pF cap in parallel with the R26, the Master Volume Control (pink insert; see Figure-3). This cap creates a gentle lowpass filter, as does C3 (250pF). Had John been more into pushing the overdrive, C11 would not have been removed.

That's all the space I have this month. Next month, this amp gets a real master volume control and a surprise tweak.

Eddie Ciletti's virtual residence is at tangible-technology.com

Tech // new products



APHEX EX-BB 500

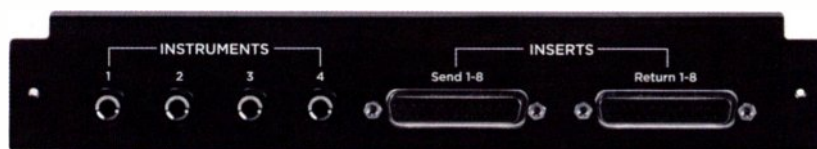
Vertical Excitement

Aphex (aphex.com) has released a 500 Series combo version of its legacy processors, the Aural Exciter and Big Bottom (STBA). Features include a simple left/right layout and three knob controls, including on/off, frequency (50/200 Hz) and drive for the Big Bottom; and on/off, frequency (600 Hz/3 kHz) and harmonics controls for the Aural Exciter. On vocals and spoken word, the Aural Exciter increases intelligibility as it highlights the edges of consonants; on instruments, it adds punch and presence without changing the tonal character. The Big Bottom provides deep, powerful low-frequency punch without the unwanted level boost that comes from adding traditional equalization.

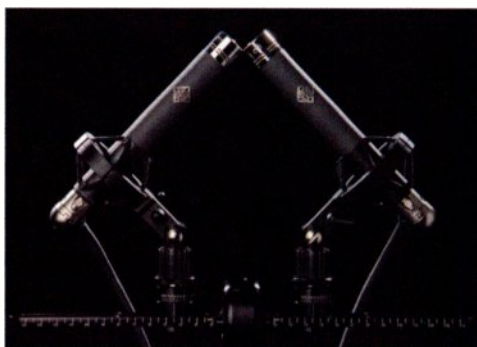
APOGEE SYMPHONY I/O PREAMPS

Modular Mic or Hi-Z Gain

Apogee Electronics (apogeedigital.com) is now shipping the 8-Channel Mic Preamp Module (\$1,995) for Symphony I/O. The module features software control, 85 dB of gain, adjustable soft limit and selectable highpass filter, and promises low noise level due to the direct connection with the analog I/O module. Other features include four hi-Z instrument inputs and eight digitally assignable inserts. The module can be used with other available Symphony I/O modules that include line-level, AES/EBU or optical input/outputs.



TELEFUNKEN ELEKTROAKUSTIK ELA M 260



Solid Stereo Set

The new ELA M 260 (\$2,895) stereo set of microphones from Telefunken (t-funk.com) features three capsules (260 cardioid, 261 omnidirectional and 262 hypercardioid) and a dual power supply. The set also includes two 25-foot Accusound tube microphone cables with right-angle XLR connectors, two wooden microphone jewel boxes and two shock-mounts, and a flight case for safe transit. The microphones use NOS Telefunken EF732 vacuum tubes and custom audio transformers, and they come in the same "flint gray" finish made popular by the R-F-T AR-51 microphone.

MOTU 4PRE I/O

Interface Plus

MOTU (motu.com) is now shipping the 4pre (\$495), a compact, half-rack 6x8 hybrid audio interface and mixer. The 4pre connects via FireWire or high-speed USB 2 (Mac/PC), and offers straightforward front panel mixing and plenty of I/O, including four mic inputs with preamps, alternative guitar/line inputs, four channels of analog output, stereo S/PDIF and two stereo headphone outputs. All channels are available simultaneously and operate independently; the 8-bus digital mixer routes and mixes all six inputs to any output pair (main outs, line outs, S/PDIF out and 'phones) can have a completely different mix of all six inputs, with or without computer tracks.





ALESIS iO4 USB AUDIO I/O

Desktop Dynamo

Compatible with Mac, PC and iOS devices, the iO4 (\$149) from Alesis (alesis.com) is a compact audio recording interface for home and mobile recording setups. Features include eight channels of recording (4-in, 4-out) at 16-bit resolution, or four channels (2-in, 2-out) at 24-bit. The iO4 has four input channels, each with an XLR microphone input, a 1/4-inch TRS insert for external effects units and a 1/4-inch TS jack that works with line-level sources and can accommodate direct connection of instruments. Discrete-design preamplifiers and 48-volt phantom power are provided on each channel; plus, the iO4 features traditional 5-pin MIDI in and out jacks, making it an ideal interface for connecting MIDI controllers with music software and iOS apps. Steinberg Cubase LE music software is also included, or the iO4 is compatible with all music software and apps.

OLYMPUS LS-100 RECORDER

Hot Handheld

Olympus (olympusamerica.com) has released the LS-100 (\$399) recorder, featuring built-in, 90-degree directional stereo condenser microphones. The unit records uncompressed 24-bit/96kHz to the internal 4GB memory or on SD (up to 2 GB)/SDHC (up to 32 GB)/SDXC (up to 64 GB) cards. Other features include a low-cut filter at either 100 Hz or 300 Hz, two 1/4-inch XLR/standard phone combo jacks, support for phantom power at 48/24 volts, 8-track multitracking with independent volume and pan control, a tuner and metronome, and Lissajous measurement showing the phase difference between the left and right mics. The LS-100 sports a 2-inch LCD screen and an all-metal body.



AURALEX ACOUSTICS PROMAX PANELS

Ad Hoc Treatment

This new line of stand-mounted, portable StudioFoam® absorbers are portable and lightweight, and promise effective absorption treatment for studio, live events and remote recording. The flexible absorption panels are simple to set up and transport, and they are easily assembled and disassembled for convenient storage. Auralex (auralex.com) ProMAX Panels (\$309.99) can also be grouped together to form a portable vocal booth or positioned around a drum kit to reduce room intrusion in recordings and live performance venues when desired. Able to be extended up to eight feet high, Auralex ProMAX Panels feature an adjustable contour for precision positioning.



AUDIENT ASP4816 CONSOLE

Powerful and Compact

The ASP4816 (\$15,950) from Audient (audient.com) takes many design cues from its ASP8024, with the same input and monitor design in a smaller frame size but with a lower price tag. With analog circuitry designed by audio "guru" David Dearden, the ASP4816 features in-line design, 40 faders, 16-bus routing, six auxes, two dedicated cue sends, four stereo returns, stereo bus compressor and a comprehensive monitor section. Other features include 16 Class-A preamps with phantom power and 16 channels of EQ.

New Sound Reinforcement Products



YORKVILLE SOUND PARALINE PSA1

P.A. to Go

Designed as a compact, expandable active vertical array for mobile P.A. applications, the new Paraline PSA1 full-range loudspeaker system from Yorkville Sound (yorkville.com) delivers the clarity and precision of a complex line array system in a compact and cost-effective user-friendly format. The

PSA1's integrated power amplifiers and internal DSP mean no external processing is required. Direct-connect to mixer source and set system levels, and the system is ready for the show. PSA1 additional features include patented Paraline Horn Lens Technology, focused 15-degree vertical dispersion and wide 110-degree horizontal dispersion pattern. Up to four PSA1 cabs can be powered on a 15-amp circuit. MSRPs: PSA1 compact active vertical array cabinet, \$2,399; PSA1S compact active subwoofer, \$2,399.

TELEFUNKEN M81

The M80 Goes Universal

Boasting a more linear frequency response than Telefunken's (t-funk.com) M80, the M81 universal dynamic cardioid microphone is geared for use on electric guitars, percussion instruments, rack and floor toms, horns, and vocals. Finished in the same gray and "tri-chrome" styling as the R-F-T AR-51, the M81's overall response is complementary to the AR-51 when recording electric guitars. The package—including the microphone, mic clip and leather carrying bag—sells for \$249.



POSSE SYSTEM

Monitor Engineer Sans Human

The POSSE system (Personal On Stage Sound Environment, \$499; posseaudio.com) interfaces with wireless earphone and instrument systems and comes with an acoustic gooseneck mic for the unelectrified. Users can also employ a built-in phantom-power supply, record all performances, play music during the break and tune with a line-of-sight tuner—all in this travel-sized system. In the box, the system comes with everything needed to set up a personal monitor mix: tote bag, floor box, mic stand box, cables (6-foot MIDI, 6-foot HDMI, 3-foot guitar), ear buds, belt box, power supply and external condenser mic. Additional features include zero latency with any digital system, built-in stereo mics, built-in chromatic tuner (powered by N-Tune), stereo instrument inputs, direct box and more.

DYNACORD DSP 2600 EDITOR SOFTWARE VERSION 1.5.0

Ready for the 64-Bit World

Dynacord's (dynacord.com) DSP 260 Editor Version 1.5.0 software offers a variety of improvements and enhancements to this PC-based control and configuration software. A component of the release is the inclusion of device drivers for 64-bit versions of Windows XP, Windows Vista and Windows 7. These new drivers will allow users of these 64-bit operating systems to take advantage of the advanced programming and configuration features provided by the DSP 260 Editor Software.



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AEA KU4 RIBBON MICROPHONE

Supercardioid Pattern, Vintage Pedigree, Spectacular Sound

Some audio gear forgotten through time is best left in the past, but the RCA KU3A (MI-10001) ribbon mic from the 1940s is not one of them. The AEA KU4 is closely based on the KU3A, a mic that was used primarily as a boom in movie production and broadcast. The KU4 looks similar to the KU3A in size and shape, plus it shares the KU3A's wide frequency response and supercardioid pattern. The KU4's pattern is produced by coupling the back of the ribbon to an inner labyrinth through a single hole, which controls the ribbon's access to the outside atmosphere. The mic is more directional at higher frequencies, but maintains a wide and musical sweet spot.

The KU4 weighs nearly 5 pounds, is more than a foot long and has a frequency response below 30 Hz to above 20 kHz. Its lightly tensioned, ultra-low mass, pure-aluminum ribbon (1.8 microns thick, 0.082 inches wide, 1.25 inches long) gives the mic its extended sensitivity, low proximity bump and accurate transient response, with no upper-midrange resonances that are common to large condensers. Although it's not indestructible—a windscreen is recommended to protect the ribbon—it will take more than 140dB SPL above 200 Hz at 1-percent THD. You can also buy the KU4 in matched pairs, or add a vertical carrying case for one or two mics, a gray-twill zipper bag, and a 1/8-inch U.S. to 1/2-inch European adapter.

SOUND DECISIONS

I first used the mic, powered by a Retro Powerstrip recording channel, to record various hand-percussion instruments. The preamp had plenty of gain to get the signal to the level I needed and worked very well across a range of percussion, including an LP Vibra-Tone, shakers and other toys. The Vibra-Tone can be struck with a rubber mallet or a stick, which produces a piercing tone that can easily overpower both a preamp



The KU4 is modeled closely after the vintage RCA model KU3A mic.

and a mic. The combination of the KU4 and Retro Powerstrip stood toe-to-toe with all percussive comers, producing a round transient and tone that sat nicely in the track.

I tried the KU4 in front of a kick drum, about six inches back from the front head and protected with a pop filter. I used the Retro Powerstrip again and kicked in its excellent Pultec-style EQ and simple compressor. I boosted 60 Hz and rolled off the low frequency to the compressor's sidechain so that the bottom came through untouched while the compressor grabbed the transient hit of the beater. This was mixed with a Shure Beta 52, which was placed inside the drum about five inches from the head. The combo was a sure winner, with the KU4 bringing up the bottom and the Beta 52 adding some striking transient tone—the perfect blend of chest thumping bottom and pointy attack.

I next heard the KU4 powered by an SSL 4000 Series pre-amp and placed on a Yamaha C3 piano over mid-harp. It was wonderful. There's no better way to describe it than "it sounds like your head is in front of the instrument." This happened repeatedly as I heard the mic on additional sessions. In the piano's case, the instrument sounded good soloed

TRY THIS

You can "EQ" any ribbon microphone by shifting the ribbon more or less on-axis to the source. This is accomplished by moving the microphone more or less perpendicular to the source. Every microphone will respond differently to these movements due to the thickness and tension of the ribbon; however, it's worth a try to find that ultimate sweet spot to give you the sound that you're looking for.

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The KU4's pattern is produced by coupling the back of the ribbon to an inner labyrinth through a single hole.

by itself, but the magic happened when the instrument was in the track. The band I was recording comprised electric bass, live drums, acoustic guitar and a vocalist. The piano sounded perfect and called for no EQ, just a move of the fader to put it where it needed to be in the track.

In the same session, I used the mic on a Wurlitzer overdub, recording the speaker at the back of the instrument. Depending on the individual instrument, Wurlitzers can be harsh and uneven in tone and attack, and therefore a problem to place in a track without some processing. The KU4 captured the Wurlie's personality and shrugged off the quiriness that can make it a pain to mix. In this case, the mic was swung vertically so that the angled bevel was on-axis to the speaker, which had the effect of rolling off the top a bit. Like the Yamaha, the Wurlitzer sat perfectly in the mix and sounded great. The KU4 sounded just as good when used to record a Hammond B3's Leslie speaker. I'm used to hearing this amp recorded with at least two and sometimes three mics to capture the bottom end and Doppler

effect of the rotor. The KU4 had the Leslie sounding perfect in mono as it sat and played nicely with the rest of the instruments.

I had equally good results when using the KU4 on vocals. Depending on the vocalist, you can play with the mic's ability to change the response by working with the placement of the singer and vertical axis of the ribbon. For this male vocalist, who can be shrill, the mic was moved vertically off-axis, which was the perfect way to equalize the performance without a processor. With the ribbon pointing more toward the singer's eyebrows, it also put his live acoustic guitar into the back shadow of the mic, which cut back on leakage. I can't say enough about how well the mic adjusts to a variety of tricky situations like proximity bump and frequency shifts. For instance, the mic is very forgiving if the singer moves off-axis, and its low proximity effect keeps the tone even, especially if the singer tends to eat the mic on occasion.

Using the mic's ability to shift tone with placement came in handy when recording an electric

PRODUCT SUMMARY

COMPANY: Audio Engineering Associates

PRODUCT: KU4 ribbon microphone

WEBSITE: wesdooley.com

PRICE: \$4,720

PROS: Excels at the recording of vocals, acoustic/electric guitars, piano, Wurlitzer, Leslie speaker drums, percussion and more.

CONS: Saying goodbye to this mic is a sad experience.

guitar. The mic was placed in front of the speaker about four inches back and vertically off-axis to take a little off the top. For this particular track, the guitarist was switching tones via a pedal board from a clean sound in the body of the tune to a more heavily distorted sound for the solo. I've seldom met a mic that can handle both—it's usually a retake of the performance that does the trick so you can use a different mic, EQ setting, processor or amp setting. The tone was great across both the body and solo of the tune, and it was all a keeper.

DYNAMIC RESULTS

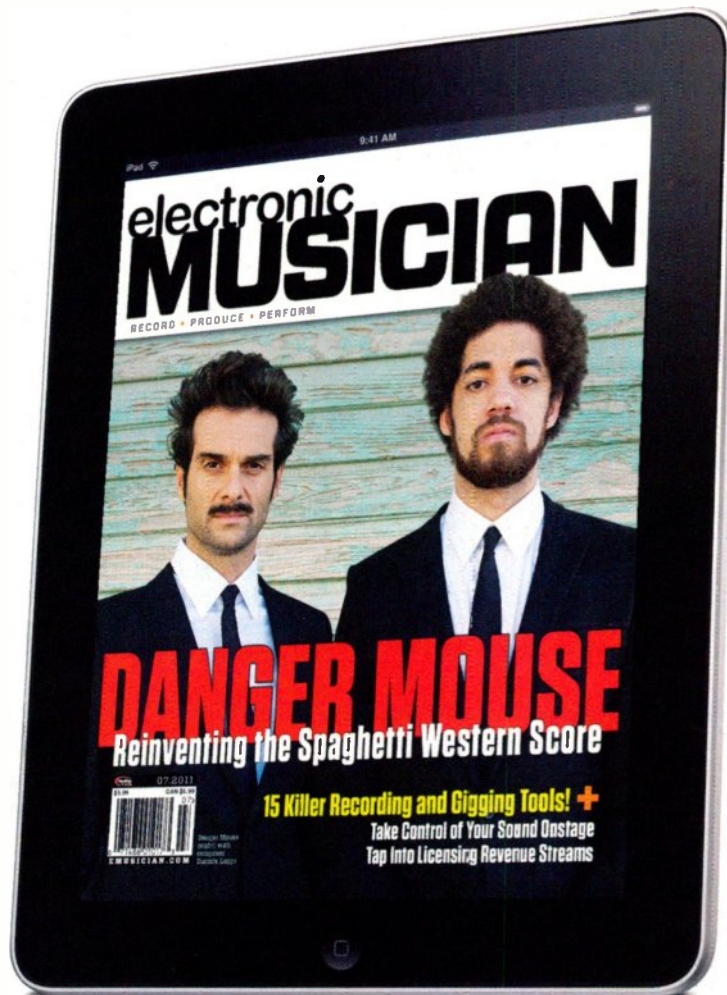
It's hard not to rave about this mic. Yes, it's expensive, but the feeling you get when you hear the KU4 in front of anything is the reason audio engineers get out of bed in the morning. Too bright? Move its axis vertically and you can roll off the top. Too much bottom? Move it back and you can subtly change the low end. These aren't things you can do with other mics, but where moving other mics makes them unusable unless you find the sweet spot, the KU4 is always musical.

The KU4 has an intimate quality that I've not heard out of any other ribbon. On vocals it puts the singer right in front of you and sounds like you're in the room. By itself on piano, it makes you wonder why you'd ever need to record in stereo again. It's amazing on a guitar amp. Even when the player switches from clean comping to gritty solo mode in the same take, the mic takes it all in stride and makes it all sit in the track. It brings the "wooden" quality of a Leslie speaker and Wurlitzer piano right through to the mix, without EQ. Using the mic is a joy. For me, the only negative experience I had with the KU4 was boxing it up to send back to Wes.

Kevin Becka is *Mix's* technical editor

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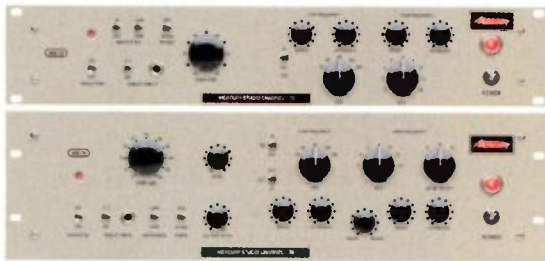
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EQUATOR AUDIO RESEARCH D5 MONITOR

Coaxial Self-Powered Studio Speakers

Last year I had the pleasure of reviewing Equator Audio's Q12 monitors for *Mix* (February 2011) and was impressed with many of their features—most importantly, the sound of those formidable 12-inch coaxial speakers. With the D5, Equator continues its philosophy of point-source sound reproduction, albeit in a greatly reduced footprint, power rating, maximum SPL and price point. Although the D5 is not meant to compete with its bigger brothers, Equator's design criteria remains consistent: a self-powered, front-ported box with a wide sweet spot and detailed, linear reproduction for \$299.99/pair, a price that is nothing short of "stupid-cheap."

SMALL FOOTPRINT, BIG SOUND

Not too long ago, small speaker designs sounded, well, small and boxy, exhibiting nonlinear reproduction that forced you to guess at how your mixes would sound when translated to other systems. Lately, I've been listening to a plethora of well-designed small speakers and came away with the impression that these small-footprint designs are getting better all the time. By using a greater degree of advanced materials, DSP and advanced acoustic-modeling software, the "art of the small box" is rapidly advancing in its design, implementation and detailed reproduction. The D5 sits firmly in that category.

The D5s are only sold online, direct from the factory. This distribution philosophy, along with cost-effective production in China,



The point-source design of the D5 makes for a wide sweet spot.

tended port for linearity down to the rated response. An onboard digital power amplifier with a 100-watt RMS drives the D5's woofer and 1-inch-diameter silk tweeter. However, the user manual does not mention how this power is being split between the drivers, nor does it explain the amp's operational design. The front baffle, as well as the rest of the cabinet, is made of wood, providing rigidity and reduced cabinet resonance; but again, there is no mention of whether the construction is laminate, solid or particleboard.

A fourth-order digital crossover (24dB/octave slope), along with

benefits the end-user by making these speakers affordable for all. And the icing on the cake: They sound good. The speaker's dimensions (9.75x7x8.5 inches), along with its front-ported design, allow the D5s to be placed in any environment—meter bridge, desktop, OB van or mounted on a wall.

INGREDIENTS IN THE PUNCH

The D5s offer a good sense of tight, punchy low end, down to the rated 53 Hz. The cabinet is physically a bit deeper than some small designs I've recently tested, and this increase in cabinet size no doubt contributes to the amount of bass response that the speaker delivers.

The D5 employs a 5.25-inch polypropylene low-frequency driver. Equator Audio tuned the 1.75-inch front-ex-

TRY THIS

To nail your center image, no matter your speaker of choice, invest in a pair of stabilizers: it can make a huge difference in your listening experience. Larger stabilizers like the Thiel CS3.7s can be pricey, but desktop models from Primacoustic and Auralex are very affordable.

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internal DSP, is tuned to deliver less distortion in the critical midrange (900 to 3k Hz) and “matched transducer output.” A small, circular port on the back panel is labeled “For Calibration Only,” and is used exclusively by Equator to tune the speaker. The back panel sports an IEC connector, on/off switch, XLR and ¼-inch TRS inputs, a continuously variable detented sensitivity control (-10 dBV to beyond +4 dBu) and a “boundary control.” This control is simply labeled 1, 2 and 3, corresponding to Corner, Front of a Wall and Free Standing, respectively. Response curves are not provided for these settings, but from listening to the variations, it is apparent that the low-frequency response is rolled off to adjust for the associated build-up of bass amplitude when speakers are placed in a corner or next to a wall. There is limiter and driver protection, as well as thermal and short-circuit protection—all characteristics of a well-thought-out, professional transducer.

LET'S GET SMALL

Because the D5s are coaxial and have a “point-source reference,” they exhibit a wide sweet spot, which means that the soundstage and imaging are anchored securely to the phantom center. This is one of the little speaker's major features, along with its amazingly linear frequency response in the midrange.

Inevitably, every speaker is going to sound different, so I use several different reference speaker systems for comparison. In doing so, you must give credence to a baseline reference—one that you know and trust. That system, for me, is the JBL LSR-6328P with a JBL-6312P subwoofer. I also reference several smaller speakers, ones that I know and love. With that said, the Equator D5s exhibit a high degree of accuracy and imaging as compared

PRODUCT SUMMARY

COMPANY: Equator Audio Research
PRODUCT: D5 studio monitors
WEBSITE: equatoraudio.com
PRICE: \$299.99/pair
PROS: Small footprint, wide sweet spot, coaxial design, accurate midrange reproduction, infinitely affordable.
CONS: Limited documentation. No VESA mounts.



The back of the D5 offers simple sensitivity and boundary controls.

to my reference speakers. Of course, there is going to be a difference: These boxes are *much* smaller than my references, but I can honestly say that in the critical vocal range, I could rely on the D5s to make mix decisions.

Listening to my reference mixes, the D5's instrument placement is in line with *much* higher-priced speakers, and with an SPL rating of 103 dB, I can listen to the characteristics of high-SPL reproduction, and the obvious low-level details, as well. Equator has produced a speaker that everybody will love, whether editing dialog or mixing full-range in a home environment. I was simply blown away when listening to reference mixes I use all the time to test speakers: The D5's imaging is superb, its sweet spot is wide, the silk tweeter is smooth and the low end truly goes down to 53 Hz. I'm impressed. At this price point, these speakers are nothing short of phenomenal.

Being a guitar player. I am always looking for accurate reproduction of this particular instrument; as a recording engineer, I'm looking for everything—the complex harmonic structure of piano, the bowing of strings and the grind of a Leslie-driven organ. The D5s reproduce the instruments of an orchestra with a great degree of accu-

racy; the soundstage is correct, as is the instrument placement and timbre. It reproduces drums faithfully, if not at ear-bleeding levels, with the snare and kick firmly planted in the soundstage with no hint of boxiness. The complex harmonics of piano are heard with little if any escalation or resonance of any particular frequency. And vocal reproduction is realistic, which is unheard of in a speaker this size and at this price.

I found them to be smooth across the entire frequency spectrum, and with nary a hint of listening fatigue after hours of production—a welcome experience. If you need more sound pressure, you will need to go with a different speaker, but the D5 is always a speaker you can refer back to, at a lower level. Granted, the lower octave below 53 Hz will need a subwoofer to truly get a feel for “what's going on in the basement,” but for everything else, the D5s will suffice in a home studio environment or any near-field monitoring situation.

THE LITTLE MONITOR THAT COULD

Equator has chosen to self-distribute a well-designed little monitor to further its brand name in the industry, and the company has done a remarkable job of creating a system that would fit comfortably in every home studio and professional environment around the globe. A point-source reference monitor, with this degree of accuracy, and at this price point, is a newfound paradigm. This is a no-brainer: Buy these speakers. You will not be disappointed. To ensure this statement, Equator has a 60-day, money-back guarantee. If you don't like them, send them back. No manufacturer has offered this amount of confidence in its product in recent memory.

Speakers are getting better, and the D5s are at the forefront of this technological trend.

Bobby Frasier is an audio engineer, educator and guitarist for Beatles tribute band Marmalade Skies.

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ELECTRONAUT M63 PREAMP

Tube Personality Brings Wide Sonic Palette to Your Tracks



The M63 comes in a foam-lined, rugged travel case ready for the studio.

The Electronaut M63—a three-rack-space, hand-made, dual-channel microphone and instrument preamp—is made in Chicago by owner/designer Rob Roy M. Campbell, a self-described musician, recordist, engineer and experimenter. Campbell created the M63 to be a recording instrument rather than strictly a mic preamplifier, and he did not shy away from incorporating some nonlinearities into the design, in direct contrast to the “straight wire with gain” approach. This design aesthetic, coupled with superb craftsmanship and attention to detail, pervades the unit, making comparisons to other preamps difficult—the M63 is in its own class.

UNIQUE DESIGN AND CONSTRUCTION

The M63 comes in an optional foam-lined, rugged travel case ready for the studio. The first production run (40, including my review unit) has a hand-fabricated aluminum chassis made by Campbell in his metal-working shop. Two large, backlit Sifam VU meters dominate the front panel, which was milled from thick aluminum plate and then anodized black and engraved.

Inside, there are three printed circuit boards: one for each channel, plus the power supply. These boards are 1/8-inch thick—twice the standard PCB thickness and with copper traces three times thicker.

These details eliminate the disadvantages of using PCBs and make field replacement easier.

The boards connect to the front panel controls and switches using beefy Tyco MetriMate connectors fitted with gold-plated pins. All pots are by Clarostat, and the switches are made by Carling, except the locking NKK phantom-power on/off toggles.

Each channel's preamp signal path begins with a Lundahl LL1636 amorphous-core input transformer feeding a 12AY7/6072A mic preamp stage fixed at 50 dB of gain. The fact that the input stage's gain is fixed and not variable like a modern preamp is the core reason behind the unit's sound and operation.

The Trim control pot following the input stage acts like a volume control to set the level to a 12AU7/ECC82 line-driver stage that's followed by another volume control called Attenuate. This output stage uses a Lundahl LL1676 output transformer and provides up to 13dB additional gain when driving a 600-ohm load.

The M63's larger heavy-duty toggle switches do not pass audio. Used for the tactile feel, they operate relays that feature gold-plated contacts. In addition to the M63's mains AC power on/off, there are four toggles per channel: -20dB pad, +48-volt phantom, (phase) polarity reversal and the unit's two operational modes, microphone or instrument input—a DI path that uses a front panel-locking Neutrik 1/4-inch jack. All four of the front panel controls use impressive-looking Daka-Ware knobs cast in Bakelite. They look like the knobs on an old Ampex 350/351 analog tape deck.

The power supply uses a custom-designed shielded toroidal transformer mounted on stilts above its PCB and a 12X4 tube rectifier instead of diodes. Campbell says this feature promotes longer tube life

TRY THIS

Use a microphone splitter to connect the same mic to both channels of the Electronaut M63 at the same time. Set channel 1 for a clean, natural sound, and set channel 2 to fully saturate the unit by turning the Trim knob full-counterclockwise and backing the Attenuate control way down—exactly like a guitar player would do with the amp's preamp and master volume controls. Like an insurance policy for the engineer, because both preamp outputs are going to separate tracks and are phase-locked, you can later mix them freely (or not) in any proportion.



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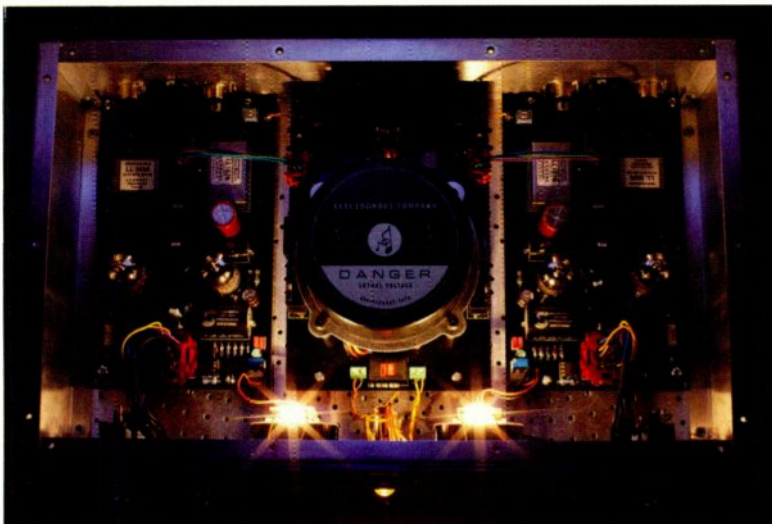
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The circuit boards in the Electronaut are 1/8-inch thick with copper traces three times thicker than normal.

via the slow ramp-up of the tubes' B+ high-voltage supply.

Solid-state regulators are used for +48V phantom power, 12V DC for the tube's filaments, jeweled power indicator and the VU's light bulbs. All tubes are mounted in ceramic sockets but there are no retainer or hold-down brackets. Electronaut sources tubes from Electro-Harmonix and pre-tests them for each unit ordered.

NEW COLOR IN THE STUDIO

My first test was at my Tones 4 \$ Studios for a voice-over recording on a promotional piece about Alan Parsons' Art & Science of Sound Recording DVD series. I compared the M63 to my solid-state RTZ Professional Audio preamp. I used my transformer mic splitter box (Jensen JT-MB-E transformer inside) to route an MXL Revelation large-diaphragm tube condenser mic to both pre's at the same time and recorded their outputs to separate tracks into Pro Tools|HD at 24-bit/96kHz.

I went with the cleanest setup, with the Trim control at about 11 o'clock and the Attenuate control full-clockwise, while the RTZ was set to 50 dB of gain. No pad was used on either preamp. I had two vastly different-sounding signal chain paths running here, and the differences were not unexpected.

The M63 added a thick analog layer to the MXL's sound—a mic that uses a pentode (EF86) instead of a triode, and is very "colorful" on its own. On the other hand, the RTZ preamp portrayed the MXL as it actually is. For speech recording, the M63 (and this mic) sounded well saturated, like an old recording but without the noise, analog tape print-through, modulation noise and distortion.

I used no processing; by virtue of its design, the M63 imparts a noticeable tube compression even when set up as cleanly as possible. I used a Pete's Place Blast Filter for insurance against plosives and found that an "s" through the M63 was sanded off—smoother and more pleasant-sounding. The M63 consistently produces mostly second-harmonic distortion products in the range

of 0.2 to 0.4 percent, and as rich and luxurious as this sounds, I never heard it fuzz out into unusable audio.

Next test was a simple drum kit recording at another studio. I tried the M63 in three tests: stereo overheads (wide-spaced Rode NT5 cardioids), kick (Shure Beta 52) and snare (SM57).

For the overheads, I did not use a pad on the M63, Trim barely cracked off the furthest counterclockwise (off) position and the Attenuate control straight up 12 o'clock. With the super-hot mic levels coming in and the Trim control set to nearly off, it was very touchy to set a proper level. Instead of off at full counterclockwise, perhaps a minimum Trim level should be offered, with the remainder of available level spread out over the rest of the control's range.

I next wanted to try a different setting to see if I could alter the drum sound without changing mic positions, the drums or the drummer. I turned on the M63's -20dB pads and raised the Trim to about 8 o'clock and turned the Attenuate knob full-clockwise. What a huge change!

Without the -20dB attenuator, the first drum sound was live-sounding, with the sound of the

room, kick and snare well-represented in the overheads—as if I had used a compressor. In fact, zooming in on the recorded audio's waveforms in Pro Tools showed that some of the peaks were flattened, although I never peaked (red) on the HD192's or Pro Tools's meters.

The second drum sound was closed-down and dryer-sounding with no peak flattening. I liked this sound but it was a much tamer animal. Clearly, the M63 could use a -10dB attenuator position for yet another drum sound somewhere in between those two extremes.

Using the two channels of the M63 for kick and snare produced a fat, clear sound without doing anything other than putting the mics in the right places! The Beta 52 is a bright dynamic that can give you too much click on certain drums, but in this case, it was dialed in like I spent hours tweaking it. Ditto for the snare drum—through the M63, the SM57 sounded much thicker and ready for final EQ.

At a third studio, I recorded a Collings acoustic guitar equipped with an LR Baggs piezo-electric pickup system. I recorded a Royer R-121 ribbon placed six inches away from the 12th fret and the guitar's piezo output into the M63's instrument input at the same time. These lower-level sources make the M63 with its high gain a perfect choice.

I found the mic channel (Trim at 2' o'clock, Attenuate at full-clockwise) to sound warm, thick and present—this is not the typically over-bright acoustic sound! The DI channel (Trim at 11 o'clock) was one of the best direct acoustic sounds I've heard and was totally usable in the final mix.

At a fourth studio, I recorded a stock Fender Jazz Bass (passive pickups) using the instrument input. But before plugging in and after selecting the Instrument mode, I heard a buzz that varied with the Trim control setting. A self-shorting input jack would solve that issue.

The buzz went away as soon as my bass player plugged in, and he immediately remarked that playing through the M63 reminded him of a bass guitar amp. We did find the M63 distorted on certain peak moments, especially when playing hard on the E string. Backing down the instrument's volume control seemed to help this problem, but it also diminished the bass guitar's sound and punch.

Maybe not technically and specification-perfect, the M63 is a mash-up of old and new electronic design philosophies and more of a vintage guitar amp than a recording studio kit. It's easy to love because of the mojo this winner brings to the party.

Barry Rudolph is an L.A.-based recording engineer. Visit him at www.barryrudolph.com.

PRODUCT SUMMARY

COMPANY: Electronaut
WEBSITE: electronaut.info
PRODUCT: M63
PRICE: \$3,333
PROS: A whole new palette of truly vintage sounds.
CONS: Could use a -10dB attenuator position.



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NATIVE INSTRUMENTS STUDIO DRUMMER

New Kontakt Instrument Brings Big Bang for the Buck

Studio Drummer lets you create very realistic-sounding virtual drum tracks for an impressively low price (\$169). The new Mac/Win virtual instrument from Native Instruments (NI) includes a 17GB sample library (comprising three different multi-miked drum kits), more than 3,300 MIDI grooves, five effects processors and an integrated virtual mixer.

Studio Drummer is a Kontakt Instrument (available in AU, RTAS, VST and stand-alone formats) so you'll need either Kontakt or the free Kontakt Player to use it. I reviewed Studio Drummer using Kontakt Version 5.0.1 with Digital Performer V. 7.24 and Pro Tools V. 9.0.5. My system included three Core Audio I/O boxes (MOTU's HD192, 2408mk3 and 2408mk1) and an 8-core Mac Pro running OS 10.6.8.

HERE, KITTY KITTY

Studio Drummer's three excellent-sounding kits were sampled at 24-bit/44.1kHz resolution using up to 18 mics in Berlin's renowned Teldex Studio. (See Fig. 1.) The Stadium Kit (NI's sobriquet for a Pearl Masters Premium Maple kit) dishes out a big rock sound. The Session Kit, a Yamaha Maple Custom Absolute, has a tight and polished sound appropriate for many music genres. The Garage Kit, a Sonor SQ2 Drum System, provides the most raw and unvarnished sound of the lot and is a great choice for alternative rock, grunge and the like.

The kits' samples were recorded with close, stereo overhead, and stereo and mono room mics. You adjust the blend of those mic signals inside Studio Drummer's GUI. You can adjust the blend of top and bottom snare mics and the degree to which kick and toms bleed into those mics. Kick drum mics include those placed inside and outside, with an additional sub mic to capture extended bass frequencies. You can tune each kit piece (pitch it up or down) and tweak its volume envelope using separate attack, hold and decay controls. Most importantly, you can control



Fig. 1: The Stadium kit, one of three multi-miked and multisampled kits included with Studio Drummer

how much each kit piece bleeds into the overhead and room mics; this prevents Studio Drummer from sounding either too washy at one extreme or like a drum computer at the other. Each virtual kit includes an alternate snare drum and up to four percussion instruments (drawn from a pool comprising tambourine, hand claps, stick hit, cowbell and woodblocks).

Each mic is routed to a separate channel in the plug-in's mixer (see Fig. 2), where you can also add a transient shaper, tape saturator and emulations of a Solid State Logic EQ and bus compressor to any channel. You can daisy chain these four effects in one of four preset configurations.

Each channel can be panned, soloed and muted. And if the Teldex room sound—beautifully captured in Studio Drummer's mic samples—isn't enough for you, the mixer also provides a convolution reverb with 30 impulse responses (fed by send controls in each mixer channel). Factory presets for the entire mixer (specific to each kit) provide a good starting point for your fader flagellations.

Studio Drummer's realism is due in large part to its alternating samples (up to six for each kit piece) triggered for same-velocity hits and many included drum articulations. For example, the snare drum includes 12 different articulations, while hi-hat offers 17. The downside is that a kit comprising many pieces can demand a lot of memory. For this reason, Studio Drummer provides an alternative Lite version of each kit; however, the Lite version doesn't include alternating samples, sacrificing some realism in return for a smaller memory footprint.

Studio Drummer's MIDI-groove library covers rock, pop, funk, jazz, indie, metal, blues and country styles for both up-tempo and ballad productions. (See Fig. 3.)

TRY THIS

When adding drum hits to a factory-supplied MIDI groove (by inserting MIDI Notes in its MIDI track), first examine the groove in an event list to determine if the drummer was playing ahead of or behind the beat on surrounding hits. Offset your inserted notes from the timing grid by roughly the same amount for the most natural and fluid feel.

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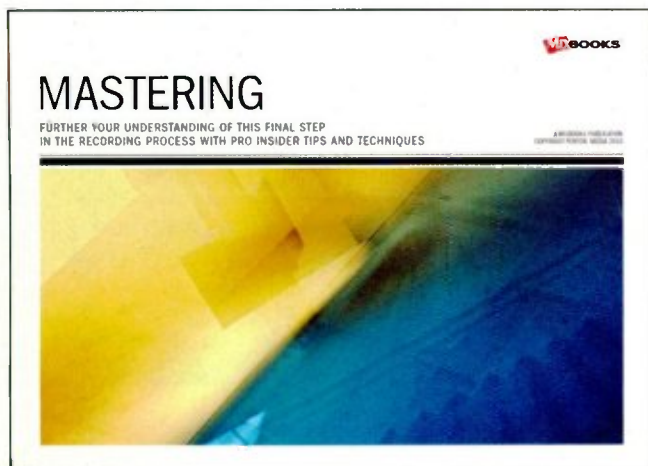
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Grooves include alternative variations that, for example, add ghost notes or change the hi-hat pattern. You can adjust how tightly the groove plays, from right-on-the-money to “too many drinks.” Compress the velocity range, change the velocity curve (to linear, flat, convex or concave) and make the groove swing using other controls. You can also randomize, to a measured degree, the output level, pitch and tone of drum sounds and the velocity (triggering different samples) and timing of MIDI Notes to further enhance realism. After it’s tweaked to your liking, drag and drop the groove into a MIDI track in your host DAW. Alternatively, you can play each drum kit using a MIDI controller. MIDI mappings are provided for the most popular electronic drum setups and drumming software.



Fig. 2: Studio Drummer's integrated mixer adjusts levels and panning, inserts effects, and includes a solo and mute for each channel.



Fig. 3: Studio Drummer's MIDI-grooves browser organizes stock MIDI files into separate categories for efficient search and recall.

TO THE TEST

I couldn't drag-and-drop MIDI files from Studio Drummer directly into Digital Performer's Sequence window, which is a necessary procedure for assembling multiple MIDI grooves into a song arrangement. My workaround was to import Studio Drummer's MIDI grooves into Toontrack EZplayer Pro, a third-party plug-in, and drag-and-drop them into Digital Performer from there.

Pro Tools Core Audio Systems and RTAS plug-ins are considerably less efficient than Digital Performer 7 and AU plugs. (RTAS plug-ins are processed at half the set hardware-buffer size, increasing the CPU load.) To avoid frequently disrupted playback of grooves in a Pro Tools Core Audio System, I set Pro Tools' hardware buffer size and CPU usage limit to the highest possible settings and checked “ignore errors during playback/record” in Pro Tools' playback engine. Once I did that, playback was seamless, even with 15 stock processors activated across 12 mixer channels in the RTAS plug-in.

Studio Drummer's included effects were a

mixed bag. The EQ sounded very good, especially when used to boost the low end on kick and floor toms. The compressor generally sounded okay, but the Waves API-2500 plug-in sounded way more explosive on room mics. The transient shaper was very useful in shaping the volume envelope for room mics, but it couldn't make the snare drum pop nearly as much as SPL Transient Designer and Waves TransX plug-ins. The tape saturator didn't sound authentic to my ears; it just dulled the drums' impact. The convolution reverb sounded great and offered a wide variety of plates, rooms, halls, studios and other impulse responses. You'll have to rely heavily on your ears when adjusting these processors. For example, the EQ lacks a graphical

display, and the compressor doesn't include a gain-reduction meter.

Studio Drummer's pitch and tone randomizers were especially helpful in making the drum tracks sound human. And boosting the feeds for cymbals—especially for the hi-hat—to heavily compressed room mics really helped make the drums sound “bad” in a good way: hyperventilating, trashy and wild, just like real drum tracks being abused.

Although Studio Drummer allows you to save custom mixer setups and instrument-mapping presets, many critical parameters for individual pieces and MIDI playback are not stored: overhead and room bleeds, AHD envelopes, tune (pitch) settings and MIDI randomization. Make sure you save your project often in your DAW to preserve settings.

The included MIDI grooves were played really well and offer a wide variety of grooves and playing styles. Of course, they couldn't possibly include every possible groove and fill. I had firm ideas about what the drums should play in my

production and needed to edit many of the MIDI files in my host DAW (mostly inserting, moving and deleting hits). It was a lot of work compared to just recording a hired drummer, but the end result sounded very convincing—the fidelity and feel was top-notch, and I doubt I would have been able to tell in a blindfold test that the tracks were virtual. You can also play a Studio Drummer kit using a MIDI-keyboard controller, but unless you've got great chops, that would sidestep the benefit that the included MIDI files bring by virtue of their having been played by a professional drummer.

TRUE TO ITS NAME

Studio Drummer's inability to drag and drop its MIDI grooves directly into Digital Performer is a showstopper (if you use that DAW), unless you have a third-party plug-in such as EZplayer Pro that can act as a go-between. The RTAS plug-in requires a powerful computer and careful CPU resource management when used with a Pro Tools 9 Core Audio System.

On the plus side, the quality and sheer quantity of Studio Drummer's included samples and MIDI files are outstanding. By using a few choice third-party plug-ins, I could make the kits sound absolutely amazing. Controls for adjusting snare drum bleed, distant-mic bleeds, and randomization of drum volume, tone and pitch add to the plug-in's authenticity, leading me to a firm conclusion: Studio Drummer sounds like the real thing.

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

PRODUCT SUMMARY

COMPANY: Native Instruments

PRODUCT: Studio Drummer

WEBSITE: native-instruments.com

PRICE: \$169

PROS: Kit samples sound outstanding. Well-played, large and varied MIDI-file library. Some included effects excel. Very inexpensive.

CONS: Can't drag and drop MIDI files directly into Digital Performer. Heavy CPU load when used with Pro Tools Core Audio Systems. Many critical parameters can't be saved in custom presets. Some included effects sound mediocre.

ON THE COVER

(continued from page 12)

Since opening, Douglass has worked with John Legend (Grammy winning), Missy Elliot, Sean Paul and a bunch of smaller-but-still-mighty projects from acts like Tan Lines and Twin Sister. As we spoke, he was excited about new work with super-producer Pharrell Williams, up-and-coming DJ/violinist/beat maker Mz. Poppins, and The System—David Frank and Mic Murphy—a critics-fave '80s band he had worked with. This month's cover features Kevin Rudolf, an artist/producer out of the Timbaland camp who hit big recently with "Let It Rock" and in March will release the single "Don't Give Up" on Cash Money Records.

Last October Douglass introduced a monthly workshop that he has dubbed The Hang. Six people, 12 days, all aspects of the music industry—songwriters, artists, engineers, producers. They must submit work, and not all are accepted. Those who are accepted can hang with Jimmy while he does his work, but they get a real hands-on experience. Some create beats up in Studio 2, some join him on a mix, others write songs. They network, learn about the business, make contacts. It's designed, Douglass says, to take working pros to the next level. And he makes no bones about the fact that he's constantly on the lookout for the next big thing.

"I've trained a lot of young engineers and had some amazing assistants over the years," Douglass says, "but it doesn't work that way anymore. The business doesn't work that way. Back at Atlantic, everyone was in A&R, everyone had input. The process was a process, soup to nuts, songwriting to mastering. And it was all about the music. It was the same way when I hooked up with Timbaland in Rochester. When you are involved in every aspect, the dust sticks with you. That's what I want to bring back. I'm not a teacher, I'm not a school. In-house now, we have a couple of my protégés—producer Ill Factor and a new artist, Beau. And I have this tech wiz named Goggs who keeps it all running. I'm the guy who ends up bringing together a band that doesn't even know they're a band yet."

One artist has already signed a label deal; another got a gig mixing a rock record for Michael Kaplan. Douglass says that he's learned from them, too. "We spend a lot of time mixing by ourselves these days," Douglass says. "Files come in from everywhere, and you don't even know what's on them. You spend half your time assembling stuff and figuring out what was missing in the rough. I like being in the room with the artist, even on the mix. I like to hang."

Douglass is certainly right that the days of Motown or Atlantic, where artists roamed the halls and bounced off each other, where young engineers could learn the art of recording from the masters, are gone. But that doesn't mean the concept is dead. It just has to be reinvented. Why not in Miami?



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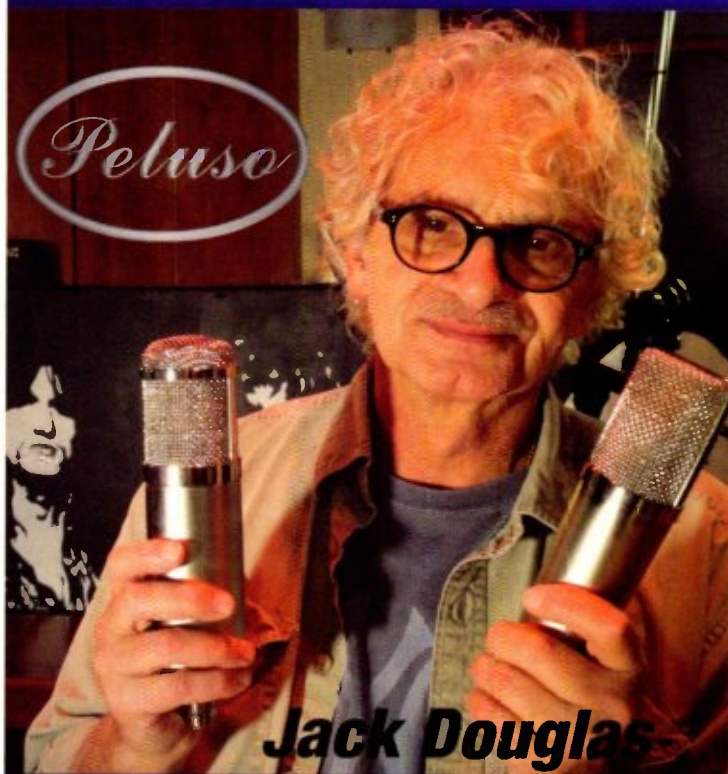


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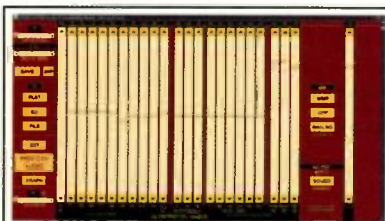


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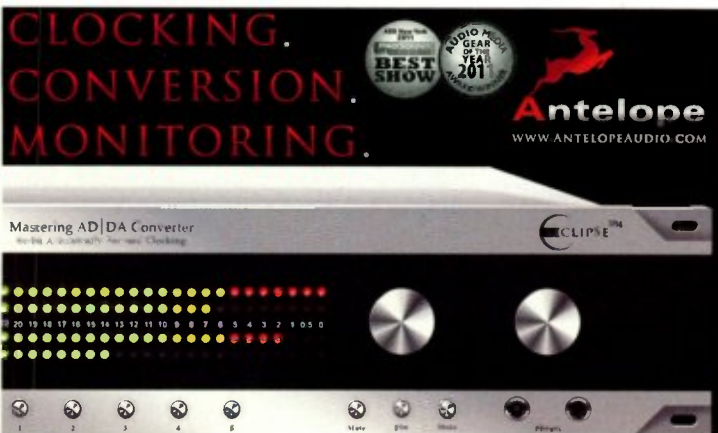


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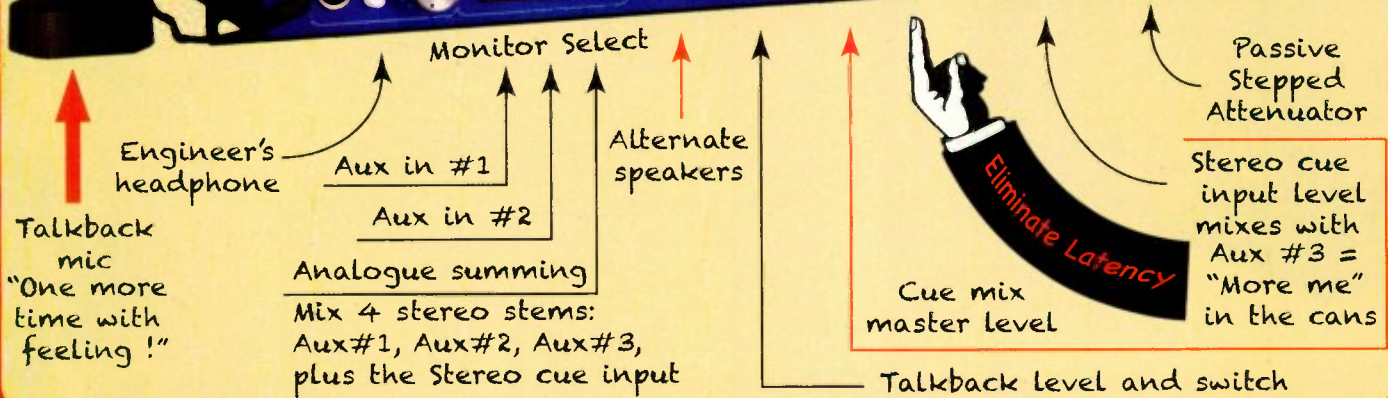
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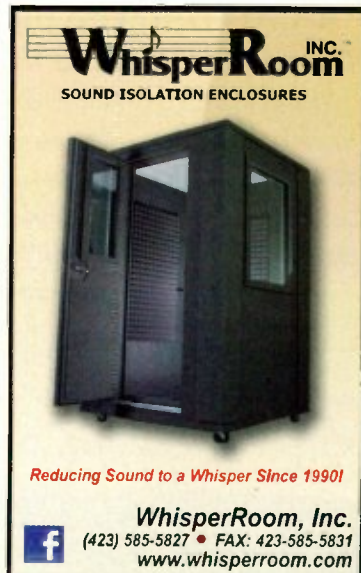
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Well, then you make lemonade—but it can be sweet lemonade provided that you work well within your boundaries.

I started by making a model of my room in Google SketchUp (free) and then enlisting the help of Tim Solis of Urban Contractors and Jeff Harris, a tech, engineer and acoustician. Jeff and Tim have built a number of commercial and private studios, so they came up with some great ideas. Because I was not going to cut tracks and was more concerned about being able to mix at a healthy volume without disturbing the neighbors, we concentrated on reinforcing the existing walls and ceiling, and building the fourth wall to define the space. The floor was post-tensioned slab concrete and isolated from any other occupied rooms. With the ceiling at only eight feet, building up the floor was not an option, but at least it was solid.

There are some commercially produced and proven sound-absorbing drywall products on the market, but these busted my budget, so to provide mass to the existing walls, we came up with a sandwich of drywall and Hardibacker, a ¼-inch concrete product bought in sheets like drywall. For the three existing walls, the formula was to cover them with a layer of 5/8-inch drywall, Hardibacker and then ½-inch drywall. The studs for the fourth wall were floated at the floor and ceiling with mechanical rubber and anchored at the corners with just two screws. Tim's precise measurements and anchoring method truly floated this wall and made it rock-solid. These studs were covered front and back with dual layers of ½-inch drywall, with the usual air pocket between. The existing ceiling was covered with ¼-inch drywall, and then a product called Z Channel was anchored to the studs using rubber grommets for isolation. Z Channel is a lightweight, metal-furring system that allowed Tim to float a second layer of ½-inch drywall below the existing layered ceiling, leaving an air pocket between.

The next consideration was to reinforce an existing window that was double glass and opened to a public space. The sill was deep enough to move the existing privacy blinds back so Tim could install a second double-paned window. This

worked well for keeping sound, light and heat out of the room, as proven the next day when the landscaping crew was running a leaf blower just outside the window; you could barely hear it. To provide security, there is a custom-made wrought-iron barrier placed over the window on the inside. The door is solid-core, and I customized it slightly to add a double-paned window. I'm not a real fan of the "cave" mixing environment, at least not at home.

Next came the ventilation, which is part and parcel to wall construction and an important consideration as I knew the gear would produce a considerable amount of heat. I had a single AC vent into the room but no return now that we had built the fourth wall. We ended up using an adjacent laundry room that had a ceiling fan as an outlet. I replaced the existing contractor-grade fan with a Panasonic VF-11VQ5 WhisperCeiling 110 CFM ceiling fan and had Tim build a plenum in the wall with a vent so that there was an escape for the air to the outside. This fan's vent travels a long way across the rest of the structure in an insulated outlet, so intrusion of outside noise will never be an issue. And I wasn't too worried about transmission issues; there's not a lot of rumbling or vibrations in my house or my neighborhood.

Finally, Tim then put in the floorboards and crown molding, and I painted the room, but not before a little experimentation. Being an HGTV junkie, I'd seen a crasher show where the builder used magnetic paint to allow the owner to place items on the walls without screws. Being that my next step was hanging Broadway acoustic panels from Primacoustic, I thought it might be worth experimenting to see if the 6-pound panels could be mounted magnetically, allowing me to move them while testing the room. I found some wicked-strong magnets online that promised to hold 17 pounds, but the idea ultimately didn't work. I was out \$40 on supplies and some time, but it was worth a try.

The process to this point took about six weeks and a lot of time searching and working with Tim to get the job done. Next comes the mounting of the acoustic material, building a custom outboard rack and getting the gear in the room. You can follow each month's installment online at my blog, blog.mixonline.com/mixblog/category/techticker, where there will be plenty of pictures, resource links and additional material. At this point, the anticipation is building, and I'm anxious to start hearing audio in the room. Patience is a virtue, but not one of mine.



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