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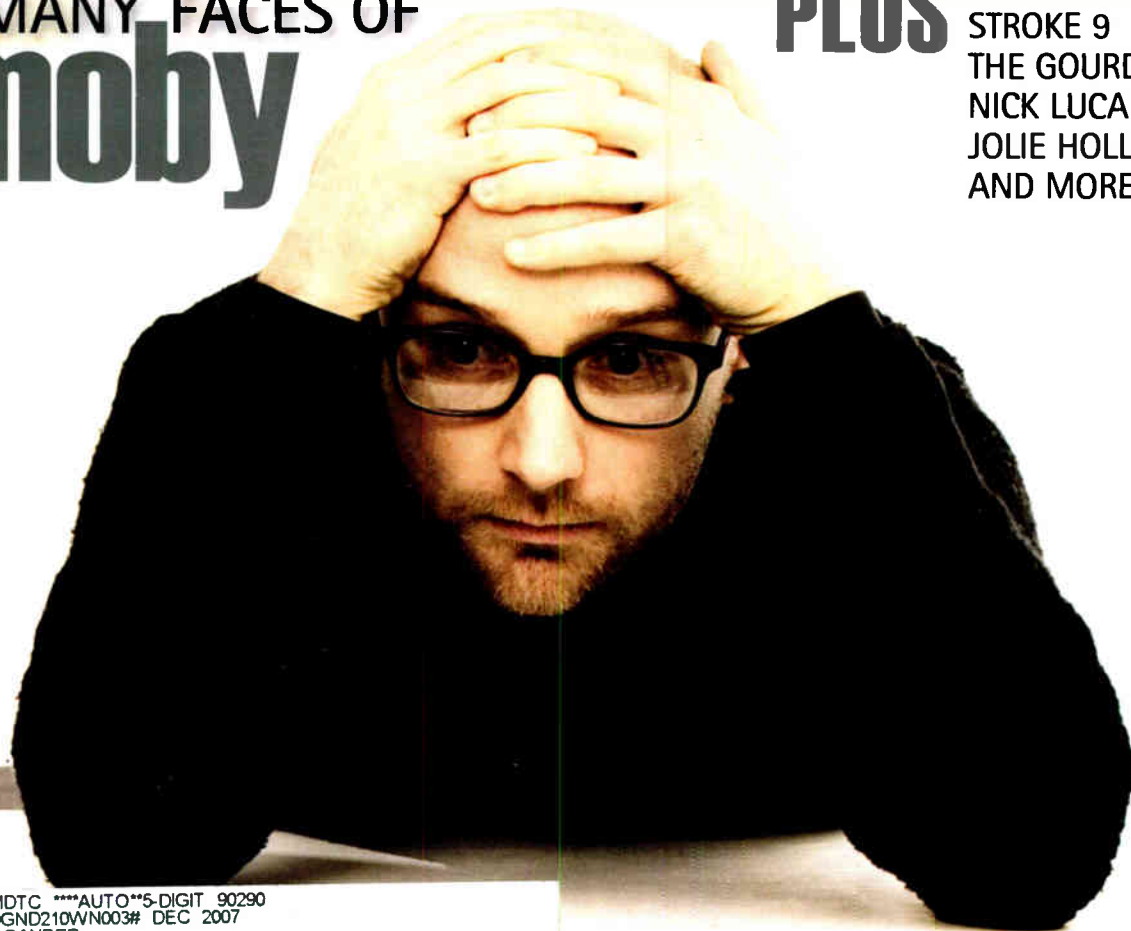
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- MICS FOR ANY BUDGET
- RECORDING, PLAYING IN AUSTIN

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STROKE 9
THE GOURDS
NICK LUCA
JOLIE HOLLAND
AND MORE



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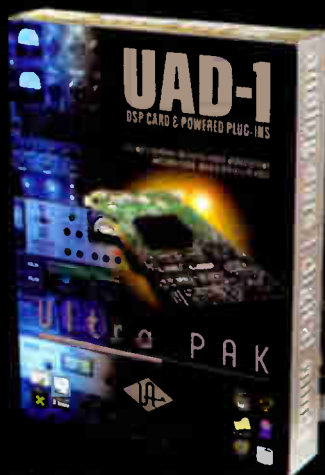
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PROFESSIONAL AUDIO AND MUSIC PRODUCTION

March 2005, VOLUME 29, NUMBER 4



On the Cover: Set to release his two-CD set, *Hotel*, Moby easily transitions his production style from sultry ambience, new age trance and even pop. *Mix* gets a sneak peak into his home studio. Photo: Barry Berendt.



features

30 Recording Guitar



In the second installment of our yearlong series on "Recording the Band," technical editor Kevin Becka tackles the crunch and strum in "Guitar Greatness." From setup and mic placement to inserting effects in the signal chain, getting a great guitar sound can be a lot of work. Becka offers up his own tried-and-true techniques and asks other industry pros their "trade secrets."

40 Winter NAMM 2005 Report

While the East Coast was in the midst of a blizzard, attendees at Winter NAMM 2005 (January 20-23, 2005, in Anaheim, Calif.) basked in the heat and checked out some hot new products. Business definitely is booming and there was no shortage of technologies to check out. The *Mix* editors bring back their faves.

46 New Studio Microphones

For any project, it is essential to have the right tools: an artistic touch, creativity and production know-how, as well as the right gear. *Mix* understands that no mic closet is ever full, so we've profiled new studio microphones—cardioids, condensers, dynamics, ribbons—that hit the market in 2004.

56 Austin Studio Scene

Austin is known as a live music Mecca, but it's also home to a deep pool of talented musicians, producers and engineers, and excellent recording facilities. *Mix* steps "behind the glass" for a look at the other side of the Austin music scene.

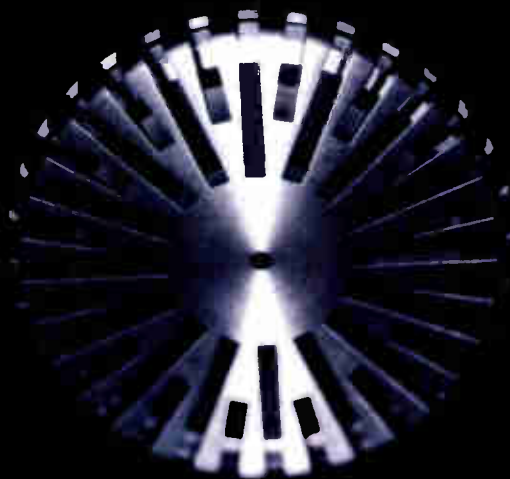
62 Artist Development 2005

Studios are looking for new business, or is it that they're making new models out of old business models? *Mix* checks in with four studios spanning the nation that are not only engineering and/or producing artists, but developing them, as well.

Check Out Mix Online! <http://www.mixonline.com>

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Planet Indie

Once upon a time, record labels were run by musicians and producers—rather than lawyers and accountants. In those near-bygone days, labels had A&R (Artists & Repertoire) departments staffed by people who understood music and were responsible for discovering talent, matching them with the right producers and looking for great songs for the artists on the label's roster. Over the years, spreadsheets replaced lead sheets and demographics replaced demo recordings in the big labels' artist selection process.

In their zeal to find the next megabuck superstar band, larger labels lost interest and patience in artists that sold "only" 50,000 or 100,000 units. Money for artist development simply dried up, label tour support disappeared and recording budgets dropped. Meanwhile, money for—and emphasis on—the all-important video promo was on the rise. But once the MTV clip mania waned, labels looked to new media—film and video game soundtrack placement, AOL sessions, etc. The words of one song lamenting the change said it all: "Who would want to listen to a band that looks like that?"

Yet changes at the majors opened opportunities for independent labels that—lacking the bloated infrastructure of the big guns—could get by just fine with a roster of mid-selling artists. Often producer-owned, these independents were free of the majors' "anything less than a million-seller is a failure" mindset and could take a chance on developing new talent without wondering if their jobs were at stake. Many of these new ventures flourished; a few textbook cases include successful indies such as Rhino or Alligator Records.

A relatively new phenomenon is a movement of commercial studios into the independent label game. A quality recording facility (also typically owned by a producer) with available studio time is ideally poised to make the leap with a minimal investment. In this issue, *Mix's* Maureen Droney spoke to a number of studio owner/independent label entrepreneurs, among them Chris Schneider of Chicago's Blue Cactus Entertainment, who not only sees a financial opportunity, but also the benefit of boosting the local music scene by creating a Chess/Motown-style production environment.

However, not all independents are big-money operations; the majority are much smaller, with a few artists—or just a single act—on their rosters. Access to low-cost recording gear, independent pressing plants and alternative distribution—through the Internet, fan clubs or offstage sales—allows self-labeled bands to generate additional revenue while increasing their exposure through local and college radio.

But whether unsigned, labeled or self-labeled, the place for bands to be this month is in Austin for South by Southwest 2005 (www.sxsw.com), held March 11 to 20. Austin has always been a music town, but with hundreds of acts showcasing on 50 stages throughout the downtown area; a huge slate of musician-oriented panels, workshops and conferences; interactive media and film festivals; and the nearby *Mix*-sponsored Musician's Hotel (www.musicianshotel.com), the joint will be jumping.

See you there.

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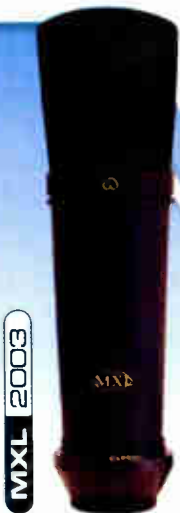
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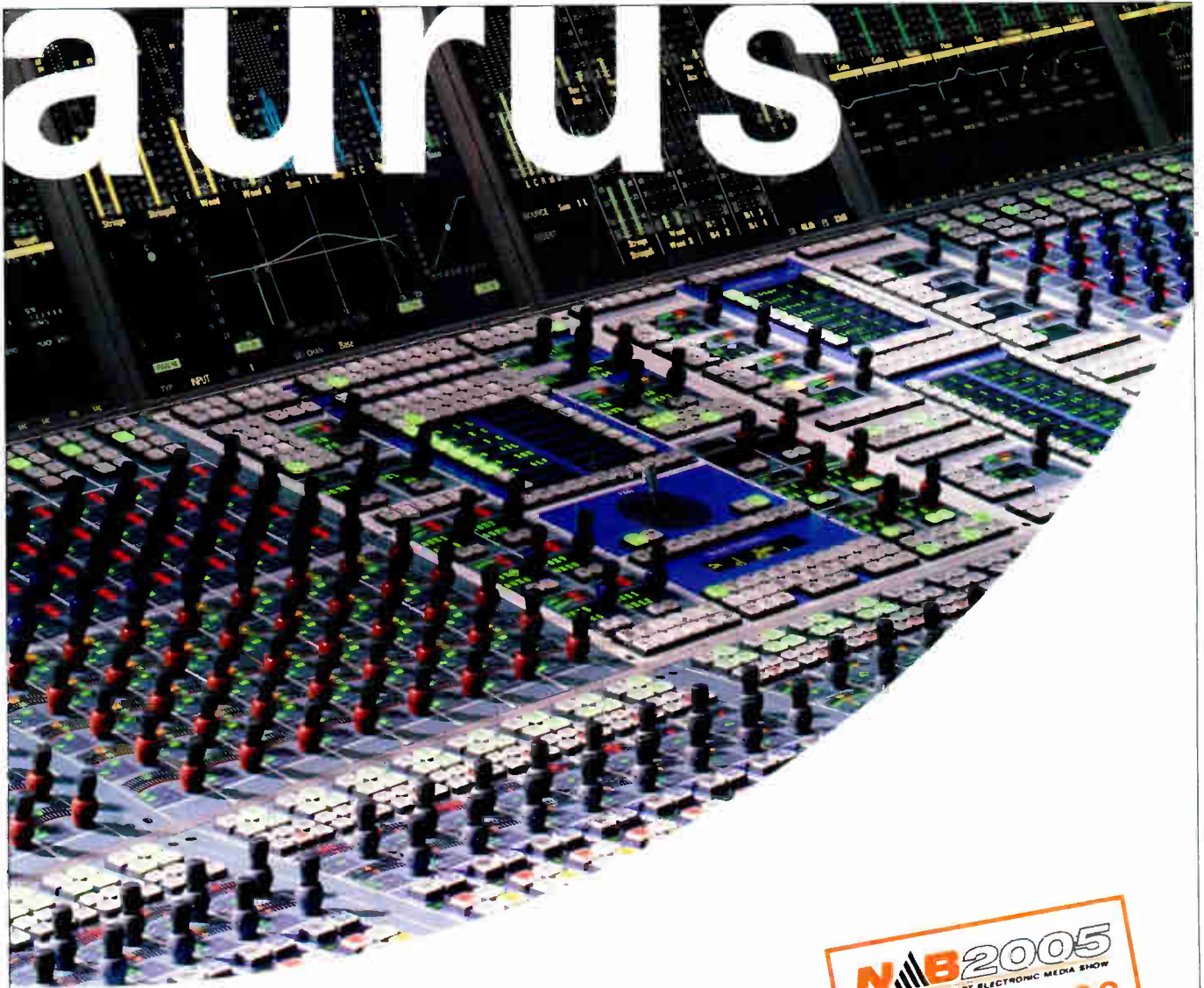
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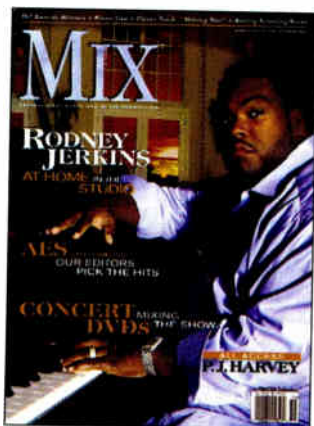
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BELGIUM VRT Flemish TV, Brussels (OB Vans K2, K3) **GERMANY** Anhaltinisches Theater, Dessau · Deutsche Welle TV, Berlin · E.T.A. Hoffmann-Theater, Bamberg · Friedrichstadtpalast, Berlin · TV Home Shopping Europe AG, München · HR Hessischer Rundfunk, Frankfurt (OB Van FÜ 1) · Informations- und Medienzentrale der Bundeswehr, St. Augustin · MDR Mitteldeutscher Rundfunk, Leipzig · NDR Norddeutscher Rundfunk, Hannover · Schaubühne, Berlin · WDR Westdeutscher Rundfunk, Düsseldorf (OB Van FÜ-Sat, Synchronstudios 1/2) · WDR Westdeutscher Rundfunk, Köln (Studio B 1/2, Studio at the Philharmonie) **ITALY** RAI Italian Broadcast Service, Rome (Saxa Rubra TV 1) · ETABETA Outside Broadcaster, Rome **JAPAN** New National Theatre, Tokyo · iMedio Post Pro Studio, Osaka **LUXEMBOURG** Grand Theatre de la Ville **POLAND** TVP Telewizja Polska, Warsaw (OB Van, TV-Studio) **RUSSIA** Kremlin Palace, Moscow **SLOVAKIA** National Theatre, Bratislava **SWEDEN** SR Sveriges Radio, Stockholm (OB Van) **SWITZERLAND** Schauspielhaus, Zurich **UNITED STATES** The Guthrie Theaters, Minnesota



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Letters to Mix



INNER CONFLICT

Great article with Rodney Jerkins (December 2004). But, man, next time tell him not to smile so much! Nobody could miss how happy that guy is!

Seriously, though, I wish there was a *Rough Mix*: That would be my rag. Instead of producers of the universe flashing their bling, there would be guys showcased—such as Peter R. Kelsey and Leslie Chew (RED Productions, L.A.) and Rich Goldman and his team (Riptide Music, L.A.)—who produce all day, all the time. Just amazing, in-the-trenches-type people.

I love Rodney: He's tough and makes great records. But seeing all the bling and all the talk of Number Ones and "extra blessings" that enable one to purchase cars and houses and airplanes, well, makes me jealous. But more so, I just turned the page and looked at the pictures of new gear—it was sort of cheesy. I wanted to call Rodney and ask him if he could help me pay my rent.

I want to hear about the guys who hooked up a Variac to an 1176 or put a small nuclear device in the insert of [a] lead guitarist's channel strip to make the solo stand out—well, maybe not that—but guys who drive the trade, and not just [featuring them] in the back of the magazine in some blurb.

Mix is and always will be the de facto standard. I've read it since I was in my teens. I'm 42 now, so don't think this was easy for me to write.

Us little guys, the ones who constitute the lifeblood of the industry (my peers much more than me), are still blowing things up and electrocuting themselves, all to further the careers of the producer—and to make better records, of course. They deserve some kudos in a very big way.

Robb Howell

Painted Horse Studio, Peace Machine
Tustin, CA

RIPPING INTO OUR COLUMNISTS

Sorry that my first letter to *Mix* is a complaint. I've been a regular reader for most of the past 20 years and have subscribed for the last year. In all this time, there hasn't been anything to complain about. (Well, the cover ink does rub off on your fingers sometimes.)

The past couple of issues have had a Yamaha ad insert on heavy stock, with an adhesive line to attach to a magazine page. Problem is, no matter how careful I am, I can't seem to remove the ad without tearing the page. Last month, I ripped Paul Lehrman. This month, Eddie Ciletti. Now, these are two of my favorite columnists who I read faithfully, but it's pretty hard to do so when you have to re-attach shreds of paper. I hope next month's ad isn't attached to Stephen St.Croix. I'd hate to set him off.

Thanks for publishing a consistently excellent magazine over many years. But please stop sticking ads to the page with this infernal goop.

Mike Marston

MIX STICKS AROUND

I have been a *Mix* reader for a number of years and, as of late, I dread picking up and reading through the magazine. Why? Because by the time I am done, there are fingerprints on the cover and the ink is on my hands. This problem started occurring with the August 2004 issue. Please tell the bean counters to spend the money so the ink stays on the page.

Brian Long

LOGIC LONGHAUL

I have been a Logic user since the Atari days and have done more than 60 records with Logic. I began using Logic (then called Creator) with 24-track machines, then with DA-88s, then with [Pro Tools]Mix24 and three Farm cards and it was a solid system. Last year, I switched to a G5 dual 2.5 with OS X; hence, I had to sell the Mix24 and buy a [Pro Tools]HD2 system to continue my productions with all my TDM plug-ins.

That is where my one-year nightmare began. After everything was installed by a New York City-based Logic technician, I began working with the system (some big live sessions with lots of TDM plug-ins, 24 direct TDM instruments, 24 DTDM audio tracks with different sample rates and 64 DAE audio tracks). Toward the end of every mix, once all plug-in and automation data was written, Logic crashed. And I mean self-destructive, nasty OS X crashes that kept reoccurring, even when I restarted the song with much earlier versions. The song just closed down without warning and corrupted itself so that the next crash would follow

about one hour later, the next one 10 minutes later—until I had to finish the mix in 30-second fragments from crash to crash.

Ironically, the first answer I got from Apple Care/Emagic when I called was, "Who said Logic would work with Digidesign's HD?" I thought this was a joke and asked for another Logic specialist. Emagic figured [that] maybe it was [happening] because of plug-in incompatibilities. Waves even admitted [to] not being compatible with Logic 7 and sent me a new beta version for the TDM Platinum bundle. After I disabled the plug-ins, it still crashed because of the memory chips, which I replaced. I made new environments, mixed without DTDM, downgraded from Logic 7 to Logic 6.4.3, upgraded to the Pro Tools 6.7 DAE, tried mixing without Logic Control, without MIDI, got a second internal drive and installed a brand-new OS 10.3.2 system, because Digidesign was not yet compatible with 10.3.4.

[After all of this,] it would work for a day or so, but toward the end of every mix, it would crash again. I spent countless hours consulting three different people at Apple/Logic tech support via phone and e-mail, e-mailed them hundreds of crash log files—I even paid *hundreds* of dollars to two Logic specialists that Emagic recommended. I tried just about anything to fix the problem, but the system still crashed at some point, in almost every production.

After that album was mixed, I started the next production without DAE, without TDM and DTDM—just native with only Logic plug-ins—and no more crashes. With larger disk buffers and some tweaking, I now run 64 audio tracks with tons of plug-ins and automation, along with 24 ESX and ES2 instruments. I feel like an idiot for having spent \$17,000 for something that Logic can handle natively with a dual-2.5 G5. Next week, I'll put the [Pro Tools]HD2, the Platinum Waves and all the TDM plug-ins on eBay and look forward to a crash-proof, stripped-down native future with Logic.

Digidesign Pro ToolsHD might be a great system, and it might even work with Logic for less-complicated arrangements (without lots of automation), but it's just not the Number One pro solution for Logic producers anymore like it used to be. I wish someone had told me before the investment. Hopefully, this letter can save some colleagues the headaches I went through.

Toby Gad
New York City

Send Feedback to *Mix*
mixeditorial@primediabusiness.com



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RELIABLE

When you first see one of the new Genelec 8000 Series products you know you've seen something extraordinary. But before we even begin drawing the first rough sketch there is one key element that rises above all. Reliability. It is essential and comes in many forms. Beyond unflinching operation it means being able to rely upon what you hear, from the moment you plug it in.

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LAST CALL FOR TAPE? INDUSTRY RALLIES TO GET PRODUCT BACK IN STUDIOS



Global supplier of pro audio/video/data magnetic tape products Quantegy ceased operations at its manufacturing headquarters (Opelika, Ala.) on December 31, 2004; the company is reportedly in Chapter 11 bankruptcy proceedings. The facility's

250-plus employees were locked out of the plant and laid off, pending company restructuring. The company has hired Equity Partners Inc., a firm that specializes in facilitating the sale of financially distraught companies, to seek a joint-venture partner, equity investor or an entire sale of the business. If an investor cannot be found, Quantegy's assets will be liquidated.

Since the plant closure, studios have been frantically searching for any last bastion of analog tape to keep current sessions rolling. The Village's Jeff Greenberg told *Mix* that SPARS—an industry organization of which he is on the board of directors—is arranging a run of tape from Quantegy; specifically, SPARS president Andrew Kautz (Emerald Entertainment Group, Nashville) is speaking with Richard Lindenmuth, Quantegy's president and chief executive on procuring runs of specific analog tape as quick as possible. "We are starting a limited and affordable production of 499 and GP9 tapes," Greenberg said.

According to Kautz, "We're working with Richard Lindemuth, Quantegy's president and COO, to organize runs of specific analog tape denominations. Our goal is to get analog tape back in the pipeline as quickly as possible,

keeping tape available and affordable as a creative tool for our profession." Though a specific amount of tape was not specified, a run of various analog tape lines (including GP9, 456 and/or 499) will be coming from Quantegy's manufacturing plant. "We also want to help Quantegy, a company that has been a vital part of our industry for many years," Kautz continued. "They have provided, not only tape, but moral support and a sense of community in our charitable events. In this trying time, we want to show them that the recording community cares about their company and their product, as well as ensure that they remain a viable part of our industry. We hope to hear from many in the industry who want to participate in this endeavor to maintain the flow of analog product."

To participate in the SPARS-authorized Quantegy tape-order process, call 800/752-0732 and reference SPARS. Your order will be taken and added to the list and you will be contacted within a few days with a time frame for fulfillment of that order.

It has also been reported that Quantegy has a prospective buyer: Race Cannon, who lives in Opelika, Ala. Cannon told WTVM (Columbus, Ga.) that he is looking for feedback from Quantegy employees laid off and has set up a Website for this purpose at www.cannonventures.com/quantegy. Cannon said that once the bankruptcy filing is complete (Quantegy reportedly owes around \$25 million to creditors), he will offer a fair asking price.

Mix will continue to investigate this story and publish updated information at www.mixonline.com.

META ANNOUNCED AT CES

META is a new group of well-known audio industry pros whose declared mission is "to ensure the implementation of optimum standards and practices for the highest-quality music recording and delivery." During the alliance's inaugural meeting at the recent Consumer Electronics Show in Las Vegas, founding members offered that these goals are achievable "by uniting audio professionals, technology providers and consumer electronics manufacturers."

"Our group has been reaching out with great success to technical developers and consumer electronics groups," says Rory Kaplan, META co-founder and president. "It was the right time to focus our efforts into a proactive mission to improve audio quality and the integrity in which it is delivered across our industry." META co-founder George Massenburg has been named chief technical officer and standards committee chair.

Kaplan says that META plans to raise technology standards by implementing a certification program. Other META programs and services include R&D, standardization and cross-platform interoperability, as well as education and mentoring. According to Massenburg, "For some time, our industry has been lacking an objective resource to review technology from a professional user perspective. META plans to help develop a standard that can be used across all current and future delivery formats, in addition to home entertainment systems."

—Mel Lambert



META comprises Phil Ramone, Elliot Scheiner (right), Frank Filipetti (left), Al Schmitt, George Massenburg, Ed Cherney, Chuck Ainlay and Rory Kaplan.

HIT FACTORY NYC CLOSES

It's a rare occurrence that the pro audio industry makes headline news across the nation. Reports spanning from Reuters/*Billboard* to the *Seattle Post-Intelligencer* popped up on the Web days after it was announced that New York City's beloved Hit Factory will close up on February 28, 2005. According to reports, the studio will move its headquarters to its Miami facility, the former Criteria Recording, which Hit Factory acquired in 1999. In a statement released, owner Janice Germano said, "The Hit Factory paved the way for how recording studios approached the artistic process of making music. In doing so, it forever changed the way artists thought about creating records and raised the art form to a new level of innovation. That approach will continue in its Miami facility."

Mix will provide more in-depth coverage in our April 2005 issue.

TOP SCORING COMPOSER COMPLETES OWN COMPLEX

PHOTO: DAVID GOGGIN



In the main composition/recording room are Bruce Maddocks (standing) and Harry Gregson-Williams.

Scoring composer Harry Gregson-Williams (*Shrek* and *Shrek 2*, *Team America: World Police*, *Bridget Jones: The Edge of Reason*) has completed his new five-room, L.A.-based complex, Wavecrest Studios, with the help of acoustician Bruce Maddocks, owner/chief engineer of Cups 'N Strings Studios; Gregson-Williams formerly occupied space at Hans Zimmer's Media Ventures. Architectural design of the new studios was done by Clover Lee.

Working on the acoustical design elements, Maddocks first made a study of the space, which involved free-field microphone measurements and a combination of impulse testing, RTA real-time analysis and RT60 reverberant time analysis. He then designed a variety of acoustical treatments that included RPG midrange Omnidiffusers and a combination of custom Helmholtz mid-bass absorbers and low-frequency membrane absorbers. In the performance space, Maddocks treated the live reverberant field with corner-mounted polycylindrical diffusers and cloud absorbers for optimum decay time and control of standing waves and reflections.

JAMES KOGEN, 1927-2004

James Kogen, who rose from a position as Shure's chief engineer in 1962 to president in 1981, passed away in December. "As the second president of Shure, Jim will be remembered and appreciated by all of us who worked with him for his integrity, compassion and important contributions to the growth and success of our company," chairman Rose L. Shure said.

After graduating from Sullivan High School, Kogen served in the Navy during World War II. Following his military service, he earned a Bachelor's degree in Electrical Engineering from the Illinois Institute of Technology in 1949 and a Master's degree in Electrical Engineering from Northwestern University in 1956. He worked as an engineer for three other firms before joining Shure in 1962.

He is survived by two daughters, Ann and Jennifer; a son, Peter; and two grandchildren.



GEAR UP FOR MUSICIAN'S HOTEL, SXSW

Straight from the live music capital, attendees at Austin's SXSW show (March 16-25, 2005) will also get a taste of music technology. The Musician's Hotel (www.musicianshotel.com), free to registered SXSW attendees, will bring together indie musicians and manufacturers for hands-on access to the technology and equipment used to create today's music via demos, workshops, performances and Q&A sessions.



Sponsored by *Mix*, *Electronic Musician* and *Remix* magazines (with partners Mackie, Shure, Guitar Center, Apple, Alesis, Akai, Numark, Digidesign, M-Audio), this three-day music gear immersion will take place from March 16-18, from 4 p.m. to 9 p.m. on the fourth floor of the Austin Hilton. Register for SXSW at http://2005.sxsw.com/register_to_attend/, then register for Musician's Hotel at <http://musicianshotel.com/register/>.

TEC AWARDS 2005 SITE ANNOUNCED

The Mix Foundation for Excellence in Audio announced that the 21st Annual Technical Excellence & Creativity Awards will be held Saturday, October 8, 2005, at the New York Marriott Marquis in New York City. For ticket or sponsorship information, contact Karen Dunn at 925/939-6149 or Karen@tecawards.org.



ON THE MOVE

Who: Mitch Rabin, VP of Opus 1 Music Library

Main Responsibilities: day-to-day operations, managing sales staff and marketing the company

Previous Lives:

- June 1999-August 2004, New World Music president of North America operations
- September 1994-June 1999, Domo Records general manager
- January 1990-September 1994, Gefen Records marketing

The most memorable experience while working at Gefen was... meeting Jimmy Page.

The moment I knew I was in the right business was...when I saw Nirvana play a private show for the Gefen staff at The Roxy.

Currently in my CD changer: Ray Charles' *Genius Loves Company*.

When I'm not in the office, you'll find me...at the beach, snowboarding or water-skiing.



NASHVILLE HIGH SCHOOLERS GET JUMP-START IN THE STUDIO

Most might expect a city such as Nashville to have a high school that actually teaches recording. Unfortunately, most public school vocational programs have limited funding and operate with hand-me-down equipment. However, with approximately 1,300 students who come from very diverse economic, racial and national backgrounds, Hillsboro High—one of the few high schools that offer this type of training in the nation—educates its students using top-notch gear, including a Pro Tools|HD-equipped main control room.



ELEPHANT STUDIOS NOW OPEN

When Todd Young took over as teacher of the Music Career's courses in January 2004, he walked into a room outfitted with an antiquated 8-track ADAT and a few SM57 microphones. In his first six months, with cooperation from the PTSA and some federal funding, Young created a program that is as good as most studios for hire, training students for jobs in the recording industry.

The studio is centered on a 1,200-square-foot common studio area. This spacious room is of a '70s design that uses multi-angled wood-slat walls that still hold a warm ambience. This studio is shared by three control rooms: Control A is equipped with a Digidesign Control|24 using Pro Tools|HD powered by a Mac G5. Outboard gear is numerous, including a BBE Sonic Maximizer and a Focusrite Voicemaster preamp. Control B is equipped with a Digi 002 running Pro Tools LE powered by a G5, with essentially the same outboard gear. Control C is more old-school with an 8-bus Behringer MX-9000, Alesis ADAT and a vintage Studer A-80 tape machine. There is also an iso room for vocals and a drum kit. Young cross-wired all rooms to allow any control room to track from any space. There are various mics including models from Groove Tubes, Sennheiser, Oktava and BLUE. To make the program "teachable," Young put a classroom together with 10 iMacs loaded with various software so that as he teaches from a large screen, the students can try out the procedures.

"I could just teach the engineering side, but I thought that by allowing the kids to record their own performances and projects, it would encourage the kids to work harder and therefore learn more," Young explained. "We have some talented kids. I hope to make some connections that will give them an avenue to pursue their dreams."

—Hal Nichols, senior



L-R: Chet Thompson, recording artist Amanda (who is finishing up her debut release) and Donny Baker

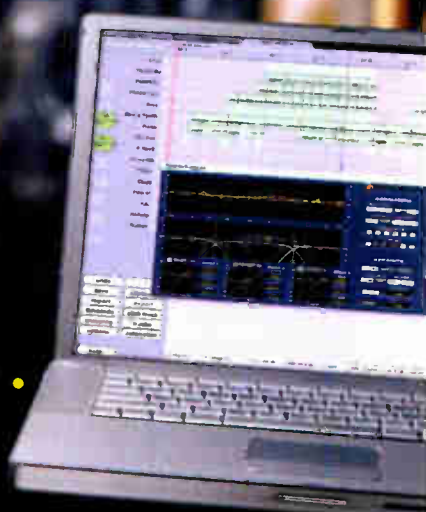
Producer Chet Thompson, former guitarist for Alice in Thunderland and Hellion, has opened up Elephant Symphony (North Hollywood, www.elephantsymphony.com), a music and post facility. On-hand are studio manager/chief engineer Donny Baker and engineer Ryan McBride. The studio's A room is centered on Digidesign's Pro Tools|HD3 Accel, Control|24, 192 I/Os and Sync I/O, as well as an extensive mic closet and plug-in arsenal. Monitoring is via VANT LX-5 for surrounds and Yamaha NS-10s. The post room, "B," offers two Pro Tools LE systems with VANT monitors; all Pro Tools gear was purchased from RSPE Audio Solutions (L.A.). A natural-sounding live room, which can accommodate a full band, complements the new space.

INDUSTRY NEWS

Coordinating the entire process of product development, Jim Shaw is Loud Technologies' (Woodinville, WA) director of operations...Stompbox Music and Sound Design (Santa Monica, CA) promoted Tommy O'Brien to creative director/executive producer, hired Paul Hurtubise as sound mixer and added composers Gary Myrick, Ben Einziger, Sam Farrar, Steven Morrell, Chris Horvath, John Author and Kevin Hayes to its roster...Recording engineer/mixer/sound designer Scott Persson joined McHale Barone (NYC)...DVD production and post studio Cloud Nineteen (West L.A.) expanded its creative team with Danny O'Donoghue, Bray Merritt and Dave Greenberg as staff composers and music producers...Dolby Laboratories (San Francisco) promoted Steve Forshay to senior VP of research and Craig Todd to VP of technology strategy...Harman Music Group (Salt Lake City) promoted industry vet Buzz Goodwin to executive VP of sales and Noel Larson to VP of marketing...Lewis Frisch, TransAudio Group's (Las Vegas) new Eastern regional sales manager, will be based out of Nazareth, PA...New West Coast rep for Endless Noise (Santa Monica, CA) is Ellen Knable...New distribution deals: Smart AV (Sydney) appointed ATI Group (Jessup, MD) as master distributor in North American and DSP Japan (Tokyo) in Japan for its new Elite Series Smart Console product line; Shields Electronic (Knoxville, TN) is now distributing Neutrik's (Lakewood, NJ) entire product line; Audio Exchange International (Rockland, MD) is the exclusive distributor in the U.S. for Audient (Hampshire, UK); and Lake Technology (Montreal) named SF Marketing (Montreal) exclusive distributor for its digital audio live sound products in Canada.



Scott Persson



PREMIUM ANALOG MIXING GOES DIGITAL

Mackie's new Onyx series premium analog mixers don't just raise the bar. They completely change the game. That's because, once equipped with the optional FireWire card, Onyx mixers let you plug in up to 16 mics and record them as individual tracks directly to your Mac or PC with a single FireWire cable... Not to mention being able to mix and EQ a live show in the process.



you can be up and running on your latest smash-hit in no time at all.



Sure, you can opt to spend your cash on dedicated FireWire I/O boxes, outboard studio mic preamps, outboard British-style EQ processing, a mixer and recording software. Or you can just visit your local Mackie dealer and check out a much simpler Onyx solution.

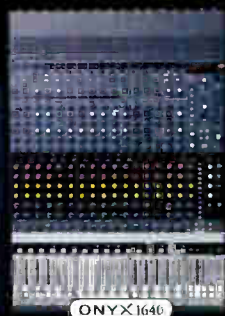
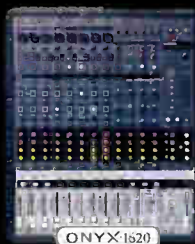


Perkins
EQ

And what about sound quality? Glad you asked. Built upon our new flagship Onyx mic preamps, warm "British"-style 3- and 4-band Perkins EQ, and premium analog circuitry, the Onyx series easily makes the best-sounding analog-to-digital interface at anywhere near its price.

Onyx: it's superior sound quality, single-cable FireWire connectivity, and a powerful recording application all packaged into a premium analog mixer.

To get you going, we also bundled a fully licensed copy of our acclaimed, "no-fuss" Trackson music production software so



NOTES FROM THE NET

ATM-STYLE MUSIC DOWNLOADS

Warner Music Group, Sanctuary, Tommy Boy and Mediaport Entertainment are now offering consumers music from the labels through Mediaport's retail kiosks, MusicATMs™, and a Website, www.mediaport.com. At the kiosks, found on select university campuses and retail locations, consumers can burn full-length CDs or create consumer-selected compilations from the labels' catalogs. Additionally, consumers can download digital tracks from Mediaport's e-Music store and transfer them to WMA portable players.



Music industry veteran Elliot Roberts, a member of Mediaport's board, has managed such artists as Neil Young, Bob Dylan, Joni Mitchell and Tracy Chapman. Commenting on the alliance, Roberts said, "This agreement with WMG is going to make it easier for more people to get good music in a more convenient manner. It is the best solution to the problem of declining record sales that I've seen."

TORONTO STUDIO GETS A CHERRY SOUND



Cherry Beach Sound, a Toronto-based, 30,000-square-foot audio recording and post facility, recently completed a \$1 million renovation that included a 5.1 main monitor array. Mounted in permanent soffits—designed by Martin Pilchner of Pilchner-Schoustal Intl.—are four Genelec 1043B monitors, a 1034BC in the center-speaker position and a 7073A sub installed beneath the 56-input SSL 6000 board, all housed in the new flagship mixing room, Control Room A. Six-ton glass walls on both sides of the corridor separate the control room from the 900-square-foot studio and augment already installed heavy-duty architecture, as the building was formerly constructed as a bomb factory; its outer walls are 18 inches thick, providing a high degree of acoustical isolation.

The facility houses three video suites, 11 rehearsal rooms, a rental department for film and TV production equipment, a repair shop, two control rooms and a live studio. "The success of this facility is due to its versatility and its technology," says studio owner/manager Carmen Guerrier.

LIKE FATHER, LIKE SON

Singer/composer/guitarist Raúl Midón finished recording his debut CD, *State of Mind*, with producing family team Arif and Joe Mardin behind the Neve console at The Magic Shop Studio (New York City); mixing was done to Pro Tools|HD 88.2 at Brooklyn Recording (Brooklyn, N.Y.), with Genelec 1031



At The Magic Shop (L-R): Arif Mardin, recording/mix engineer Michael O'Reilly, Raúl Midón, Jason Mraz and Joe Mardin

monitoring. Midón sang into a Neumann U67 through a Neve 1091 mic pre. Guest artists included Jason Mraz ("Keep on Hoping"); Stevie Wonder ("Expressions of Love"); Latin jazz flutist Dave Valentine and percussionist Sammy Figueoua ("I Would Do Anything"); harmonica ace Gregoire Maret and percussionist Cyro Baptista ("Sunshine"); and jazz vibraphonist Stefon Harris ("All in Your Mind"). The album is set to drop in May 2005.

BOOKSHELF

The Complete Guide to Remixing: Producing Professional Dance Floor Hits on Your Home Computer (Berklee Press, \$29.95), authored by musician, producer and remixer Erik Hawkins, presents new ways to produce dance music with today's available software, including Pro Tools, Live, Logic Audio and Reason. The guide also explores the history, technology, craft and art of remixing, as well as locating and legally remixing tracks from major and indie recording artists. An audio CD with more than 50 tracks of remixing examples is included.



CORRECTIONS

In the January 2005 "Field Test" on the Vintech Model 473 (page 112), the sentence, "I got great results using the 473 to record snare drum and toms, played by rock-solid drummer Steven Tate," was accidentally deleted from the second paragraph, first line, under "How Does It Sound?"

Also in that issue, the crew photo caption in *The Aviator* ("Sound for Picture," page 59) was swapped. It should have read, "Recordists (L-R) Patricio Libenson, Jeremy Pierson and Eugene Gearty."

Mix regrets the errors.

cakewalk

SONAR4

In this business, we don't care what a program says it does, we care about how it sounds—And let me tell you, SONAR 4 sounds great. One example that I'm absolutely floored with is the MPEX Time Scaling for correcting vocal tracks. It's as if the vocalist just nailed the take, you can't hear the processing and I couldn't find any artifacts.



Terry Howard Producer/Engineer

Ray Charles, Norah Jones, Duran Duran, Michael McDonald, Slash, Percy Mayfield, El'is Hall, Jimmy Scott
3 Grammy Nominations in 2005 for *Genius Loves Company*:
Record of the Year, Album of the Year, Best Engineered Album

precision
engineering



SONAR 4 offers world-class functionality at every level of the application—from access to leading algorithms like MPEX 3, POW-r, and Windowed Sinc; total flexibility in configuration; accurate visual display of waveform information; smooth responsive metering with configurable ballistics; and under the hood processing power. SONAR 4 ensures your projects retain their professional polish from inception to final delivery.

Learn more about SONAR 4's precise engineering technologies at www.sonar4.com/precision

Two Questions

One Answer



PHOTO COLLAGE KAY MARSHALL

Here are the two questions:

1) In this age of virtual instruments, this time when imagination, not money, determines what instruments live in your studio, what's coming out of your studio?

2) If 1,000 monkeys sit at 1,000 Dells typing 1,000 keystrokes in Word, will anything coherent come of it?

Let's answer the second one first.

Of course not. Half the Dells will lock up after they download Microsoft's Service Pack 2. Fifty percent of the remaining systems will come to a halt as Word can't find a dictionary, decides to auto-format every paragraph that starts with a number or, most likely, refuses to run when it sees the other 499 copies on the network. This leaves 250 MonkeyWord systems running. So does this suggest a slim chance of coherence from chaos? No, not really.

About 200 of the remaining monkeys will be terminally distracted by the infuriating little animated wizard or dog or whatever it is that watches you type and incessantly interrupts with inane suggestions based on totally inaccurate guesses as to what you are trying to do.

Now we have but 50. Of these, six will demonstrate

enough intelligence to throw their machines out a window and four will leave to buy Macs. Forty remain.

In a model (my wife said no monkeys in the house, so I ran a sim on a Mac) I got the following results from these 40 virtual victims, assuming spaces define "words" and ignoring words of three or less letters: swlabr (an older monkey who remembered Cream, I suppose), crack, virgin, waaaaaa, qwerty, drum and, curiously, Subaru.

Best sentence? I buy drum. This really hit home, as I remember a drummer I had in the mid-'70s responding to my query as to his whereabouts for nine consecutive days with that exact sentence.

And so what does all this mean? Well, let's go on to the other question first.

In the age of virtual instruments, what about the art of engineering?

I did years of listening before I accepted virtual instruments. Of course I like the way the real stuff sounds, and I like the process of expressively capturing and recording that sound. Anyone who really understands what they are doing will like real stuff because they can record it better than the next guy.

But the allure of a virtual warehouse filled with the

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equivalent of half a mega-buck of classic and exotic acoustic instruments, each instantly available, without any of the time-consuming pain in the ass (one of the most common monkey-words, by the way) considerations forced upon us by pesky reality is, well, irresistible. No drum stick imprints in your mics, all hum and air conditioning noise a distant memory, crackling mic pre's a faded horror. I now use some of the top velocity-layered sampled virtual instruments daily.

Things have certainly changed. A Gig used to mean work, now it's how you measure the size of your piano.

But what is all this "advancement" *really* costing us? What's going to happen to the art of engineering itself—everything from dealing with that AC noise to mic choice and placement? Knowing the room itself, working with acoustic treatments, setting up gobos, tuning drums, feeling when to change strings on your bass, *really* knowing the console—any of the thousands of details that good engineers spend their lives perfecting?

This is not a question of younger engineers not being as good. It's much more basic, much more terrifying. Will tomorrow's engineers even *know* what to do? No. Why should they? Can today's construction engineers build a

pyramid? No. Why should they? Who needs more when we have Vegas?

Yes, we are in the middle of a fundamental change in the definition of music engineering. As the ability to actually record acoustic instruments becomes irrelevant for certain types of music, engineers as we now know

Rap. Is this stuff the harbinger of things to come? Will all music eventually be built instead of recorded? I think...Yes. Unfortunately, I feel that the instant results, the freedom from the realities of recording acoustic things yourself, the raw finances, and even the 90-percent reduction in

What's going to happen to the art of engineering itself—
everything from dealing with that AC noise
to mic choice and placement? Knowing the room itself,
working with acoustic treatments, setting up gobos,
tuning drums, feeling when to change strings on your bass,
really knowing the console?

them are beginning to disappear.


The real recording engineers of the near future may be the ones who make the virtual instrument packages, while those whom we call engineers today will become the ones who build the actual songs—the construction engineers. Hard hats and Neves...Difficult image? Get used to it.

physical space and actual gear needed is all far too seductive to pass up. I couldn't. I have compromised. I still keep my acoustic rooms and still record real instruments, but each month I replace another real one with 6 gigs of data. Hell, some of these virtual instrument guys mike better than

—CONTINUED ON PAGE 156

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A Talk With John Chowning

Part II—Making Electronics Sing

In last month's "Insider Audio," I began a discussion with legendary composer and music technologist John Chowning, which sprang from a conversation I had with him at last fall's AES conference about the future of electronic musical instruments. When we left off in the story, our hero had invented FM synthesis, gotten Yamaha interested in the idea, published several pioneering papers in the *AES Journal* and founded the Center for Computer Research in Music and Acoustics—the legendary CCRMA—at Stanford University. Oh, yes, and he'd been let go from the Stanford faculty.

"I understand why they did that," he says now. "Except for Leland Smith, I think it scared the music faculty a little bit: the idea of machines in this deeply humanistic department full of musicologists."

But meanwhile, by the late 1970s, Yamaha began to get very serious about building digital synthesizers using FM technology. The company had put together a couple of prototypes called "MAD" and were working on what was going to be its first commercial FM synth, the fantastically complex (and expensive) GS-1. So Yamaha came back to Stanford looking to extend and make exclusive the license it had bought for the patent that Chowning had created and had signed over to his then-employer. Only Chowning wasn't there: He'd been invited to do an artist-in-residency in Berlin (arranged by famed composer György Ligeti) and was also asked by Pierre Boulez—whose concerts had introduced Chowning to electronic music while he was a graduate student in Paris—to help design the new French government musical research center, IRCAM. It was, no doubt, a bit of an embarrassing moment for the university.

Chowning hadn't completely severed his ties with Stanford, however, and in 1975, had come back to CCRMA as a research associate to work on a piece that IRCAM commissioned. And a couple of years later, he was given an offer to return to academia. But it wasn't from Stanford: The University of California wanted to appoint him as a full professor. Stanford, finally realizing what it had lost, asked him to come back with tenure. "It was the only time they had ever let a junior professor go," he recalls with a laugh, "and then hired him back."

The economics would soon make the wisdom in Stanford's decision clear. Yamaha's first popular FM synth,



PHOTO COLLAGE: KAY MARSHALL

the DX7, came out four years later and sold something like 180,000 units, which was an order of magnitude more than any synthesizer had sold before. FM technology remained at the center of the company's electronic keyboard line, including home organs and pianos, through the TX, TG and SY Series for well into the next decade. The royalties received by Stanford for Chowning's patent totaled \$22.9 million, making it the third most lucrative patent the university ever licensed. (Number two on that list is the gene-splicing technique for building recombinant DNA, and number one is a text-searching technology dreamed up by two graduate students that is now commonly known as Google.) Even though the patent expired in 1995, FM synthesis is still available as an option on Yamaha's current flagship synth, the Motif.

Those who were around at the time have their own ideas about why the DX7 was so popular—and all of them are right: The instrument was groundbreaking and amazingly useful in many ways. But Chowning's thoughts are a bit different, and they cast an interesting light on what makes for a successful electronic musical instrument.

One of the primary goals of a new instrument, he says, if it is to be successful, is that it be able to sort out the good players from the not-so-good. "Two of the most enduring electronic instruments are the Hammond B3 and the Rhodes," he opines. "That's because they have unusual acoustic attributes: They have instantaneous

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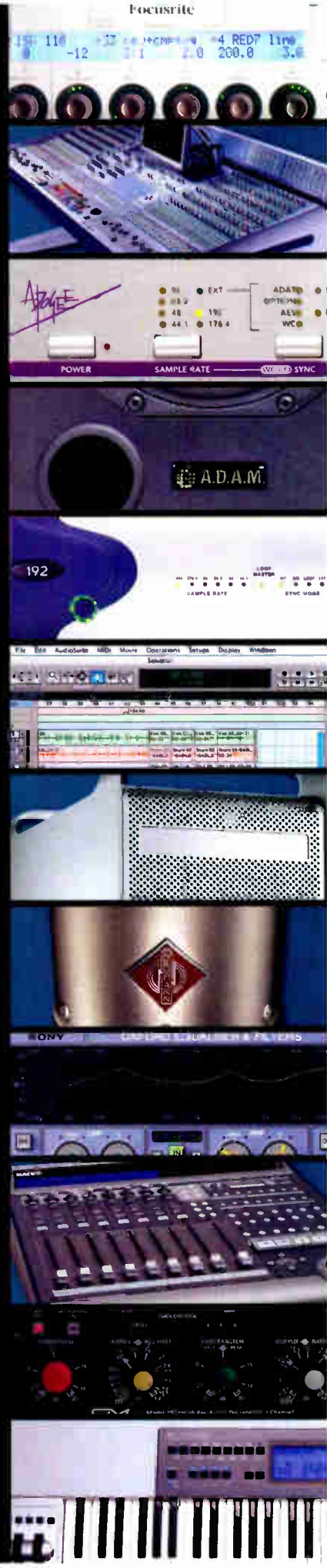
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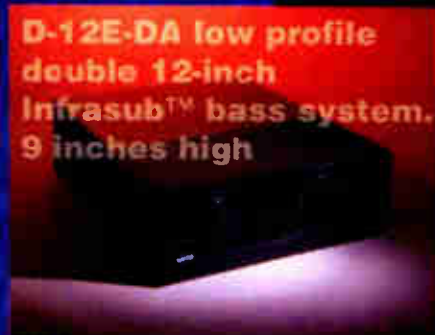


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INSIDER AUDIO

attacks, which pianos don't. So they offer rhythmic precision that someone like Jimmy Smith can take advantage of. That has real musical consequences and it reveals the deficiencies in lesser performers. The same thing is what was important about the DX7: It gave really good keyboardists expressive control that a keyboard without velocity sensitivity wouldn't have. Velocity is one of the things that pianists spend thousands of hours learning how to control. And when you coupled the velocity sensitivity to the modulation index, it gave a dimension to the timbre, not just the loudness, that was different from earlier synths and which our ears are very sensitive to."

If you have a synth with both a sharp attack and velocity sensitivity, good keyboard players can get a high degree of expressive control out of it. It reveals virtuosity, or lack of it, and separates out the really good performers from others.

—John Chowning

Chowning recalls that soon after the DX7 was introduced, English musician David Bristow, who was one of the primary sound designers for the company (and still is, although his current work is on ring tones), did an experiment that showed how important minute timbral changes could be to a musician. "I was working with him in Paris at the time," Chowning says, "writing our book [*EM Theory and Applications*, a seminal tome published by Yamaha]. He convinced professional keyboard players that he was changing the action and the keyboard sensitivity on a DX7 and getting their reactions. Actually, all he was doing was increasing or decreasing the amount of what he called 'stuff' during the attack: the noise. It was an impression based entirely on acoustic feedback; he did nothing to the keyboard at all.

"The relationship between energy,

—CONTINUED ON PAGE 157

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Guitar Greatness

Bam! Kick Your Tracks
Up a Notch

By Kevin Becka

The guitar has defined generations of music since its rise in popularity in the mid-'50s. Trailblazing players such as Chuck Berry, Jimi Hendrix, Jeff Beck, Keith Richards, Stevie Ray Vaughan and U2's The Edge have inspired legions of music lovers to identify with this instrument, more than others in the band. It makes sense that this portable music-maker has had this effect, because it seems like most everyone has held a guitar in his/her hands and can play it with varying degrees of skill (or pretend to with an air guitar). How could anyone not like it? It's one of the few instruments that "sings," much like a human voice—captivating as a solo or as part of the ensemble, a team player and diva in one instrument.

Recording guitar can be a lot of fun, especially if it involves that magic combination of a great instrument, a great player and great equipment with which to capture them. However, the challenge often lies in knowing when to draw the line between tweaking the tone to your artistic vision and knowing when to leave well enough alone. The instrument has many hues: On the acoustic side, a guitar can be steel-strung (round-wound, half-round or flat-round) or nylon-strung—exhibiting a more ethnic or classical side—and comes

in a wide variety of sizes and woods offering many tonal variations. The electric options include hollow, semi-hollow and solid bodies, which lend themselves to a variety of musical styles from jazz and blues to country, pop, R&B and rock. Even the type of pick used can alter attack, tone and feel of the part. To add to the spectrum, myriad pickup designs, stomp boxes, Pod-type interfaces, active electronics and string benders have emerged during the past 50 years of guitar evolution. If that weren't enough, instrument variations include





PHOTO CHRIS BAILEY

baritone, dobro, high-string, guitars with more than six strings and alternate tunings. And we haven't even begun to talk about using amps, DIs, splitters or re-ampers, or the ways you can tweak a raw guitar track in the virtual world in a DAW. As you can see, this is a deep subject.

INSTRUMENT SETUP

The one truth that rings throughout our "Recording the Band" series is that it all starts with the instrument. No matter how you treat the track with miking, mixing and effects, getting it right at the source makes it easier to achieve the killer sound that sets you apart from the crowd. For starters, setting up the guitar is essential for intonation, tone and making the player comfortable. This need not be an expensive proposition as a lot can be done on a do-it-yourself basis. Let's start with the tools you'll need: various-sized screwdrivers, hex and socket wrenches, wire cutters, feeler gauges (like those used for setting spark plug gaps), string winder, nut tools (needle files for cutting slots for strings), bridge radius guides (for setting up a Fender bridge) and, lastly, a neck block and soft table cover for cradling your baby while you work. Of course, there's a wealth of information about this topic online—you'd be amazed at how many full setup and maintenance tutorials you'll find just by Googling "setting up your guitar."

If the D.I.Y. route is not for you, your local music store is a good place to start, where you can find a pro who can get your instrument in top shape. A guitar's setup varies from player to player and takes into account the chosen string gauge and personal preference as to action and feel. Letting your chosen tech set up your preferences is a win-win situation: It will make you happy and keep you coming back for more.



Miking each driver in a dual-speaker cabinet leads to more tonal options in the mix.

On the electric side, keeping noise down can involve having the instrument properly shielded by a pro who knows the ins and outs of correct grounding. It's important to note that grounding is nothing to leave in the hands of an amateur! In this case, working with a trusted professional can save your life. During the session, if noise is still a problem, a simple slight repositioning of the player (i.e., swiveling him in his chair) can greatly reduce the hum associated with certain guitars in the studio and live environment.

Whether you're working with acoustic or electric guitar, once the instrument is set up properly, changing the strings before the session will help produce the best results for tone and consistent tuning. (See "Tuning Perfection" sidebar on page 38.) Needless to say, spending so much time getting the guitar, amp and signal chain set up means nothing if you use cheap cables between your guitar and amp. Cabling does make a difference. Your signal chain is only as strong as its weakest link.

AMPS AND ELECTRICS

Various miking techniques—some traditional, others not—can be used for accurately capturing the desired tone of a guitar amp. But before the mics are placed, making sure your amp is in top condition is a must. A properly biased tube amp will play louder, sound better and lengthen tube life. Bias is a negative voltage sent to the tube that

makes it operate to its full potential and is an adjustment that must be made both when changing tubes and as they wear out over time. (A solid-state amplifier has none of the issues associated with tubes.) More info on tube bias can be found at www.diyguitarist.com.

Dynamic, condenser and ribbon mics all work extremely well for miking an amp, but before placing a mic, locating the speaker in a cabinet with a fixed grille is essential. Shining a flashlight at an angle while looking through the cloth will give you a good idea of where the speaker resides. Then, a small piece of white studio console tape can be put on the cloth at the center speaker position to keep the mic angle and location in the proper perspective.

The center of the speaker is not necessarily the best place to orient the mic; instead, place it closer to where the center dome (dust cone) meets the outer cone. For further tonal variations, the mic can be turned off-axis from center or can be moved further away from center, toward the outer edge of the speaker. Using the combination of a dynamic mic and a condenser can give you more tonal fodder for the mix. They each impart their own tone, depending on the source. This setup can be used on one speaker or on a second speaker if available, and then mixed to one track or kept separate. Be sure to keep the mics equidistant from the source for the best phase coherence.

To add even more variation to your tonal palette, place a mic at the back of an open cabinet or mike the room. The mic at the back of the cabinet can be moved around to taste, and then mixed with the front



When miking an amp's speaker cone, orient the mic slightly off-center.

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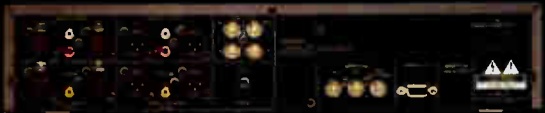
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mic. Sometimes, flipping the polarity of the back mic will offer more pronounced low frequencies due to the improvement in phase coherence. To add ambience in the mix, try incorporating some room sound. Mic placement can be anywhere from five feet back or further depending on how big you want the sound and what the room offers. Generally, dead rooms offer little interesting interaction. Having the mics closer to the floor will give you more pronounced low end.

Another trick involves close-miking the strings of a solid-body electric guitar and miking the amp. This renders the glassy sound of the pick on the strings, which can be mixed in to taste with the amp tone.

Although there's nothing like a speaker moving air, special considerations must be made for recording in spaces where there are concerns about disturbing the neighbors. The Demeter SSC-1 Silent Speaker Chamber offers a solution. A sturdy insulated box made of marine-grade 3/4-inch plywood that houses a 12-inch speaker, it includes an adjustable built-in mic stand with XLR output and 1/4-inch input jacks on the exterior. This "doghouse" allows you to crank the amp and move the air without waking the dead.

Another way to capture maximum tone



PHOTO: CHRIS BAILEY

On acoustic guitar, try various spaced-pair mic locations for tonal variety.

while maintaining low SPLs is to use a power soak between the amp and the cabinet. The idea behind the product is to properly load the speaker but to have some control over the total SPL exiting the cabinet. This can be hard on a tube amp, so some research is in order. The most extensive pool of info I've found on the topic is at www.amptone.com/powerattenuatorfaq.htm.

ACOUSTIC ALCHEMY

Recording acoustic guitar offers many opportunities to use traditional and non-traditional miking techniques. The standard X/Y, M/S and ORTF arrays work very well for this, each offering a different tonal flavor. (See *Mix's* Seminar on Demand on recording guitars at www.mixonline.com for more specific info.) You can also

Case Study

CHUCK AINLAY, MARK KNOPFLER AND A MINIMALIST STYLE

Nashville engineer Chuck Ainlay's work with guitar great Mark Knopfler involves minimal processing. "Mark is a minimalist as far as processing," says Ainlay. "He doesn't rely on pedal effects or much outboard gear to achieve the amazing sounds he gets. It's all about his technique. In fact, the more processing you do, the less unique he becomes. For him, it is about selecting the right guitar, an amp and then the right mics in the appropriate room."

Ainlay tried using compressors on his guitar, which resulted in Knopfler playing harder as the compressor was pulling him back. Knopfler thought there was something wrong. Once the compressor was removed, Knopfler could "feel" the track and his performance much better. Experiences like this have resulted in the minimalist style they've developed together over several projects.

Knopfler's approach involves selecting the right guitar and amp, while Ainlay selects the right mics and places them appropriately. Basic tracking is done entirely live with a band, but when overdubbing, Knopfler prefers to work

from the control room so he can hear the guitar in the proper perspective of the mix. Knopfler's vintage amp collection is extensive and includes boxes from Marshall, Vox, Fender, Tone King and Victoria. He also uses a

Komet designed by amp guru Ken Fischer. Other interesting tones have come from not-so-great instruments from Silvertone, Teisco or Eko played through a Selmer or some not-so-vintage amp.

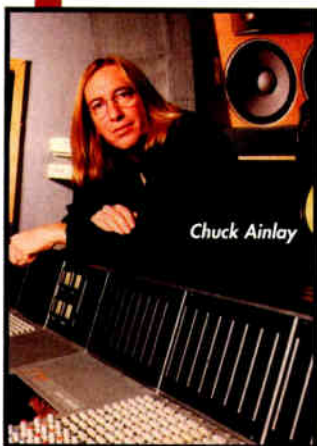
On the amp, Ainlay uses a Shure SM57 with a Neumann U67 or the SM57 with a Royer 121 as the close mics. "Mark's distinctive style is very 'in your face,'" says Ainlay, "so we don't mike the room as a general rule, but we do when that's the desired sound."

Ainlay rarely ever mikes an electric cabinet directly on the center of the speaker. Instead, he tends to mike closer to the edge, angled in toward the middle. He's found that it sometimes helps to lift the cabinet off of the floor by putting it on top of a road case. He will sometimes mike the rear of an open-back cabinet and reverse the polarity of that mic to mix in with the front mic.

He strays from the traditional when recording Knopfler's acoustics, using close mics, distant mics, mics inside the guitar, X/Y, M/S and DIs. During tracking, Ainlay places a DPA 4011 where the neck joins the body and then a DPA 4061 miniature mic inside the guitar. Because Knopfler usually sings a guide vocal when tracking, and his guitar is often a keeper, the inside mic gives him a fair amount of isolation from the vocal leakage.

For the recording medium, Ainlay prefers a hybrid approach of tracking analog and then transferring to 96k digital in Nuendo. The rest of the recording is carried out on the hard disk until the mix, which is done on an analog desk. Ainlay shies away from using EQ, instead making sure the sound is captured accurately on the front end, adjusting tone using mic placement and pickup or amp settings. As far as time-based effects, Ainlay prefers delays instead of reverbs; however, he says that he recently fell in love with the UAD-1 EMT 140 plate reverb, which he calls "the best plug-in reverb I've heard."

—Kevin Becka



Chuck Ainlay

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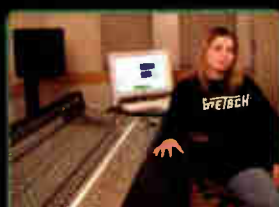
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use spaced pairs pointed at various locations on the guitar, depending on the tone being sought. The rule is that more of the string tone comes from where the body meets the neck, where the area around the bridge renders more pronounced low end. This can be mixed to mono or spread across the speakers as wide as you'd like.

Engineer Greg Ladanyi's technique for recording acoustic guitars (see "The Story Behind the Sound" sidebar below) is to place the mic where his ear hears the sound. He simply moves his head around the instrument, assesses the tone and then puts the mic where his ear tells him to. Then he places the mic anywhere from three to five feet away from the instrument, depending on how close he wants it to sound and how much room he wants involved in the final mix. Another of Ladanyi's tricks is to use a close mic near where the fingers are picking the strings, then another mic about three feet from the front bottom end of the guitar body. He then EQs the low end out of the close mic, using that track for the definition of the strings, and lets the other mic add the low end. These tracks are then all panned to one position.

Another interesting technique is to mike the guitar at close range in a vertical X/Y configuration: One mic is pointing up away from the soundhole while the other is pointing down. This technique yields a more centered stereo image than when placing mics in a horizontal plane. An ideal mic for this technique is a fixed stereo mic such as the RØDE NT4, the AEA R88 or Royer SF-24. One thing to keep in mind when using a standard ribbon mic for this application, or any instrument, is that ribbons need a lot of gain and might not lend themselves to a softer sound, such as a lightly finger-picked part. If this is the case, a preamp offering a lot of clean gain will be needed to keep the noise floor at bay. Active ribbons such as the SF-24 do not have this limitation.

DI BOXES, RE-RECORDERS, EXTENDERS AND SPLITTERS

While using a DI on a guitar is often thin-sounding and inadequate by itself, it can be mixed with the amp tone for an interesting tonal variation. This technique became part of Mark Knopfler's signature Strat sound on the early Dire Straits records. (See "Case Study" sidebar on page 34.)

DIs come in a variety of flavors, from tube or FET active models to passive transformer models. The active models often supply

enough gain to allow the DI output to be plugged directly into a line-level input, which can render a cleaner signal.

Even if it's not used in the mix, a well-recorded DI track will allow you to re-record the guitar track at a later session, so you can experiment with more mic and amp options at another time. For instance, a box such as John Cuniberti's REAMP (www.reamp.com) is an inexpensive way to change your tone after the guitar has been recorded. The box takes a low-impedance signal and jumps it back up to high impedance.

This high-impedance output can then be plugged directly into a guitar amp and re-recorded. Various products from Little Labs, Millennia and Radial Engineering offer this ability, often in the same box as a DI.

A dry guitar track recorded to a DAW through a DI also gives you the ability to use an amp-modeling plug-in such as Line 6's Amp Farm or IK Multimedia's Amplitube. These plug-in options give you more tonal muscle and can quickly be swapped out and saved with the session. A nice twist on this technique is to record a clean guitar through an amp and then process that through the



PHOTO: CHRIS BAILEY

Using a DI, such as the REDDI Tube Direct Box from A Designs, expands your tracking (and processing) options.

modeler. This trick gives you the speaker compression and benefits associated with recording through the amp, which translates nicely through the plug-in.

Having the guitarist play inside the control room rather than next to a screaming guitar amp can give him a sense of being in the mix, not to mention save his hearing. With a separate amp head and speaker cabinet, cable length is not an issue, so a speaker-level run is an easy thing to accomplish and tone is unaffected by long runs. However, when recording with a combo amp, making a long instrument-level cable run results in

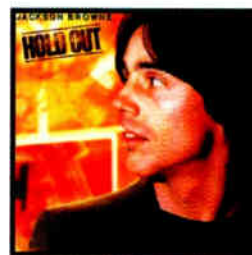
The Story Behind the Sound

GREG LADANYI RECORDING JACKSON BROWNE'S *HOLD OUT*

Engineer Greg Ladanyi's work with Jackson Browne and his guitarist David Lindley are some of the best examples of guitar recording done in the past 30 years. Lindley's biting, beautiful tone was expertly captured on Browne's *Hold Out* album, released on the Asylum label in 1980. In particular, Ladanyi's work on the single "Boulevard," which reached Number 19 in *Billboard's* Hot 100, created a signature guitar sound that imprinted this song into the memories of a generation of music lovers. *Hold Out* was done at Record One studios in Sherman Oaks, Calif., on an API console. Browne's early bands featured such studio stalwarts as Russ Kunkel (drums), Danny Kortchmar (guitar), Lindley, Craig Doerge (keys) and Bob Glaub (bass). The band recorded as a unit and solos were added later—that is, if Lindley didn't nail it on the tracking date, which did happen.

Ladanyi captured Lindley's Vox amplifier using a Shure SM57 up close on the cabinet and a Neumann U67 about five feet back, and recorded both to one track. In addition, Ladanyi recorded a room mic to a second track. To get the full tone and stereo spread heard on the record, he used four delays, set at approximately 16 ms, 30 ms, 45 ms and 65 ms, then panned these across the stereo field and recorded them to a stereo pair of tracks. In general, rather than wait until the mix to perform this trick, Ladanyi's approach is to create the sound of the record as he's making it and commit it to tape.

When working with Lindley, who is renowned for his large collection of various guitars and amps, Ladanyi did little to change the sound once Lindley dialed it in for any particular song. He says that the guitar sound on the track "That Girl Could Sing" (also from *Hold Out*) required minimal processing, and the tone of the record is pretty true to what came out of Lindley's amp.



—Kevin Becka

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loss of signal and tone. New products from Radial Engineering and Little Labs address this problem, allowing the player to have his cake and eat it, too. The Little Labs STD instrument cable extender and the Radial Engineering SGI both allow the transmission of instrument-level signals over a standard mic cable for hundreds of feet.

When multiple amps are available for a recording, a splitter will allow you to run instrument-level signals to all of them. The Little Labs PCP Distro (www.littlelabs.com) is a three-way splitter that not only lets you send an instrument-level signal to different amps, but it also allows you to insert line-level gear across your signal path before the amp. Once the signal is split to different amps, those amps can be miked up and recorded to their own tracks. For a splitter that does it all, check out the Millennia TD-1, a splitter, DI, mic preamp, power soak and EQ.

THE POWER OF PROCESSING

As I said in the introduction, it's important to know when to draw the line between tweaking a guitar track to your heart's delight and leaving well enough alone; however, sometimes it takes some time-based trickery to make one-dimensional guitars speak in the track. Apart from the myriad stomp box tone-manglers available from any number of manufacturers, there are some basic processing tricks that have graced many records dur-



Amp-modeling plug-ins (such as UA's Nigel) let you change your instrument's tone anytime.

ing the years. Engineer Ladanyi uses multiple delays spread across the stereo field to make his guitars sound bigger. Another trick is to use a stereo harmonizer to change the pitch of and delay the signal. Feed your guitar from an auxiliary into a basic harmonizer such as Eventide's H Series hardware processors, which is also available as a software plug-in. The basic settings provide for left and right delay in milliseconds and left and right pitch change in cents ($1/100$ th of a semitone). Pitching up one side 10 to 15 cents while pitching down the other side an equal amount, then adding 10 ms of delay on the left and 15 ms on the right will give a mono guitar a nice spread. These numbers are arbitrary and should be adjusted to taste.

Ping-ponging delays is another old-school trick that's easy to reproduce. Bring up two mono delays panned left and right, then set to quarter- and eighth-note delay times, then feed them back onto each other through the same aux sends. This causes the delays to repeat back and forth across the speakers. The amount of feedback and length of bouncing effect is set by the amount sent to the other side. A quick way to find quarter- and eighth-note delays is to get a stop watch that reads out in $1/100$ th of a second and has a split-time feature. Start the watch on beat 1 of any bar, capture a split time on beat 2 of bar two and again at beat 3 of bar three. These two numbers are your delay times.

AFTER THE SESSION

As I mentioned earlier, using various amp-modeling plug-ins on the guitar tracks recorded into your DAW allows you to change the instrument's tone after the fact. One nice trick is to use a multimono version of these plugs to have different amps and parameter settings for each speaker. Multimono plug-ins are multiple instantiations of the same plug-in across any number

of audio streams, stereo and up. Although the plug-in (and associated DSP load) is multiplied across the channels, the user is presented with a single interface that can be run linked or unlinked. The strength of this technique involves unlinking the plug-ins via the master unlink button (twin intertwined circles at the top and center of the plug-in). Once this is done, you can call up each individual channel with the pulldown marked L, R, C, etc., and change the amp choices and parameters. Although you can't re-link the plug-ins with the same master unlink button without losing the individual settings, there is facility to individually link channels to other channels by highlighting the small squares above the channel choice pulldown. This way, you can change individual amp settings, for instance, and then link the channels to change volume or distortion across all channels.

THE FINISH LINE

Don't forget, for more basics on miking, be sure to visit our Seminar on Demand. As you go into the mix, keep in mind that guitars—especially tracks playing sustained, distorted chords—can eat up a lot of real estate. A razor-thin line separates making the track sing and obliterating vocals or other important mix items. The biggest benefit—and challenge—of recording guitar is that you can create endless tonal variations anywhere along the path.

By choosing the right pick, strings, amp, pickups, body design and, yes, even the player, you can build yourself the perfect beast and make your mark on the next generation of guitar lovers.



Mix technical editor Kevin Becka would like to thank Greg Ladanyi, David Rideau and Chuck Ainlay for their help in researching this feature.

Tuning Perfection

The technology of making the guitar sound "right" has evolved beyond the tweaking one can do with standard tools and techniques. Traditionally, a guitar is slightly out-of-tune from chord to chord, but the Buzz Feiten Tuning System (www.buzzfeiten.com) puts the neck in tune no matter which chord you're grabbing. This is available on new guitars or as a retrofit on an existing instrument. I've played a Martin acoustic fitted with this tuning system and it is uncanny how in tune it sounds over a range of chords and scales. Another novel approach to getting and keeping a guitar in tune comes from TransPerformance Guitars (www.selftuning.com), which uses a series of motors, detectors and software to tune the guitar. It also facilitates jumping between alternate tunings quickly.

—Kevin Becka

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Music & Magic

It was magic all over again in the Magic Kingdom. This year—as in years past—California's torrential rains stopped and the sun shined while blizzards struck the Northeast and Midwest. Inside the show, the mood was optimistic: Business is back! Some 78,000 attendees turned out for the party and NAMM's halls were filled with blue-badged store buyers.

On the tech side, non-music companies such as Dell and Intel upped their presence considerably, hosting a huge Black Eyed Peas concert with Digidesign, whose booth sported mostly PC-driven DAWs. Apple touted both Logic Pro 7 and the 24-track recording capabilities of GarageBand 2. As low-cost gear becomes more powerful, the lines between consumer and pro continue to blur. Perfect for laptop production, compact all-in-one recording interfaces were everywhere, and USB ports showed up on everything—even microphones. With NAMM's record-setting 1,428 exhibitors, there was plenty to see. Here are a few debuts that caught our attention.

PRODUCT HITS OF WINTER NAMM 2005

SHOWSTOPPERS!

It's a workstation, it's an instrument, it's OASYS, the latest incarnation of Korg's (www.korg.com) Open Architecture Synthesis Studio platform in the form of an all-in-one synth workstation. OASYS offers a wealth of synthesis options, including PCM, wave sequencing, vector synthesis, analog modeling and tonewheel organ modeling, plus Korg's KARMA algorithmic performance technology, sequencing and dozens of onboard effects. OASYS integrates a 16-track hard disk recorder, CD burner and hardware keyboard with multiple real-time controllers, including joystick, ribbon controllers and sliders, plus velocity-sensitive drum pads. A 10.4-inch TouchView display is built in.

Newcomers Synful demoed innovative new synth technology for generating natural orchestral phrasing and articulation. Synful Reconstructive

Phrase Modeling uses additive synthesis to model orchestral instruments based on analysis of idiomatic phrases played on each wind or string instrument. Download a VST/DXi Synful Orchestra plug-in demo at www.synful.com.

Tascam (www.tascam.com) packed 'em in with its DM-3200 48-channel pro digital console. Based on the simple ergonomics of the DM-24, the desk records at up to 96 kHz/24-bit, features 32 channel inputs, 16 return inputs, 16 output buses, eight aux buses, 4-band fully parametric EQ, dynamics on each of the 32 channels and moving fader automation. Up to 6.1 surround panning is available, and with the optional 24-channel FireWire interface card, the DM-3200 becomes a powerful all-in-one computer interface/control surface/full-function digital mixer.

GOING OUTBOARD

Priced at a remarkable \$199 (street), the Lexicon (www.lexiconpro.com) MX200 dual reverb/effects has a USB/VST interface that lets it function as a "hardware plug-in" within any VST-compatible DAW. In non-DAW applications, the MX200's analog ¼-inch I/Os, intuitive front panel and great sounds make it ideal for any live or studio rack.

Attendees were mesmerized by the demos of VoicePro, the all-in-one voice processor from



Korg OASYS



TC-Helicon (www.tcelectronic.com). The unit offers EQ, dynamics, pitch correction, de-essing, multipart harmony and the ability to morph the human voice from male to female and back again at the touch of a button. The dual-rackspace unit also features a color screen, browser and help screen with the entire manual.

At M-Audio (www.m-audio.com), drum machine granddaddy Roger Linn demoed the Black Box, a creative tool that he helped design for guitarists. The \$299 unit features amp modeling, beat-synched effects, guitar/mic preamps and a drum machine based on Linn's Adrenalinn technology, plus a USB interface. M-Audio also kicked off a software line with Key Rig, a virtual keyboard rack, and Drum & Bass Rig, a virtual bass and drums rack.

The Apex (www.aphex.com) Model 230 Master Voice Channel (\$799) features RPA tube preamplification, Easyrider compression, Logic Assisted gating, split-band de-essing, parametric EQ, and Apex's Aural Exciter and Big Bottom psychoacoustic effects.

Besides balanced I/O, ADK's AP-1 mic preamp (www.adkmic.com) has a hi-Z input and a loading switch for adding extra series resistance to very low-impedance vintage mics, and lets users swap optional input transformers from Lundahl, Sowter, API 2520, John Hardy 990, Fred Forssell 992 and more.

Audient's (dist. by Audio Exchange International (www.axidistribution.com)) Sumo high-resolution summing amplifier offers 16-paired input channels (through DA-88 D-subs), pre/post-switchable balanced TRS mix inserts, and balanced XLR mix and monitor outs. A bus compressor based on the Audient ASP8024 console is available; an AES/EBU output card is optional and units can be expanded for up to 64 analog inputs.

The Dangerous Music (www.dangerousmusic.com) booth was abuzz about the new "Master" mastering tool. Crafted to the usual tweakhead specs, it offers two stereo ins, three outs, three inserts, another insert capable of M/S operation and attenuators stepped in 0.5dB increments.

MUST-HAVE SOFTWARE

Cakewalk showed an early incarnation of SONAR x64, touted as the world's first "truly native 64-bit host DAW application." A preview version (available at www.cakewalk.com/x64) extends the amount of RAM available for music production on the PC to a staggering 1 terabyte—letting users load entire audio clips, sample banks and libraries into RAM; future versions will offer a high-res mix engine. Cakewalk also showed Version 2 of Project5, with a streamlined design, high-performance engine, integrated audio and more.

The Lemur programmable touchscreen from Cycling '74 (www.cycling74.com) and French company Jazz Mutant SAS is an addictively interactive tabletop controller with a remarkably pro feel, despite the fact that it has no moving parts. The screen can display faders, panners and other tactile necessities for DAW tweaking. The Cyclists also demoed HIPNO 1, a suite with more than 40 VST effects and instrument plug-ins. The granular, spectral and filter/delay-based plug-ins feature the unique Hipnoscope user interface and is a must-see/hear.

Waves (www.waves.com) had some voodoo going in the shape of the Q-Clone. The native or Pro Tools-based plug-in uses convolution technology to capture and then "freeze" the sound of an outboard hardware equalizer, allowing use on multiple tracks. Users can save the settings and easily add to them via a button push.

Additions to Eventide's (www.eventide.com) plug-in line will make old-school users happy. The H3000 Factory and H3000 Band Delay plug-ins are available as part of the Anthology bundle of plugs, which also includes the Clockworks Legacy, Eventide Reverb and Octavox plug-ins previously released by themselves.

The Oxford Restoration Tools plug-ins from Sony (www.sonyplugins.com) offer De-Buzz, De-Noise and De-Click options, all for \$1,195. Sony's Sound Forge 8 adds a bevy of new features including Windows XP theme support, updated playlist and regions list windows, and the ability to save paths in rendered media.

Synthax (www.synthax.com) unveiled upgrades of Magix's Amplitude and Sequoia workstations. Amplitude V8 is beefed up for surround, with 5.1 panning, multichannel EQ and a convolution-based real-time surround room simulator. Other enhancements include expanded MIDI tools, an analog modeling suite and Magix's Elastic Audio, which lets users pitch-shift audio as flexibly as MIDI. Sequoia V8 offers 12-channel surround, a multi-source manager, surround room simulator, 48-channel mixer and more.

Hits You Might Have Missed

DigiTech's (www.digitech.com) DF-7 pedal uses modeling technology to re-create the sound of seven classic distortion boxes. Going further, its Eric Clapton Crossroads and Jimi Hendrix Experience pedals precisely model the tones of these guitar legends. The pedals really do the task, but guitar chops and batteries are not included.



Discrete Drums' (www.discretedrums.com) Heavy Mental Drums (\$249) and Ruff Drumz Bitch! (\$229) collections feature drummers Tony Morra and Andy Kravitz performing on tracks that are sliced-and-diced for easy integration into your DAW.

EZQuest's (www.ezq.com) Thunder Pro A/V drives hold up to 400 GB and feature three FireWire ports, a USB port and PC/Mac compatibility.

Neutrik's (www.neutrikusa.com) new NC**XX line of no-screw, fast-assembly XLR connectors were cool, but we also previewed its XLRs coming later this year that swivel to work as straight or 90-degree connectors. Yeah!

THAT Corporation (www.thatcorp.com) is now shipping its InGenius™ balanced line driver ICs, which act like a transformer, maximizing interference protection while providing ultralow-noise performance.

APOGEE USERS

Chuck Ainlay



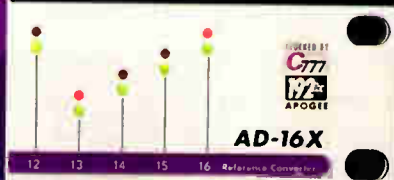
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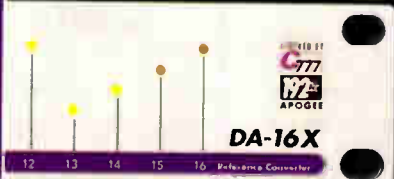
Recent Projects: "Shangri-La" - Mark Knopfler,
"My Honky Tonk History" - Travis Tritt,
"Between Here and Gone" - Mary Chapin Carpenter

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duets album available later this fall.

AD-16X



DA-16X



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Music & Magic

Propellerhead Software (www.propellerheads.se), now distributed by Line 6, announced V. 3 of its popular Reason software. The update focuses on live performance and features a Combinator module for creating and saving patches built from elaborate chains of Reason devices. Also new in V. 3: instant integration

with most major hardware controllers, an expanded soundbank with more multisampled instruments and the Mclass mastering suite of effects.

IK Multimedia (www.ikmultimedia.com) had a bevy of new goodies, including the Amplitude 2 amp modeling plug-in, a SampleTank 2.1 upgrade, the newly acquired Miroslav Philharmonik Orchestral Sample Collection, a TDM version of T-Racks and the Studiophonik sound module. The big

Live Sound Hits at NAMM

NAMM has a whole lot more than just musical instruments and recording gear. Listed alphabetically, here are our top live sound reinforcement picks.

The **Alto** (www.altoproaudio.com) PS5HA molded speakers pack a 15-inch woofer, 1.75-inch compression driver and 500-watt bi-amping into an enclosure with fly points and 128dB SPL, but they are sized like competitive 12-inch models. Onboard 40-bit DSP processing handles crossover, 20-band EQ, multiband dynamics, delay/phase alignment and more.

dbx's (www.dbxpro.com) DriveRack 4800 has a 96kHz processing engine, four analog and AES/EBU inputs, eight analog and AES/EBU outputs, Harman HiQnet support and optional CobraNet interfacing. Features include DSP inserts on the I/Os, EQ, delay, dbx compression/limiting, bandpass and crossover filters, and a new ergonomic front panel with full-color screen.

Ideal for small installs or drive-rack snaking, LightViper 1608 from **FiberPlex** (www.fiberplex.com) is a bi-directional, 8-channel (four AES3 digital or 8 line-level analog) digital snake system with single-rackspace send/receive units and up to 1.25 miles of fiber-optic cabling that also carries RS-422 data.

JBL's (www.jblpro.com) VRX932LA compact 12-inch, two-way line array is designed for small to mid-size venues with up to six units flown, stacked or tripod/pole-mounted over a companion SRX718S subwoofer.

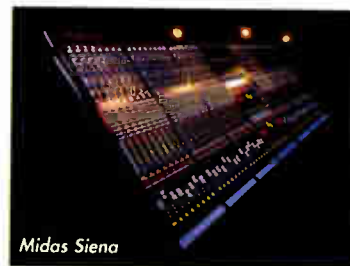
Developed with EAW, Mackie's (www.mackie.com) new flagship Super Active Series sports silver grilles and a "z" model designation. These powered speakers range from 500 to 1,300 watts and feature single or dual 15-inch woofers, neodymium MF/HF drivers and 18mm Baltic birch ply enclosures.

Available in frame sizes from 24 to 64 channels, the **Midas** (www.midasconsoles.com) Siena console features 16 aux sends (reconfigurable as stereo pairs), preamps/4-band EQ based on the flagship XL4, switchable insert points on all outputs and a unique solo tracking system that allows the soloed outputs to be shown on Klark Teknik's Helix EQ system.

Soundcraft's (www.soundcraft.com) GB8 is an 8-bus version of its successful GB4 mixers in 16 to 64-channel models. Features include an 11x4 matrix, four mute groups, optional backup PSU, L/R plus mono outputs and a dual-mode design for front-of-house or monitor duties.

UREI (www.ureidj.com) is back—at least in the form of a Soundcraft-produced updated reissue of the classic UREI 1620 DJ mixer. The new 1620LE has six inputs (two phono, three line and one mic), 2-band master EQ, balanced house and booth volumes, and headphone monitoring of any input. UREI also showed the 1601S and 1601, two new 2-channel digital scratch mixers.

Wharfedale's (www.wharfedalepro.com) Comax Series is based on a high-power, coaxial 12-inch driver mounted in a compact molded enclosure with 400W of bi-amping. Its multiple flying points can also be fitted with removeable casters for portable P.A., while a matching 600W subwoofer creates a high-SPL, full-range system. Deliveries are planned for mid-2005.



Midas Siena



UREI 1620LE

news at Native Instruments (www.native-instruments.com) was NI Komplete Sound, a package including Reaktor Electronic Instruments Vol. 1 and 2, Battery Studio Drums, Synthetic Drums, FM7 Sounds Vol. 1 and 2, Absynth Sounds Vol. 1 and the B4 "Vintage Expansion" Tonewheel Set—all for \$339 list.

Sometimes less is more: Celemony's (www.celemony.com) Uno is a streamlined, single-track version of Melodyne. The \$199 Uno offers Melodyne's "melody editing" functions in a simple drag-and-drop interface, and employs macros to correct with a single key press, retaining phrasing including vibrato.

PSP showed V. 2 of DSP-Quattro (www.dsp-quattro.com), a 2-track Mac-based audio editor from i3 Software Engineering. The upgrade adds batch processing, a plug-in database, improved file processing speed and enhanced file management to its feature set.

In other NAMM news, Applied Acoustics Systems' (www.applied-acoustics.com) showed Tassman 4, which adds a Performance mode, expanded library, audio input processing and improved algorithms. Arturia (www.arturia.com) debuted the ARP 2600V, a plug-in version of the famous "Blue Meanie." URS (www.ursplugins.com) released a VST version of its Classic Console Equalizer Bundle. Universal Audio (www.uaudio.com) added the UA Precision Equalizer to its Mastering Series UAD-1 plug-ins, and announced that it will develop UAD-1 plug-in versions of classic Roland processors, starting with the Dimension D chorus, the CE-1 chorus and the RE-201 Space Echo. The Spectrasonics (www.spectrasonics.net) S.A.G.E. engine is picking up steam: ILIO debuted four Groove Control-activated collections as new S.A.G.E. Xpanders for Stylus RMX, including a Stark Raving Beats multitrack live drum collection and Skippy's Noizbox. WaveMachine Labs (www.drumagog.com) announced V. 4 of the Drumagog drum replacement app, now available for VST and RTAS, plus a BFD add-on.

NEW MICS, NEW IDEAS

Samson (www.samsontech.com) and BLUE (www.bluemic.com) showed mics with USB outputs. MXL's (www.mxlms.com) V6 and V12 are the first in its Silicon Valve™ Series of solid-state designs that emulate the warmth of tube mics. Beyer (www.beyerdynamic.com) expanded its Opus Series of vocal and instrument mics with nine models for critical live and studio applications. Telefunken USA's (www.telefunkenusa.com) affordable R-F-T M16 is a \$1,399, nine-pattern, large-

diaphragm tube mic with shock-mount.

One trend at NAMM was different-looking mics. Studio Projects' (www.studioprojects.com) lollipop-shaped CS1 is a cardioid, large-diaphragm condenser with high/lowpass filters and pad—each with four selections. The similar CS3 adds five pattern choices. The Red (www.vintagemicrophone.com) Type B is a discrete, solid-state Class-A mic featuring an interchangeable lollipop element. The \$699 mic's bayonet top also accommodates capsules from Gefell or BLUE's renowned Bottle mic.

In addition to the clip-on condenser ADX10-F flute mic from Audix (www.audix-usa.com), its crimson-hued FireBall™ is a handheld dynamic designed for

Audix FireBall



horn players, with a flat 50 to 16k Hz response and 150-ohm XLR output. The Titan from SE Electronics (www.sonic-distribution.com) has a unique look, is built like a rock and features a large-diaphragm titanium capsule and shock-

analogue spelt this way sounds better



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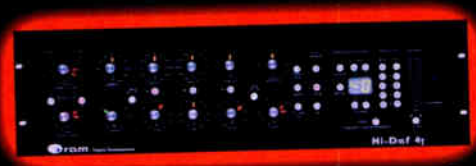
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Music & Magic

mount. Electro-Voice's (www.electrovoice.com) The Raven™ dynamic mic features a vintage look and a large swivel yoke-mount; the Cardinal™ is similarly shaped (but in a cherry finish) with a cardioid condenser capsule with low-noise, Class-A discrete electronics. Designed for studio vocals, CAD's (www.cadmics.com) e300² has a huge black-and-gold body housing a 1.1-inch diameter, dual-diaphragm, 3-pattern capsule and low-noise servo condenser electronics. Weirdest shape? AKG's (www.

www.akg.com) C542BL recording boundary mic is a 3-inch diameter, indestructible metal plate for use on any reflective surface: walls, ceilings, floors, piano lids, etc.

STUDIO ESSENTIALS

Focusrite (www.focusrite.com) showed Saffire, a 24-bit/192kHz FireWire interface with onboard DSP. It features four inputs (two mic preamps) and 10 outs for creating multiple headphone mixes or 5.1/7.1 monitoring. Saffire ships with plugins for compression, EQ, reverb and amp modeling and monitor control software that



Tascam DM-3200 digital console

works with your recording application.

The AudioFire12 from Echo Digital Audio (www.echoaudio.com) takes its Gina and Layla technology to the next step. This \$799 24-bit FireWire recording interface has 12 analog inputs and 12 analog outputs (all +4dBu TRS), 44.1/48/96/192kHz operation, 24 front panel LED meters, word clock sync (to gang multiple units) and MIDI I/O—all in a single rackspace.

Edirol's (www.edirol.com) \$495 FA-66 FireWire interface records up to six channels at 24-bit/96 kHz, or up to four channels at 24-bit/192 kHz. The twin XLR/TRS combo jacks can record two phantom-powered mics, a stereo line-level device or two hi-Z inputs directly into the computer.

API (www.apiaudio.com) expanded its DSM modular "mixer in a rack." The new DSM 24, DSM 48 and DSM 72 units are the final summing outputs for the rack, supporting 24, 48 and 72 output channels, respectively. Rear panel XLRs and Tascam D-sub's handle DAW outputs, aux sends and buses.

SLS (www.slsloudspeakers.com) demoed PS8R, an active 220-watt bi-amped version of its popular S8R two-way studio monitor, featuring an 8-inch woofer and ultrasmooth large ribbon tweeter.

Ultrasone (www.ultrasoneusa.com) introduced PROline, a new series of headphones featuring larger transducers, removable earpieces and removable straight or coiled cables. Prices range from \$239 to \$399.

MOVIN' ON

There were plenty of other neat toys at NAMM, and we will present these in our new products sections in future issues. Meanwhile, NAMM Summer Session 2005 takes place in Indianapolis, July 22 to 24, 2005. Start revving those engines now! ■

George Petersen, Kevin Becka, Sarah Jones, Maureen Droney, Barry Rudolph and Michael Cooper contributed to this report.

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Neumann TLM 127

NEW Studio

A Wealth of Options For Any Recording Job

BY ROGER MAYCOCK

When your business is recording, the phrase "You can never have too many mics" has always been true. Every style and model of mic has a distinctive sonic character; selecting the right tool for the job can make all the difference between a good recording and a great one. And lately, there are more options than ever for the discerning engineer: The market has been flooded with new mic choices, from high-end tube and refined ribbon designs to inexpensive Asian imports. To help navigate the expanding world of microphones, *Mix* presents the newest product offerings.

To avoid discussing "vaporware," we examined products that debuted during 2004 (Check out Winter NAMM releases in our show report on page 40) and are available and shipping now. The focus is on mics that are suitable for studio recording rather than broadcast or live sound—although some models could serve in these capacities. It should be noted that not all manufacturers unveiled new studio mics in the past year, including beyerdynamic, Coles, Crown, Groove Tubes, Lawson, Manley, OKM, Schoeps, Shure and Stedman. However, this year's class offers a wealth of interesting new products. Let's get started.

DYNAMIC MICROPHONES

With a 50 to 16k Hz response and the ability to handle SPLs exceeding 140 dB, the Audix (www.audixusa.com) i5 is designed for instrumental recording and employs a

VLM (very low-mass) dynamic capsule in a black-finished, zinc-alloy body. The i5 has a cardioid polar pattern and ships with a heavy-duty mic clip and carrying pouch.

Sennheiser's (www.sennheiserusa.com) 900 Series comprises 11 mics for studio recording and live sound. The 902 is optimized for miking kick drums, bass guitar amps and other low-frequency sources from baritone sax to tuba. The 903 handles extremely high SPLs and is suited for miking snares, timbales and such. The 904 and 905 are designed for drums, while the 906 is a good choice for miking guitar amps.

RIBBON MICROPHONES

The R88 from Audio Engineering Associates (www.wesdooley.com) is a Blumlein pair of large-ribbon geometry (LRG) elements enclosed in a single housing. Its motor design is derivative of AEA's R84 motor with improvements in the high-end response. The R88 is optimized for natural frequency response and precise stereo imaging. The LRG design inherits the extended bass of the company's R44 and R84 microphones. The R88 is well suited for recording woodwinds, strings and cymbals, and is also a good choice for orchestral and choral recording, horn sections and drum overheads.

New from Nady (www.nady.com), the RSM-2 features a 2-inch-long, 2-micron-thick aluminum ribbon design and 165dB SPL capability. The mic has a figure-8 pickup pattern and is built of turned-brass construction. The RSM-2 is available with either a platinum or gold-finish grille and includes a soft carrying/storage case.

Designed for stereo and distance miking applications, Royer's (www.royerlabs.com) SF-24 is a good choice for recording choirs, pianos, harps and stringed instruments, as well as large ensembles or various sections within—including brass and woodwinds. The SF-24 can also serve as a single-point stereo overhead drum and percussion mic. Housed in an ingot iron



Audio-Technica AT2020

Microphones

IN 2004

case that forms part of the magnetic return circuit, the SF-24 has two matched ribbon elements placed one above the other, each aimed 45 degrees from the center in the classic Blumlein configuration. The package includes a shock-mount, mic sock and protective case.

SOLID-STATE CONDENSER MICS

Available solo or in matched pairs, ADK's (www.adkmic.com) Vienna and Hamburg mics are pressure-gradient, fixed-cardioid condensers with upgraded capsules and European JP-MOD upgraded electronics. The Vienna mic employs a 1.07-inch diameter, 5-micron-thick, edge-connected, gold vapor deposited diaphragm. The Hamburg model uses a 1-inch-diameter, 6-micron-thick, center-connected, gold vapor-deposited diaphragm. Both models' electronics are low-noise, European-designed Class-A discrete FET+ bipolar and are transformer-coupled. The electronics utilize proprietary configurations "tuned" to the capsule.

AKG's (www.aggusa.com) C 414 B/XL II and C 414 B/XLS models build upon the popularity of the company's C 414 by integrating new features, including an improved capsule shock-mount to minimize structurally transmitted noise from chassis vibration, new switching functions and a more modern design. Both models provide control switches with status LED for selecting the five polar patterns, along with three pre-attenuation pads and three bass cut/roll-off settings. There are also an overload indicator function, status indicators and a positioning aid. Further, an optional remote-control device to switch all of these functions at the mixer is available. Both versions are available in stereo pairs and come with a hard case, a shock-mount/stand adapter, the PF80 external pop filter and the W 414 external windscreen.

The Apex (www.apexelectronics.com) Model 435 is a 1-inch-diaphragm, single-

pattern condenser that offers the same performance as the company's multipattern Model 460 but in a cardioid-only design. The 435 has a relatively compact 6-inch-long brass body with anodized finish and features an internal -6dB/100Hz LF roll-off switch for handling rumble or breath noise. It ships with an Apex IMC-3 "cat's cradle" shock-mount.

Taking a different turn from its extensive line of instrument-specific mics, the SV (Studio Vocal) model from Applied Microphone Technology (www.appliedmic.com) is a large-diaphragm cardioid condenser with a stated frequency response of 20 to 20k Hz. It's finished in distinctive, bright "Hummer yellow" and ships with a shock-mount and a protective case.

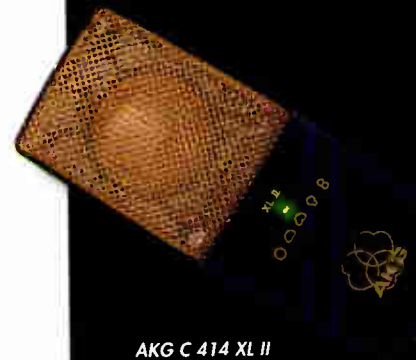
The AT2020 cardioid condenser from Audio-Technica (www.audiotechnica.com) is designed for the project studio/home recording user. With the ability to handle high 144dB SPLs and a custom-engineered low-mass diaphragm that provides excellent transient response and extended frequency response (20 to 20k Hz), it's a good choice for a wide range of recording applications. A stand mount and protective pouch are included.

A front-address mic designed for studio/broadcast vocals, the AVS77 from Avlex (www.avlex.com) includes an integrated foam windscreen and a swiveling U-bracket stand mount for ease of placement. This 1-inch, 3-micron-diaphragm cardioid condenser has a bass roll-off switch and a -10dB pad for 145dB max SPL handling.

The B-2 Pro from Behringer (www.behringer.com) is a dual-diaphragm studio condenser. Key features include selectable cardioid, omni and figure-8 patterns; low-cut filter; and -10dB attenuator. The B-1 cardioid condenser has a 1-inch capsule and a 20 to 20k Hz response with a pronounced vocal presence boost, switchable highpass filter, -10dB pad and 148dB SPL handling. The B-5 is a gold-sputtered-dia-



Sony C-38B



AKG C 414 XL II



Avid i5

phragm condenser featuring interchangeable capsules for cardioid and omni pickup patterns. The B-5 has a transformerless FET input, -10dB pad and a low-cut filter.

BLUE Microphone's (www.bluemic.com) Bluebird is a large-diaphragm cardioid condenser utilizing Class-A discrete electronics.



BLUE Bluebird

Designed for a variety of applications, ranging from vocals to close-miking of drums, the Bluebird bundle includes the Bluebird Accessory Pak: a quality 22-AWG mic cable, shock-mount and metal mesh pop filter. Blue's 8-Ball is a cardioid condenser priced within reach of the home studio user. Featuring Blue's Class-A discrete, low-noise amplifier circuit, the mic is ideal for applications as varied as drum overheads to acoustic and electric guitars or vocals. A standard thread swivel-mount at the base of the mic lets users pivot the 8-Ball back and forth for easy positioning.

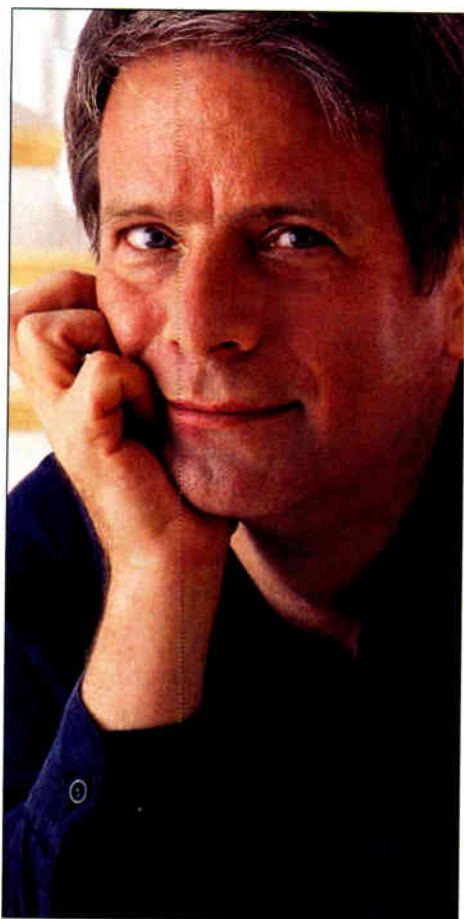
The Phantom V from Brauner (dist. by TransAudio Group, www.transaudiogroup.com) is a phantom-powered FET design that can be switched between omni, cardioid and figure-8 patterns. The Phantom V has a 10dB pad and features a sound tailored for voice-over or vocals; it's also well suited for miking stringed instruments and distance or room miking. It ships with a protective case and shock-mount.

CAD's (www.cadmics.com) e100² features a servo-condenser supercardioid electret capsule and a stainless/brass triple-stage pop/EMI filter for ballistic stability



Brauner Phantom V

and plosives control. Frequency response is 10 Hz to 18k Hz. The e100² is powered by a combination of 48-volt phantom power and a pair of rechargeable 9-volt batteries. Other features include servo head amps, a transformerless balanced output and an automatic power shutdown circuit



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when operating without phantom power.

The CM-87S large-diaphragm studio condenser from Carvin (www.carvin.com) features a cardioid pattern with a gold-sputtered, 6-micron-thick diaphragm and low-noise FET electronics, all suspended in a machined casing. The CM-87S' low-cut switch reduces rumble and handling noise. It's designed for vocals and acoustic instruments, but 135dB SPL handling (145 dB with -10dB pad) opens it up to instrument and percussion miking.

Cascade's (www.cascademicrophones.com) M37 is a small-diaphragm (21mm diameter) cardioid condenser that's ideal for drum overheads, hi-hat, snare or acoustic instruments such as guitar and piano. SPL handling is 137 dB. The M35 is a large-diaphragm condenser with a 1.07-inch diaphragm and Class-A FET electronics. The M35 is a good choice for recording toms, horns and in other critical applications. It is finished in satin nickel and ships with shock-mount and case.

The DPA (www.dpamicrophones.com) 4006 is an omni condenser with an extended 10 Hz to 20k Hz response and a transformerless preamplifier. The 3521 stereo mic kit comprises a pair of 4021 compact cardioids. The 4021's condenser electronics use an ultrasmall, thick-film mounted FET preamplifier. The 4021's 5-meter cable is side-mounted, making it well-suited for situations in which the microphone needs to be mounted directly on the musical instrument or on a stand.

The DrumKit™ System DK25/R recording package from Earthworks (

Earthworks DrumKit system

worksaudio.com) comprises two Earthworks TC25 omnis for overheads and an SR25 cardioid for kick drum. The TC25s were designed specifically for percussion—accurately capturing full percus-

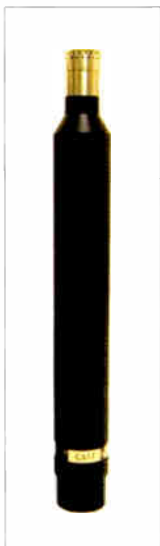
sive attacks and minute details that many microphones mask. Further, the DrumKit System comes with the KickPad™, a passive kick drum processor (EQ and attenuation) designed specifically for the SR25 that gets inserted into the SR25's mic line and is designed to optimize the microphone specifically for recording kick drums. It can also be used with other mics.

Both the RE410 and the RE510 handheld cardioid condenser microphones from Electro-Voice (www.electrovoice.com) are suitable for studio or live sound applications. The RE410 offers a high-compliance shock-mount for minimizing handling noise and a multistage pop filter to eliminate plosives and breath noise. The RE510 is a self-biased condenser vocal microphone with a multistage pop filter and selectable low-end roll-off that provides a wide dynamic range. Both mics include the company's Warm-Grip™ handle for a comfortable feel.

Now powered by DPA microphone technology, the Holophone (www.holophone.com) H2-PRO surround sound microphone is specifically designed for capturing discrete 5.1, 6.1 and 7.1 channels of surround sound. The H2-PRO is compatible with all standard analog and digital I/O devices that accept up to eight channels and provide phantom power, including disk-based recorders, multichannel preamplifiers, standard multichannel I/Os and all mixing consoles. The microphone head comprises eight elements with eight discrete outputs. Frequency response is 20 to 20k Hz, ± 2 dB (on the seven main channels), a sub/LFE channel output offers 20 Hz to 110 Hz, ± 2 dB.

The JM47 from JoeMeek (dist. by PMI Audio, www.pmiaudio.com) is a condenser mic with a FET impedance converter and transformer output. The element uses a center electrode design, which claims to provide a smooth extended frequency response without low-frequency boominess. The JM27 is a medium-sized diaphragm condenser with a cardioid head. This feeds low-noise, FET-type electronics. Both mics' diaphragms are made of microfine mylar with gold-sputtering, and both models have machined brass bodies.

Designed for critical recording or measurement applications, the C617 is the second generation of Josephson's (www.josephson.com) high-voltage, metal ½-inch diaphragm omnidirectional mics and is supplied with a Microtech Gefell MK221 capsule. Response is 10 Hz to 20k Hz, ± 1 dB. The C617's FET front-end circuitry is a further



Josephson C617

refinement of that found in the company's C606 and is combined with a balanced bipolar Class-A symmetrical output.

The KAT 4 Convertible Microphone from Korby Audio (www.korbyaudio.com) is a system of hot-pluggable, interchangeable capsules designed and hand-built by Tracy Korby. The four capsules included are recreations of an ELAM 251, Neumann U47, AKG C-12 and a modified Neumann U67. The hot-swappable capsules allow the

user to change heads without needing to power down. The microphone's amplifier is hand-wired using hand-selected discrete components.

M-Audio's (www.m-audio.com) Nova cardioid condenser has a 1.1-inch evaporated-gold diaphragm mounted in a solid



M-Audio Nova

brass capsule, along with Class-A solid-state electronics for low noise/low distortion. Response is 20 to 18k Hz. M-Audio's Pulsar is a medium-diameter capsule microphone optimized for recording acoustic instruments such as guitars, piano, strings, brass and woodwinds. Its 6-micron evaporated-gold diaphragm is mounted in a solid brass capsule and body. Class-A electronics round

out the design.

The Microtech Gefell (www.gefell-mics.com) M300 is a miniature pencil, cardioid studio condenser. The mic combines a 16mm, gold-evaporated diaphragm with the company's new M3 ceramic capsule. The M300 provides optical isolation for low noise. The M960 is a compact, large-diaphragm, omnidirectional microphone with a large gold capsule that has been corrected for the diffuse field to record the acoustic ambience of a performance by hanging the mic above and ahead of the source. The M296S is an omnidirectional

microphone that features a pure-nickel diaphragm. The microphone utilizes a ceramic housing to ensure temperature-stable performance and uniform sensitivity at all frequencies.

The second offering in its Silicon Valve™ Series, MXL's (www.mxlms.com) V6 is a large-diaphragm condenser designed to produce the sound of a tube mic. The V6's solid-state FET amplifier with balanced transistor output reduces harshness created by odd-order harmonics and musically unrelated distortions. The V6 is housed in a metallic

green body with a 24-karat gold-plated grille and is supplied with a cherry-wood box.

The CM 95 from Nady is a small-diaphragm condenser microphone with low-cut and 10dB pad switches. It features a transformerless design for minimal self-noise and increased dynamic range, along with a turned-brass housing and internal shock-mount for increased reliability.

Neumann's (www.neumannusa.com) 2004 TEC Award-winning TLM 127 is a multipattern, large-diaphragm mic that features low self-noise and extremely high

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SPL handling. The dual-diaphragm capsule, derived from that used in the TLM 103, offers multiple polarity from the microphone, a switchable -14dB pad and a highpass filter. Cardioid and omni-switchable patterns are available right on the mic, with a full range of five patterns available via optional remote control and the power supply using standard XLR cables. The package includes a shock-mount and wooden case.

Peavey's (www.peavey.com) cardioid Studio Pro CM1 is designed for studio and live use. Its medium-format condenser element is designed to handle SPL levels up to 136 dB. Frequency response is 50 to 16k Hz.

The NT2-A from RØDE (www.rodemicrophones.com) is a large-capsule (1-inch) condenser with variable polar patterns, variable highpass filter and a variable pad. Three 3-position switches on the mic body provide



RØDE NT2-A

the ability to step from figure-8, cardioid or omni patterns; from a flat response to either 80Hz or 40Hz highpass filter; and a pad adjustment of 0, -5 or -10dB attenuation. The NT2-A uses the company's type-HF1 dual-diaphragm capsule.

The CL7 studio condenser microphone from Samson (www.samsontech.com) features a large 1.1-inch capsule with 3-micron gold-sputtered diaphragm and a cardioid pickup pattern. The CL7 has a switchable highpass filter (12 dB/octave at 100 Hz) and a switchable 10dB pad for handling signals with high SPLs. A swivel stand-mount and carry case are included.

Designed with NHK's Science and Technical Research Laboratories, Sanken's (www.sanken-mic.com) CO-100K is a small-dia-

phragm omni condenser. Its 100kHz bandwidth makes it a good choice for full-spectrum recording for SACD, DVD-A and future hi-res formats. The CUW-180, featuring two 180-degree capsules that are independently adjustable, is a versatile tool for a variety of stereo and surround recording applications. For stereo recording, such as common X-Y configurations, the position of both capsules maintains optimum on-axis response and phase coherence. For surround applications, two CUW-180 mics can capture four channels of left/right and surround left/right program simultaneously, with four independently adjustable signals.

The SE3 is SE Electronics' (www.seelectronics.com) flagship small-diaphragm pencil microphone, offering Class-A FET, true condenser design with a fixed cardioid pickup pattern. The SE3 sports a low-cut filter and 10dB pad switches. Response is 20 to 20k Hz. The mic includes a shock-mount and deluxe travel case.

Sennheiser's 900 Series of condenser mics comprises 11 microphones serving a variety of applications that encompass live sound use and studio recording. The 901 employs a half-cardioid boundary layer and is optimized for miking kick drum and grand piano. The 908B is optimized for brass instruments, while the 908D was designed for miking drums and percussion. The 914 is optimized for miking cymbals, acoustic guitar or for use as drum overheads.

While far from new, the C-38B from Sony (www.sony.com/proaudio) has a storied history. Originally introduced in 1965, the C-38B was the world's first FET mic. For the first 40 years of this mic's existence, it was unavailable in the U.S. market—until now. The large-diaphragm C-38B reissue features a frequency response of 30 to 18k Hz and provides selectable unidirectional/omnidirectional directivity. The C-38B is ideal for vocals, as well as recording wind instruments, electric guitar or bass, and all types of drums, due to its 140dB SPL handling.

TUBE CONDENSER MICS

Housed in a unique purple body, the SVT from Applied Microphone Technology is a multipattern tube condenser with a frequency response of 20 to 20k Hz. The mic ships with a shock-mount, cable and protective case.

Cascade's V55 is a classic vacuum tube design that uses a specially selected Mullard 12AT7WA/CV4024 tube. The cardioid pattern mic has a 1.07-inch (35mm) gold-sputtered diaphragm and offers transformer-balanced output. The system includes a vintage-style

power supply, shock-mount and flight case.

The CharterOak (www.charteroakacoustics.com) SA538 is a tube condenser with dual 1.07-inch, 6-micron-thick, gold-sputtered mylar diaphragms. Response is 20 to 30k Hz. Polar patterns include cardioid, omni, figure-8 and intermediate stages, selectable from the power supply. Identical in appearance to the SA538, the SA538B is a side-terminated, dual-diaphragm tube mic with a flat 18 to 20k Hz response.

DPA's Type 4041-T2 uses the MMC4041 1-inch modular omni cartridge with the MMP4000-T2 tube preamplifier. The cartridge can be unscrewed from the electronics to swap with other preamplifier modules. Frequency response is rated from 10 to 20k Hz with a 4 to 6dB soft boost around 8 kHz that matches the response of DPA's acclaimed Type 4040 hybrid mic. The 4041-T2 is powered via the standard HMA5000 Microphone Amplifier (not included with the 4041-S) and offers a transformerless audio path with a maximum noise floor of 10 dBA and 144dB SPL handling.

A re-creation of the classic U47, the FLEA (dist. by Independent Audio, www.independentaudio.com) F-47 is hand-assembled in Slovakia using old stock, new Telefunken tubes with a German-built capsule. The F-47 has selectable cardioid and omni patterns, and is available in various tube configurations including UF14, EF14 and EF14 Wermacht. Other options include M7 or KK47 capsules and a long or short body.

Microtech Gefell's UM75 Anniversary Commemorative is a large-diaphragm, multipattern replica of the UM57 tube mic.



Microtech Gefell UM75

The microphone employs omni, cardioid and figure-8 patterns, and uses the original M7 capsule found in the legendary Neumann UM57. Further, this special-edition microphone uses the vintage EF86 tube, custom-wound transformer and the original hammered metal-gray patina finish. Only 75 microphones will be produced.

Nady's TCM-1150 features a gold-sputtered, 1-inch dual-diaphragm and a tube preamp. The TCM-1150 provides nine polar patterns (omni, cardioid, figure-8 and six intermediate stages) selected from the power

supply, and an easily replaceable 6072 vacuum tube.

The CT40 and DT40 tube microphones from Pearl Microphone Labs (dist. by Independent Audio, www.independentaudio.com) combine the company's classic rectangular dual-capsule and Nuovistor vacuum tube for a flat, yet warm sound. The CT40 has a fixed cardioid pattern; the DT40 can be configured for five different patterns. The frequency response for both is 20 to 25k Hz, and are supplied with flight case, power supply, cable and shock-mount.

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The Soundelux (www.soundeluxmics.com) e250 tube condenser has a broad cardioid pattern optimized for close vocals. The company's Stable Bias circuitry design prevents the mic's sound from changing with dynamics. Its response is 20 to 18k Hz. The Soundelux E49 is a remote vari-



Soundelux e250

able-pattern tube mic (continuous from figure-8 to cardioid to omni) that uses Soundelux's KK47 large-diaphragm capsule and a unique head grille. The microphone also features the Soundelux SteadyState fixed-bias-type tube amplifier for low noise and distortion, and is recommended in situations in which neutrality is valued. The E49 has a double shock-mounting system: a capsule-to-electronics shock assembly and a separate external shock-mount.

Based on the renowned Ela M 251E, the Ela M 251F from Telefunken USA (www.telefunkenusa.com) is the identical mic in a "no frills" package. The three-pattern (cardioid/omni/figure-8) Ela M 251F houses the same handcrafted components



Telefunken Ela M 14

and vintage tube, but comes with an updated power supply. Available for the first time since 1961, the Ela M 270 stereo tube microphone is now offered in limited quan-

ties. The company's U47M is a re-creation of the classic U47 microphone. Utilizing a German M7 capsule custom-made for Telefunken USA and hand-built in the U.S., the Telefunken U47M is offered with an optional choice of vacuum tubes. A re-creation of the original C-12, the new M-12 is a nine polar pattern mic that features the NOS 6072 tube, T-14 transformer and the TK-12 capsule. The new cardioid-only Tele-



Wunder Audio CM7

funken Ela M 14 tube microphone features a single-sided TK-12-inspired capsule, a NOS GE JAN6072a tube and a custom transformer.

An updated re-creation of the classic U47, Wunder Audio's (www.wunderaudio.com) CM7 uses an original M7 capsule. Users can choose a 40 to 50-year-old M7 capsule that is newly re-skinned to the original specifications, and there is a choice of PVC or 4 to 6-micron mylar diaphragm. (Thinner diaphragms are also available.) The tube is either a hand-selected vintage Telefunken VF14 or EF14. New Tuchel connectors are used and are identical to those found on the vintage U47. Components include high-end caps, resistors and Mogami audio wire. The CM12 uses the T14/1 output transformer that was standard in the classic C12/24/ELAM. The CM12's capsule is a CK12. The CM12's tube is a NOS GE 5-star 6072, and all internal point-to-point wiring uses Mogami cable. ■

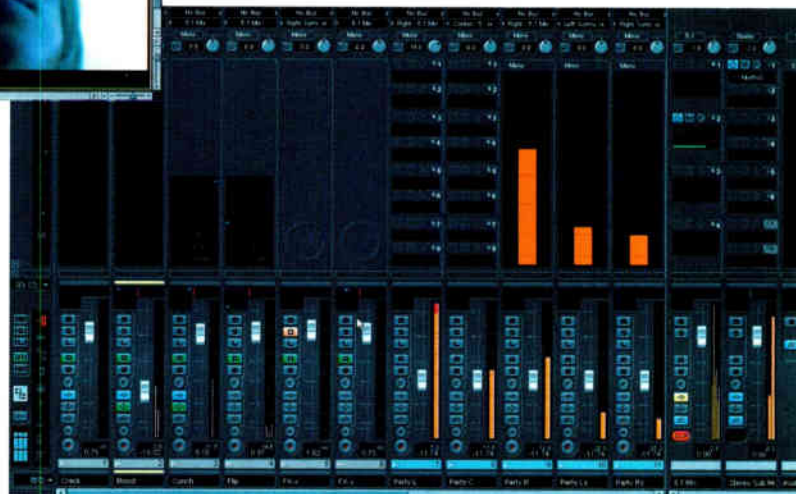
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While the Music Clubs Rock All Night, The Studio Scene Hangs Tight

In Austin, aka Live Music Central, bands crank out power chords and acoustic ballads at all hours on nearly every street corner. But in addition to the overwhelming amount of public performances, one can also find a mixed bag of local artists and out-of-towners privately recording in one of the city's many recording studios.

Austin's recording community is rooted in tradition while neighboring some of the industry's latest technology. In fact, some studios look the same as they did 20 years ago, complete with often-used analog tape machines, vintage tube gear and cavernous live rooms. These aren't the ultrahigh-tech, streamlined designs of L.A., New York City or Miami studios, but comfortable spaces that accommodate a large pool of amazingly talented producers, engineers and musicians. Like most markets, Austin has said goodbye to a few longstanding facilities (Hit Shack, Brooklyn Bridge), but now, the recording community seems to be holding steady, with no major leaps forward, but no extreme slippage either.

At the same time, Austin-based companies such as AMD, Dell Computers, Texas Instruments and Open Labs manufacture products that support music production. Due to these companies' close proximity and the changing industry as a whole, Austin has entered and adapted to the digital domain, despite a bit of kicking and screaming. Producer, songwriter and Asleep at the Wheel frontman Ray Benson's 14-year-old Bismieux Studios served as a beta test site for AMD, Steinberg and others years before his city earned the nickname "Silicon Hills." "We are always looking for the cutting edge of digital technology and marrying it with our old, cool, wonderful-sounding tube and transistor technology," says Benson.

High-tech or lo-fi, "There's a place [in Austin] that can meet your budget and your technical needs," says Wendy Morgan, executive director of the Recording Academy's Texas chapter. "There's just a high concentration of all the things that make a good recording environment." Like its cool, laid-back vibe and good food. "People come here for the barbecue and the Mexican food, but also for the incredible music scene," adds Benson. "This has always been

a town of individualists and iconoclasts. We all sort of did our own thing. We compete, but we're very friendly [with each other]."

One of the oldest and most widely known Austin facilities resides in the suburban Briarcliff community. Willie Nelson opened Pedernales, which once housed a country club, in 1973 so that he could have a place to live, record and throw a big Fourth of July picnic. With the help of Nashville producer Chips Moman, Nelson converted the resort's old clubhouse/restaurant into a private recording studio and made the wise decision to keep the nine-hole golf course and Olympic-size swimming pool.

"It was initially for him and his friends," says Nelson's nephew, Freddy Fletcher, who runs Pedernales and owns Arlyn Studio in downtown Austin. Of course, Nelson has some pretty cool friends, such as Neil Young, Merle Haggard, Kris Kristofferson and Waylon Jennings—all Pedernales clients. When the studio became a public facility in 1992—a few years after the IRS temporarily seized it to pay off the artist's tax debt—clients such as Barenaked Ladies, Bonnie Raitt, Joe Ely, Kenny Wayne Shepherd and Pat Green have sprawled out in the 3,000-square-foot tracking room and four



From left: Willie Nelson, Freddy Fletcher and engineer Larry Greenhill at Pedernales' 48-channel SSL G+.



iso booths. The control room features custom monitors from Steven Durr and an SSL 4048 G+ with Total Recall, interfaced with a 24-input 80 Series Neve; plenty of UREI LA-4s, dbx 160s and the like; and an abundance of tube mics, guitar amps and bass cabinets. Clients can record to Studer A800 24-track, Otari RADAR or go straight to the 48-channel Nuendo 2 system.

The other half of the Arlyn/Pedernales family is located in the old Austin Opera House, once a popular live spot that was owned by Nelson until the early '90s. The club no longer exists, but the studio has remained intact ever since Fletcher built it in 1984. The Steven Durr-designed 22x24 control room contains a vintage API console with Uptown Moving Faders Automation, custom monitors, classic outboard gear, and Pro Tools, RADAR and Nuendo options. Studio B, suitable for voice-overs, overdubs and multimedia projects, features a Yamaha 02R and Pro Tools Mix|Plus, while Studio C is equipped for 5.1 mixing and includes a Focusrite Control|24, another Pro Tools system, a video screen and other items for ADR looping, and sound effects and Foley recording.

To the disappointment of clients such as Robert Earl Keen and Los Lonely Boys, the room has been practically booked solid for the past year-and-a-half by one client: Mediatech Institute, a recording arts school with facilities in Houston, Dallas and Austin. "It's been difficult," Fletcher says of turning away bands, "but it's hard to turn that [Mediatech business] down. But I'm really proud of the school. They're teaching kids how to make music and do other things with audio: film, music theory, music business."

In 2001—when the dotcom industry, music sales and the stock market plummeted—a couple of years before Mediatech snatched up Arlyn, Brooklyn Bridge moved to—of all places—Brooklyn, N.Y., the popular Hit Shack closed "for reorganization" and one of Arlyn's main engineers, Stuart Sullivan, opened Wire Recording, a one-room facility not far from his previous home. It would seem that it was the worst time to open a new business, much less a recording studio, but Sullivan has reportedly prospered, partially due to his longstanding reputation.

"I had been working out of these places for more than 15 years and had a large client base," he says, naming such acts as Keen, Butthole Surfers' Gibby Haynes, Patty Griffin and James McMurtrey, among others. "I borrowed in every direction I could and it's paid off. The first year was fantastic, the last couple of years I got myself out of debt and now I'm preparing to move to the next level. There's been a distinct increase in outside engineers coming in, which says that people



Stuart Sullivan tweaks a mix at Wire, which offers an API 32x12x32 console with Uptown Moving Faders automation, Pro Tools|HD3 Accel and numerous outboard boxes, mics and instruments, all tied to a 16x27-foot main room with four iso booths.

have accepted what I've been able to put together."

Wire attracts a "mixed bag" of local indies and national label acts. Sullivan has also noticed musicians from various U.S. locales convening to record at one central studio. "I just did a session last week where the drummer's from L.A., the guitar player is from Dallas, the bass player is from Houston and the artist and I live in Austin," he says. "It seems like the work has stretched to the point where you're putting together teams and those team members can be from anywhere and come together for a record. You're looking for a diverse group of people who have their fingers in various pies and when you bring them together, you have a more expanded base."

Bismeaux Studios lies "within spittin' distance" of Wire and Arlyn, and features yet another vintage API, this one originating from Nashville's historic RCA Studio C. In addition to a 10-foot putting green, the vast control room contains its fair share of old compressors, tube mics and pre's (Bismeaux even makes its own tube preamp/DI boxes), but they're far from lo-fi. Bismeaux has partnered with AMD and uses its 64-bit dual-processing system with Nuendo and Mackie Soundscape platforms. "Early on, we got involved with the high-tech community to see what products were in development and applicable to audio," says Benson.

In that vein, the studio just completed its second room.



What's most impressive about Arlyn is its whopping 6,600 square feet of available recording space.

"Bismieux Audio Lab," a DAW engineering school operated by ProMedia Training. Studio B features a Yamaha 02R and six 8-channel 01X boards, and HP laptops for seminar students. They've also installed a Polycom A/V conferencing device, which will allow them to hold master classes in engineering and virtual A/V collaboration. In addition to 10-day Pro Tools seminars,



Congress House's control room features an Amek console, Pro Tools|HD Accel, Otari 2-inch and three recording spaces.

Benson plans to hold future workshops in Cubase, Nuendo, Cakewalk and other platforms compatible with AMD's Opteron

64-bit chip.

Like Benson, Gina Fant-Saez defies Austin's perceived "old-school" mentality; she moved to Austin from New York in 1997 with a 48-track Pro Tools rig (one of the first in the city) and an SSL 4000 G+ to open Blue World Music. During the past eight years, she's recorded and mixed projects for locals such as Shawn Colvin and Jimmie Vaughan, but admits that most of her work has come from Nashville, L.A. and New York (U2, Chris Vrenna, Nelly Furtado). She recently sold her SSL and 2-inch Studer machine, purchased a Dangerous Music system and poured the remaining funds into her new venture, eSession.com.

Fant-Saez describes eSession as a "Web-based global virtual studio with a database of the world's best session players." eSession handles all file transfers and financial details of an "e-session," with players booked from their exclusive database of top-notch players. "I just don't see the future in large recording studios," she says. "I see the Internet and home studios as the future."

Austin, like many other music towns, has no shortage of home and project studios. Mike Vasquez built Sweatbox into an indie and garage rock haven. Punk bands often pop over to Bubble; the band Spoon and producer Brian Beattie work out of their pro-quality studios; and other local producers such as Stephen Bruton, Gurf Morlix, Craig Ross and Tim Kerr work at both commercial and private facilities.

Producer/engineer Mark Hallman converted one South Austin house into the vibe-y Congress House, but it is actually a dedicated commercial facility (with guest quarters) used for his projects and outside clients. Hallman rented the house in the mid-'80s as a pre-production site, and it has since grown to become his dedicated spot for producing albums for Eliza Gilkyson and Tom Russell, and engineering projects for Ani DiFranco, David Byrne, Shawn Colvin, Juliana Hatfield, Pat Green, Nanci Griffith, Junior Brown and others.

Cedar Creek looks like an old cabin, but at nearly 30 years young, it is one of the city's most beloved facilities, with clients such as Dixie Chick producer Lloyd Maines, Scott Litt, Dave McNair and others renting out the 1973 custom 32-input Neve fitted with A/D system Optifile and

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There are home studios, and then there are *home* studios. Nestled high in the hills

PHOTO: RICK CLARK



In addition to towers of outboard gear, an Amek Neve 40x32, Pro Tools HD|2 Accel (32x40 I/O), Genelec 5.1 monitoring system and a complete video editing suite reside at Treefort Studios.

on a private, seven-acre compound lies Treefort Studios, a sunny, sprawling space

with possibly the largest inventory of tube mics, preamps and other outboard gear in the big state of Texas. Owner Jack Rock, a retired corporate technology VP for Austin-based aerospace corporation Tracor Inc., marries his classic gear with a 30x20x12 tracking room, which ties to three iso rooms and a separate 20x16x16 iso *building* with video links. Amenities include a three-story guesthouse with kitchen, pool, decks, patios and frequent barbecues.

Rock, who also owns indie label Viewpoint Records, is one of those rare birds that doesn't worry much about the state of the economy or the decline in studio business. He owns all of his property outright, and clients such as And You Will Know Us By the Trail of Dead, Spoon and Fastball seem to discover the place through word of mouth or via an invitation by Rock. He's certainly an exception more than the rule, as most Austin studio owners are just doing the

best to keep the lights on.

The Austin studio scene's VU meter

hovers at a moderate level these days, but whether it swings to a more extreme high or low depends not only on the state of the music industry, but the studios themselves. "What I have always found disconcerting about Austin is its inflexibility to embrace commercial music," says Fant-Saez. "The music as a whole is very lo-fi roots, punk and blues. Most Austin records will simply not sell enough albums to push the city into a real professional music town. Austin music can simply not afford a world-class studio. With that said, I love Austin. It's a great place to write music and live."

"Other studios are very music-oriented—and I am too, because I'm a musician, for crying out loud—but I also have to be a businessman, and knowing cutting-edge technology and applying them to things that will help us stay in business is what it's about," adds Benson. "I want to make the most beautiful-sounding records for myself and other artists, and I have to know the technology to get that done."



Assistant editor Heather Johnson worked at Woodland Studios in Nashville from 1995 to 1997, which once housed the API console now at Bismieux. Small world.

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Artist Development 2005

The Role of the Studio

BY MAUREEN DRONEY

Way back—from the 1950s through the '70s—it was common for record labels to operate their own recording facilities. Detroit's Motown, CBS San Francisco, RCA Nashville, Memphis' Stax and Sun, Chicago's Chess, New York's Atlantic—many of the studios where classic records were made were label-owned; recording in them was part and parcel of a record deal. But after The Beatles demonstrated the kind of big bucks pop music could generate, the industry changed. Artists gained more power and, along with it, the ability to choose where they would record. By the 1980s, independent commercial facilities were the norm, each vying for artists' business with expensive equipment and pleasurable amenities. As commercial rooms thrived, label-owned studios closed, leaving very few in existence today, with EMI's Capitol Studios in Los Angeles and Abbey Road in London among them.

Historically, commercial studios have tended to fall into two categories: those started by engineers or producers, and those owned by people with lots of disposable income who thought it would be fun to be in the music business. Either way, they were mostly labors of love, lacking both smart business plans and profits. Given that, along with the current music industry downturn and the rise of home-based digital recording, it's no surprise that most of today's commercial studios are struggling to stay afloat.

But even with high-quality home recording, there's still a need for spaces in which artists can stretch out and/or hunker down to refine their music and sound. Real recording studios may be a smaller line item in current recording budgets, but they're still an essential part of the creative process. *Mix* took a look around and found a lot of new models—and new models of old models—out there. Some are grass roots and personal, others are more sophisticated, harnessing both funding and business expertise from successful entrepreneurs outside of the music industry.

REINSTATING RECORD ROW

In Chicago, Blue Cactus Entertainment/Pressure Point Studios (www.pprec.com) is located half

a block from the former site of legendary Chess Records on what used to be called Record Row. "We want to capture that vibe and reference that energy," says Blue Cactus managing director Chris Schneider. "Our dream is to bring a major-label presence to Chicago."

Blue Cactus is fitted with two very nice studios, but Schneider notes, "We never wanted to be strictly studio owners. We have artists signed to management and to our label. We started in the Latin market; now we're branching out. We have a breakout urban artist that we think will be huge, a rock band and this year we're focusing a lot more on artist development. That was a major part of our original business plan, but we needed our studios finished to do it."

The principals in Blue Cactus are Schneider, a former musician and artist; multi-Platinum engineer/producer Larry Sturm; and cellular phone magnates Adrian Gerra and Daniel Bonilla. Open for six years, the company began as a production facility for DJ Paul Johnson. It soon became a more multifaceted business, including the operation of a commercial studio, but Schneider says, "We plan, with our artists and in-house producers, to be a private facility within the next 24 months. The way major labels are squeezing rates, the old commercial studio business model just can't exist anymore."

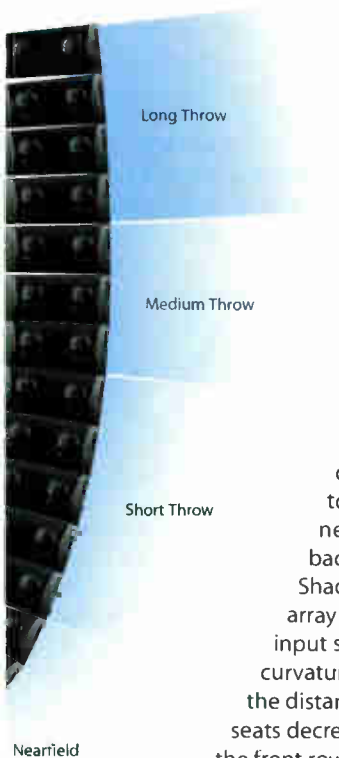
The label's MO is, according to Schneider, more artist-friendly than labels of the past. "We partner with the producers and artists we sign," he explains. "For example, there are mid-level urban artists who move, regionally, 20,000 to 50,000 units through an indie distributor. We may partner with a producer to provide 'x' amount of dollars in expertise and studio time, getting the distributor to ante up enough money to get the studio paid. We might also have a participation in sales. Every deal is different. Each one is an opportunity to figure out how we all can benefit."

The company's three-story building encompasses offices and production rooms, as well as the two studios. Both studios have multiple live recording spaces—all with different ambiences—including, Schneider notes, "a great-sounding drum room." Rooms are wired so tracking spaces



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are available to smaller production rooms. There's also a rehearsal room outfitted for live broadcast and video recording.

"We have a lot of different capabilities," Schneider says. "We feel that we're going full-circle, back to an old-style production vibe, like Chess or Motown, but with better artist deals. We want deals that benefit everyone and raise up all the ships so everybody gets more. Chicago has a lot of hot artists, from Kanye West and Twista to Disturbed, Billy Corgan and Chevelle. A lot



Sturm, Schneider

We're back to an old-style
production vibe, like Chess
or Motown, but with better
artist deals.

—Chris Schneider

sessions for promising local bands.

"What labels often mean by the term 'artist development' is actually *audience* development," he comments, "the series of marketing procedures used to develop an artist's audience. That's very different than the production-oriented definition: taking an artist and coming out with a salable product. At Warner Bros., only really big records worked within the infrastructure. They owned a lot of cool, small labels, but they didn't know how to deal with them. The small labels were essentially artist-driven, surviving on their own skill set and very few resources.

"The complaint 'Major labels aren't developing artists anymore' really means they're not investing in the early stages of an artist's career, maybe below \$500,000 in sales. They're not investing in the artistic vitality of the artists. I realized that. It was also clear to me that, due to technology changes and the rise of digital production, both production and distribution costs were going to go through the floor, making it possible for artists to do a very different style of business. I decided that the interesting place to be was as close as possible to the artists."

Unlike the others interviewed for this story, Espinoza has no plans to operate a label. "There are a lot of people doing that," he explains. "I'm better at getting records made. Also, small labels tend to succeed when they're closely associated with genres. If the label is too broad-based, it's more likely to fail. I work on a pretty broad range of music; I'd have to have multiple labels, which isn't practical."

About the facility itself, an existing studio complex that Espinoza renovated, he says, "Studios today have to be very clear about what they're offering and to excel at key things. I'm interested in live performance. I bought the space for the sound of its recording spaces and for the Studio A control room. Then I built a great live drum room."

Although his official role is most often that of producer, Espinoza also acts as a facilitator, getting music noticed and recorded. "One of the best things I can do for people I work with is to help them develop the right team," he comments, "a manager, a booking agent and a label who are excited about the project.

"I see the film world as a good model," Espinoza concludes. "It's adapted very well to a diverse kind of cultural expansion, with different kinds of media that appeal from the lowest common denominator to the highest. When I was dealing with big labels, their attitude was that the only way for them

of independent-minded people are doing exciting things here. Our goal is to help get Chicago the recognition it deserves as a real music center."

REVIVING ARTIST DEVELOPMENT

In San Francisco, Tony Espinoza is attempting to blend art and commerce at SF Soundworks (www.sfsoundworks.com), a multiroom recording studio. A musician who double-majored at Stanford in music technology and computer engineering, Espinoza, along with two partners, was a founder of When.com, which, at the height of the tech boom, sold to AOL for a reported \$225 million. As a VP of music services at AOL during its acquisition of Time Warner and its numerous record companies, he gained unique insight into the term "artist development." Since then, Espinoza's poured a lot of his dotcom earnings into SF Soundworks. His goal? To attract big-budget projects and use the revenues from them to subsidize recording

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What labels often mean by the term 'artist development' is actually audience development. That's very different from the production-oriented definition.

—Tony Espinoza

to make albums work was to shoot for the lowest common denominator. But the way I see it, the bigger the marketplace, the bigger the niches within it. Even 10 percent is huge on a global scale."

COMMERCIAL MUSIC KINGS

Upstart label Three Kings Records (www.threekingsdlc.com) dropped its first release, the eponymous *The Prom Kings*, on January 18, 2005. After taking almost three years to come to fruition, by January 25, Three Kings had *R&R* magazine's second most added rock radio cut. Now, gearing up for its second release (by female singer Jewlá, a former star of *Miss Saigon* and *The Lion King*), the company has taken over a studio complex in North Hollywood that houses two recording studios, production offices and a video editing suite.

Three Kings is made up of producer/writers Michael Carney and Andy Duncan and producer/engineer Csaba Petocz, along with CEO Zane Stocklard, former director of marketing for the NBA. Carney, the company's upbeat founder and spokesperson, is, in no uncertain terms, out for commercial success. But like Blue Cactus' Schneider, he brings an artist's point of view to business.

"Andy and I started out making records in our bedrooms," he explains. "But we always wanted to be able to work in great studios. With the current business climate, we thought

the best way to do that was to have our own studio and use it for the artists we were developing. We wanted a professional facility where we could compete sonically, and where we could keep the rooms buzzing with acts we're developing without worrying about the clock. We work through the day with the artists we've signed. On the night shift, we have young producers in here writing and recording. The studio isn't a moneymaker; it's a tool for the record company."

Carney and Duncan originally financed the label and have also brought onboard a private investor. Like Blue Cactus, Three Kings offers artist-friendly deals. "There's more overall participation for the artists than with a major-label deal," Carney explains. "We look at our artists as their own company. We're two companies coming together, starting with a fair deal."

Carney cites his own experience as an artist on a major label spending almost \$100,000 for production on one song. "There was no way I could ever recoup those costs, especially at the royalty percentage I was getting. Here, recording costs come out of the budget, but

copyright. With audio and video production all under one roof, we don't have to pay outside sources."

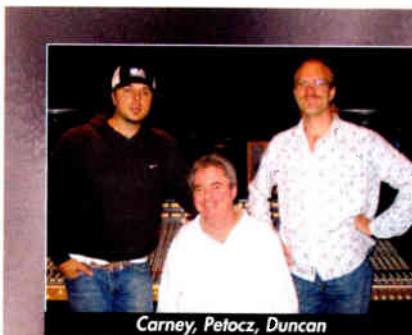
Carney isn't worried about niche marketing; the artists on Three Kings are straight-up commercial, from the *Prom Kings*, who Carney describes as "Van Halen and Mötley Crüe meet Linkin Park," to Jewlá and country artist Cody McCarver. "We're not an art label. We tell our artists, 'You have to give us something to sell.' We're not interested in selling 16 albums. We want to sell 16 million."

So far, Carney says Three Kings has no desire to form a traditional partnership with a major label. "I've done that," he explains. "I signed a production deal with a major and things immediately went from conviction to committee. Nothing was moving and everything got talked to death. It was frustrating. When we got out of that deal, we started our own company and put our own money in, until recently when we went looking for a successful businessperson—from outside the music business—who could provide us with financing and expertise, but who would stay separate from picking songs and talent."

ARTISTICALLY FICTITIOUS

In contrast to the avowed commercialism of Three Kings, Nashville's Fictitious Records (www.FictitiousRecords.com) is—according to owner (with partner Mike Davis) Roger Moutenot—proud to call itself an art label. Moutenot, an engineer and producer who's worked with the likes of Yo La Tengo, Sleater Kinney and Lou Reed, points out, "One of the appeals of indie labels is that they can be artistic, allowing a band to really cultivate their music and their sound. With a major label, there's more money going into the pot and more at stake, so there are more people stirring the pot. It's a commodity game. Sometimes bands are into it, and if they're lucky, they make a lot of money. Sometimes bands get totally frustrated by it and lose the concept of what they're doing. To me, music is an art form. What I'm trying to do with our label is to allow our artists license to do what they really care to do without getting pigeonholed into any kind of genre."

Founded two years ago, Fictitious now has 10 releases, including the most recent, *We Also Create False Promises*, by seven-piece instrumental band Character. Other projects range from vinyl 45s and EPs to full-length CDs with artists such as San Francisco's Carrie Walker, Hoboken's The Cucumbers and the first release by The Features (now signed to Geffen/Universal).



We look at our artists as their own company. We're two companies coming together, starting with a fair deal.

—Csaba Petocz

because of how the studios are used by different artists, costs get spread around and aren't that high for any one artist."

Carney sees video as integral to both the creative musical process and to the label. "We're a production label," he says. "Writing and producing music, shooting and directing a video—all of these things are creative tools to enhance the main profit center: the

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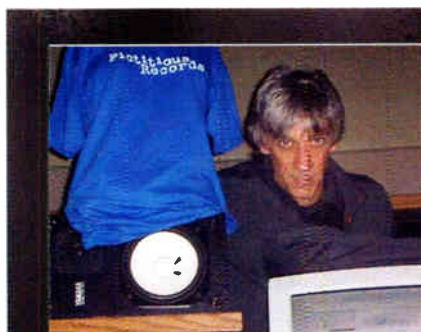
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Moutenot

One of the appeals of an indie label is they can allow a band to cultivate their music and sound.

—Roger Moutenot

"My main business is producing and engineering," Moutenot explains, "and I've always tried to find new acts to work with. One of them was Stone Jack Jones. He wasn't on a label and his music is really off-the-cuff. I knew he'd have little chance of getting signed, so I decided to release the record myself. At the time, it was strictly Internet sales, but things grew. Now we have distribution with Morpheus and a promotion team backing us up, which has made a big difference."

Moutenot produces the majority of the label's releases; most of the music is recorded at his personal studio, which is housed in a 5,000-square-foot building. Because Moutenot prefers to have musicians perform in the same room with him, it has an extra-large 30x30-foot control room. A 2,000-square-foot live space is in the works, which will provide plenty of room for the gear and instruments, many of them vintage.

Fictitious may be growing, but it still operates on handshakes. Deals are usually for one record, with no contractual ties, and, after costs, a 50/50 split between label and artist. "We really do have a vision," Moutenot emphasizes. "It's artsy—eclectic, if you will—and pop. What touches people about music is more than what the lyrics say or how it rocks. It's intangible. I believe, for a large majority of people out there, if something is honest, it's going to ring true, touch people and find an audience." ■

Maureen Droney is Mix's L.A. editor.

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The Many Faces of Moby

Pop/Rock Meets Ambient in Two-Disc *Hotel*

A true musical chameleon, Moby has made a career out of defying categorizations and expectations. Is he techno? Punk? A rock 'n' roller? A glorified DJ? An ambient chill-out dude? Synth titan or guitar hero? Underground or mainstream? He sampled *Twin Peaks* composer Angelo Badalamenti on his first hit, "Go," in 1991 and, as incongruously, blues singers from Alan Lomax field recordings on his multi-Platinum masterpiece *Play* in 1999. He's deconstructed the *James Bond* theme and covered songs by Mission of Burma and New Order. He's done remixes for Michael Jackson, Pet Shop Boys, Erasure and others. His last two major tours, dubbed Area:One and Area:Two, were as eclectic as he is, with the artist topping bills including David Bowie, The Roots, Paul Oakenfold, OutKast, Incubus, Nelly Furtado, DJ Tiesto and Busta Rhymes. He's been criticized for wearing his politics on his sleeve—what Moby article would be complete without mentioning that he's an outspoken left-wing vegan Christian peacenik animal rights activist? And don't forget the complaints about him selling every track on *Play* to various commercial interests—how *dare* he?

I don't care about any of that stuff. I think he consistently makes fascinating and varied albums that speak to the soul in beautiful and mysterious ways. His latest, *Hotel* (set for March 22 release), is no exception. The two-CD set features one disc that is dominated by relatively straightforward pop/rock tunes with electronica shadings, and a second disc of gorgeous, moody, ambient instrumentals. The pop songs pick up where the hit "We Are All Made of Stars" left off: After years of sampling singers and hiring others to do the heavy-lifting live, Moby has blossomed into a confident and distinctive vocalist, with an uncanny knack for writing soaring melodies and infectious hooks that he couches in smart, deceptively simple arrangements that are actually quite complex.

Disc one of *Hotel* is essentially a "song" cycle about a relationship, covering broad emotional terrain from the first flush of attraction and the exhilaration of mutual chemistry, to carnal come-ons and even disconnected, post-verbal, post-coital bliss. As is usually the case, Moby plays all of the instruments, save for some drumming by Scott Fassetto. Laura Dawn, a longtime friend of Moby's (and creative director of moveon.org), is his vocal foil this time around. Most of the recording took place in Moby's sleek



PHOTOS: BERRY BEHRENDT

(but small) Manhattan home studio, which was designed by Richie Bittner and Marty Strauss to put a vast array of instruments, outboard gear and computers conveniently at the owner's fingertips. Keyboards are in drawers on modular, mobile sliding racks; I/O connectors and cabling are color-coded for easy use; computer monitors—for Pro Tools, Cubase and film/video scoring applications—are laid out for maximum ergonomic viability. This is a man who spends *a lot* of time in the studio.

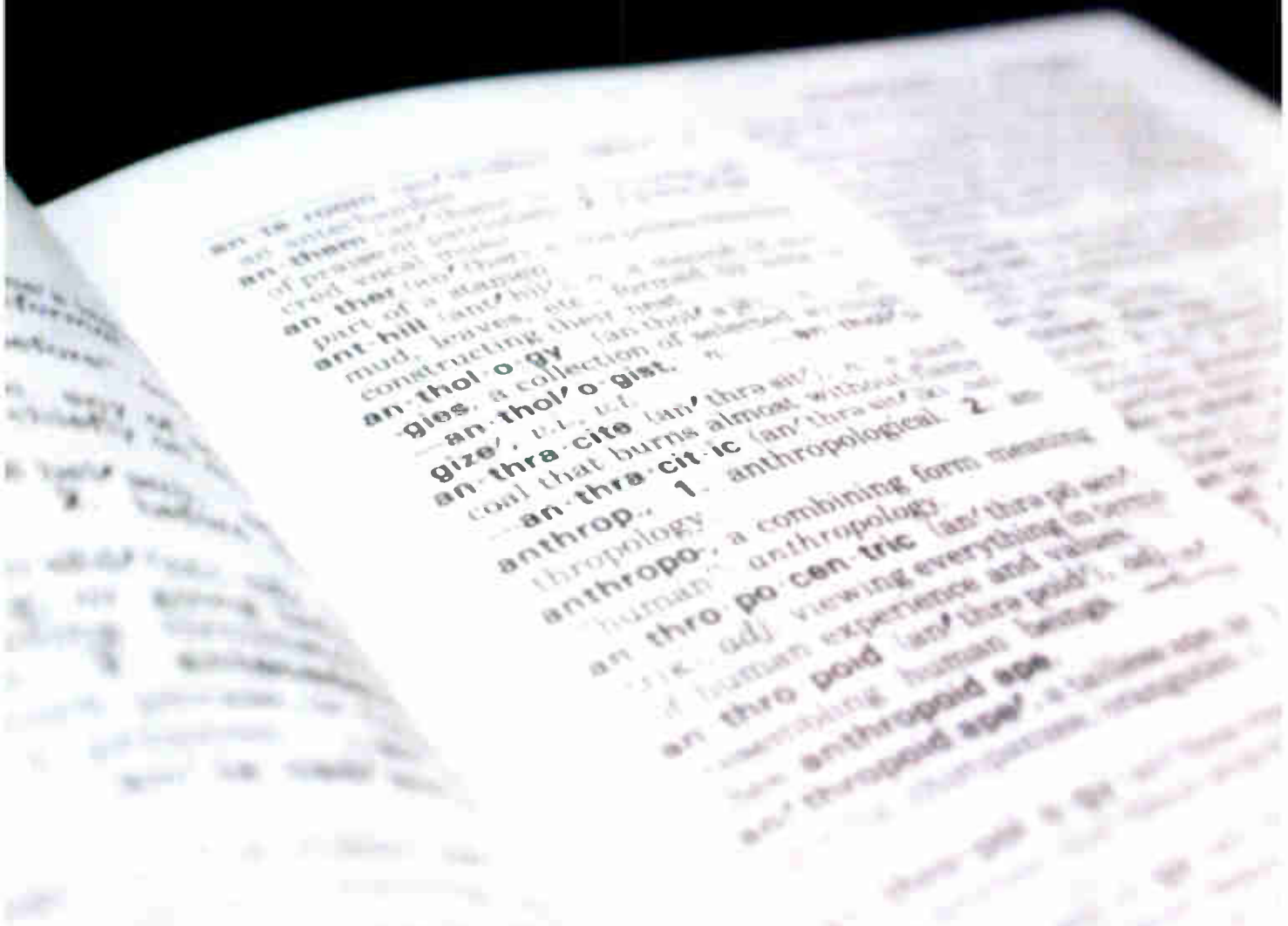
I caught up with Moby by phone at his studio in mid-January for a conversation about his recording techniques, particulars of making the new album and a few other interesting tidbits. As you might expect from listening to his music, he was warm, open and engaging.

You once described recording as "an intuitive craft." I wonder how it has changed for you during the years, as technology has advanced and you've learned more about making records.

I think when I was talking about it being intuitive, what I

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was referring to was having a home studio. One of the nice things about working at home is you become so familiar with your equipment and your setup that if you want a certain sound, you don't really have to think about how to accomplish it; you do it almost instinctively.

But how recording has changed! The first recordings I ever made were with a home mono cassette recorder I borrowed from my grandfather when I was 10 years old. I think my first-ever recording was the sound of my mother chopping a cucumber. It turned out really well. When I was 16 or 17, I borrowed a friend's Tascam 4-track Portastudio, and at the time, I thought that was the coolest thing in the world. Then, when I was 18 or 19, I bought my own Portastudio.

I think people forget what an important invention that was. It really was the gateway for so many musicians to get into recording.

That's true. To suddenly have the ability to record on multiple tracks at home...and bouncing—I used to bounce tracks like crazy so you'd end up with this terrible-sounding mess [Laughs] but you had nine or 10 tracks on there and it was a fun way to record. I still have hundreds and hundreds of songs that were recorded on the Portastudio.

After that period, I had a combination of a Portastudio with a MIDI setup. My first MIDI setup was an Alesis sequencer with a Casio keyboard and an Alesis drum machine. That Alesis sequencer was really fun; especially for playing live, it was great to be able to manually punch tracks in and out. That was probably the mid-'80s. Then in the early '90s, I finally made the switch to using a computer and got into using [Steinberg] Cubase.

I know that through the years you've primarily recorded in your own home studio, but have you also spent much time in conventional recording studios?

Sure, especially on this new record. I'd say about three-quarters of it was recorded at home. I did all of the electronic stuff at home and the vocal at home. But we recorded the live drums at Electric Lady [New York City] and most of the guitars and some other things were done at Loho Studios on the Lower East Side. We mixed at Electric Lady, as well. We recorded everything on Pro Tools, but we mixed onto half-inch tape.

Lobo is a Neve room, right?

Yes, they have this great Frankenstein Neve that has parts from four or five different Neves cobbled together.

What do Electric Lady and Lobo have that your own studio doesn't have? Is it the live space?

Right, great live rooms and fantastic-sound-



Moby recorded most of his new album, Hotel, at his ergonomically correct home studio.

ing microphones. Especially for mixing, too...mixing in Pro Tools is fine—if you don't care too much

What do you mean?

I love Pro Tools, but I personally don't like recording and mixing in the digital domain. There's something you get being able to go through an analog desk that I really love. We mixed all of this on an SSL J Series at Electric Lady. Obviously, I love plug-ins, but I think they're best for special effects; I don't like them much for compression and EQ and things like that. They just don't sound as good to me as the onboard EQ on an SSL or a Neve, or as good as outboard EQs. As time has passed, I use plug-ins less and less. Again, I mainly use them for special effects—creating sounds you could never create in the analog world. Some plug-ins are nice, but a lot of them sound sort of thin to me.

There are some really gorgeous, fat guitar textures on the new album.

The guitars were recorded through a Matchless amp, I believe. It was owned by the guy who engineered and mixed the record with me, Brian Sperber.

What guitar did you mostly use?

I have this crappy old guitar. I don't even know what it is. Let me go look...Oh yeah, it's this Carlo Robelli \$180 guitar. Actually, it sounds pretty good. Years ago, when I was touring and breaking a lot of equipment, I developed this ethos of buying the cheapest equipment I could find so when I broke it I wouldn't care.

I could've sworn I heard a Les Paul in there somewhere.

You did. Brian had a gold-top Les Paul that we used, as well. There was also a really nice

acoustic guitar, and Brian set up this complicated miking system with a Neumann over the body and something else on the neck. It ended up sounding really good.

Were you familiar with Brian's work through the years? I know he worked with Patti Smith, Guided By Voices, Orbital...

I'd seen his name cropping up on a lot of different records, either engineering or producing. We worked together fantastically. It helps, too, that we live in the same neighborhood. He's obviously very good at what he does and very meticulous, which is good because I tend to be kind of lazy. It's nice to have someone focusing on the guitar being in tune and everything sounding good. I like making good-sounding records and I like good performances, but I guess I'm of the old school because I really can't think of too many parts that require being played more than two or three times. Brian told me about working with other bands that do things like spend a week working on one guitar part. That doesn't interest me. I mean, you go back and listen to an old Rolling Stones record and it sounds like it was written and recorded in about 20 minutes.

There's a really nice cohesion and continuity to the record. The songs flow together well sonically and thematically—one seems to lead into the next in a thoughtful way. I'm assuming most of the songs were written around the same time rather than being from different periods.

That's right. I think some of that continuity and cohesion you're talking about is accomplished, hopefully, through the sequencing of the record, which is something I really spend a lot of time on. I can work fairly quickly writ-

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ing and recording a song, but actually finishing the record and deciding what should be included and what the order should be can take months.

On the new album, a song like "Beautiful" has so much going on. I hear at least three acoustic guitar lines—left, center, right—two electric guitars, drums, electronic rhythm, keyboards, all sorts of vocals. How would you typically construct a song like this? Is it something you would've demo'd on, say, an acoustic guitar and then built from there?

Yes, I wrote it on acoustic guitar and then I recorded a version at home with guitars through Amp Farm and then re-recorded everything [at Loh] and added live drums. This record, from a production perspective, was a lot different than records I'd made in the past.

How so?

Part of it was influenced by some Michael Jackson remixes I did years ago: "Thriller"; things that Quincy Jones produced. Those were 48 tracks and I was really impressed with the way the sounds were recorded and the fact that so much was doubled and tripled. Then I was reading an old interview with [Cars and Queen producer] Roy Thomas Baker and he was talking about layering and layering. So I figured with Pro Tools and a huge SSL board you can do that and you don't have to use the layers if you don't want to. So on all the "big" songs on *[Hotel]*—things like "Beautiful," "Raining Again," "Lift Me Up"—it's tons and tons of layers. I have three kick drums, three snare drums. There are probably about 30 background vocals on those songs, four or five acoustic guitar parts, six electric guitar parts, seven or eight stereo string pads.

Moby goes nuts!

A little. [Laughs] I put it all in there so that when we were mixing, rather than taking, say a single low-end synth sound and giving it bite [through processing], it makes more sense to record the exact same string part with a different patch that has the bite you want. And when you need high end, you bring up the string patch that has high end built into it naturally.

That must've made the mix a little nightmarish, no?

No, it actually came together really nicely. On paper it might sound excessive to have so much stuff in there, but it wasn't gratuitous because everything was serving a purpose and there wasn't the ego of, "Oh, I have to record this perfect lead guitar and make it as loud as possible." Everything was in service of making the songs as nicely produced as possible. I know some people go crazy with all the options they have in Pro Tools, but I had a clear idea of what the music should sound

like so it didn't feel to me like I had "extra" parts; I needed them. Songs like "Beautiful" and "Spiders" I think are about 96 independent audio tracks. But even if there are 20 or 30 background vocals, they're mixed so they give you a sense of space and don't draw too much attention to themselves.

What is your primary string synth?

I use a lot of them. Some of the big string parts are a combination of an old Roland F5080, an old Yamaha SY-22 and this Pro Tools plug-in called Atmosphere that's really big-sounding. I can get pretty much anything I want from those three.

What arrangers have influenced how you use string sounds? There are so few hip ones from the rock world—Tony Visconti, Paul Buckmaster...

There's something about the glam-rock way of producing records—everything is very tight and defined—to an extent I wanted to incorporate that ethos into some of this record.

A lot of it is just taking a real simple approach. Like if I'm using a G-major chord, I would probably leave the fifth out and focus on the root and the major third. I like the strings to have an emotional quality but still maintain that sense of space, without getting claustrophobic. Angelo Badalamenti [of *Twin Peaks* fame] approached his strings that way.

There's a natural simplicity to the chord progressions you write. They move in logical ways and you can sort of feel how they're going to go, both in your pop tunes and in your ambient work.

I can see that. When I first started playing music, when I was nine or 10 years old, I had a guitar teacher who only liked complicated music. His criteria for evaluating music was, "How difficult is it?" If it was difficult, it was good; if it was simple, it was bad. And for a few years, I tried to go along with that so I'd listen to Larry Carlton and all this complicated music, and the truth was, I didn't like it very much. Then I discovered punk rock and I had this epiphany that simple songs played simply can be a lot more effective than really

complicated songs. Then, maybe 10 years ago, some friends and I started a cover band and it was playing in that band and seeing how other people write songs that made me realize that the majority of great classic songs are painfully simple. Look at [Lynyrd Skynyrd's] "Sweet Home Alabama" or [Lou Reed's] "Walk on the Wild Side." I can't count the number of great songs that have two or three chords to them.

You've said that all the music you write—whether it's instrumental, based around vocal samples or whatever—is very personal. But when you come up with a set of songs like this batch—you singing your lyrics—do you feel more emotionally exposed?

Yeah, and it used to make me very uncomfortable. But as time has passed, I've developed this strange comfort with being vulnerable and emotional in front of strangers. It used to make me profoundly uncomfortable. There's also the notion that when you're writing these emotional songs, you have to, on one hand, care about how people are going to respond, but on the other, you have to say, "If people hate this or hate me because of it, that's too bad because I can't completely base my self-worth on the opinions of strangers."

Are there any producers whose work influenced the sound of your album? There are some touches that remind me of Tony Visconti's work on the great Bowie albums of the '70s or the ones he did with TRex—like the way he used Flo & Eddie for backing vocals on *Electric Warrior* and *The Slider*.

Yep. Some of the songs [on *Hotel*] are almost paying homage to that sound.

Is "Spiders" one of those?

Very much so, and also "Beautiful." There's something about the glam-rock way of producing records—everything is very tight and defined—and to an extent I wanted to incorporate that ethos into some of this record.

Did you like that kind of music at the time?

I was a little too young to "get" glam rock too much. I liked what I heard on the radio—The Sweet and Marc Bolan, and whatnot.

As for other producers, obviously one of my biggest influences would be Brian Eno, from producing the Bowie records, to *My Life in the Bush of Ghosts*, to U2, to Devo, to the Talking Heads.

Eno is where I probably heard ambient music for the first time. I used to lie with my head between the speakers listening to Discreet Music over and over back in the mid-'70s.

I remember buying *Ambient 4: On Land* and thinking it was just amazing—taking these non-musical sounds and making something very musical and powerful with it was very interesting.

Tell me about how Hotel and the Hotel Ambient disc intersect. Were you making these two discs at the same time?

Yes. As far as ambient music goes... I just love really quiet, bucolic, melodic music. And the nice thing about working on the ambient music is that most of it is really simple.

Not 96 tracks.

Oh, no. Toward the end of the ambient disc, there's even a song that has two tracks, I think. It was almost kind of like a palate cleanser for me. If you're spending your days recording tons of tracks for more conventional songs, it's nice to then go home and work on more quiet atmospheric music. I'm not sure if there's actually any thematic relationship between them. It was more like show-and-tell: I've made these two records I like and I'm going to put them out together and see what happens.

Any thoughts on turning 40 later this year?

Hmmm. Well, one thought is that there's an epidemic in New York and probably in a lot of big cities where people get to a certain level of success and then they continue working and driving themselves crazy even though they don't need to. So my hope for the future is that I'm not one of those guys who's 55 years old and having a triple-bypass and peptic ulcers and screaming at your assistant. I see so many people who are making tons and tons of money and they still wake up every day angry. I'd much rather wake up and go ride my bike and play with dogs and write music.

So much of your music has that sort of optimism to it.

Well, when I make records, I want to make them so that people can find a place for them in their lives. I like the idea of records that are warm and inviting.

Do you have a sense on how this record will be received? I guess "We Are All Made of Stars" was pointing in this direction, but I think a lot of people might be surprised by how song-oriented the album is.

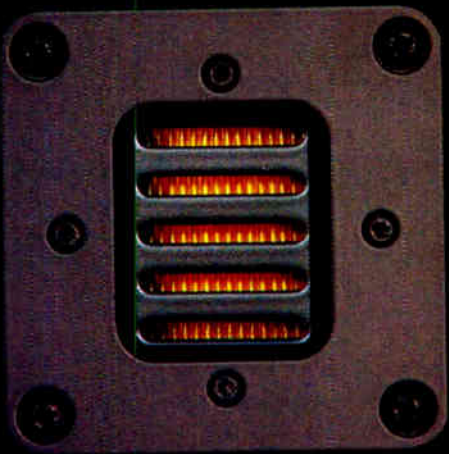
I'm sure there are some people who are going to think it's too commercial. There's a whole underground music world that for the most part has very little interest in what I do. And that's okay.

You served time in that world!

I did. But I don't want to be 39 years old and vying for the attention of a 21-year-old indie rock journalist. They have their own world, and I really like the music that comes out of that world, but it would be disingenuous for me to suddenly make a really obscure indie rock record. I love the music, but it's not where my heart is creatively.

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Blair Jackson is Mix's senior editor.



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Brent Maher

The Path to The Blue Room Was Paved With Strong Songs

Brent Maher's business was growing, but expansion meant being in two different locations at once. His Berry Hill neighbor John McBride's Blackbird Studio had grand renovation dreams and didn't want to move. A fortuitous game of Nashville property-swapping commenced, whereby Maher took over management of The Blue Room, a well-loved facility nearby, and sold his former studio to McBride to be incorporated into Blackbird's new four-room, four-star facility—leaving both studios winners.

After 20 years of providing independent publishing and music production to the region, Maher's Moraine Music Group's move to The Blue Room also marks the creation of its own record label. Especially convenient is that the record company's offices are being built on a site "less than a 30-second walk" from The Blue Room, which will continue to be owned by Tom Fouce.

Maher already has an enviable track record in and around Nashville, from his early days engineering for Elvis and at Monument Records, his discovery of The Judds (for whom he's produced, engineered and written hit songs) to producing/engineering for Wynonna, Nickel Creek, Jo Dee Messina and a host of country talent. Even with a chart-topping history, Moraine Music functions with an indie philosophy, working with a few artists a year and bringing them to a point where, "We feel that the artist is mature and we've done everything that we can do to let them step up on the big stage on every facet of the business. Not just walking up on the stage and singing, but dealing with the business aspect of the music business," says Maher.

Helping Maher to "take the music to the streets" and facilitate an independent style of artist development and music production is a group of talented songwriters and young producers (Mark Selby, Brian Dean Maher, Billy Montana, Charles Yingling) and a range of new artists. Maher emphasizes the importance of his hands-on approach: "What I try to do with all of our artists is not to develop *my* sound; I'm trying to develop *their* sound. We try to find a musical identity that is as strong as the artist brings, as far as their writing and their vocal talents." Currently on his roster are country artist Keni Thomas (*Flags of Our Fathers*), Jenai (*Cool Me Down*) and Sean Locke (*Will of Desire*).

As Maher's group moves in and gets settled, The Blue Room's projects will benefit from two studios' worth of gear: Moraine Music is moving in its outboard collection, plus Maher's 32-input/24-bus Sphere console, which Maher explains is "a very warm, natural-sounding board. The mic pre's on it are just outstanding, and the EQ that the Sphere has is basically a graphic on every input so it [can have] an amazing amount of

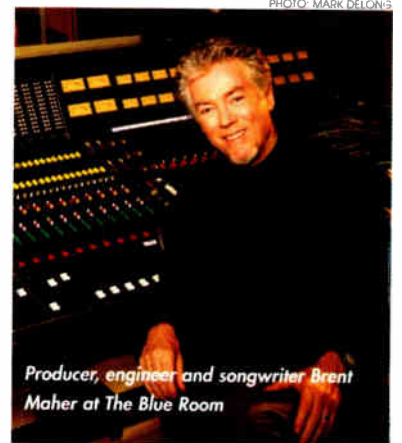
coloration." Of Fouce's Trident console, which resides in the studio, Maher says, "One of the reasons why I decided to move into The Blue Room is the tracks that we cut here previously at Moraine on the Sphere sounded marvelous coming through the Trident. The Trident, to my ears, is warm and has a lot of good punch, but with a little more edge."

In addition to two consoles, Maher and second engineer Yingling will work with a TC Electronic M5000, Eventide Eclipse, Universal Audio LA-2A and dbx 160, with mics from AKG, Audio-Technica, Sennheiser and Neumann. While the studio isn't set up for 5.1, it's flush with Dynaudio Acoustics M-2 and Genelec 1031A monitors running through Hafler amps; recorders include Studer A827, iZ RADAR 24, Otari RADAR II and Alesis ML-9600.

Maher, who still acts as primary engineer on most of Moraine's projects, prefers to hear a more organic sound and does his "best work getting those sounds and making the best out of it, so basically what ends up on tape will be the true character for what's created on the floor. The last four albums I've mixed, I quit using automation. It's absolutely the most fun; it's a little maddening from time to time, but by and large, each mix is a performance. It's a part of the process of not letting technology prevent you from letting go when you should let go."

The songwriter in Maher can't help but advocate that country's music-makers consider the future of the genre in every artist they develop, sign and promote. For Maher, encouraging that unique voice in his artists and sending them out into the world while they're at an inspirational peak is the ideal step for country music. As Maher summarizes, an artist "could easily sign a deal and be lucky to get that record out in a year or a year-and-a-half. Every artist that I know is writing something different today than they were six months ago. They've matured; they have a different viewpoint on life. We're trying to create music that is the leading edge, as we speak. I'd love to see that as being a movement in Nashville." ■

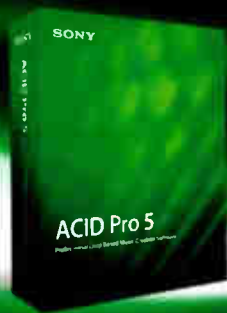
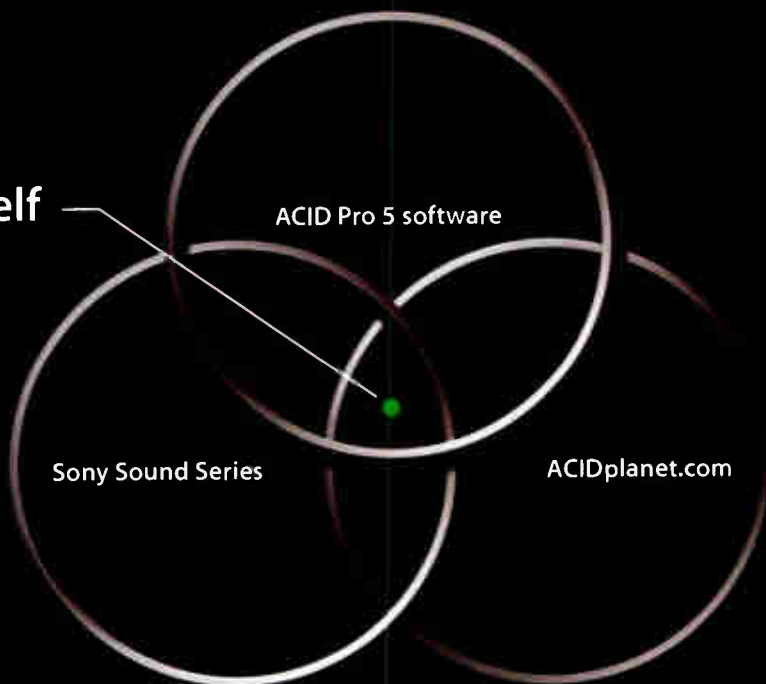
Breean Lingle is a Mix assistant editor.



Producer, engineer and songwriter Brent Maher at The Blue Room

PHOTO: MARK DELONG

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Duma

Sounds of an African Adventure

By Blair Jackson

Times change, tastes change. Today's movie-going children seem to want slam-bang action, computer-generated wizardry and plenty of crude humor, preferably involving bodily functions. But there was a time, not so long ago, when kids loved heart-warming live action films with animals in them—*Born Free*, *Flipper*, *Ring of Bright Water*, *Homeward Bound*, *The Black Stallion*, *Fly Away Home*; the list goes on. "Unfortunately, that's a pretty dead genre these days," comments Carroll Ballard, who directed two of those films—*The Black Stallion* and *Fly Away Home*—and whose latest is also in that oeuvre.

Duma is based on the true story of a South African boy's perilous travels through farmland, savannah, desert and jungle to return a young cheetah to its native wilds. It was shot entirely in Africa, with a nonprofessional actor in the lead role and *no* celebrities giving cute voices to the animals, à la the zany *Racing Stripes*, which was filmed around the same time in South Africa and came out a few weeks ahead of *Duma*. In Ballard's lovely film, the animals are animals, the people are people, and their two worlds often clash in interesting,



PHOTO: COURTESY OF WARNER BROTHERS

sometimes uncomfortable ways.

Ballard's films—and he's only made a handful during the past quarter-century—are always visually poetic and expressive using nonverbal methods. "Most of my films don't rely that heavily on dialog," he says, "so there's an awful lot in my films

that is carried by what's up on the screen and by the soundtrack."

Duma is no exception: The details of the "story" are conveyed as much in the rustling trees, rushing rivers, moaning winds and the cries, grunts and growls of wild creatures, as in conventional dialog. "It ended up being a very big [sound] effects job," Ballard notes, sounding almost surprised. "It took a lot of work to get the feeling of all those places and of the animals right."

Ballard is acutely aware of the importance of audio in film, and early on in his career stumbled across one of the most creative effects editor/mixers in the business, Alan Splet. Before working with Ballard on *The Black Stallion* in 1979, Splet was best known for devising the bizarre soundscapes that form such an integral part of David Lynch's 1977 film *Eraserhead*. *The Black Stallion* earned Splet a special Sound Effects Editing award at the 1980 Oscars, and he was later nominated as part of the sound team on *Never Cry Wolf*. Splet also worked on Ballard's underrated sailing film, *Wind*, as well as on Lynch's best films: *The Elephant Man* and *Blue Velvet*. "Alan was a fantastic guy," Ballard says. "He had these incredible ears—he really connected

—CONTINUED ON PAGE 80



PHOTO: BARBARA DICELY

Supervising sound editor Doug Murray, left, and sound designer Ann Kroeber, holding a pair of Schoeps CMC5s with cardioid capsules, get friendly with a cheetah of Leopards Etcetera, owned by Rob Dicely, center.

Joel Goodman

The Multi-Computer Move to Film and Television

By Gary Eskow

Great catastrophes often produce profound change. They can also create subtle curves. Joel Goodman, a native New Yorker who experienced 9/11 up close and personal, had to keep working while the ashes settled, even though his studio—located just blocks from Ground Zero—was off limits. He was, however, able to yank out his Yamaha 02R and haul the console back to his apartment a few blocks north. Using synths and samplers to write at home, Goodman continued to produce music for television and independent film projects, and—necessity being the mother of invention—decided to change his work method and track and mix entirely within the computer. Today, Goodman lives with his family and a coterie of computers in the greater Los Angeles area.

"I still have my studio in Manhattan," he says. "It's by the Trade Center site. When 9/11 went down, I had to schlep some of my gear back to our apartment. That's when I decided to pick up a Digidesign 1622 interface. Now I have a Roland 1080 that I use for a click and it's the only synth I turn on! I'm astounded with the number and quality of soft synths and samplers on the market."

An established jingle writer and producer, Goodman shifted over to scoring independent films and television programs several years ago. He recently re-scored the 1966 film *To Be Alive!*,



Surrounded by computers and racks of gear: Joel Goodman in his L.A. studio

which was directed by Francis Thompson. "It's a tremendous project and was the inspiration for the IMAX phenomenon," he explains. "We cut orchestral tracks over in Abbey Road, and then added soloists in New York."

"Working at Abbey Road Studio A was thrilling, of course, and the orchestra blew me away," he continues. "I've done lots of orchestral dates in New York with great players, but the London group came in and had a sound that I hadn't heard before. They functioned as a single unit in a way that I'd never experienced before. We recorded the entire session in 5.1 into Pro Tools [HD] running 24/96—a big tower of gear. The microphone collection is remarkable. I was told they have something like 18 Neumann M50s, perhaps the largest single collection in the world. I'm reasonably sure we used those on the Decca Tree and as room mics, as well."

A number of films Goodman has scored are currently making the rounds at film festivals. One of them, *The Forgotten*, recently picked up the Best

Feature award at the Sedona International Film Festival. He is also in his second season of scoring the weekly series *Family Plots*, which he describes as a real-life *Six Feet Under* show, for the A&E network; a second season of *Dog the Bounty Hunter* on A&E; and he scored *Happy to Be Nappy*, an Emmy-winning show on HBO.

On the day we spoke, Goodman had just purchased a dual 2GHz Mac G5, the fourth computer in his retooled studio. "All four computers have their own audio systems," says Goodman. "The new G5 will run Digital Performer under MAS. I have a MOTU 828 Mark II interface for it, and I'll also be picking up a MOTU MTP A/V MIDI patchbay." A longtime Digital Performer user, Goodman says that once he's able to make an accurate assessment of the horsepower demands that Digital Performer places on the G5, he'll run some Native Instruments plug-ins on it, as well, provided that the soft synths don't compromise its effectiveness as a MIDI sequencer and tracking environment.

Goodman also runs Pro Tools MIX 3 on a G4 operating under OS 9. "The G4 will be my final destination for all audio," he explains. "With three Farm cards, I've got plenty of processing power, and that lets me apply all of the



The Abbey Road session for Goodman's re-scoring of *To Be Alive!*

reverbs and effects that I need. I also have Access Virus and some other soft synths on the G4, but it's primarily a recording and mixing station."

Synching audio to video has proven relatively simple in his new setup. Goodman uses Final Cut Pro when he's working in Pro Tools, or if he's scoring in Digital Performer, Quicktime movies. "I have a separate monitor for video, but for the most part, I simply use the small onscreen window within Pro Tools. In addition to the two 19-inch flat-panel monitors I currently own, I plan on picking up a third. One will be dedicated to Pro Tools and a pair will work with Digital Performer.

"The real advantage of working with video in Pro Tools, rather than Digital Performer, is that Pro Tools lets you quickly lay back a Quicktime movie with the audio you've created," he adds. "As it turns out, though, I may have to run video on both the G4 and G5 because I can't type in a bar/beat location in Digital Performer and have Pro Tools locate it immediately. It's a bit redundant to run picture on both computers, but I need to spot quickly and it makes sense to do so within Digital Performer. For the time being, I'll have separate drives running video on each computer. In the past, I've dropped a composite of audio and video to VHS, but that's way too cumbersome for the way people like to work these days. Speaking of tape, I have a DA-88 recorder and a DAT machine, but I haven't turned either of them on in at least two years!"

Working with a multiple computer setup requires a clear division of labor. Although Goodman is interested to see whether the G4—his TDM computer—will be able to handle an instantiation of MOTU's MachFive and perhaps a Native Instruments Kontakt sampler in addition to Pro Tools, he is prepared to pull back if its processor becomes overly taxed. He'd much rather continue to add computers than overburden any one of them.

"I also have two Pentium 4 PCs," he interjects. "One of them is dedicated to GigaStudio. I've got a Dakota card in that computer running Lightpipe into my G4, as well as MIDI. This machine has 250 gigabytes of space and can access up to 64 channels of MIDI. The second PC runs Steinberg's V Stack application. It's the central host for all of my VST instruments. I love the East West Symphonic Orchestra, for example, and it lives on this computer."

As it stands, Goodman uses three interfaces in his four-computer setup. The 1622 he bought shortly after 9/11 brings

in audio from his Kurzweil K2600 and Roland JV1080, plus all of the soft synth data that he'll create on the G5. He also has a Digi 882 that's used to monitor voice-over tracks and an ADAT Bridge that accepts audio from both PCs. "I know, it's a bit cumbersome. I plan on slimming things down in the near future!"

For many of his projects, Goodman replaces orchestral mockups—something he's quite good at—with live players. When necessary, he leaves sampled performances intact. "It's important for me to have great orchestral samples, and as I said, I'm really putting the East West Symphonic Orchestra through the paces these days. They recorded the orchestra with a lot of hall on the instruments, but I don't mind it at all. I simply back off the reverbs I'm using.

"I tend to go back to some of my old libraries for woodwinds, though. It's funny, the way that close-miking and high sampling rates seem to have brought woodwinds, in particular, into an extremely tight focus. I actually prefer the way the winds from my old Roland library lie in a track at times. I also find myself using winds from the old Miroslav and Advanced Orchestra libraries."

Although he's comfortable mixing quick turnaround projects on his own, Goodman prefers working with another set of ears whenever possible. One of his longtime compadres, Lawrence Manchester, accompanied him to London for the *To Be Alive!* scoring and mix sessions. A former staff engineer at both Avatar and Manhattan Center in New York, Manchester is currently a freelance engineer. "We mixed all of the orchestral cues in 5.1 at Abbey Road," says Goodman. "There was also a package of smaller hand pieces that we mixed at North Pole Studios, a private room in London that's owned by Steve McGlaughlin. Steve's done a lot of work with Michael Kamen, Elliot Goldenthal and other film composers."

The sands of Malibu may be a cultural divide from the sidewalks of SoHo, but Goodman walks comfortably down both paths. "I go back to New York every four to six weeks; most of my work still comes from the East Coast, and I have an assistant, David Bramfitt, who works full time for me in the city. But I had a meeting yesterday with an air conditioning guy and I'm getting ready to soundproof the room I built onto my garage out here. I've got more opportunities [in L.A.] to work in film and television. Primarily, though, the move was based on a desire to change our lifestyle." ■

Gary Eskow is a contributing editor to Mix.

Duma

—FROM PAGE 78

to the world through sound and he was great for me to work with because I could communicate with him so easily."

Splet died of cancer in 1995, but his incredible archive of effects recordings was passed down to his wife, Ann Kroeber, who had been an integral part of his recording life since they met while working on *The Black Stallion*, where she was an effects recordist. Kroeber quickly established



The final mix took place at the Saul Zaentz Film Center, with David Parker, left, on effects, Mark Berger, right, on music and dialog, and Foley mixer Roberto Muñoz in the center.

herself as a masterful sound editor, as well, and received raves for a series of recordings she made with FRAP (Flat Response Audio Pickup) contact mics.

"I went around for a year-and-a-half all over Berkeley [Calif.] and recorded these industrial sounds," she says. "I'd go to a steel mill, a bakery, in various labs at the university, collecting these amazing sounds, and we ended up using quite a lot of that for *Dune* and lots of other movies." A few years ago, The Hollywood Edge sound effects library even put out three CDs of their effects work called *Sounds of a Different Realm*: Two are dominated by Splet's Lynchian sound palette, the third is Kroeber's *Common Sounds Heard In Uncommon Ways*.

After Splet's death, Kroeber worked on *Fly Away Home* (1996), and since then, she's recorded and/or provided sounds for the recent *Star Wars* trilogy, *The Lord of the Rings: The Return of the King*, *The English Patient*, *Gladiator*, *The Horse Whisperer*, *Hidalgo*—"a lot of front-line fancy movies,"

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she says with a laugh. When the post job for *Duma* came to the Saul Zaentz Film Center in Berkeley last year, Doug Murray (who also worked on *Fly Away Home*) was hired as supervising sound editor and Kroeber was brought on as the film's sound designer. The circle is unbroken.

Murray and Kroeber had their work cut out for them. Nearly all of the animal sounds and the different natural settings and ambiances had to be re-created in post. "The production sound was sketchy at best," comments Murray. "It was sort of a nightmare because Carroll was directing the boy, who was a non-actor—but he did a brilliant job—*during* the take. Carroll would say, 'Okay, now say your line,' or 'Turn to the left.' Meanwhile, the cheetah was continually being directed by the animal handlers. In every shot where the cheetah appears, they're yelling at the cheetah and they have this weird buzzer that would make the cheetah get up and walk or whatever."

"It was total chaos," Ballard says, chuckling, "but that's the way it is with animal movies." (To complicate matters, the lead cheetah, *Duma*, was played by several different animals.)

While Ballard and picture editor Tom Christopher were cutting the film on an Avid up at the director's house in Northern California's wine country, Murray was delivering preliminary sound sketches, much of it compiled from libraries. Ballard "has very strong ideas about what he likes," Murray says. "He's not terribly specific about it, but he knows what he wants, and when he hears it, he knows. He's very

attentive to sonic detail."

It was after this early stage that Kroeber came onboard: "Ann did the voice of the cheetah because she is very attentive to the nuances of animal voices," Murray says. "She was able to give it a great deal of attention, and she also added a lot of character and detail to the backgrounds, which had been rolled in hurriedly like wallpaper in the beginning."

Now, if you've never heard a cheetah, you might be surprised by the broad range of vocalizations that form their "vocabulary." In addition to their distinctive meows, growls, purrs (they are, reportedly, the only big cat that purrs) and grumbles, they also emit noises that sound like bird whistles and chirps. With

little "production" cheetah to draw from, Kroeber and Murray had to find a new source: A Northern California reserve with the unlikely name Leopards Etcetera had three of the graceful creatures.

"The guy who was running the cheetah preserve had had some photographers come before, and, evidently, the cheetahs had been pretty aggressive with them, so he was very, very worried about having us, with our fuzzy microphones, coming anywhere near them," Kroeber says. "The thing is, if you're a photographer, you can use a long lens, but we really needed to get closer to them to get the sounds we needed."

"At first, this cheetah was 15 feet away and it was on a leash and you couldn't get anything [soundwise]. But I kept slowly moving in and talking to the cheetah and looking him in the eye and telling him, 'It's okay. It's all right,' and I kept talking to it until I was right behind [the handler] and I got these wonderful recordings. Then, there was another one that came all the way across this big cage—the guy had said, 'You can't go up to the cage. They'll attack you.' He didn't want them banging against to cage and sticking their paws through. So I went over by myself, and I said, 'Hey, come over here. I want to show you something.' And the cheetah came over and sat down right in front of me and started purring. I got some *great* stuff. By the end of the day, we were petting them."

"Basically, we were trying to get as many colors of vocals as we could. Not only do you need to get the cheetah to sound natural, you have to get it to be a character in the movie, so it grumbles when you need

PHOTO: MICHAEL COLEMAN



Re-recording mixer Mark Berger, left, with director Carroll Ballard. Berger has long been a proponent of "appropriate" level in films.

that and it responds to the dad dying, and so on. It has personality, but you don't want it to be contrived. It was pretty delicate work to take little pieces of the cheetah vocals and piece them together in Pro Tools and keep the spirit of a real cheetah."

Kroeber's recording rig comprised a DAT, a Schoeps cardioid pair and a French-made EAA preamp. Her editing setup at the Zaentz Center included a Pro Tools rig, her beloved refurbished Studer recorder (to handle material on tape), a Waves L2 Ultramaximizer processor and Mackie speakers.

"I used my library for a lot of the creatures," she adds. "I had recorded some lions and Alan had recorded cougars and jaguars, and I cheated a little for Duma: There's one scene that's a conglomeration of about five different cats to give it a more surreal quality when he becomes wild."

Meanwhile, Murray worked up the sounds for various vehicles in the film and pieced together the sound elements for the complex river scene, where our heroes are menaced by some rather nasty crocs. Some of the river material was from Kroeber's sound library, "and we also

used a lot of stuff from [famed nature recordist] Bernie Krause," Kroeber says. "He provided some beautiful Africa material for different parts of the film. Also, Sound Ideas [effects library] had an underwater CD set that we used some of."

The final mix took place on the Alan Splet Theater at the Zaentz Film Center, with Mark Berger handling the dialog and music (the score is by John Debney and George Acogny, but also includes African and other sources) and David Parker mixing the effects. Murray notes, "The Otari console has 72 inputs, and we had two Pro Tools Mix Plus systems playing through two Control|24s—one for effects premixes and one for the music stems—so we had 128 tracks being premixed before going into the console. It was kind of a hybrid between a Pro Tools mix and a more



Kroeber, foreground, and Ballard listen to playback at the Saul Zaentz Film Center

traditional console approach to expand the capacity of the stage."

Ballard gave the sound crew limited direction throughout the process, but there's no question that he had a huge impact on the overall sonic aesthetic. "Carroll has an incredible sound sense," Kroeber says. "He's always challenging you to come up with something more original and more evocative." ■

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Gomez



Text and Photos by Steve Jennings

Gomez treated a San Francisco audience to three nights at the Fillmore Auditorium, where *Mix* spoke with engineer Graham Pattison about his front-of-house setup. "Gomez is a six-piece band with three lead vocalists, each with dramatically different voices," Pattison says. "My job is a balancing act: You feel what's working and who's on fire and just go with it. The sets vary drastically and the songs jump from gentle acoustic ballads to full-on beats and loops in no time at all.

"We're not carrying production in the U.S., but I have my little rack with a BSS 901 Mk1 multiband compressor that I put across the bass DI," he continues. "It squashes the real low frequencies while leaving the upper

frequencies untouched for a smooth, defined bass guitar. I love Alan Smart compressors, UREI 1178s and the totally overlooked Amek 9098 range: The EQ is crystal-clear and the compressor is amazing. I've recorded whole records though a couple of 9098 channel strips and compressors.

"I also travel with all of Line 6's Pro range [Echo Pro, Filter Pro, Mod Pro] and one-half of my studio guitar pedal rig. Mixing to me is a performance in itself. Based on a kind of Eno/Brippertonic idea, I can route any signal through the guitar pedals: Tech 21 for vocal distortion drum fattening feeding a Boss DD3 delay and a DigiTech Whammy, which goes through a Wasabi Delay. After that, my Moogerfooger gear [Phaser, Muff, Delay and ring modulator] comes in. The combination of the rack gear with the pedals creates some psychedelic washes that I can pan and phase to my heart's content. Mixing, to me, is a performance in itself. It's all about setting a scene or providing a backdrop to the poetic message of the song."



FOH engineer Graham Pattison

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News



Liverpool's Cavern Club purchased two Soundcraft consoles: a 40-channel MH3 and a GB4 for monitor duties.

Hummingbird Nest Ranch (Ventura, CA) recently installed BSS Soundweb's CobraNet™-equipped BLU-80 units. One unit is located in the clubhouse's main audio rack, and the other is in a rack on casters. Nine Crown CTs 600 amplifiers, all outfitted with IQ-PIP-USP3/CN cards, drive 30 JBL Control 30 loudspeakers in the primary and secondary arenas, clubhouse, and VIP and vendor areas...The Pogues were on tour this past December; Steve Sunderland of PA supplier AudioLease (East Anglia, UK) detailed their setup: "To provide ample level, we hired 16 Adamson Y18s from France. The system [was] flown very high, and we used 16-cabinet-deep arrays [comprising] eight Y10s and eight Y18s..." The Music Mill, a new live performance venue, restaurant and bar (Indianapolis), features Electro-Voice QRx™ monitors and a 56-channel Midas Verona console...Visual artist Bruce Nauman's exhibition at London's Tate Modern, *Raw Materials*, required help from Marquee Audio (Middlesex, England) and London's Sound Directions. Marquee Audio's Andy Huffer says, "With 21 different sounds but 35 separate outputs to route, we considered some sort of matrix, possibly an analog patchbay. But the solution was DSP processing, with five 9088iiLL Soundwebs and a 9000ii network hub providing the necessary 40x40 matrix."

Unmasking Masque's New Facility

Masque Sound (www.masquesound.com) unveiled its 70,000-square-foot facility in East Rutherford, N.J., and added another dimension to a number of live sound services in the process. A recent open house revealed increased space for technical support, networking and wireless system design and fabrication, extending the 67-year-old company's expertise in all things live: Broadway shows, touring musicals, live concerts and TV broadcasts, sporting events, corporate events and conventions.

Masque principals James and Geoff Shearing also announced a new division, Masque Entertainment, which will provide DVD production services for live concert and corporate clients. The division is headed up by executive producer/director Gerard Schmidt, whose credits include the Rolling Stones *Four Flicks* DVD, the Beastie Boys and Sum 41.



Geoff Shearing (left) and James Shearing

PHOTO: HOWARD SHERMAN

—David Weiss

'let there be light...'

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Why fiber optics?

Fiber transmits light rather than electrons, permitting digital transmission over much greater distances (more than 1.25 miles without attenuation problems). Optical fiber provides complete electrical isolation, immunity to radio frequency interference (RFI) and electromagnetic interference (EMI) and eliminates ground loop problems. Plus, it can be easily routed overhead, around obstacles, through walls, or underground.



The cable's small diameter and extended range allow for routings that avoid foot traffic yet maintain the aesthetics of the venue. A 32 x 8 channel copper snake of 300 feet weighs more than 200 pounds, whereas 300 feet of the Light Viper's fiber weighs less than 6 pounds. Built to "ruggedized" military standards, the LightViper 1832 will outlast copper snakes by many years.

How does it work?

The Light Viper has two main components: a stage box (the size and form of a traditional



snake box, and a 1U rack unit at the mixer. The stage end features 32 Neutrik XLR / 1/4" TRS combo connectors going into high-quality pre-amps for each input, and eight Neutrik XLR male connectors on the returns. All inputs accept balanced or unbalanced signals, eliminating the need for costly direct boxes. When using the digital, the unit can be slave or master using either Word Clock or Super Clock via BNC connectors. Each input has three gain level adjustments: 0 dB (line), 26 dB, and 46 dB (mic) as well as 48V phantom power. The outputs of the ultra-high quality pre-amps are sampled at 24bit/96 KHz for pure and rich audio before being multiplexed and sent to the mixer on a single fiber pair. The stage box also offers the option of two additional fiber outputs,

providing lossless digital splitting of all 32 inputs for use in monitor mixes and/or broadcast/record



ing mixes. The mixer end is a 1U rear or front mount rack unit with DB-25 connectors utilizing Tascam DA 88 balanced pin-outs, five connectors, eight channels per connector. There are also three DB-25 connectors with simultaneous AES3 digital inputs/outputs (for direct feeds to peripheral digital equipment, such as recording, broadcast or archiving feeds).

The best answer to the question "How does it work?" can only be "It works brilliantly!"

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On the Road

Particle—an instrumental quartet comprising bassist Eric Gould, guitarist Charlie Hitchcock, keyboardist Steve Molitz and drummer Darren Pujamet—deftly combine elements of electronica, funk and rock 'n' roll during their a nonstop tour schedule. Now, with the band's first studio album—*Launchpad*—released, front-of-house engineer Brendan Twitchell prepares for a string of club dates.

How much gear are you carrying?

I'm out with a Mac G4 and the Digidesign 002, as well as a PreSonus Digimax LT for 16 channels of Pro Tools, and have been storing on large FireWire drives. I have a few TC Electronic pieces and eight channels of comps and gates. I carry mostly Audix mics.

What mixes do you give each performer?

My bass player and drummer are using wireless ears and powered mixes. Keys comprise just a dual mono mix, with a wedge in the downstage-right corner and one behind him up high. My guitar player gets two separate mixes: one for just his guitar and one for everything else. This year, we are going to go to wired ears for bass and drums, and may end up wiring the whole band.

Any specific mixing techniques?

I doghouse my guitar player's amp with four 2x4 Fiberglas shields, and try and reinforce the volume in front of him instead of behind him. It is a custom Chucktone amp that can be too loud for the stages we play, but it sounds great.

What gear can't you live without?

My Pro Tools rack goes everywhere with me. I had a custom case made so that it can fit in the overhead of a plane. I need to have the Audix D6 at all times, too.

What do you do when you're not touring?

I try to spend as much time with family and friends. I try to go out and see as much live music as possible—and golf when the weather in Connecticut is right.

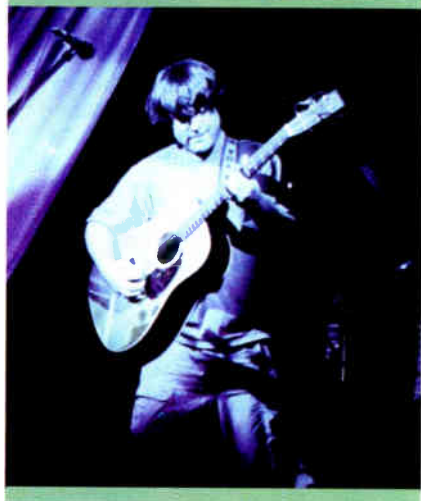
Now Playing

Jimmy Eat World

Sound Company: Rat Sound Systems
FOH Engineer/Console: Steve Taylor/
venue-provided
Monitor Engineer/Console: Mike Souder/
Yamaha PM5D
P.A./Amps: Venue-provided for both
Monitors: Sennheiser IEM 300 G2, Shure
PSM700, Helical antenna
Outboard Gear: Eventide Harmonizer 3500;
TC Electronic D2, M2000; Yamaha SPX-990
Microphones: Audix OM7 (vocals); Shure
Beta 91, 52, 57A, SM81, 98, KSM 32;
Sennheiser 421
Additional Crew: tour manager, Rick
Moreno

Keller Williams

Sound Company: local or venue-provided
FOH Engineer/Console: Lou Gosain (also
live DAT/multitrack recording, monitor
engineer and tour manager)/house-provided
P.A./Amps: local or venue-provided
Monitors: Allen & Heath 16-channel
MixWizard (located onstage so Williams
can mix his own in-ear monitors)
Outboard Gear: Lexicon MPX G2, Sony
DAT, Digi 002 Pro Tools rig, Gibson
Echoplex, Fishman Pro-EQ Platinum
preamp, Theremin
Microphones: Audix OM7 (vocals), E4
(djembe), GX10 (Gossain vocal); Sennheiser
Evolution 602 (kick), 608 (snare); and
Neumann



25th Annual NSCA Expo

Some 10,000 industry pros are expected to visit Orlando's Orange County Convention Center for this month's Systems Integration Expo, put on by the National Systems Contractors Association. The 2005 event (March 7-12, 2005) marks the 25th anniversary of the expo, which originally focused solely on sound contracting but has since expanded with specialized pavilions covering areas such as video systems, network integration, security/life safety and digital signage to reflect the diversity and expansion of the industry. In addition to some 600 exhibitors showing the latest in high-tech gear, Expo 2005 also features education tracks on audio, business, houses of worship, security systems, convergence and video, including many manufacturer-specific seminars.

New this year, the Live Sound Showcase and Workshop will highlight the growth of pro audio during the past 25 years—in keeping with the expo's 25th anniversary. Overall focus of the workshops is on proper and accurate test/measurement of SR systems and in-depth analysis of loudspeaker performance within rooms.

For more information, visit NSCA at www.nasca.org.

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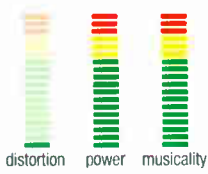
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John Meyer – Founder, Meyer Sound



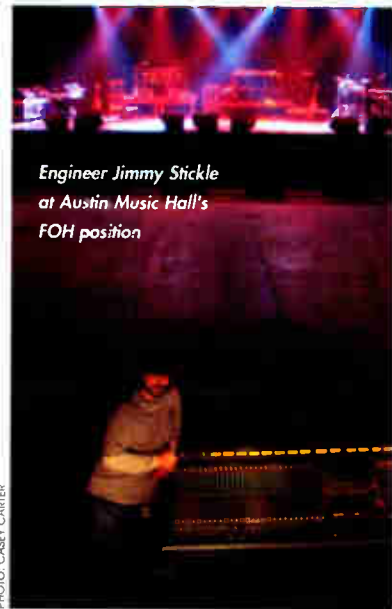
S SPOTLIGHT

Austin Clubs

With more live venues per capita than most musical hotbeds, Austin has become a go-to stop for many national traveling acts, while nurturing the careers of homegrown musicians. In fact, on August 29, 1991, the Austin City Council voted in favor of making Austin's official slogan to be "Live Music Capital of the World"—a political compromise as the original suggestion was "Live Music Capital of the Universe." The city boasts a \$600 million music industry—including recording studios, musical acts, instrument makers and record labels—with the annual showcase-packed South By Southwest music convention indubitably helping to boost that figure. In honor of SXSW, Mix checks in with some of Austin's live music venues.

Austin Music Hall

The city's premier mid-sized venue (3,000 capacity), the Austin Music Hall hosts concerts and special events (film premiere post-parties, the Armadillo Christmas Bazaar, etc.). A former warehouse, the building was given an art deco makeover by owners Direct Events, and now brings in national touring acts and local country, folk and rock music talent, including recent visitors such as Bob Dylan, Eric Clapton, Sheryl Crow, the Allman Brothers, Chris Isaak, Natalie Merchant and many more. A locally rented P.A. (from either Miller Pro Audio or Big House Sound) can be flown or stacked, with a max load of 16,000 pounds. The venue caters to incoming engineers' audio tech riders, as much of the hall's gear is rented.



Engineer Jimmy Stickle at Austin Music Hall's FOH position

PHOTO: CASEY CARTER



Head of audio John "Hazmat" Haddad (left) with engineer Steve Gotesky

PHOTO: CASEY CARTER

Antone's

Founded in 1987 by Clifford Antone, recipient of The National Blues Foundation's Lifetime Achievement Award, Antone's opened its doors with performances by zydeco king Clifton Chenier and piano legend Sunnyland Slim, to be followed during the years by such musical titans as B.B. King, Fats Domino, John Lee Hooker and the late Muddy Waters, as well as showcasing then up-and-comers such as Stevie Ray Vaughan and the Fabulous Thunderbirds (who for years served as the house band). Also in '87, Antone launched Antone's Records, which offers live recordings from the venue, including the 1988 release *James Cotton Live at Antone's*, which earned the label its first Grammy nomination. Direct Events purchased the venue in 1993 (it also owns Austin Music Hall, The Backyard and La Zona Rosa), and Antone's continues to be known as Austin's "Home of the Blues." A Soundcraft 40-channel Series 2 board is situated at front of house, with outboard gear from dbx, Behringer, Yamaha, Roland, Boss and Ashly. Amplification is via Crown Macro-Tech with JBL subs. Monitor world houses a Soundcraft Spirit 32-channel board with a built-in split with six channels of Behringer EQ. Onstage are six EAW 159z full-range wedges (no sidefills), two Yamaha CP2000 monitors amps and a QSC MX200A amp.

Emo's

Sporting two stages (one small stage inside and a large, partially covered outside stage; both can run simultaneously), Emo's opened in the early 1990s by, well, Emo. The club has seen its fair share of major touring acts, including Johnny Cash back in 1994—patrons can see his old barstool hanging from the ceiling. Other notables appearing at Emo's include the White Stripes, The Donnas and Mighty Mighty Bosstones, as well as many other alternative, punk, grunge and thrash bands. The outside stage's front of house is stacked with an Allen & Heath GL 3300 console. Amps are QSC PL 230 and PLX 2402, Crest 6001 and Peavey 1200. Outboard gear comprises dbx gates and compressors, a Yamaha REV-5 and a Lexicon MPX-550. JBL speakers are in all cabs. Monitor world hosts another GL 3300 board and is rounded out by three QSC PL 230s, Crown Macro-Tech 2400, Peavey CS100 paired with a Micro-Tech 1200, four Peavey EQ27s and a dbx 2231 EQ. Emo's mic closet is stocked with models from Shure and Electro-Voice, with Behringer and Whirlwind DIs. Indoors, a Soundcraft Spirit 8 is situated at FOH, with much of the same gear as the outside stage. Monitors are fed from two aux sends on the main board; again, much of the same gear as listed for the outside stage is also indoors.



Hot Snakes performing at Emo's

PHOTO: AUBREY EDWARDS

Flamingo Cantina

Bringing the sounds of the West Indies to Austin's Sixth Street entertainment district, the 300-capacity, partially open Flamingo Cantina houses two 32-channel Allen & Heath GL2200-432 boards (one at FOH, one at monitors). Front of house is situated 30 feet from the dance floor and features dbx gate/comp/EQ/limiters, Behringer gates, two Yamaha SPX-90 II units and two Roland SDE-1000s. The venue's FOH speaker array comprises six 18-inch MA-5002 subs, two 2x15-inch mid-bass MA-3600 cabs, two 2x12 mid-high MA-3600 cabs and two 2-inch horn-loaded HF MA-602 compression drivers; all speakers are powered by Crown Macro-Tech amps with processing carried out by two dbx DriveRack 240 units. The monitor board allows for six independent mixes heard through six 15-inch wedges and a 2x15-inch drum monitor; no sidefills or overheads are used. Monitor speakers comprise models from JBL and Peavey driven by Micro-Tech amps; all monitors are bi-amped with Furman crossovers. A limited backline is available upon request.



Lucky Dube and band
jammin' out at
Flamingo Cantina



Interpol at Stubb's

Stubb's

Bringing together good food and good music, Stubb (born Christopher B. Stubblefield) opened his first barbecue joint after serving a tour of duty in the Korean War, where he became a self-styled DJ by playing music over the field radio. When his tour was over, Stubb returned to Lubbock, Texas, and opened his first restaurant in the 1970s. Alongside world-class barbecue, Stubb's became ground zero for musicians such as Joe Ely, Jimmie Dale Gilmore and Stevie Ray Vaughan, who played "for their supper." Stubb moved his restaurant/club to Austin, taking residence in numerous spots before settling down at his current location in 1996 to serve up live music 300 days a year. For the indoor room (all gear is rented from Big House Sound for the outdoor room), visiting FOH engineers can use a Soundcraft 32-channel Series 2 (eight aux buses) with Lexicon, TC Electronic, Drawmer, dbx and Behringer outboard gear. Mains comprise four custom JBL 12-inch mid/highs with a 2-inch driver (flown two per side) and three Yamaha subs with JBL 15-inch speakers (situated understage). Four monitor mixes (taken from the house console) are offered with DOD EQs and seven Adamson Mxi Compact wedges. The venue's mic closet offers Shure SM58/57/Beta 52/BG 4.0, Sennheiser 604s, Audio-Technica ATM-29HEs and four DI boxes.

La Zona Rosa

Formerly a Mexican restaurant, La Zona Rosa, located in Austin's warehouse district, hosts musical acts from Western to alternative rock, including appearances by the Flaming Lips, Primal Scream, Guided By Voices, Mogwai and Stereolab. A 900-capacity room sees benefits and festivals, while the second room—a 1,200-capacity area with an arched, open-air roof—hosts larger acts. A Soundcraft Series Four 40x4 board occupies front of house with BSS EQ, Drawmer compressor/gates, Yamaha SPX-990, TC Electronic delay and Adamson three-way processors. Power is via Crown Macro-Tech amps and six dual 18-inch JBL subs. Over at monitor world is a Yamaha MC3210 (offering eight onstage mixes) with EAW bi-amped wedges and tri-amped drum subs (no sidefills), and dbx 31-band EQ. The venue also provides an assortment of Shure mics, cables and stands.



Head of audio John "Hazmat"
Haddad and engineer Cassie
Brockett

Guy Clark, Joe Ely, John Hiatt,

Lyle Lovett

By Jeff Forlenza

Lyle Lovett

**Songwriting Giants
Sit Down for Warm
Acoustic Performance**

It may be just four guys with guitars. But these four guys have written thousands of songs, and each one is a distinctive storyteller with a unique voice. The four guys in question happen to be legendary singer-songwriters Guy Clark, Joe Ely and John Hiatt and Lyle Lovett.

The foursome first performed together back in the '90s when the Country Music Association sponsored a songwriter event that put all four onstage together. Last year, the Montalvo Arts Center in Saratoga, Calif., began presenting the troubadours as part of their concert series, which features world-class musicians on the grounds of Villa Montalvo, as well as outlying venues in Northern California. One of those outlying venues is the Fox Theatre in Redwood City, where *Mix* caught one of their intimate acoustic performances in late January.

Photos by Steve Jennings



Right: Engineer John Richards at the Fox Theatre's Yamaha PM4000 front-of-house board

Above: Engineer Steve Jones (pictured at monitor position) standing at the Soundcraft MH3 console



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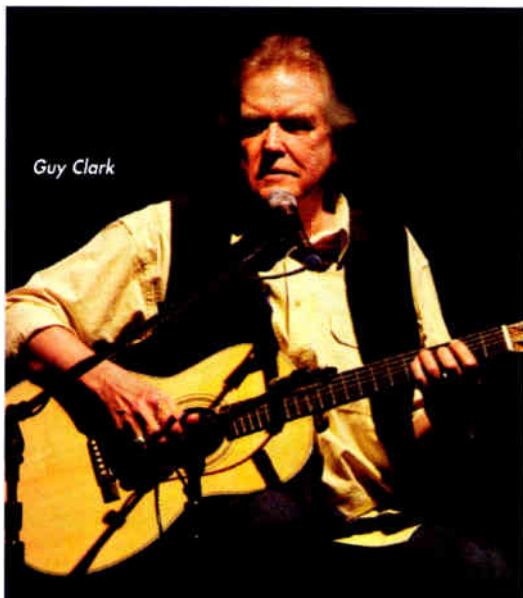
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World Radio History



Originally opening in 1929 as one of the premier movie houses on the San Francisco peninsula, the Fox Theatre eventually fell into disrepair until the late '90s, when Mike Monte and John Anagnostou bought and restored the venue. The recently refurbished Fox is a big room with art deco embellishments and spacious acoustics that seats between 1,200 and 1,400.

Montalvo production manager Tony Wilson, who was in charge of the sound reinforcement system for the Fox Theatre shows, contracted Sound on Stage (Hayward, Calif.) to provide the sound system. Sound on Stage installed the L-Acoustics V-DOSC system with dV-DOSC front-fill speakers for house sound and Power Physics KB-2 stage monitors.

Billed as a "songwriter in the round" performance, each troubadour plays a mini-set—strumming a few songs and providing explanations of the songs. This



anecdotal setup often yields priceless dialog between the old friends. Oftentimes, the others will supply backing guitar licks and harmony vocals. After each artist has played his songs, the show peaks with all four harmonizing for an encore.

Engineers John Richards and Steve Jones are used to traveling with Lovett's 15-piece Large Band, which usually requires 50 feeds on the front-of-house board. However, for the Lovett/Clark/Ely/Hiatt shows, Richards—who runs Concert Productions in Murfreesboro, Tenn.—only has to mind 12 of the available 44 channels on the Fox's Yamaha PM4000 console.

"What I learned from working

with Lyle's Large Band is to go onstage and listen to the instrument you're trying to mix. All of these people are really into acoustic instruments, so we're trying to make it sound as real as we can," Richards says of mixing for the Fox audience. "I don't do too much. I'm mainly limiting their vocals. There are annoying frequencies in every room at 400 and 3k. So I'm using a wide-band EQ to cut out those frequencies. I'm not really using any compression at all. We're trying to make it as bright as it can be.

"We're doing a lot of fly dates," Richards continues, "so we're traveling light—just microphones. It's about the easiest dates we do." The crew travels with Shure Beta 87C

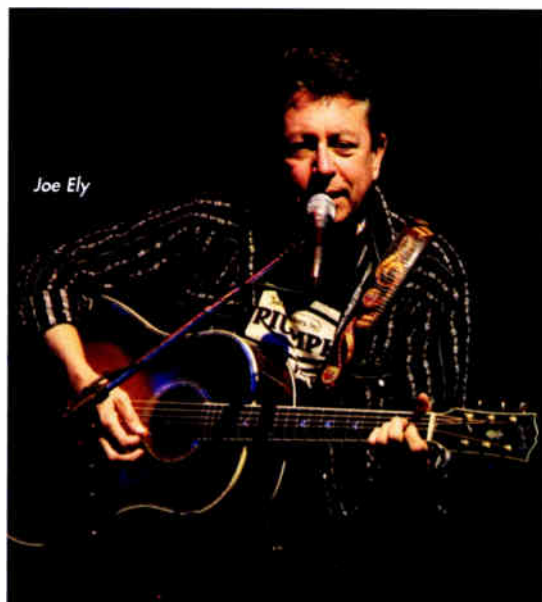
vocal microphones and SM81s for Clark's homemade guitar. Clark is the only guitarist not going directly into the console. "It's the first steel string that's he's ever produced," Richards says of Clark's six-string. "We're miking it with a Shure SM81 and it sounds as good as the DIs."

Another reason to mike Clark's guitar stems from his playing technique. "Guy will move around the microphone all night," Richards says. "Guy is literally working his microphone to get different low-end sounds from his guitar. You couldn't do that in an outdoor setting with the wind blowing!"

As for the other guitar feeds from the stage, Lovett uses a Sunrise guitar pickup that runs through a Demeter tube DI. On Hiatt's guitar, a Fishman Blender—which combines a single-coil magnetic pickup with a condenser mic—is routed to a Demeter tube DI. Ely uses a LR Baggs AC GT pickup and an LR Baggs preamp combination.

At stage left, Jones operates the Soundcraft MH3 monitor console and is also Lovett's guitar technician. "It's four mic stands, four mixes," Jones explains. "I try to keep it as simple as possible because I have to take care of Lyle's guitars and two or three other things onstage. It's simple stuff, but we dig it. It's one of those shows that lasts two hours, but goes by in 10 minutes."

Many of the audience members attend all three nights of the Lyle and Friends



shows at Fox. There's no set list and every night's a different show. You never know what you're gonna get from the collective treasure trove of chestnuts: Clark's "L.A. Freeway," Ely's "Me and Billy the Kid," Hiatt's "Memphis in the Meantime" or Lovett's "Road to Ensenada."

With material like that, an engineer doesn't need to worry about effects or sweetening. "Each one of those musicians has a certain way they want their instrument to sound. I'm not here to change that," Richards concludes. "I'm just here to reinforce that sound for the whole room." ■

Jeff Forlenza is a freelance writer based in the San Francisco area.

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World Radio History

New Sound Reinforcement Products



E-V RE410 HANDHELD CONDENSER MIC

New from Electro-Voice (www.electrovoice.com) is the RE410, a handheld condenser mic for lead vocal applications. The RE410 has a uniform cardioid pickup pattern for feedback rejection and isolation from loud onstage sources; specs include a 50-20k Hz response and 140dB maximum SPL handling. A multistage pop filter reduces plosives and breath noise, while a Memraflex™ hardened steel grille offers protection, and a Warm-Grip™ handle provides a comfortable feel and isolates handling noise.

QSC DIGITAL CINEMA SPEAKER SERIES

QSC (www.qscaudio.com) expands its series of bi/tri-ampable screen channel loudspeakers to a total of nine units, ranging from the compact SC-413 to the flagship SC-443, with its 4x15 bottom end and proprietary MH-1075 mid-high section. All mid-high sections feature a horn-loaded midrange topped by a titanium-diaphragm compression driver coupled with an adjustable pan-and-tilt bracket. With nominal coverage rated at 90° horizontal (+20°/-30°) in the vertical plane, each is outfitted with its own driver-protection network and a passive crossover for bi-amp use, and also facilitates high-frequency crossover points of up to 1,800 Hz to ensure that most dialog is reproduced by a single element for added intelligibility. LF in the three new units uses QSC's Close-Coupled Woofer (CCW) technology, which keeps coverage angles considerably wider over a greater frequency range than traditional devices employing widely spaced woofers.



STARDRAW CONTROL BETA DOWNLOAD

Stardraw.com is now offering live sound and systems pros a free beta version of its Stardraw Control application. In exchange, beta users are asked to provide feedback via the dedicated Stardraw Control forum. The program generates stand-alone, customized control programs, and its simple yet powerful drag-and-drop interface can manage any type of addressable equipment from any manufacturer over any communications infrastructure, and can run on any Windows-enabled device—from PC to PDA, or Mac, Linux and more. Stardraw Control can communicate with and control any device using any protocol including TCP/IP, RS-232, DMX, IR, EtherSound, etc.



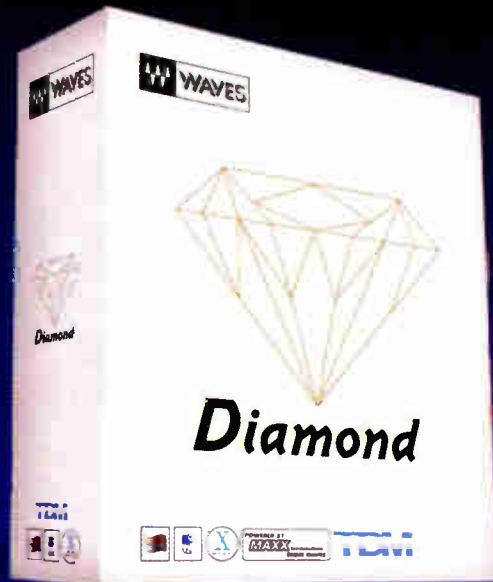
PEAVEY CS AMP SERIES

Unveiled at Winter NAMM, Peavey (www.peavey.com) debuted six newly redesigned CS Series power amps: the CS 1400, CS 2000, CS 3000, CS 4000 and CS 4080 HZ (all dual-channel), plus the 4-channel CS 800x4. Building on the reputation of Peavey's renowned CS 800, the new series features DDT® compression/anti-clipping protection, two-rackspace designs and up to 4,080 watts. Protection circuits guard against shorts, improper loads, abrupt turn-on levels, high temperatures, DC and subsonic frequencies. Also standard are active temperature-controlled fans. XLR/¼-inch Combo inputs, binding post and Speakon outputs, and a five-year warranty.

MARTIN AUDIO AQ SERIES

The AQ Series from Martin Audio (www.martin-audio.com) comprises six full-range enclosures ranging from the ultra-compact dual 5-inch ICT™ AQ5 to the high-power AQ15 (400W, 15-inch woofer/high-efficiency HF compression driver). AQ Series products may be used individually, in multiples or distributed, depending on the application. The line is complemented by four subwoofers from a compact single-12 to the high-power, dual-15 AQ215. An AQX controller provides user-selectable active crossover, limiter and trim functions from a single-rackspace chassis.

Beyond Massive.



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- **Versatile** Waves works with Pro Tools, Logic, Digital Performer, Cubase, Nuendo, Sonar, and more.
- **Upgradeable** Waves lets you move up to a larger bundle for just the cost of an upgrade.
- **Support** With Waves you work with one company for support and upgrades instead of a pack of different companies.



The Professional Standard

Waves huge selection of bundles lets you pick the pack that fits your needs and budget and our Free Demo lets you try before you buy!

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Pedant In a Big Box, Part Eight

The Ongoing Saga of Nerdy Nomenclature Continues

TCP (TRANSPORT CONTROL PROTOCOL): TCP, along with IP, is half of the modular TCP/IP protocol that has made *Ethernet* such a success. TCP is responsible for *packetizing*, or breaking up, messages to send them over an uncertain pathway (the *Internet*) and reassembling the packets at the intended destination.

TDM (TIME DOMAIN MULTIPLEX[ING]): A technique widely used since the 1960s, especially in circuit-switched *telephony*, to multiplex or interweave multiple data streams onto a single carrier channel by quickly chopping up each stream and sequentially assembling them into a composite data stream.

TELCO: a telephone company, typically an *ILEC*.

TELECOM: Telecom, short for telecommunications, is the industry that was created with, and has wrapped around, the invention of the telephone.

TELEPHONY: all things having to do with telephones and telephone services.

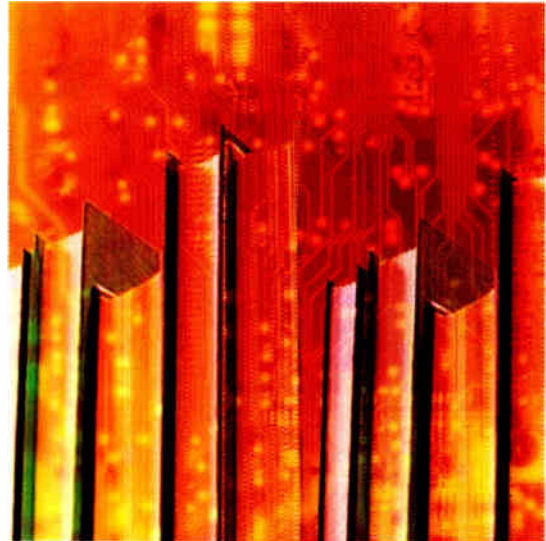
TERMINAL: Also known as dumb terminals, they have been reborn under the new rubric of "thin client." Whether terminal or thin client, these low-cost *network nodes* are basically an *NIC*, display and keyboard with little or no local processing capabilities. Thin clients are quite popular in corporate environments because they aren't susceptible to *viruses* and other *malware*.

THREE NINES: another way of saying 99.9, usually referring to percentage (as in 99.9%). Four nines (99.99%) and five nines (99.999%) are also common terms. All are used to typically denote *up-time* or *availability*, with higher percentages representing better average reliability.

THROUGHPUT: See *data rate*.

TLA (THREE LETTER ACRONYM): the linguistic currency of modern business and, more specifically, modern geekdom.

TLD (TOP-LEVEL DOMAIN): TLDs were devised to bring order to the then-new *Internet*. The eight original TLDs included .com, .net and .org for commercial, network services and nonprofits, respectively. In addition, there were .edu for educational institutions, with .int and .mil reserved for our military. Later, as the Web spread across the globe, countries other than the U.S. were assigned TLDs: .tv is for the tiny island of Tuvalu, .ca for Canada, .uk for the United Kingdom, .jp for Japan, .de for Germany, .no for Norway, etc. Recently, seven new TLDs have been added, including .biz, .pro and .name. TLDs are assigned and controlled by ICANN.org, the Internet Corporation for Assigned Names and Numbers.



TOP DOWN: a description of the process of developing a *DAM* "solution" based on an understanding of the content's context and end-user's needs. A top-down approach, as opposed to the *bottom up* method, is the information sciences' way of solving the problem.

TOPOLOGY: As it relates to networks, topology refers to the physical (topological) structure or layout of a network.

TRACK: In a hard disk drive, a track is the magnetic trace or path of an individual read/write head, while the actuator arm on which it is mounted is stationary.

TRAILER: The opposite of a *header*, a trailer denotes the end of the symbol sequence that a header "starts."

TRIPLE DES: a triple encryption of information using the *DES* algorithm. Because DES encryption is fairly easy to break, three successive encodings are enough to make it reasonably secure. Triple DES has largely been replaced by *AES* encryption.

UDP (USER DATAGRAM PROTOCOL): a collection of *stateless*, connectionless (setup-free) *network, transport* and session (OSI Layer 3) protocols used to implement, among other things, NFS. UDP, like *TCP*, is layered on top of *IP*; unlike TCP, it doesn't even try to guarantee delivery.

UNICAST: a type of communication between computers (*hosts*) on a *network* in which a host talks directly to another computer. Also see *multicast*.

UNIX, UNIX: First developed by Bell Labs, Unix is a powerful, flexible, interactive operating system. Unix was the first OS written in C, a high-level language now widely used by programmers everywhere.

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Since it was first released in 1969, Unix has grown and evolved, often with the addition of free contributions of academic programmers. Solaris, AIX, HP-UX, Mac OS and IRIX are all Unix “distributions,” or versions, while the increasingly popular Linux is modeled after Unix. UNIX™ is a trademarked Unix distribution owned by The Open Group.

UPTIME, UP-TIME: Uptime, the opposite of *downtime*, refers to the amount or percentage of time that a product, system or service is operational.

URL (UNIVERSAL RESOURCE LOCATOR): a human-readable way of referring to a network node’s IP address and associated directory and file structure. The URL (<http://www.seneschal.net/index.html>) “tells” a Web *browser* to use the HTTP protocol to open the file “index.html” at the IP address mapped to the *domain* “seneschal.net.” Index.html is the default file name that browsers “look for” when going to a bare domain name such as seneschal.net. So, the index.html is implied if you only enter “www.seneschal.net” into your browser’s address field.

USB (UNIVERSAL SERIAL BUS): A standard for *host*-based *serial* data connectivity of computer peripherals over *asynchronous* transport. USB was developed by Intel to replace the RS-232 serial protocol and *PHY*.

UTP (UNSHIELDED TWISTED PAIR): UTP was first popularized by *telcos* for use as premises wiring. Once it became ubiquitous, UTP was pressed into service to replace the more costly and unwieldy coaxial cable that was first specified for Ethernet.

VIRTUALIZATION: the increasingly valuable process or packaging of abstracting the specifics of a networked environment, typically networked storage, to better administer and utilize what are usually piecemeal “islands” of network *assets*. Virtualization is typically performed by proprietary software packages, though vendor-agnostic products are available. Virtualization is also available as embedded features of some vendor’s *SAN* “intelligence” or functionality.

VIRUS: a self-replicating, self-executing code designed to install itself on as many *hosts* as possible. Viruses are usually *malware*, written specifically to either do harm to the host or to serve some other malicious purpose.

VoIP (VOICE OVER IP): pronounced “voyp,”

VoIP is the process of passing digitized voice traffic over the *Internet* as an alternative to traditional *telco* voice services. VoIP includes VoWLAN, or Voice over a *WLAN*, which includes VoWiFi, or Voice over a *Wi-Fi* network.

VPN (VIRTUAL PRIVATE NETWORK): encrypted connections between *LANs*, *MANs* or *WANs* that use the Internet to securely and inexpensively span long distances.

VXA: a proprietary, entry-level, linear data tape standard originally developed by Ecrix. VXA is now part of the Exabyte family of products.

W3C (WORLD WIDE WEB CONSORTIUM): the *World Wide Web*’s standards-setting body.

WAN (WIDE AREA NETWORK): a data network that spans *MANs*.

WEB BROWSER: The Web browser, first created as Mosaic by Sir Tim Berners-Lee, is the principal application used to interact with the *World Wide Web*. Opera, Mozilla, Safari and Navigator are all examples of a *browser*, while Internet Explorer, the most widely used browser, is increasingly being supplanted by the open-source Firefox.

WEB SERVICES: a paradigm whereby applications and utilities such as *DAM* and storage are delivered—really rented—via the *Internet*. Current Web services usually employ *SOAP* messaging formed using *XML*. Examples of Net services are Apple’s Sherlock and Google’s Web APIs.

Wi-Fi, WiFi: Wi-Fi or Wireless Fidelity (go figure) refers to wireless networking using *802.11b* protocols. Public Wi-Fi APs and services have become so well-accepted that it’s not uncommon to find McWi-Fi on the menu at urban McDonald’s.

WINDOWS MEDIA: an ad hoc standard created by Microsoft that provides a scalable, cross-platform framework for a wide variety of media data types.

WIRELESS: information transfer by means other than wires. Radio, light (typically infrared) and smoke signals are all wireless forms of communication.

WIREFINE: The opposite of *wireless*, wireline means to employ wires in a communications system. ■

OMas, having returned from the annual family pilgrimage to Ghost Ranch refreshed and renewed, was captivated by a recent viewing of Federico Fellini’s Nights of Cabiria. Thanks for the Fellini tip, Marty, see y’all next month!

US-2400

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Tools of the Trade



MERCURY M72S PREAMP

Based on the classic, modified Telefunken/Siemens V72s modules used in the legendary REDD.37 recording desk at Abbey Road Studios is the dual-channel M72s from Mercury Audio (www.mercury-rec.com, \$3,500). Housed in a two-rackspace chassis, the M72s features mic and 1/4-inch DI inputs, a choice of -16 or -28dB pads (to accommodate line-level inputs), polarity and phantom switches, 28-58dB variable gain controls, transformer balanced I/Os, EF86 tubes and hand construction throughout.

APPLE MAC MINI

The incredibly small Mac mini G4 from Apple (www.apple.com, \$499) is ideal for portable music production, especially when paired with the new GarageBand 2. The software (included in the new iLife bundle) features multitrack recording, musical notation display, the ability to import MIDI files, timing and tuning correction, and the capability to save your own recordings as Apple Loops. Also new for GarageBand is Jam Pack 4: Symphonic Orchestra (\$99), featuring everything from woodwinds, brass, percussion and strings.

GLYPH DADIO MONITOR SYSTEM

Dadio Monitor from Glyph (www.glyphtech.com) is a peer-to-peer collaborative audio system that allows musicians to create their own individual monitor mixes using a network of single-rackspace units connected by standard Ethernet cables. Mic and line inputs carry each musician's signals to other Dadios, where they can be mixed locally. Front panel controls include an LCD screen and connectors for headphones, while

the back of the unit offers line outs and an insert for patching external processors across the mix or an input channel. Each Dadio's mixing controls include gain, pan, mute and polarity reverse. The unit is upgradable via software download.



URS FULLTEC EQ

A mixed bag of Pultec emulations, FullTec from URS (www.ursplugins.com) offers boost/cut across five bands from 20-20k Hz. The outer bands mimic Pultec EQP-1's LF/HF shelving with simultaneous boost and cut, while the mid bands re-create the midrange boost and attenuation of the Pultec MEQ-5. The five bands overlap for a wide range of subtle and powerful changes. The plug-in is compatible with Windows XP, Pro Tools 6.7 and Panther OS 10.3.5, and offers TDM support for Pro Tools|HD Accel, Pro Tools|HD and Pro Tools 24|MIX systems at up to 192 kHz. Prices: TDM, \$499.99; Native, \$249.99.

M-AUDIO OZONIC

Not your average keyboard controller, the Ozonic from M-Audio (www.m-audio.com, \$599) includes FireWire audio and MIDI interfaces within the full-featured MIDI controller. The 4x4 analog audio interface operates at up to 24-bit/96 kHz, and includes a XLR mic input with

phantom power, 1/4-inch instrument input and stereo 1/4-inch TRS line inputs. Outputs are provided on two pairs of 1/4-inch jacks (TRS and TS) with volume sliders and a headphone output. The controller is a 37-note, velocity-sensitive, synth-action keyboard with three zones and assignable after-touch.

STEINBERG VIRTUAL BASSIST

The latest in Steinberg's (www.steinberg.net, \$249) Virtual Series puts the phrasing and sounds of pro electric bass players at your fingertips. Virtual Bassist utilizes a large array of samples covering 25 styles, including rock, pop, reggae, metal and hip hop. To keep it real, the virtual instrument uses GrooveMatch to accurately marry the bass line to any existing drum groove. Virtual Bassist will work within any VST, DXi, AudioUnits or ReWire host application.

STUDIO PROJECTS SP-828

This 8-channel, single-rackspace mixer from Studio Projects (dist. by PMI Audio, www.pmiaudio.com, \$799) offers eight mic preamps, a stereo bus, headphone output and balanced outputs for each channel. Front panel controls include phantom power, phase reverse, mic/line switch, input gain, level, pan and solo, with LEDs for visual monitoring of selections. Up to four SP-828s can be cascaded together using the Expansion Port, offering 32-channel operation in just four rackspaces.

ART USB MICROPRE

Stretching the limits of how much you can fit into a \$99 price point, ART (www.artproaudio.com) has introduced the MicroPRE analog/digital audio interface. Analog inputs are phono/line-level-switchable and optical TOSLINK I/O;



S/PDIF inputs are standard. The front panel features gain control, highpass filter, signal/clip LED and a headphone jack, and the unit can be powered externally or via USB. MicroPRE will work with the USB audio device drivers built into Windows 98SE/ME/2000/XP or Macs with native USB support OS 9.1 (or greater) or OS X.

SPL MMC2

New from SPL (www.spl-usa.com, \$35,900), this slick and svelte mastering console is a rackmount version of the company's MMC1. The unit offers inputs and returns for stereo and multichannel inputs, input trim in 0.5dB detents, a switchable insert and the optional Master Bay and remote (an 8x8 automated patchbay). Additionally, the MMC2 features an eight-tiered high-end master fader, two 8-channel and four dual-channel global recording outputs, speaker management, and monitoring of two stereo and two surround speaker sets.

SONIC STUDIO SS•DDP

Sonic Studio's (www.sonicstudio.com, \$500) first OS X native application, SS•DDP, is a utility for manipulation, validation and regeneration of CD metadata. The software offers the well-known power of Sonic's full PQ code functionality for Red Book and the streamlined NGC user interface. For assurance of flawless replication, SS•DDP validates and corrects incoming DDP file sets on-the-fly, creating a fully compliant disk image.



OCTIV OCTIRAMA

Octiv (www.octiv.com, \$995) has released a full-featured, multiband dynamics processor for 5.1 music production.

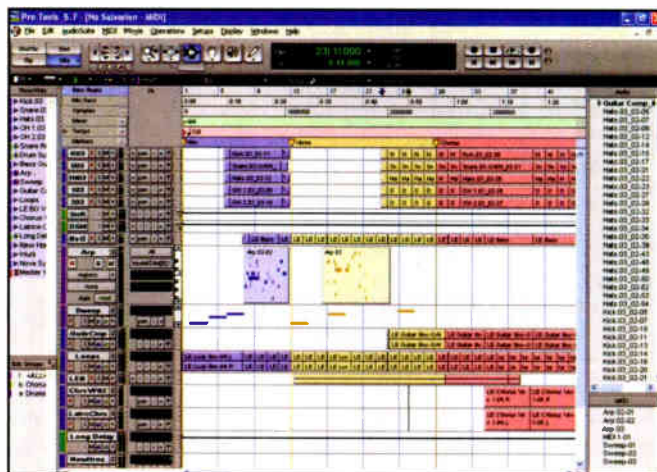
Octirama works on the Pro Tools TDM platform and offers 4- or 5-band dynamics processing, five in-band peak limiters, band mixing, a final peak limiter and bass management. More than 40 simultaneous meters provide detailed information on gain reduction, downward expansion and output levels.

CREAMWARE RESTORE

The new audio restoration bundle from Creamware (www.creamware.com, \$999) is based around the osirisXP plug-in for the SCOPE platform. It includes a De-Crackler, De-Noise, De-Clicker and PSY-Q psychoacoustic processor. The package also includes SCOPE home, a PCI audio board featuring low-latency operation, flexible routing, effects and support for a wide range of drivers. For those wanting to slice-and-dice audio, the package also includes the tripleLE audio editor, a light edition of Creamware's tripleDAT workstation. The software offers the user an intuitive interface that can take a project from inception through finished CD.

NATIVE INSTRUMENTS ABSYNTH 3

Native Instruments' Absynth 3 (www.ni-absynth.com, \$339) has been massively upgraded and now offers multichannel support ranging from 3.1 up to 7.1, with dedicated surround panning sections in each oscillator channel. The instrument also features new oscillator functions, additional integrated effects and a live input function that can process up to three external stereo signals at once, routing each into a separate oscillator channel for individual treatment. There is also flexible MIDI parameter control and an updated user interface.



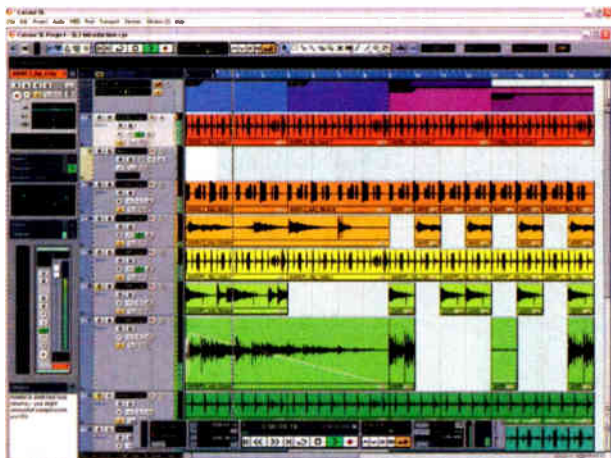
DIGIDESIGN PRO TOOLS 6.7

Chock full of great new features, the newest version of Digidesign's (www.digidesign.com) Pro Tools boasts track color-coding, expanded track creation options and new click and tempo options including the ability to increase/decrease tempo in various logarithmic curves. Also new is an Undo History window, MIDI Step Input, support for RTAS instruments on TDM aux inputs and the ability to slide tracks by either samples or ticks. The update is free for current Pro Tools 6.4 owners or for \$175 for users with earlier versions.

MICROBOARDS DX-2

The new DX-2 CD/DVD publisher from Microboards (www.microboards.com) boasts professionally labeled discs in larger quantities than in the past for a lower cost per disc. DX-2 ships with two 52x CD or two 16x DVD (32x CD) recorders, SureThing label editing software and PrassiTech Zulu 2 recording and





automation software, giving users access to many advanced publishing features. Other features include 4800 dpi printing, FireWire 800 interface card for true 16x DVD recording, unlimited batch queuing, 100-disc input/output capacity and a one-year warranty. CD version, \$3,495; DVD version, \$3,695.

STEINBERG CUBASE SL3

The newest scaled-down version of Cubase SX3, Cubase SL3 from Steinberg (www.steinberg.net) offers many new features including the Workspace concept, allowing layouts to be created for each step in the production process. Also included are the

ability to color-code tracks and an extended Freeze function in which VST instruments and audio tracks with their insert effects can be "frozen" to save DSP. SL3 offers import of ACID files, which can be time-stretched and pitch-shifted in real time. The Pre-Record feature records up to 10 minutes of audio in the background even if

Record wasn't engaged. Prices: \$399 (new) or a \$99 upgrade from SL2.

UI AUDIOTOOLS VERSION 5

Disproving the adage that if it sounds too good to be true, it is, Unrelated Inventions' (www.unrelatedinventions.com) Audiotools V. 5 is just \$25. The Windows-based software for audio recording, manipulation and conversion records any format that can be fed into a soundcard, direct-to-disk, including MIDI files or streamed audio from the Internet. Also included is the ability to merge files and file conversion (MP3, .WAV, AudioUnits, WMA).

The software supports CD writing and DirectX plug-ins.

TERRATEC PHASE 88 RACK

Terratec's (www.terratec.com, \$559) new computer audio interface for Mac or PC can be a straight PCI card or retrofitted to operate as a FireWire interface. The unit offers eight analog I/Os operating at up to 96 kHz/24-bit—all on rear panel, balanced 1/4-inch TRS jacks. The 88 also features two MIDI ports, gain control, clipping/signal LEDs, two mic inputs with phantom power, world clock I/O and a 12-foot cable connecting the card to the interface.

TC VIRUS|POWERCORE

Bringing a new level of synthesis to TC Electronic's (www.tcelectronic.com, \$249) PowerCore platform, Access Unlimited license is now available as an upgrade for the Virus|PowerCore Base license. The new license allows the instrument to be instanced on all PowerCore DSPs simultaneously. The software is based on the Virus hardware synth and offers three main oscillators, two filters, three LFOs and two envelopes. A single PowerCore allows for 64 voices of polyphony and 16-part multitimbrality.

Upgrades and Updates



Roland (www.rolandus.com) is shipping the new **CM-30 Cube Monitor**, offering 30 watts of power through a 6.5-inch, coaxial two-way speaker with stereo preamp...With the shipping of **Sonik Synth 2**, **IK Multimedia**

(www.ikmultimedia.com) announces the launch of a new Website for the product, www.soniksynth.com...**MOTU** has announced that a free software update of **Digital Performer, V. 4.51**, is now available for download at www.motu.com to all registered DP 4.5 users...**Primera** (www.primera.com) is now shipping both **PC and Mac software for its Bravo II Disc Publisher** at no additional cost...**Open Labs** (www.openlabs.com) has upgraded all of its products in its **NeKo and OMX** lines of Windows XP-based keyboard workstations to include a combo DVD reader/CD-rewritable (CD-RW) drive...**BIAS** (www.bias-inc.com) has released **Soundsoap 2** for Mac OS X and Windows XP...**Manifold Labs' Plugzilla** (www.plugzilla.com) now comes bundled with the VST version of Princeton Digital's 2016 Stereo Room reverb...**iZotope's Ozone, Trash, Spectron and Vinyl plug-ins** are

now available for Mac OS X. The plugs are available in Pro Tools, VST, MAS and AudioUnits formats from www.izotope.com...**M-Audio's Fast Track USB (\$129)** is a 2x2 mobile, USB-powered, 24-bit/48kHz audio interface with I/O provided on a single XLR mic input (no phantom) and a 1/4-inch input that can be switched between instrument and line-levels. Outputs are dual RCAs and a 1/8-inch headphone jack. It ships with GT Player Express software. Visit www.m-audio.com...**Kjaerhus**, which must mean "free stuff" in Danish, has released another gratis plug-in called **Auto-Filter**. The analog-modeled, four-pole filter offers resonance control, making it very adept at effects such as auto-wah-wah and filter sweeps, as well as a fixed filter for equalizing purposes. The filter is selectable between lowpass, highpass, bandpass and band-reject (notch). Visit www.kjaerhusaudio.com. ■

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ALWAYS A SOUND DECISION

Universal Audio LA-610 Channel Strip

A New Twist on Classic Favorites

If I were to list my five favorite analog processors of all time, the Universal Audio LA-2A leveling amplifier and 2-610 tube preamp would easily make the list. I often chain them in series to record tracks in my studio. And so I particularly relished the thought of reviewing the company's new all-tube LA-610 channel strip, which combines a modified channel of the 2-610 with an LA-2A-style optical compressor.

I/O AND CONTROLS

The 2RU LA-610's rear panel sports separate mic, and line inputs and a line output on balanced XLRs. A high-impedance (instrument DI) input is accessed via an unbalanced ¼-inch phone jack on the front. The compressor section does not have a sidechain input.

The unit's custom I/O transformers are the exact same ones used in the 2-610. However, the unit's preamp circuitry departs from a 2-610 channel in significant ways: Two 12AX7 tubes serve the LA-610's two gain stages, as opposed to one 12AX7 and one 6072 per 2-610 channel. (The 2-610's 6072 tube output stage has been moved in the LA-610 to serve its compressor's makeup gain.) The LA-610 also includes a 15dB pad on its front panel, a feature I wish the 2-610 also had, considering the latter's limited headroom. The LA-610's preamp is also voiced to have a slightly more prominent high-frequency response than the 2-610.

The LA-610's preamp section features a five-position rotary switch that selects among line, mic and DI inputs, with the latter two each offering a choice of two different input impedances: 500 ohms or 2 kilohms for mic input, and 47 kilohms or 2.2 megohms for DI. A five-position gain control adjusts the gain of the preamp's 12AX7 input stage in 5dB increments. As you turn this switch clockwise, negative feedback is reduced and gain increases along with pleasing harmonic distortion. A separate level control serves the 12AX7 output gain stage. Total maximum preamp gain is a respectable 61 dB. Joining the 15dB pad are toggle switches for 48-volt phantom power and polarity reversal.



The preamp section also features independent high- and low-shelving EQ facilities. Two three-way toggle switches let you choose a fixed corner frequency for each band: 70, 100 or 200 Hz for the low EQ; and 4.5, 7 or 10 kHz for the highs. Boost or cut (0/1.5/3/4.5/6/9 dB) is available for each band via switched rotary controls.

COPYCAT COMPRESSOR

The compressor uses the exact same T4 electro-optical cell as the LA-2A, which is notable because the T4 produces the vintage compressor's fabled and unique compression curve, and attack and release times. One 12AX7 and one 6AQ5 tube serve the sidechain circuit, which includes the T4 module.

The compressor's operation is simple. Turning up the Peak Reduction rotary control increases compression. A Gain control provides up to 20 dB of makeup gain, courtesy of a 6072 tube. A three-way switch selects among three modes: compression (roughly 2:1 to 3:1 ratio, program-dependent), limit (infinity:1 ratio) or compressor bypass. Setting another three-way rotary switch determines what the LA-610's small VU meter displays: output level for the unit's preamp or compressor or amount of gain reduction.

TO THE TEST

I set up an A/B test recording male vocals with a Lawson L251 in omni mode through the LA-610 and then through my 2-610 and LA-2A chained in series. I used roughly the same amount of preamp gain, gain reduction and compressor makeup gain for both signal paths. The LA-610 produced more pronounced highs, detailed transients and leaner, more open mids, as compared to the 2-610/LA-2A combo. The LA-610's compression characteristics definitely sounded like those of the LA-

2A, yielding ultratransparent and natural-sounding control over dynamics, even with 10 dB of gain reduction (per VU meter ballistics). Both paths sounded awesome, with the LA-610 being more modern, sparkly and precise, and the 2-610/LA-2A combo sounding full, dark and chocolaty with understated highs. Despite their spectral differences, both signal paths lent that wonderful tube richness that fans of Universal Audio gear adore.

Next, I used the LA-610 to record an electric guitar using a Roland Micro Cube amp miked with a Royer R-122 ribbon mic. Cutting frequencies above 10 kHz by 3 dB using the LA-610's flattering EQ and setting the compressor section to Compress mode, I found the results were warm yet present. Fantastic!

Patching an electric bass guitar into the LA-610's hi-Z input, I got great results once again. Setting the unit's preamp gain to +10 for grit, cutting the EQ drastically above 4.5 kHz and boosting below 70 Hz, and placing the compressor section in Limit mode, the results were positively thunderous.

CONCLUSION

Owners of 2-610 and LA-2A, have no fear: The LA-610 does not make your treasured investments obsolete. While the LA-610 incorporates many of the flattering sonic attributes of its predecessors, it has its own uniquely beautiful voice. And don't let the low price (\$1,749) fool you—this box belongs in a rack beside the priciest gear. Universal Audio has produced another winner!

Universal Audio, 831/466-3737, www.uaudio.com.



Mix contributing editor Michael Cooper is the owner of Michael Cooper Recording, located in beautiful Sisters, Ore.



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Tascam US-2400 Controller

Surround-Capable 24-Fader DAW Interface

Using a console is almost like playing an instrument, and it takes a healthy number of faders to bring that feeling to a DAW. Tascam equipped its flagship DAW controller, the US-2400, with 25 of them (24 channels plus a master).

In addition to these touch-sensitive, motorized 100mm faders, each of the 24 channels has an assignable LED-ringed rotary encoder (for pan, auxes, etc.), along with buttons for mute, solo and select. The LED rings around the encoders do double-duty as position indicators and level meters. There's no electronic scribble strip or extraneous functions that would be easier to access with the mouse (e.g., inserting plug-ins); in fact, there's no character display of any kind. But this unit is built for hands-on control rather than loaded with bells and whistles. Actually, I'm surprised at how little I missed the extras that are found on competing products.

PLUG AND PLAY

The 35.75x15.25-inch (WxD) US-2400 connects to any Mac OS X or Windows XP machine via USB. Being a "class-compliant" device, it does not require a driver, as the OS recognizes it automatically.

In addition to its own native mode, the US-2400 has modes for Cakewalk SONAR, MOTU Digital Performer, Apple Logic Audio, Steinberg Cubase and Nuendo, and Digidesign Pro Tools. I tested the US-2400 with the last three, as well as with MOTU's CueMix Console monitor mixer, but it can be used with pretty much any DAW software (or any device that responds to MIDI controllers).

Each of its three 8-fader banks looks like a separate controller to the host software, so Pro Tools, for example, sees it as three Mackie HUIs, MOTU sees it as three Mackie Controls and Logic Audio configures itself automatically for a Logic Control and two expanders—the wrong ones, actually, but it's a trivial matter to set it straight.

IN CONTROL

The US-2400's control section features a jog wheel, a joystick for surround panning (which Pro Tools sees as a JLCooper MCS panner) and transport buttons. There are



also lighted I/O buttons and conveniently placed bank-up and -down buttons to access up to 192 channels (eight banks of 24 faders).

The master fader "strip" has buttons to clear soloed channels and Flip mode, which swaps the channel faders and the rotary encoders. This puts the aux send mix that's been selected (via six dedicated aux buttons) on the faders, while the volume moves up to the rotary encoders—very handy. With a modifier button, the aux buttons can be used to call up user screen sets in Logic and a selection of screens in Pro Tools. The Shift or Function key can also be used with different transport controls to do various things. Most of these combinations make intuitive sense, and I found them without looking in the manual—holding Shift and Rewind will return to zero in Pro Tools. Other functions might raise some eyebrows—such as Shift and Rewind is left arrow in Logic—but they aren't obtrusive if they aren't employed.

A nice plus for musician/engineers is using a footswitch for punch-in/out. Also, the assignable function keys can be set by the user for often repeated tasks such as punch-in, undo, track arming and more.

UNDER MY THUMB (AND FINGER)

The US-2400's faders have a full-sized, 100mm throw and an extremely light feel, with very little resistance when slid. That's certainly different from the way analog faders feel, but it's neither good nor bad. Probably because the unit's light weight reduces the strain on the motors, these faders are extremely quiet when being ghost-driven. Unlike many motorized faders, they also don't chatter loudly when moving a group of them.

Whenever the faders make quick moves over a wide distance, they go most of the way to their destination at full speed, but then gradually apply the brakes. This

has no effect on the sound and results in quieter operation. The joystick is not motorized, so it has a Null button that acts as a "clutch." Like the faders, the joystick floats with very little resistance.

PANNING THE PANNING

Many DAW programs such as Pro Tools have separate left and right faders for adjusting the balance on stereo tracks. That makes it impossible to pan signals with one knob, so—through no fault of the US-2400—I had to adjust one side and then hold down a modifier key to adjust the other. It would be more controller-friendly if these programs had one control for positioning both channels together and a second one—the one accessed with the modifier—for adjusting the overall width. Time to form a political action committee?

SCRIBBLING

While the US-2400 doesn't have electronic scribble strips (Tascam says a soft LCD scribble strip is coming soon), there's plenty of space between the bottom of its fader tracks and the front of the surface to accommodate 1-inch write-on tape. With 24 faders to work with, there's rarely any question about which banks you're scrolled to and this is a perfectly serviceable substitute in most situations.

ON MY WAY OUT

The US-2400 is an easy-to-use unit with very good ergonomics. Its performance was absolutely solid in all four programs I threw at it, which makes it feel more like an integrated control surface than a generic controller. The US-2400 is a perfect DAW controller for anyone who's interested in lots of faders for a good value (\$1,999).

Tascam, 323/727-7617, www.tascam.com.

Nick Batzdorf is a writer, composer and engineer/producer in Los Angeles.

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World Radio History

Holophone H2 Pro Surround Microphone

Eight-Capsule System Delivers Accurate Stereo Image

What will Canadian ingenuity and eight Danish transducers get you? One great-sounding surround recording system. The Holophone H2 Pro is the second incarnation of the company's unique multichannel recording microphone. The unit uses eight DPA 4060 capsules mounted in an incredibly light "head" (L, C, R, Ls, Cs [center surround], Rs, VOG [top] and sub). The head is attached to a steel U-joint that swivels and locks via two hefty threaded knobs at the side. The 15-foot multicable is mounted with a sturdy and flexible rubber stress-reliever at the head and terminates to eight labeled XLRs. The DPA capsules can handle 134 dB before clipping with an equivalent noise rating of 23 dBA.

IN PRACTICE

I used the Holophone in a 5.1 recording of a percussionist. I regularly do this session with five front-address cardioid condensers set in an ITU array with a separate sub mic. The session is not the typical "live" setting: The drummer does five overdubs around the rig with various percussion, each to its own set of 5.0 or 5.1 tracks. For this test, I set up my usual ITU rig and floated the Holophone above the center position from above on a large boom. Then, I moved the mics out of the typical 30- (L/R) and 110-degree (Ls/Rs) positions to match the angles on the Holophone. Each set of mics had its own set of tracks cut to Pro Tools|HD at 88.2/24-bit resolution and were sent through the mic preamps on a Control|24. Playback was on five M&K MPS-2510P/K speakers and an M&K MPS-5410 sub.

I go through this setup quite often and was struck by how easy and light the Holophone was to use and set up. The U-joint is sturdy and easily adjusted for any desired orientation. The one thing I'd ask for is a bit more leeway through the "U" when orienting the mic with the cable above it to let the multicable pass through more easily. It's quite sturdy, but I found myself having to "muscle" it more than I'd normally feel comfortable doing.

The percussionist first played a large cajón in the center position and then

carried on around the rig, overdubbing bongos, hand percussion and dumbek until we completed all five passes. Afterward, I separately grouped the tracks for an easy A/B listening test. The results couldn't have been more startling. The separate mics sounded good but very "separate," while the Holophone sounded like the room. Of note was the difference in meter ballistics between the two sets: The Holophone's off-axis feeds were much closer to the on-axis, while the separate mics were much farther apart.

On a lark, I used the Holophone as an LCR drum overhead in stereo, and also fed the Ls and Rs to separate tracks and brought them up as room mics in the mix. Although this is not its intended use, it's a great way to record drums. The rendered stereo image across the front was remarkable. While experimenting with muting the center mic, I was surprised to discover how good it sounded with just the left and right. It worked in a number of ways and gave me a lot of options. The rears gave me an interesting L/R image of the drums in the room. Keep in mind that this is five mics set up and fed in less than five minutes. Try doing that with separate mics and stands!

The last recording test was also a stereo application, recording a Yamaha grand piano. The lid was up and the rig was placed about three feet back, pointing into the piano. It sounded wonderful, was easy to set up and the stereo image was brilliant.

Because I was concerned with the high noise figures associated with the DPA capsules, I took one of the mics and fed it through a GML 2032 mic preamp. The GML was incredibly clean, transparent and a good barometer of what was really going on in the noise floor of any mic. The noise was evident but not obtrusive—yes, there would be a multiplication of the effect with the addition of more capsules, but in my tests with percussion, piano and drums, it was not a problem. The one problem I did have was when I had to boost the internal sub mic through the Control|24's mic preamp to attain sufficient meter level. They weren't up to the job, having a noise floor of their own to add to the mix.



COMING FULL CIRCLE

The following anecdote sums up my Holophone experience the best: I set it up in the center of a large room, routed cables and brought the mic pre's up to a general level to see if everything was working. The sax player for the upcoming session was off in the corner noodling on a Yamaha grand piano while someone came into the control room looking awestruck and said, "It sounds like he's playing the piano in *this* room."

It is a remarkable tool for capturing the realism of any recording environment. The DPA capsules render a fantastically clean picture. The product's fit and finish is excellent, and it is a breeze to set up and position. Yes, the \$6,000 price tag is steep, but if you're looking for a great solution for compact, discrete recording at up to 7.1, the Holophone H2 Pro is a great choice.

Holophone, 416/362-7790, www.holophone.com. ■

Kevin Becka is Mix's technical editor.



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Manifold Labs Plugzilla Plug-In Player

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Manifold Labs' Plugzilla offers a compact solution for engineers taking plug-ins on the road for live performances or for DAW operators who need more CPU power to run all of the plug-ins they wish in their studio. The 2RU Plugzilla is essentially a stand-alone computer that is dedicated to running multiple third-party VST (Windows or Linux-based) plug-ins—up to eight simultaneously. Latency is cited to be less than 2 ms with light onboard CPU load.

Plugzilla ships with 256 MB of RAM

to transfer to Plugzilla. The rear panel's USB connectors and two additional USB-A connectors on the unit's front panel can be used to connect to external storage devices or controllers. Four MIDI jacks—In, Out, In/Out (switched) and Thru—and power connections round out the rear panel.

MACHINE ROOMS

Plugzilla's plug-in offerings are organized within two partitions called Machines, each of which comprising four plug-in slots. (The latter includes a loaded plug-

plug-in parameter values and navigate utility submenus alternately viewed on the unit's two large two-line displays. LED rings surrounding each knob alternately display parameter values or meter levels, depending on which mode Plugzilla is in. Additional signal-present and overload LEDs can be alternately configured to show levels for each Machine's I/O, analog or digital I/O, the I/O of a selected plug-in slot or various source points along the audio path for a single Machine.

Plugzilla's MIDI implementation



and a 20GB internal hard drive loaded with more than 300 pre-authorized audio effects processors (reverbs, equalizers, delays, chorus, etc.) and MIDI-savvy virtual instruments. (A list of plug-ins shipping with Plugzilla is available online at www.plugzilla.com.)

REAR VIEW

Plugzilla's rear panel sports 16 balanced XLRs for eight channels each of analog I/O (with 24-bit converters), and AES/EBU and S/PDIF connectors (two each) for digital I/O. The analog I/O can accept both -10 and +4dBu nominal line inputs and +24dBm output levels.

Word clock I/O is provided on BNCs. Plugzilla can sync to any digital audio or word clock input or to internal clock, at any standard sampling rate from 32 to 96 kHz. Two TRS footswitch jacks each accept one or two footswitches to control plug-ins. Also on the rear panel are two USB-A connectors, a USB-B connector and an Ethernet connection; Plugzilla's software and plug-ins can be updated from a computer or via the Internet. In addition, plug-ins may be edited on a laptop and presets loaded on a USB drive

in and its current preset and parameter values.) The Machines control audio levels, controller assignments for plug-in parameters and various MIDI settings.

Any analog or digital audio input can be routed to either or both Machines. The output of one Machine can feed the input of the other Machine or can be routed to the rear panel outputs. The two Machines can be configured to process audio in series or parallel modes and have their outputs summed or remain discrete. Inside each Machine, audio passes through a user-adjustable gain stage, is processed by all four plug-in slots in series and exits the Machine via a wet/dry mix control and user-adjustable attenuator.

Either or both Machines, or any of their plug-in slots, can be independently bypassed and their setups saved and recalled. Up to 999 Machine presets, 999 slot presets and eight global snapshots can be saved internally. Additionally, Plugzilla can load factory presets that are hard-coded into plug-in software. Manifold Labs' PC-based PzView application (available free on the company's Website) helps Windows users install new plug-ins and presets.

Eight soft knobs are used to edit

is extensive and supports multitimbral operation. A plug-in can be set to its own MIDI channel (multiple channels for multitimbral plug-ins) or omni mode (up to 32 simultaneous MIDI channels received at once). MIDI Note Number, Program Change (with mapping), Note On/Off velocity, pitch bend, aftertouch, continuous controllers, System Real Time, System Common and SysEx messages are recognized.

Plug-in parameters can be automated by recording data to an external MIDI sequencer from either external MIDI continuous controllers, USB controllers (including joysticks) or Plugzilla's MIDI-savvy knobs and switches (eight each), and then playing the sequencer's data back to Plugzilla. One controller can simultaneously adjust multiple Plugzilla parameters, each scaled to personal preferences and capable of having inverted polarity with respect to controller values.

IN USE

Plugzilla's front panel is gorgeous, and the unit appears to be sturdy enough to endure the rigors of the road. The manual is poorly developed, however, making

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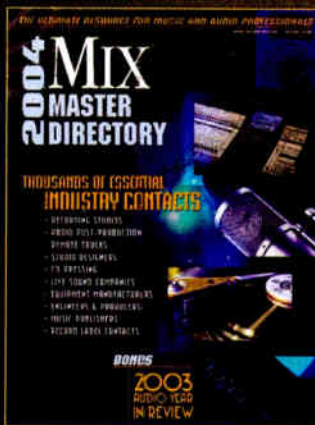


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certain aspects of operation confusing at first. But once I learned the unit, Plugzilla's menu structures were easy to navigate.

All controls have a solid feel. The eight soft knobs are detented and afford coarse and fine parameter value adjustments. However, Plugzilla's displays can only show eight parameters at once, necessitating a lot of navigation when extensively editing all but the simplest of setups. On the plus side, the two displays are easy to read even in a darkened room, greatly aiding live applications. And the two front panel USB connectors afford quick connections of, say, an external hard drive and QWERTY keyboard to a racked unit.

Playing two virtual instruments (a piano and synth pad) simultaneously with three effects (amp simulation, pitch shift and stereo delay) only consumed 50 percent of Plugzilla's available CPU power. At the lowest latency setting, I heard no delay in the voicing of played notes. I was happy that I could manually increase Plugzilla's latency setting to reduce CPU load and run a greater number of plug-ins simultaneously.

CONCLUSIONS

Considering Plugzilla's price (\$2,995), I'd like to see a high-impedance instrument input and headphone output on the front panel and multichannel (preferably ADAT Lightpipe) digital I/O on the rear. I also wish more plug-ins and virtual instruments from major developers (even if just unauthorized versions requiring purchase) shipped with the unit; most of what's currently included is freeware, with notable exceptions including offerings from PSPaudioware and Princeton Digital. There is also no way to connect an external monitor to Plugzilla (and no attendant software included) so that, for example, all plug-in parameters can be viewed at once; however, that would arguably defeat the unit's compact design.

A new software version, dubbed v.FoH, promises enhanced audio routing, a real-time frequency analyzer and a MIDI Learn mode, all geared toward live applications. But no matter what the application, there's a lot of power underneath Plugzilla's hood. If you need hundreds of plug-ins at your fingertips no matter where you travel, Plugzilla offers a sturdy and portable solution.

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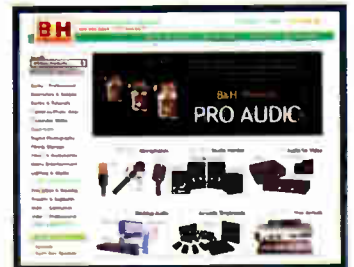
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CEDAR Audio Cambridge Restoration System

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My first introduction to the miracles wrought by CEDAR equipment happened more than a decade ago at a Nashville AES meeting. It was the golden age of Masterfonics, and mastering engineer Glenn Meadows had brought his PC-driven "CEDAR for DOS with SADiE cards" to the meeting. Jaws dropped when he played the "before" and "after" of Patsy Cline's "Walkin' After Midnight" from a transcription disc of the Arthur Godfrey show. Gone were many of the gritty artifacts we had long associated with needle-scraping vinyl or lacquer, and in its place was the stunning power of Cline's voice. We realized that we were hearing something that only had been heard by the control room engineers long ago.

THE BASICS

CEDAR's new turnkey system offers 8-channel processing and arrives in a 4U rackmount chassis containing the dual-processor "host" running Windows XP Pro and I/O cards with another 1U rackmount "Timecode Automation Controller," which also serves as a hardware key for the system. The system is a tour-de-force, fully automated, scalable noise-reduction toolbox. The simplest version comes with 64-bit floating-point processing, 24-bit/96k digital I/O, 2-channel tools including M/S encode/decode, dither and noise shaping, gain module, metering module and the excellent Spectrum Analyzer, with its resolution of 0.02 Hz (totaling about \$15,000).

The full-blown system adds DNS, a dynamic noise suppressor; Dehiss-3, a hiss removal module; NR-4, advanced noise-reduction module; EQ-L, linear phase equalization module; EQ-P, precision equalization module; Declipple, impulsive noise-removal module; Debuzz, buzz and hum removal module; Declip, de-clipping module; phase corrector; adaptive filter package; dynamics processor; limiter; and internal sample rate selector (more than \$60,000).

It's difficult to compare the Cambridge to other noise-removal and equalization systems because there is nothing else in its class with regard to the range of processes or the excellent final result. The

system is equally at home in post, broadcast and forensic facilities. Latencies vary with the number of processes launched, their order, the I/O card used and the ASIO buffer size, but the precise number is always available by the Cambridge system in use. Although the original Cambridge system was real time-only, Version 2 adds "disk-to-disk" and "disk-to-world" file-processing capabilities. Complex event and scene-based processing of .WAV and .AIFF files, with morphing, are available via automation.

SYSTEM MANAGEMENT

The core of CEDAR Cambridge is the Process Manager. It calls up tools, setup pages and processing modules. Engaged modules or processes are bright turquoise when enabled, and you can drag and drop them for positioning. Equally important are the text windows at the bottom of the Process Manager's screen that report channel I/O, incoming sample rate, bit depth and latency.

The Spectrum Analyzer is not your mom's pokey old FFT with frequency bins of equal width (and poor resolution for bass frequencies). CEDAR's analyzer is about 5,000 times more accurate and, among other things, allows you to display the average amplitude at each frequency, the peak value at each frequency or the minimum value at each frequency, each calculated from the moment you select the mode until it is cancelled.

Dither offers five bit depths (off, 16, 18, 20 and 24), four dither sources (off, tpdf, gpdf and htpdf) and five noise-shaping curves (off, first order, curve A, curve B1 and curve B2).

Two-channel tools allow you to apply the meters and tools to any two channels from the system's eight. There's a Lissajous figure with a balance meter that has a range of 30 dB in either direction. You can specify the gain differential between the two selected channels with the balance



control and auto-balance automatically centers the output signal. Output modes include normal, mono sum and mono difference. You can invoke two instances of M/S encode and decode and place processing modules between them for a wide range of effects.

The Metering module is an 8-channel meter that provides simultaneous amplitude metering of all channels selected in the channel selector. Information for each channel includes RMS metering, peak metering, peak hold with a hold time of one second and peak hold from the most recent reset.

The Dedicated Gain module works as an input gain control, output "makeup" gain or a gain boost anywhere in the processing chain.

RESTORATION MODULES

When you need "quick-and-clean" noise reduction for hiss and simple broadband noise, Dehiss-3—with threshold, attenuation and brightness controls—allows you to dial in noise suppression with a minimum of fuss (and skill). Although operating Dehiss-3 is straightforward (you "locate" the noise level with the threshold control and then "remove" it with attenuation), it's important to note that brightness is not a tone control but a "noise character" control used to compromise between various side effects.

The more complex NR-4 allows more attention to detail and provides a sophisticated set of parameters for the delicate tweezing necessary in CD

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remastering, soundtrack restoration, post and audio analysis. I used NR-4 on a surround solo cello recording that suffered from a large, low HVAC rumble and poorly placed air returns. The results were simply stunning. The four separate NR-4 areas (noise fingerprint, noise reduction, noise-free/wanted signal EQ and modeling/brightness) allow you to make an intelligent compromise between reducing noise to an acceptable level while leaving the program material as pristine as possible.

Those familiar with single-ended noise-reduction schemes will recognize the noise fingerprint as the sample-capture routine that makes a mathematical model of the noise to be removed. Unlike simpler systems, NR-4 allows you to edit the fingerprint manually or create one with drawing tools. For those of us who receive material to master where the mix engineer has decided to do tight head and tail edits, this control can mean the difference between success or failure on a troublesome track.

NR-4's modeling/brightness control resembles the brightness control for Dehiss-3, but offers three models to choose from for balancing artifacts against noise reduction. Noise reduction determines how much attenuation to apply to the signal's noise content, while noise-free EQ is an 8-band parametric EQ, plus two high and two low shelves that allow you to EQ the signal without EQ'ing noise.

The Declickle module is the logical combination of De-Click and De-Crackle that have long been CEDAR's flagship and industry standard against which other systems are usually compared. The combined algorithm offers better detection and interpolation than the earlier separate processes. I found an old, abused album in my collection, *Sharkey's Southern Comfort*, which apparently had been used as the coaster for a large potted plant in someone's college dormitory room before being returned to its shabby, tattered cardboard jacket. Declickle brought the material back from the dead so that I could once again hear Sharkey Bonano and his Sharks of Rhythm play non-gritty Dixieland.

Debuzz greatly benefits from previewing the problem material in the aforementioned spectrum analyzer. As buzz often involves low fundamental frequencies with ancillary harmonics, the spectrum analyzer, with its 0.02Hz resolution, is just the ticket for targeting problem areas. Controls include Detection Channels (you can select which channel or group of channels to use to track the dominant frequency nearest the fundamental frequency), Buzz Bandwidth, Fundamental

Frequency (with associated markers), Tracking (follows jittery fundamentals within a two-percent range), Confidence Meter, Threshold and Reduction.

Declip is a graphically oriented module that provides essential rescue for signals that have punched through the digital ceiling and left a hideous plateau of full-scale samples. Engineers who record live performances know that no matter how judicious the soundcheck and no matter how vast the headroom left on the digital recording medium, there is usually one point in which the performer overshoots the expected volume shortly before the engineer dives for the volume control. It's especially disconcerting to hear clipped material in the context of an otherwise well-recorded acoustic program, and Declip is a welcome solution to an often vexing problem. Here, again, the help manual provides excellent advice.

The Phase Correction module revs up an old standby, taking it from the mundane use for azimuth correction tweaking and Sony PCM-F1 half-sample delay problem repair to a full-blown surround image tweezer and sound design kit. It will correct timing errors to within 0.2 samples on-the-fly; in Manual mode, it can shift a signal by 0.01 samples (1 microsecond at 96k). Master Channel selects the reference channel against which timing errors of all other channels are compared. With Phase Invert, you can flip any channel or group of channels 180 degrees. There's an eye-catching timing error display and you can select any channel or group of channels to be corrected with the Auto-Mode selectors, as well as manually shift the remaining channels that *were not selected* by using Applied Shift. Detected Error shows the applied time shift for channels in Auto mode.

NOISE SUPPRESSION AND EQ

Dialog Noise Suppression splits the audio spectrum into several bands, analyzes each band with a digital filter and then suppresses the noise in each band. It's a simple tool to use, with astounding results for (especially mono) dialog.

Linear Phase EQ has eight parametric filters, two high-shelving filters and two low-shelving filters. It offers linear and logarithmic displays and markers that let you transfer frequency information among CEDAR processes. Precision EQ offers the same parametric control with total automation but is more suited to brickwall filtering and tweezing constant tones.

FORENSIC SYSTEMS

The Forensic Systems include single-channel and cross-channel filters and a time-align module for fixing the azimuth problems often found in recordings of this type. Single-channel filters identify the rate of change of components within the overall signal to separate speech from background noise. Cross-channel filters compare the signal of a reference track to the target (noisy track). They attempt to determine the elements of the reference content so that the elements that do not match the reference in the target track may be discarded. This gobbles up a lot of processing power and is best to limit the internal sample rate to 8 kHz. Here, again, the time-align module comes into play because the reference signal and the target signal must be time-aligned for optimum performance.

The single-channel lattice filter is similar in operation to the single-channel filter, but its powerful algorithm is capable of extracting more fricatives and consonants buried in broadband noise and adapts more quickly to new tones invading and disappearing from the signal. There are two outputs—the predicted signal and the filtered signal—that can be mixed with the original audio for the final result. There's also a cross-channel lattice filter. Once you have set up reference and parameters, you can process eight tracks at once. This is a great way to work on long-going investigations with large volumes of content.

KUDOS AND A FEW SUGGESTIONS

While I hesitate to propose any additions to an already overwhelmingly complete and excellent set of tools, I would like to be able to label meters. I'd also like to have a manual de-click and I wish Retouch were available for Cambridge. CEDAR has already implemented my most fervent request: disk-to-disk processing (and the file processor is a free upgrade!). With V. 2, the company has also added a limiter, a compressor, and an upward and downward expander.

My only other wish is that I had the entire system back at my studio, JamSync. It's money well-spent for a system that offers the best quality in a set of tools used daily by pro audio engineers. Yes, it's a bit on the expensive side, with prices starting at \$15,000, but it's worth it.

CEDAR Audio U.S., 207/828-0024, www.cedar-audio.com. ■

K.K. Proffitt is co-owner of JamSync in Nashville.

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World Radio History

SPL GainStation 1 Mic Preamp

Combined Tube and Solid-State Unit With Sky-High Gain

To call the SPL GainStation 1 a preamp may be a bit misleading, as this compact, single-channel unit includes *two* preamps—one solid-state and the other featuring a Sovtek 12AX7 LPS tube—chained in series with a dual-mode analog limiter and a DI input. The \$1,199 retail unit I tested with an optional 24-bit A/D converter (\$130) and Lundahl mic input transformer (\$159), which together raise the list price to \$1,488.

Rubber feet and large front panel handles accommodate the unit's tabletop placement. Other options—each costing \$69—include the GainBag (which can store the preamp, a mic and cable) and a three-rackspace frame that can mount up to four GainStation 1s.

CONNECTIONS

All I/Os are on the rear panel. The XLR mic input connector can also accept balanced line signals up to +17 dBu. A ¼-inch phone jack accepts either high-impedance instrument or unbalanced line input. (I wish this jack was located on the front panel for more convenient DI access.) The input impedance for DI applications is more than 1 megohm. Redundant analog outs—one ¼-inch TRS jack (providing plug-and-play operation for both balanced and unbalanced connections) and one XLR connector—are wired in parallel before the optional A/D.

With the Model 2376 24-bit A/D option installed, the rear panel sports optical and coaxial S/PDIF outputs. The A/D's dynamic range is 106 dB. In lieu of providing a word clock input jack, the A/D option adds a coaxial S/PDIF input for sync to external digital clock. However, the provided sync-lock status LED is inconveniently located on the unit's rear panel.

Other A/D-related features include sampling rate selector switches (which select any nominal rate between 44.1 and 96 kHz) and a mono TRS jack labeled "AD In 2." The latter can accept an analog input signal (+12dBu maximum level) and route it to the right channel of the optional A/D, in which case, the GainStation 1's processed mic input signal goes to only the left S/PDIF channel and not to both

channels. One application is to use the GainStation 1's analog output(s) to feed an external processor and the AD In 2 jack as an insert receive jack for the processed signal.

ON THE FACE

On the front panel, a continuously variable rotary gain control provides from 10 to 63 dB of solid-state, Class-A gain (17 to 70 dB with the Lundahl transformer option). Another rotary gain control (this one detented) provides an additional 1 to 26 dB of tube preamp gain. This gain stage is in series with, and downstream of, the solid-state preamp, but can be bypassed by a relay. A switchable, passive highpass filter, fixed at 50 Hz, filters the solid-state preamp section with a 12dB/octave slope. Other front panel switches include mic/hi-Z input selector, polarity reversal, mic input impedance selector (with alternate 200/1.2k/10k-ohm settings), 48V phantom power (providing a whopping 14ma maximum current) and three-way limiter mode selector (with alternate Peak, +FET and "off" settings).

The Peak position activates a peak limiter that saturates the signal. When the tube preamp stage is active and the +FET position is selected, a compressor-like FET limiting stage is added before the peak limiter. The limiter's threshold is fixed at +20 dBu, and there are no controls for adjusting time constants or ratio. A Limit LED increases in brightness in proportion to the amount of gain reduction. A detented rotary output level control provides as much as 26dB attenuation or up to +6 dB additional gain after the limiter and before the unit's analog outputs and optional A/D.

The GainStation 1's metering comprises a four-segment LED meter and clip LED for the solid-state preamp stage only and an overload indicator for the optional A/D.

IN THE STUDIO

Recording acoustic guitar using only the GainStation 1's solid-state preamp and a DPA 4011 mic, the track sounded gorgeous.



(The GainStation 1's tube preamp and limiter were bypassed for this test.) Highs were sparkly and detailed, mids smooth and open and the bottom end tight. On male lead vocals recorded with a Lawson L251 tube mic, the GainStation 1 sounded wonderfully rich and sweet. Here, I used more tube preamp gain than solid-state.

On electric guitar—played through a Roland Micro Cube amp and miked with a Royer R-122—the GainStation 1 sounded at once warm, present and chunky. The peak and FET limiter modes sounded good, but the limiter's threshold was a bit too high for my liking. I routinely had to apply excessive preamp gain and then attenuate the post-limiter output to trigger dynamics processing yet keep the A/D from clipping.

Recording electric bass via the GainStation 1's hi-Z input and using the unit's peak limiter, the sound was bursting with growly overtones. Boasting a big bottom end and beautifully defined pitch, the track sounded huge.

FINAL IMPRESSION

The GainStation 1's solid-state and tube preamps sound very different from one another, empowering the user to sculpt a variety of hybrid tones. Combine that with the unit's insane amount of gain (more than 100 dB with the optional Lundahl transformer installed) and generous allotment of bells and whistles, and you've got a winner!

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MBHO MBP 604 N Microphone

Flexible, Compact and Clean Studio Condenser

MBHO may not yet be a household name in the audio industry, but the company has been building capsules and complete microphones for other manufacturers since 1962. A stark contrast from the inexpensive offshore microphones flooding the studio market during the past few years, MBHO mics are manufactured in Germany, almost completely by hand.

THE FACTS

The MBP 604 N is a descendant of MBHO's MBP 603. The MBP 604 N may be used with a variety of capsules from the MBHO line (purchased separately), including the KA 100 LK (linear omni), KA 300 NB (wide cardioid), KA 800 A (figure-8) and KA 1000 N (large-diaphragm cardioid). I reviewed a matched pair of MBP 604 Ns (available at no extra charge) fitted with KA 200 N cardioid capsules.

The MBP 604 N features transformerless output, compact design (only three inches long) and operates on phantom power ranging from 24 to 48 volts DC. Frequency response with the KA 200 N is stated as 40 to 20k Hz. Preamp and capsule housings are constructed from solid brass and are nicely finished in matte black. Capsules screw smoothly to the preamp tube, and once secured, appear to be made from one piece.

TOP PERFORMER

In the studio, the MBP 604 N and KA 200 N proved to be excellent, versatile performers. First up were drums, with the MBP 604 Ns used as overheads on a jazz session. The mics were set approximately six feet above the center of the kick drum—eight inches apart—and patched into a pair of Focusrite ISA 110s. The MBHOs effortlessly delivered the entire frequency range of the kit and very clearly presented the location of each component without generating hot spots.

This strong stereo imaging no doubt stems from the fact that the two KA 200 N capsules were sonically indistinguishable. The mics captured the sonic detail of the drummer's brushes on the coated snare head and provided a great sense of "being there."

On other sessions, I close-miked individual components of the kit including snare (top and bottom), hi-hat and floor tom. The MBP 604 N's compact body made it unobtrusive in tight spaces. On snare top, the 604 was clean and crisp but didn't have much personality. If you're looking for the artificial "chunk" that some dynamic mics deliver when close-miking a snare, you won't find it here.

On snare bottom, the lack of color was a virtue: You could practically count the snares as they rattled. On floor tom, moving the MBP 604 N within about two inches of the head produced a subtle distortion that was present, regardless of the mic preamp in use or its settings. Apparently, this distortion was due to the floor tom approaching the mic's 130dB SPL limitation. Backing the mic off to a distance of around four inches eliminated the distortion. (MBHO offers the 9DZ 40 inline pad to reduce sensitivity by 10 dB.)

Close-miked hi-hat was well-defined without the high-frequency "spit" often produced by lesser microphones. Leakage from the remainder of the kit was a bit on the high side, partly due to the reflective nature of the room and because the KA 200 N's cardioid pattern is a bit on the wide side.

GUITAR AND VOCALS

For an acoustic guitar overdub, I used the MBHOs in a near-coincident pair and the results were gorgeous: The mics provided a shimmery attack, tight lower mids and reproduced a solid image of the room sound. Switching to a single mic placed a few inches from the neck/body joint, the MBP 604 N was a touch on the lean side, pleasantly emphasizing the pick against the strings. In other applications in which the guitar was played softly, the mic's self-noise was inaudible. Miking a 2x12 guitar amp yielded a clear, bright "jangle" without harshness, provided that the MBP 604 N's SPL capabilities were respected.

I was favorably surprised by the sound of the MBP 604 N on a male lead vocal. The mic sounded much more like a large-diaphragm condenser than its diminutive size suggests. Its subtle proximity effect emphasized the chesty-ness of the vocalist



while still allowing breath and air to come through. The vocal easily sat on top of the mix with immediacy, yet no sibilance. Within ± 45 degrees, response was very consistent, with perhaps a touch more fullness in the low mids at 0 degrees. Past 45 degrees, off-axis, there was a slight loss of high frequencies, and as the source moved toward 90 degrees off-axis, response became dull and the bottom end began to droop.

WINNING RESULTS


The MBP 604 N is a welcome addition to MBHO's excellent line of condenser microphones. Combined with the KA 200 N capsule, the mic offers clean reproduction, quiet operation and tremendous flexibility in studio applications. Any studio seeking to expand its mic locker to include a great all-around performer would be wise to audition the MBP 604 N and KA 200 N.

Prices: MBP 604 N (including case and clamp), \$699; and KA 200 N cardioid capsule, \$369.


MBHO (www.mbho.de), dist. in the U.S. by Music Trade Center, 718/963-2777. ■

In addition to contributing to Mix, Steve La Cerra is the tour manager and front-of-house engineer for Blue Öyster Cult.


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NTI's Acoustilyzer is a remarkably powerful acoustic measurement tool in the company's handheld "Lyzer" package. Not only is it a stand-alone unit, but current MiniLyzer owners can "cross-grade" their firmware so that MiniLyzer or Acoustilyzer software can run on their existing MiniLyzer hardware.

Using the included test signal CD or other signal source, the AL1 performs FFT or true RTA (octave or third-octave) spectrum analysis with enough resolution to get a basic sense of, for example, a room's curve to see if it's bass-deficient or has a midrange spike.

When greater detail is required, the Zoom FFT function narrows the bandwidth to as fine as 0.7 Hz. Input filters include FLAT, A-weighted, C-weighted, X-CRV and HP400. To facilitate the documentation process, the included MiniLINK USB interface software allows PC remote control and the ability to download displayed images and data.

Add your mic of choice (external phantom required) or use the optional \$349 MiniSPL microphone (self-powered by a single AA battery), and the AL1 measures SPL, RT60 and delay, as well as long-term level (measured and logged), THD+N, level and frequency. The STI-PA Speech Intelligibility option is \$798 and includes a test signal CD.

FINDING REVERB TIME

My first outing with the AL1 was testing RT60, which is particularly helpful in finding resonance. "RT" refers to reverberation time; specifically, the time required for a 60dB decrease of the initial SPL measured in five 1-octave bands from 125 Hz to 4 kHz. The test signal comprises pink noise bursts at intervals of one, two, five and 10 seconds (on and off) to accommodate various room sizes—from closet to auditorium. The goal is to get all five octaves to decay at a similar rate. To achieve this, it might require acoustic treatment (minimum) or physical alterations (maximum).

Measuring RT60 is very simple. The AL1 is first calibrated to the ambient noise level. This part can make you a little nuts if you are waiting for a plane to pass over, or for a fridge or air conditioner to complete

a cycle. Pink noise is then applied at 85dB SPL. The AL1 is "armed," and when muted, the data collection process begins.

Once armed, I left the room to minimize false data. The AL1 tells you when the data is not valid. Individual tests can be viewed and deleted if flawed, increasing the accuracy of the averaged data. Each band's decay time is displayed and can be stored locally (including a text data file) or transferred to a computer. Remember, images require more memory than data. I measured my control room and performance space and each were pretty well-balanced: Short times for the former and longer times for the latter.

ZOOMING IN

As mentioned, NTI has significantly enhanced the spectral capabilities by adding the Zoom FFT feature. For example, when analyzing the response of a pair of speakers in a space, it is necessary to first precisely center the microphone. This can only be done on an analyzer with sufficient resolution—which is now possible with Zoom FFT—allowing the user to see the effect of comb filtering.

The outcome of this test should result in precise centering of the speakers, ensuring that the sound from each arrives at the monitoring position at the same time. Choosing remote-control operation (via USB) rather than pushing buttons that might disturb the AL1's position further enhances the accuracy of the procedure.

The best example of this test was performed at MasterMix Studios (Minneapolis). KRK mains were mounted in the control room wall. Once the monitors' center was found, I switched to each of the alternate near-field monitors—Genelec, ProAc and Yamahas—re-centering them to be in line with the mains. This was a piece of cake for the AL1, eliminating the need for rooster-like "head shifting" when trying to relocate the center.

Taking delay time measurements requires playing a signal from the CD into the AL1. Then, while that same signal is played through the system, the user can measure and store delay times from multiple listening points.



CAN YOU HEAR ME NOW?

Intelligibility is becoming an increasingly important issue. Consider the typically high levels of background noise in public spaces combined with an aging population that is gradually losing its hearing capabilities. Improving P.A. systems and their environments is a dirty job, but someone has to do it.

With the test signal originating in my living room, I went into other rooms for the test. STI-PA scrutinizes six frequency bands—compared to the RT60's five bands—with the presence region from 4 kHz to 8 kHz playing an essential role in my ability to discern the more delicate aspects of speech. The AL1 tells the user how much trouble it had trying to discern the test signal. All in all, my rooms were remarkably passable.

DOES IT PASS THE TEST?

The Acoustilyzer's strength is in its high power-to-size ratio. It may not be as powerful as some software packages, but it is less cumbersome than a laptop and assorted accessories (mic, preamp, converter). And at \$904 for the basic AL1, it's affordable. With a little explanation, you'll be able to show customers that their room problem is not in their heads but is actually measurable.

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Recording the Band—A Geek's Take

Audio From the Inside Out

Last fall, I began teaching audio at a local technical college. Unlike typical sessions—where time is money—we have more opportunities to document audio experiments, some of which have already trickled into “Tech’s Files,” with more to come.

INVERSE AUDIO

I hope after reading this article that you will be inspired to record a rhythm section without processing, then burn an unprocessed rough mix to CD (with optional rip to MP3) and let me know how things play out. Understand that I am not “against” signal processing, I simply want to give sounds a chance to be heard—outside the studio, *au naturel*.

When analog tape was the only option, it put its stamp on everything, like it or not. Digital has made the microphone choice infinitely more critical and that’s the emphasis here—to re-evaluate your mic collection, your recording space and, uh, your ability to communicate with musicians and get them to listen as critically as you are. If something isn’t working, then follow your intuition and fix it well before the mix—before the first note is captured.

My motivation is part reactive: When given projects to evaluate, I find that many of the same tricks have been applied, especially to drums, and I wonder why everyone is working so hard. When a track isn’t working, we often solo that channel to evaluate and tweak it. If that track is a kick drum and it gets EQ’d and compressed, then it pretty much necessitates that the other drum tracks are similarly processed to compete. That’s fine when it works, but it becomes a sonic sand trap when it doesn’t. After checking out these tips, all I ask is that you try processing after the fact.

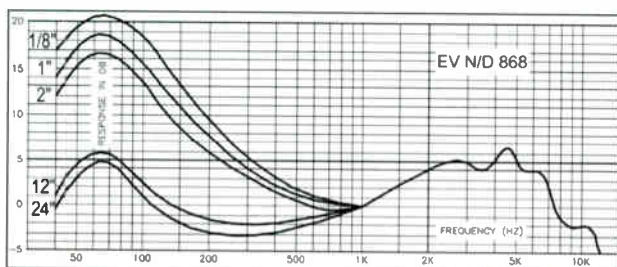


Fig. 2: The proximity curves of the Electro-Voice N/D 868 kick drum mic detail how the mic’s low-frequency output changes with distance.

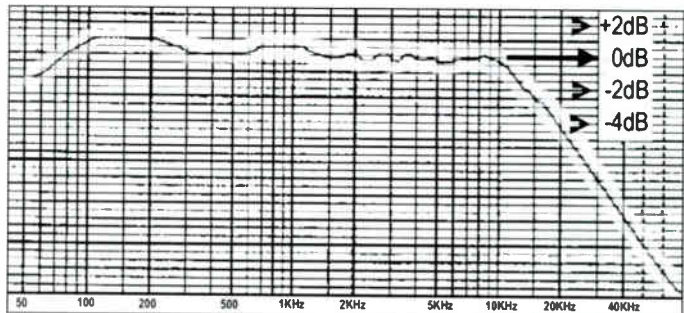


Fig. 1: If “digital treble” is bugging you, then try a less-aggressive mic. The response of the Coles 4038 ribbon mic does not hype top end, and in fact, gently rolls off above 10 kHz. The “original” Sennheiser e609 is also worth checking out.

CREATING SONIC REAL ESTATE

While everyone else is boosting 80 Hz on their main kick drum mic, I pay close attention to proximity effect, with bass roll-off as my *modus operandi*. The more directional mics used on a session, the more potential muck (and less clarity) there will be in the bottom. I like to make room for the bass guitar and, at the opposite end of the spectrum, clear out the area that is often cluttered by electric guitar artifacts that can mask the more delicate localization (stereo imaging) information.

Many mic designs have been tweaked to overcome the inadequacies of age-old P.A. systems that lacked intelligibility and the “softness” of analog (tape and transformers). These characteristics were then “copied” to newer models. As a result, many dynamic mics have an upper-midrange presence peak, while condenser mics have a rising top end, neither of which are entirely necessary today, especially with the unforgiving nature of digital. This is one of the reasons for ribbon mics’ current popularity.

The Coles 4038 ribbon mic (Fig. 1) is pretty much flat to 10 kHz, after which, it rolls off at 6 dB/octave. The Sennheiser e609 has a more extended, but unhyped response. The benefit of a mic like the Coles is that it filters out some guitar amp distortion. Of course, you can always use an equalizer to roll off excess treble and bass; sometimes, that’s a psychologically difficult knob to turn. Again, the discipline of going flat forces you to seek out and try mics better-suited to the task at hand.

DISTORTION

Tweed-era guitar amps tend to add warm harmonics to the guitar note fundamental, but as EQ options were piled on and power output increased, a more egregious type of power amp distortion resulted: harmonic distortion of harmonics. I refer to this as the broken glass/edgy sound that is fine for that Wednesday night

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beer-and-play, but not—in my opinion—fun in a recording environment. My first instinct is to turn down the master volume control. Class-A preamp distortion is richer and warmer than nasty Class-A/B power amp distortion.

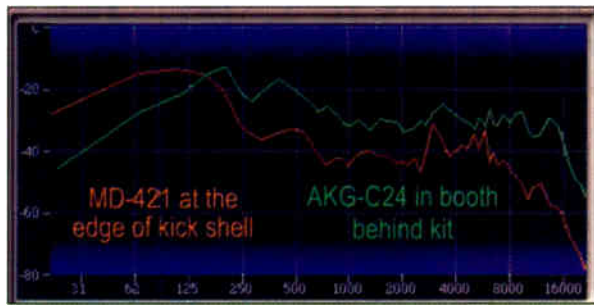


Fig. 3: Two microphones responding to kick: One is close (Sennheiser MD-421), and one is no more than five feet away (AKG C-24)

My final guitar amp tip is wacky and easy: Turn the mic around. That's right, instead of pointing the mic at the speaker, do a 180 and point the mic in the opposite direction. This way, you'll get intimate bottom from the rear of the mic and whatever reflects back from the room toward the cabinet. It's less complicated than multiple microphones and has a similar effect.

DRUMS

There are many schemes to get more low end from a bass drum, but in my opinion, monitoring may be the dominant issue. Don't believe me? Here are two pictures to prove it. Figure 2 details the response of the Electro-Voice N/D 868 "kick" mic, with the proximity curves to the left proving, in theory, that low end should not be at all elusive.

Figure 3 is a composite of two images detailing the spectral response of a Sennheiser MD-421 and an AKG C-24 as they respond to the kick drum. In orange, the MD-421 is at the kick's shell (single head), and in green, the AKG C-24 is behind the drummer. The MD-421 concurs with the Electro-Voice N/D 868's proximity curves and, even with the bass roll-off switch set mid-position, there is ample bottom. So, before twisting EQ, take advantage of this simple "power tool": the spectrum analyzer, perhaps the handiest workstation plug-in ever.

POLAR BARE

Placing multiple mics on any instrument requires that you pay close attention to polarity (*not* synonymous with phase!); otherwise, the bottom you are searching for will cancel out. Adding a distant mic(s)—assuming the delayed low-frequency waveform is in phase—also tends to make the kick seem more resonant, but at different frequencies than simply compressing the close mic (frequencies that are less obtrusive to the bass guitar, for example).

The MD-421 captured substantial energy between 62 Hz and 125 Hz, about 10 dB higher than the beater bump around 3 kHz. Meanwhile, the C-24 reveals a "bump" between 125 Hz and 250 Hz, essentially picking up where the MD-421 leaves off. The 421/C-24 combo produced a wide-band bottom that translated well on small and large monitors. Combined with the room mics, it was huge. For more info, follow the "5.1 drum" link from my homepage, www.tangible-technology.com.

OMNIVORE

For rock, I'm not a fan of two-headed kick drums, with or without the hole. (The hole often resonates and I'd rather not sacrifice

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an otherwise good sound with surgical EQ.) However, my solution is to place a large-diaphragm omni (in this case, an AKG 414) in between the rack toms on the beater side. This solves my proximity issue—eliminating the low-frequency guesswork—and delivers a cool beater sound along with a remarkably well-balanced “mix” of the kit.

Another way to get “big bottom” out of a drum kit is to find a spot in the room that supports the low end and put an omni mic there. (Directional mics can have odd-sounding off-axis response, while omni mics capture everything.) While the AKG C-24 placement is not quite what I mean in this instance, its stereo image is an obvious plus and approaches the coverage of an omni.

WHERE'S THE BEEF?

During the session that generated most of this information, all of the students were happy with the kick when mixed in with the other mics. However, when soloed, the MD-421 on kick sounded thin. Thanks to the Waves PAZ spectrum analyzer plug-in for Pro Tools, I was able to prove that the energy was there and that we simply weren't hearing it.

Low frequencies are elusive for three reasons: Our hearing is bass-shy, our monitors typically do not reproduce the full bandwidth and many control room environments often have serious acoustics-related problems in that region. If you don't believe me, then sweep a sine wave from 200 Hz down to 40 Hz and see how elusive bass can be. Then, pick a single bass tone and listen as you walk around the room. It will freak you out!

In this example, the Genelec 1031A monitors were freestanding, so they are less “wooly” than when placed on a shelf or meter bridge. One of these “boundaries” would have increased the bass response by roughly 3 dB (add 3 dB for each additional boundary), the very reason why many self-powered monitors provide compensation via rear panel bass roll-off and tilt adjustments. (Genelec's optimization guide is online, in case you've misplaced yours.) I actually prefer the extra bottom because my monitoring levels are lower than typical.

The road to sonic bliss is filled with obstacles. I hope you find my tips useful as you leap over them, rather than get detoured on the road to nowhere. ■

Eddie would like to thank Colt Leeb and Matthew Koehne at www.ipsrchool.com for providing the screen captures, and James Edlund at Electro-Voice for the custom proximity curves.

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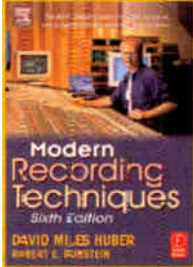
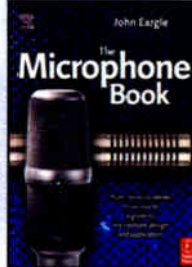

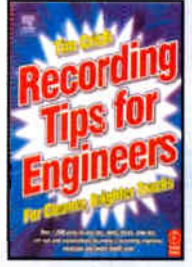
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PHOTO: TRACY GOUDGE

Giddy Gourds, from L to R: Max Johnston, Jimmy Smith, Keith Langford, Kevin Russell and Claude de Bernard

The Gourds Dare to be Weird

By Blair Jackson

It's difficult to describe the music of Austin-based indie heroes The Gourds. "Alt-country" doesn't quite do it justice. On the group's Website (www.thegourds.com), they take a stab at it: "In a saucepan of slow roasts, they have conjured tempos, tangos, waltzes, zydeco, old-timey, two-step, low-grooved, long-winded, short-tailed, tiny, phat stompin' gizmos of tunes tripped out of lonely, solid teeth and wet green earth." They have the rustic, backwoods charm of The Band but more *Texas*, and with a devilishly absurdist streak that recalls folks like Lowell George, Captain Beefheart and precious few others. They are eclectic *in*

extremis, but they lean toward the country side more often than not. Their albums are rough-hewn—at times sloppy, but rising occasionally to magnificent heights. "This is first and foremost music of joy," the Website proclaims, and that's true.

So it's not at all surprising that when I reach group co-founder, co-leader, co-everything Kevin Russell by phone at a noisy soul food restaurant in Seattle while the group is on tour, he punctuates nearly every answer with a burst of laughter, he interrupts himself to ask the other bandmembers for info and he's appropriately worried about the waitress messing up his order.

These boys—there are five of 'em—are clearly having a good ol' time.

The Gourds' latest album, *Blood of the Ram* (Eleven Thirty), is another indescribable slice of strangeness:

weird story-songs, portraits and vignettes about this, that and the other, in musical settings loaded with gi-tars, fiddles, mandolins and cracking percussion. Russell sounds almost surprised that anyone would even ask about how The Gourds make their records.

"The first three albums [beginning with their wonderful 1997 CD, *Dem's Good Beeble*] were done with ADATs in a house out on a ranch in central Texas, so they have a sort of quasi-suspect fidelity to them," Russell says with a chuckle, "but we were interested in doing a mobile thing cheaply and that was the way to go. The performances and the *feel* of the thing was more important to us. Still is. Then the next two we recorded in studios in various analog and Pro Tools situations, and they have a certain sound to them, too. Unfortunately, we're always on fixed budgets, and in studios, the clock was always running, so we were always trying to cram in recording and mixing in two weeks, which isn't easy, even for a band like us. On our last record [*Cow Fish Fowl or Pig*], we ended up paying the engineer by playing at his wedding!" (Cue laughter.)

For *Blood of the Ram*, recording was spread out over several months, a comparative luxury. "What happened was, I got a Yamaha AW16G 16-track hard disk recorder, for demos mainly, and I set that up at my friend Ramsey Midwood's house, which is Richmond Ditch studio. We had a bunch of cheap condenser mics, like a Behringer and an MXL Oktavas: knockoffs and reverse-engineering things," he says with a laugh. "Then, Jimmy [Smith, co-leader, multi-instrumentalist,

—CONTINUED ON PAGE 134



Sonny Landreth: Captured Live At Last

By Jeff Forlenza

Performing live, Sonny Landreth is a bolt of Louisiana lightning, feeding off the crowd's energy and radiating high-octane *bon temps* blues. Landreth strums, slaps, hammers and shakes his guitar to produce fearful shards and sublime textures. A deft picker (à la Chet Atkins) and an incredibly soulful slide player (in the Robert Johnson style), Landreth has taken Delta blues to new dimensions. Deeply influenced by his bayou homeland, he communicates spirit and passion through his playing, which combines grit and finesse. It's no wonder Landreth's guitar-gumbo *gris gris* often causes guitarists in the audience to just laugh in amazement.

After five studio albums as a leader and numerous sessions as a sideman, it was time to capture Landreth where he is most at home—onstage. His latest CD, *Grant Street* (Sugar Hill Records), documents the blazing guitarist and soulful songwriter with his crack rhythm section of drummer Kenneth Blevins and bassist Dave Ranson on a hot night at the Grant Street dancehall in Lafayette, La. Multiple Grammy-winning engineer Tony Daigle handled all tracking duties on the CD. Daigle's Pro Tools-based Electric Comoland Studios (named after former Beausoleil guitarist Tommy Comeaux, who was killed in a bicycling accident in 1997) is down the road from Grant Street. Landreth tracked and

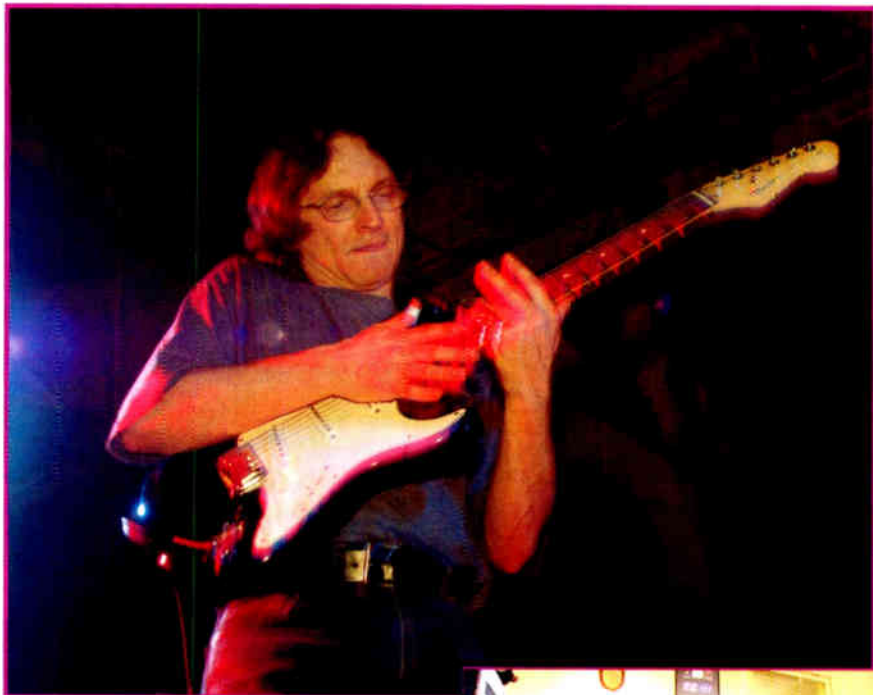


PHOTO: PHIL HOLLENBECK

Hot Louisiana Band when the venue opened, and Daigle has performed there (as a guitarist and percussionist) numerous times and recorded countless acts from Grant Street's stage.

Though Daigle generally relies on the Pro Tools TDM systems at Electric Comoland to capture Landreth's live gig, he rented two Otari RADAR 24 digital recording systems (with Nyquist A/D converters) because of their robust reliability. Daigle is especially proud of his collection of custom Brent Averill, PreSonus and vintage Neve preamp modules, many of which he brought to Grant Street for the live recording project.

"We just carted our gear down to Grant Street and set up in a back room. Any microphone you put up in front of Sonny's amps is gonna sound fine," Daigle says, only half-jokingly.

A master of open and alternate guitar tunings, Landreth travels with just two guitars: a Gibson Les Paul and a Fender Stratocaster. Landreth's guitar tech, Jason Swallow, handles guitar care and tunings while Landreth is engaging the crowd. The axe-wielder plays



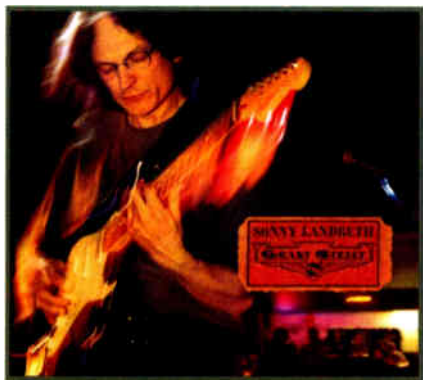
PHOTO: TRAVIS CALDWELL

Tony Daigle, mixing it up

through two amplifiers—a Matchless Chieftain and a Dumble Overdrive Special—each one feeding a Fender cabinet with 2x12 speaker cones.

Daigle tracked Landreth's guitar with a combination of five inputs: a Sennheiser 421 six inches from the top speaker and a Royer 121A ribbon microphone six inches from the bottom speaker of the cabinet driven by the Matchless amp. For the cabinet being fed by the Dumble amp, he used the 121A 12 inches from the top speaker and a Neumann KM84 48 inches from the bottom speaker. Daigle

—CONTINUED ON PAGE 134



mixed his previous Sugar Hill album, *The Road We're On*, there.

Landreth and Daigle both have long histories at Grant Street: Landreth first played there as a member of Clifton Chenier's Red

Stroke 9: Reclaiming Their D.I.Y. Spirit

By Blair Jackson

Two years ago, it really looked like the San Francisco band Stroke 9 was going to take off. Their long road began, incredibly enough, in a Rock Band class at Marin Academy in 1990, survived a few years of bandmembers convening mainly on holiday breaks from college, and then thrived after they honed their chops living together in a small cabin in rural Sonoma County, then moved to San Francisco and hit the club circuit there with their smart, energetic pop/rock. Along the way, they put out a couple of records on their own (including a cheapo, D.I.Y. ADAT affair) and were eventually snapped up by Universal Records on the strength of a showcase gig at the Fillmore in San Francisco and a demo tape they'd recorded at Fantasy Studios in Berkeley. Their second Universal album, the 2002 release, *Rip It Off*, was magnificent from first song to last and seemed like a sure-fire hit—it combined the catchy, melodic spirit of a group like Jimmy Eat World with the crunch and gloss of, say, Good Charlotte. With production and mixing assistance from the likes of Jerry Harrison, David Kahne, Butch Walker and Tom Lord-Alge, the album had some heavy-hitters in support roles. The CD did okay; it just wasn't *huge*, as many had expected, and not long afterward, Stroke 9 was back on the indie circuit again.



Left: guitarist John McDermott working at home. Above, from left: Stroke 9's Eric Stock, McDermott and Luke Esterkyn.

actually really exciting and a lot of fun."

The group's latest album, *All In*, released on their own Records, Man! imprint, shows that McDermott, charismatic singer/guitarist Luke Esterkyn and drummer Eric Stock didn't miss a step after their commercial disappointment and appear to have learned quite a bit from the experience about how to make a good-sounding album. (The trio is now rounded out by bassist Jens Funke.) Judging by the reception the group's new songs received at a gig I saw at the lovely Fox Theater in Redwood City (where they opened for Cake), Stroke 9 is still on the right track, even without major-label support.

"Pretty much how we did this album," McDermott says, "is we did all the basic recording at my house in the Presidio [a tree-studded former Army base adjacent to the Golden Gate Bridge in San Francisco]. We do everything in Pro Tools; I don't even have a console. We have a couple of Digi 001s, and we have a nice-sounding Universal Audio mic pre and a couple of good microphones—we used Audio-Technica 4050s for almost everything. Luke and I did all the songwriting and recording of guitars, bass and vocals at my house. We used the Line 6 Pod for everything; there are no amp'd guitars. We'd put down scratch vocals, but sometimes the scratch vocals would become the real vocals.

"We used Reason to create loops and create some drum ideas, and then when we got the songs arranged and to the structure we wanted, we sent it down to our drummer, Eric,

who lives in L.A. In fact, we'd e-mail a stereo track to him and then he'd cut the drums in his studio using Digital Performer, and he'd e-mail it back to us. Then we'd put on any finishing touches—little bits of percussion or whatever. We experimented and tried a lot of different sounds and messed around. We didn't restrict ourselves by predetermining that we wanted it to sound a certain way.

"We brought it all to Karl Derfler to mix and he really saved our asses," McDermott says with a laugh. "He mixed it at Bayview Studios [Richmond, Calif.] on a Trident A Range [console] and did a fantastic job. He doesn't think things have to sound polished or be a certain way. He likes something that's unique-sounding, and he'll always look for the most positive thing in a song and make it sound even more exciting. But he'll also take an acoustic guitar that maybe doesn't sound pristine and add some cool effects. He really knows how to use plug-ins, and Bayview also has a lot of nice old [outboard] gear. Karl came in and made everything sound so much better."

Chastened but not defeated by Stroke 9's big-label experience, McDermott sounds as upbeat as one of the group's brightest pop tunes: "We've built a pretty good following over the years, and we're still having a good time and are making good music. So now we've gone completely indie—we manage ourselves, we book ourselves, we tour-manage ourselves because we figure we *can*. In fact, we're pretty good at it. And now, if things get messed up, we have no one to blame but ourselves!" ■



"At that point, a lot of bands get discouraged and they can't suck it up and go back to doing it on their own," comments Stroke 9 guitarist John McDermott, "but we did. We weren't going to chuck it. We went back to recording on our own and cheaply, which was

The Nick Luca Trio: A Little Night Music

By Blair Jackson

Little Town, the remarkably moody and evocative first album by the Tucson-based Nick Luca Trio, evolved over a period of months during which Luca was working as an engineer by day and cutting tracks late at night after the recording studio's clients had packed up and gone home. "The nocturnal vibe of *Little Town* comes directly from working late nights, as you inevitably do in a studio," the singer/songwriter/multi-instrumentalist says. "I'd be walking home at two in the morning through downtown Tucson, which is a much different city than it is during the day, with different characters and a different feeling, and the songs I was writing started to take on the sort of late-night thoughts that pass through your mind."

At the time he was recording *Little Town*, Luca had just formed his trio with drummer Jim Kober and bassist Chris Giambelluca, but he'd been part of the Tucson music scene for some time and had worked with such local indie notables as Giant Sand and Calexico. He managed to coax Howe Gelb from the former group, and Joey Burns and John Convertino from the latter to add some instrumental color to *Little Town*. And it was Luca's association with those groups that helped him land his



From left: Jim Kober (drums), Nick Luca and Chris Giambelluca (bass)

ter, Mass., "which had a great little studio, with just a 4-track reel-to-reel and an Aries modular synth, which I've since taken from them because they were going to throw it away," he says. "I found it in the trash when I went back to visit. When I was at Clark, it seemed like no one ever used the studio, so I said, 'I'll use it!' and they gave me a key. They had a Tascam board that needed some work, so I got some soldering chops from that. I was pretty much self-taught."

When he wasn't in the studio, Luca was studying jazz guitar, music theory and composition and playing in various groups in the area. It was the University of Arizona's master's program in theory and composition that brought Luca to the Southwest in the early '90s; he liked it so much, he never left. "Everyone else was zipping off to New York and L.A. and San Francisco after college, and I decided, 'I like this town. I think I'll hole up here.' Tucson is a cool little place. There are lots of live music venues and tons of bands here, including a lot of really *good* bands that are doing pretty well."

In college, Luca always had access to studios on campus, but once he was out on his own, it was a different story. "Then I ran into Craig Schumacher, who owns Wavelab [Studio]. He had a 2-inch MCI 16-track and a Soundcraft Spirit board, both of which he still has, though the 16-track has been expanded to a 24-track. *Little Town* was recorded on the 16-track, 15 ips; I wanted that real warm, rich tone." Luca was hired on to work at the



At the racks in Wavelab Studio

studio and he quickly established himself as a capable engineer, and later as a producer, working with the wide variety of music clients who come to Wavelab. During downtime and after hours, he'd work on his own music. Schumacher got into the act, too: He mixed *Little Town*.

Making the album, Luca availed himself of the studio's selection of outboard gear, its four very different Hammond organs and perfected a method of drum miking that leans heavily on overheads (Royer stereo ribbons) and a room mic (BLUE Cactus) to give his music the ambience he likes. While professing to be mainly an analog guy who likes cutting live with a group and then overdubbing—"It's best for our loosey-goosey, weirdo, vibe-y music"—Luca has started mixing some tracks to digital media. "It was inevitable," he says with laugh.

At press time, there was no release date for the Trio's next album, titled *You Win Again*. Luca promises that it will "sound more like the way we are now, but still have some of the feeling that people like about *Little Town*." There's no hurry. *Little Town* still has some life in it, and Luca still has his gig at the studio. ■



first record deal with Loose Records, a British label that released the album in 2003. A year later, it was picked up in America by Portland, Ore.-based Panther Fact Records, with three bonus tracks included. "Actually, we've developed quite a lot since we made that album," Luca states. "Playing so much in clubs, we decided we had to kick it up a notch and play some rock 'n' roll, too."

A musician from an early age, Luca is a New England native who got his start in recording by making tapes at home, and then more seriously at Clark University in Worces-

Jolie Holland: Young Talent, Old Soul

By Breccan Lingle

That you can't gauge the limits of Jolie Holland's talent or the perimeters of her personality is part of her charm. She has more than a few stories to tell after having lived on the road as part of a troupe of artist-types and traveling across the country. And at only 29, she's an old-souled songstress and multi-instrumentalist with a penchant for homespun, organic sound—full of nuance and influenced by Americana, blues, jazz and country.

However world-wise, Holland is new to the studio. After years of busking and gigging at bars and restaurants, it was a set of lo-fi demos recorded at home, *Catalpa*—produced by Seth Augustus and edited/mastered by Chris Arnold, and released and promoted in grassroots style as an "art project" in 2003—that led to her current record deal with Epitaph/Anti. For her sophomore effort, *Escondida* (2004), the challenge was to keep the organic and spontaneous feel that is such a part of Holland's music while reaping the sonic benefits of recording in a conventional studio. The album was cut at In the Pocket Studios in rustic Forestville,



PHOTO: CHRIS TORRES

John-Paul McLean (background) and Jolie Holland at work at In the Pocket Studios

guitarist Brian Miller to Pro Tools |MIX|Plus 5.01. Besides singing, Holland also plays piano, ukulele, fiddle and guitar, among others. Says DeGeorge, "We started off at In the Pocket wanting to do things as live as possible, with everyone in the same room. But Dave couldn't really hit [the drums] the way he normally did, so we put him in a separate room. Within a matter of a day or two, Jolie went from live and spontaneous to everyone in a separate place and being very [tuned] to the studio technique."

As for the room setup, DeGeorge notes, "For most of her vocals, we used a Neumann U47 long-body chrome top; for some we used a Neumann FET U47 and a Manley Variable Mu for the limiter going through the mic pre's on the Neve [8068]. There were Neumann M49s for overheads on the drums that have a great, great sound to them. There was also an AKG D-112 for the kick, a FET U47 on the back side and AKG 414s on the toms. For the guitars, both acoustic and electric, we used Royer 122s for near-miking, and we had a U47 as a room mic, as well." DeGeorge confirms that the studio's Neve console "is a beautiful board and that's definitely responsible for the sound." Reverb was added sparingly to Holland's vocals, which were recorded in a bunkhouse-turned-reverb chamber on the studio's property.

Of her handmates' sound, Holland says, "We all have a very strong emphasis on spe-

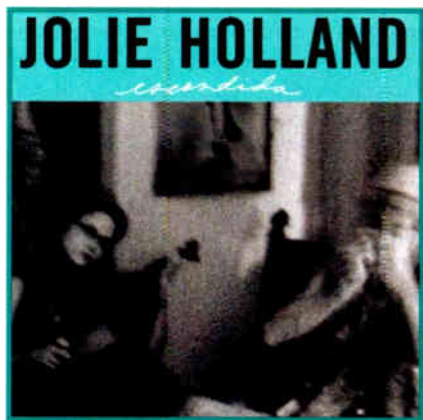
cific tones. We think really minutely about the little pieces of sound. And I'm really glad that I can work with people who are so sensitive. I've always been obsessed with tone and different possibilities with tone."

Holland's taste for specific tones created a temporary obstacle during one of the tracking sessions: Two of the piano-based songs, which she had written at home on an old piano, called for a "dark" sound. DeGeorge recounts with a laugh that, "[In the Pocket] had a very nice baby grand piano [Baldwin], but even though you usually want to hear a nice, bright piano, she didn't want to hear that at all. So we threw sleeping bags and packing blankets [over the piano], and we rolled off everything

above 4k on the Neve. So we basically made a very nice-sounding piano sound like an old funky upright."

Despite its quality gear, it turns out that In the Pocket's location and creative vibe (previously enjoyed by notable talents such as Tom Waits, drummer Stewart Copeland and Warren Haynes) did much to inspire Holland and her band. "It's a really peaceful studio," she says. "It does have this Zen-like atmosphere. I think that kind of emptiness and stillness is where a lot of the songs are coming from, so the atmosphere was really conducive."

Even though this was Holland's first venture into the studio, she was deeply involved in the production process. "I really like to hear more life in a recording," she comments. "For *Escondida*, I really wanted to get a living, thinking sort of a sound on there. I've thought before that *Catalpa* is a good picture on a brown paper bag and *Escondida* is on fancy watercolor paper from Germany. You don't want to screw it up." ■



Calif., which is an hour or so north of San Francisco, with resident engineers Jonathon Chi and John-Paul McLean and co-producer/engineer/musician Lemon DeGeorge. DeGeorge, who has worked with Holland in his studio for the past three years, acted as a "translator" of sorts.

During the 10-day tracking and mixing session, Chi, McLean and DeGeorge recorded Holland, drummer Dave Mihaly and

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The Gourds

FROM PAGE 128

etc.] has an Otari 4-track reel-to-reel that he recorded his basics on at his house—drums, guitars and vocals for his songs. And then we had to figure out a way to dump the stuff from his Otari to my Yamaha. Once we realized that we were going to be able to do that, we were *on*, and then we did it sort of piecemeal over time—whenever we could get someone over to the house, we'd do some overdubs."

What made them think they could engineer their own album? "We sort of believed what many engineers and friends had told us over the years: Just stick a mic in front of it and record it! [Laughter.] We tried to make it sound as good as we could. We didn't exactly know what we were doing, I guess." Well, I won't tell Phil Ramone, I comment. "Please don't!" Russell chortles.

When it came time to mix, however, the band wisely turned to a pro: Mark Hallman, whose Congress House Studio is located in a house on two acres in south Austin [see feature, p. 56]. The studio is splendidly equipped with an automated Amek console, lots of Neve and other preamps, a wonderful selection of old and new mics—stuff that's too good for the likes of The Gourds.

(Just kidding.) "We didn't really know how it all sounded until we got to Mark's place," Russell says. "I'd make a little .WAV file on my [Yamaha] machine and then he would dump it into Pro Tools and mix it [in Pro Tools]. I think he also did some additional stuff [through the console] when we weren't around—we had to go on the road right around that time. So he'd put his mixes on a Website and then we'd download it on the road, which was neat. We'd go to an Internet café so we could listen to the mixes he was doing. Mark seemed pretty confident he could polish the turd." Yes, he was laughing when he said that, too. ■

Sonny Landreth

FROM PAGE 129

also used a Countryman DI feed through an Apogee Trak 2 A/D converter on Landreth's guitar.

Recording Landreth's vocal with a Shure Beta 57 proved to be more difficult. "Sonny has a very sensitive voice and he plays loud guitar. It's very difficult to capture both accurately," Daigle explains. "I was getting more guitar than vocals in the vocal mic!" The solution was to blend it with room mics: "I think

we got our best vocal sound ever," he says.

Daigle used his own five-mic technique for capturing the audience: "I use two AKG 414s at each wing of the stage, facing the audience on 6-foot-high mic stands. I use another single mono microphone centerstage on a 1-foot microphone stand facing the audience. I also hung two Electro-Voice RE-15s about mid-room."

After using the RADAR system for recording, Daigle took the .WAV files back to Electric Comoland and mixed in Pro Tools. Co-producers Bobby Field, Landreth and Daigle listened back through Genelec 1030 near-field monitors.

"This was a tricky mix," Daigle explains. "I had actually spent quite a few days on the mix and we all thought it sounded good. Then I discovered a different method of phasing the room mics to make the room feel more three-dimensional. So I had to go back to the previous mixes and reset the room mics on all of the songs we thought were done. It just made it sound more like Grant Street."

"There's something about that moment you step onstage and you tap into the energy of the crowd and everything just goes up to another level," Landreth comments. "I wouldn't be able to play like that if I were sitting on my couch." ■

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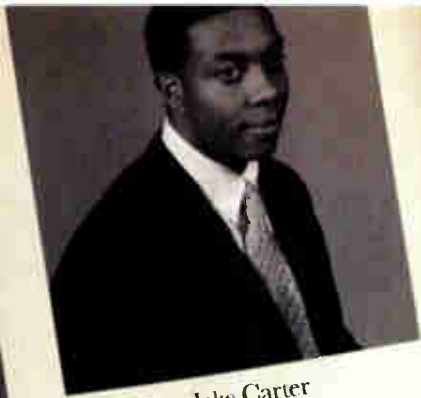
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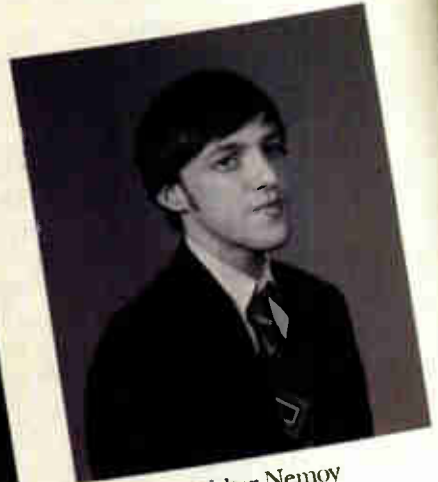
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WALL OF VOODOO'S "MEXICAN RADIO"

By Blair Jackson

You have to love a band that comes up with an image like this one: "I wish I was in Tijuana/Eating barbecued iguana." That was just one of the many odd delights found on the Los Angeles band Wall of Voodoo's quirky, infectious hit from the winter of 1982 to '83, "Mexican Radio." Actually, calling it a "hit" is slightly misleading—it only made it to Number 58 on the *Billboard* singles chart. But that was an astonishing feat for such an idiosyncratic outfit, and the fact is, if you listened to hip FM radio at the time—any station that played punk or new wave—the song was inescapable. In those nascent days of MTV, too, the bizarre, arty video for "Mexican Radio" was in heavy rotation for weeks. It's no surprise, then, that the song has also appeared on some two-dozen compilation albums through the years. Admit it—you've only been reading for one paragraph and the chorus of "Mexican Radio" is already stuck in your head!

The group's founder and leader, Stan Ridgway, "had bounced around quite a bit as a musician before Wall of Voodoo," he says. "When I got out of high school, I wanted to join Miles Davis' band and replace [guitarist] John McLaughlin. Obviously, that didn't happen. But I did some jazz things and I also played in a Top 40 band. Then, I ended up in an office across from this rehearsal hall, which became The Masque [the seminal L.A. punk club] trying to do soundtracks. I met [WVO guitarist] Marc Moreland at The Masque—he was playing in a band called The Skulls, and Chas [Gray, WOV keyboardist/bassist] was also in that band. They were a three-chord punk band, but what Marc was playing really intrigued me; I couldn't quite figure it out. We found that we had a lot of things in common: We both really enjoyed Brain Eno, and Kraftwerk was a big band for us at the time. So it was fairly natural for us to get together and play music.

"We were very fired up about the idea of doing something different," Ridgway continues. "Back then, our whole idea was to make music that no one's ever heard before. The cliché licks of the time would come up and we would excise them, until finally there wasn't anything left where you could hear



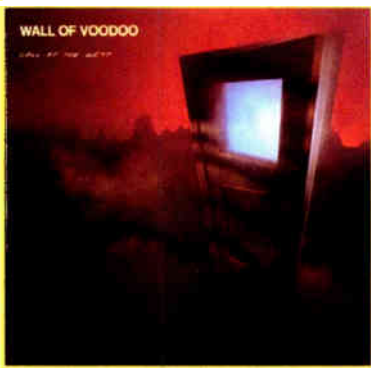
Inspired and twisted are (L-R): Joe Nanini, Stan Ridgway, Chas Gray and Marc Moreland

obvious influences. We were pretty tenacious about getting rid of figures that sounded like anything else."

Initially, Ridgway and Moreland operated as Acme Soundtracks, turning out moody instrumental music using an assortment of synthesizers, guitars and rhythm machines. "I was the recordist," Ridgway says. "I started out recording as a kid with this great 2-track Sony TC630. It had a ping-pong dial where you'd take what is on track 1 and mix it onto track 2 while you recorded on track 2. Then you'd take track 2 and move it over to 1. So in overdubbing, you'd get this natural compression from the tracks building up. All of the early Wall of Voodoo demos were done on that TC630."

Wall of Voodoo was formed by the duo in 1977 with the addition of guitarist Moreland's brother Bruce, who played synthesizers. Live, Ridgway played Farfisa organ with a crude rhythm machine on top. The name of the group derived, in part, from Phil Spector's Wall of Sound—not bad for a band that was trying to play, as Ridgway termed it, "Top 40 avant-garde." Two years later, the band added Gray and drummer/percussionist Joe Nanini. Ridgway has said that he became the lead singer by default, but the unusual and often surreal lyric imagery was his, so it made sense for him to be the front man. Actually, Ridgway didn't sing so much as intone over the burbling synths and at times unusual rhythms.

WVO recorded the demos for its eponymous debut EP on the TC630, "and then we went into the Wilder Brothers studio on Santa Monica Boulevard in Westwood and spent a lot of time trying to re-create what was on the demos," Ridgway says. "It was very frustrating." The combination of the EP and a live performance opening for The Cramps at The Whisky in L.A. was all it took to convince IRS Records chief Miles Copeland to sign the band. IRS helped distribute



the EP and then paid for the recording of the group's first full-length album, *Dark Continent*, in 1981 at A&M Studios. (IRS was an A&M Records imprint.) While not earning the group much airplay, the album was critically well-received and, coupled with their dynamic live shows, increased the group's profile as they approached their second album, *Call of the West*, which would contain "Mexican Radio." In the meantime, Bruce Moreland departed the band, leaving the group a quartet.

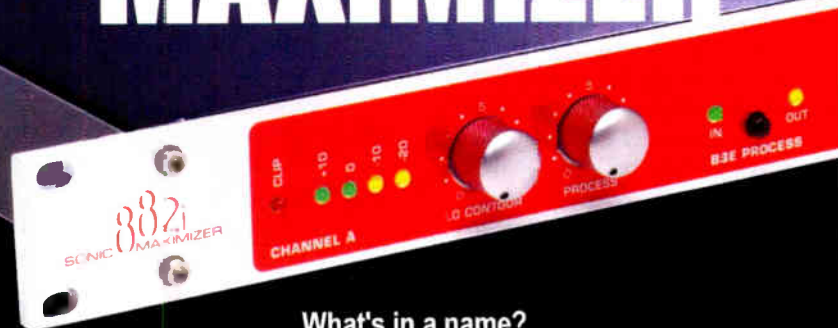
For *Call of the West*, Copeland enlisted the services of a British musician and fledgling producer named Richard Mazda to helm the WOV sessions. Copeland had liked what Mazda did producing The Fleshtones in New York, so he brought him out to L.A. to meet with Wall of Voodoo. "That meeting actually became a recording session," Mazda says. "That's when I did 'Mexican Radio,' which I did back-to-back with 'Suburban Lawns.' My memory is that it was like a 48-hour session; I imagine I went back to the Tropicana [hotel] at some point during that period, but I don't recall."

In the memory of both Ridgway and engineer Jess Sutcliffe—who was also brought over from England and had worked with Mazda on projects by The Fall, Birthday Party and a couple of other groups—the recording team actually first heard the group in a pre-production rehearsal, but then immediately went into the studio to cut "Mexican Radio." "It was a weekend session," Ridgway relates. "So much of the construction of the song took place in the studio."

The germ of the song came from Marc Moreland, Ridgway says. "Marc and I used to go to rehearsal in my '67 Mustang and we were really fed up with Los Angeles radio. We were very cynical and we thought it was much better to tune into these Mexican radio stations that would waft in across the border—of course, now the stations are all over Los Angeles. Anyway, when we'd come across one of these stations playing mariachi music, we'd get all excited—'Great, man, I'm on a Mexican radio!' I didn't think a thing about it until one day, Marc came in with this little one-minute [demo tape] sketch of that great guitar lick and him singing, 'I'm on a Mexican radio,' kind of mumbling it. I thought, 'Wow, that is just inspired and twisted,' and immediately some of the other lyrics came to mind and where to take it, although it was still a puzzle."

The session for "Mexican Radio" (and all of *Call of the West*) took place at Hit City West in L.A., "a funky studio I think the band had selected mainly for budget reasons," engineer Sutcliffe offers. "They had a Soundcraft con-

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COOL SPINS

The Mix Staff Members Pick Their Current Favorites

BOURBON PRINCESS

Dark of Days
(Accurate/Hi-N-Dry)

The unfortunate band name, Bourbon

Princess, brings to mind some boozy rock 'n' roll chick, but actually, the music of this Boston-based band comes from a very different space.

Deep-voiced lead singer/songwriter/bassist Monique Ortiz has written a set of dark, moody tunes that are somewhat reminiscent in spirit to The Doors, Patti Smith and Nico-era Velvet Underground, as well as the Boston band Morphine, whose drummer, Jerome Deupree, plays skins in Bourbon Princess. Sax player Russ Gershon also brings some of that Morphine vibe, while guitarist Jim Moran lays down haunting lines that snake around the extremely prominent bass parts supplied by Ortiz. At times jazzy, other times more rockin' and hypnotic, Bourbon Princess has made an album that is both unique and uncompromising.

Producer: Bourbon Princess. Engineer: Paul Q. Kolderie
—Blair Jackson



STAN RIDGWAY

Snakebite: Blacktop Ballads & Fugitive Songs
(RedFly)

This is the best solo album yet from the one-time leader of Wall of Voodoo. (See "Classic Tracks.") Yes, there's still some electronic weirdness here and there, and a tune or two that shows the powerful influence that Sergio Leone still exerts on Stan Ridgway, but by and large, this is a rootsy, mostly acoustic affair, with Ridgway demonstrating considerable chops on a variety of blues- and folk-based tunes. Petra Wexton contributes a wide range of keyboard textures to great effect. As the title implies, these are mostly story-songs—evocative pictures of various unusual characters on the run and/or following a dream. And Ridgway is right in there with them, facing "The Big 5-0" on one track and layin' out "Talkin' Wall of Voodoo Blues, Pt. 1," a whirlwind account of WOV's history. A real find!

Producer: Stan Ridgway. Engineer: Baboo God and Ridgway. Studio: Impala (Venice, CA). Mastering: Doug Schwartz/Mulholland Music.

—Blair Jackson



JESSE COOK

Live In Montreal
(Narada Music)

Recorded live in July 2004 during Le Festival International de Jazz

de Montreal, Canadian rumba flamenco guitarist Jesse Cook's *Live In Montreal* reveals him to be a talented and charismatic performer. Playing songs from his previous five albums, Cook is in his element, riffing off of the crowd and supporting band (drummer Paul Antonio, percussionist Art Avalos, bassist Collin Barrett, violinist/vocalist Chris Church, guitarist Nicolas Hernandez and guests).

Despite a few gratuitous solos, *Live In Montreal* shines with Cook's virtuosity and segues from haunting (channeling Dead Can Dance and Peter Gabriel's score *Passion*) to energetic and sexy (à la Gypsy Kings). The only questionable choice on Cook's part is the closing song—Crowded House's early '90s hit (sung by The Rembrandts' Danny Wilde), "Fall At Your Feet." Though the instrumentation lends a certain spice, its pop sentimentality prematurely breaks the mood of an otherwise beautiful world music release.

Recorded at the Métropolis Theater, Montreal, by Live Wire.
—Breean Lingle



STEVE HANCOFF

The Single Petal of a Rose: Duke Ellington for Solo Guitar, Vol. 2
(Out of Time)

Fifteen years ago, the brilliant acoustic guitar stylings of Steve Hancoff would have rightfully found a home with the Windham Hill crowd: Ackerman, deGrassi, Hedges. He's that original, that good. His latest takes him to familiar territory, a second CD of Duke Ellington pieces performed on solo guitar. Now, this is not an easy proposition: Ellington's arrangements were often quite intricate, his rhythms complex. Yet Hancoff fearlessly tackles the Duke with both imagination and gusto. Whether he's mixing rhythmic thumping with silky lead lines or bright chording with bell-like harmonics, Hancoff keeps the music interesting and swinging. The repertoire is largely unfamiliar to me, spanning the 1920s up to the early '70s, but Hancoff's entertaining and enlightening liner notes taught me lots.

Producer and engineer: Steve Hancoff. Mastering: Richard Roeder/Roeder Studios.

—Blair Jackson



C.C. ADCOCK

Lafayette Marquis
(Yep Rock Records)

C.C. Adcock revisits some of his most trying artistic times in *Lafayette Marquis*, his second record. More than 10 years ago, the talented guitarist from Louisiana was signed by Island Records A&R exec-turned-mentor Denny Cordell to record a debut CD, which was released to acclaim. After Cordell's death, Adcock's career stalled. He formed new bands, and collaborated and compiled material for an eventual follow-up record, which remained incomplete until now.

With *Lafayette Marquis*, Adcock has released a collection of strutting, beat-driven, danceable songs full of tension and release—part rock, part roots. The Jack Nitzsche-produced effort combines electronic beats, accordions, guitar solos and plenty of percussion, as unfettered and sultry as one of the Southern nights Adcock lives to carouse in.

Recorded in various locations; see www.mixonline.com for details. Producer: Jack Nitzsche. Engineers: David Rachou, Jeff Treffinger, Mark Linnet. Mastering: Brent Lambert.

—Breean Lingle



ALO

Fly Between Falls
(Lagmusic Records)

I just finished listening to San Francisco Bay Area band

ALO's (Animal Liberation Orchestra) fourth D.I.Y. disc and I'm hungry. "Welcome to your barbecue," keyboardist/vocalist Zach Gill sings on the lead track, "Barbeque," which bounces with funk-influenced keys, jazzy guitar licks and ample grooves. The hooky live favorite actually refers to unfulfilled dreams—a spiritual barbecue—but gets the juices flowing nonetheless. Later on, the quartet teams with artist/surfer Jack Johnson for the soulful "Girl, I Wanna Lay You Down," with its tasty line: "You're smooth and creamy, like peanut butter." Tracks such as "Shapeshifter" draw on a bit of psychedelia with their extended jams, but overall, the group understates the improv, keeping most songs under five minutes and focusing on solid pop songcraft and excellent musicianship. And now, lunchtime!

Producers: ALO, Scott Theakston. Engineers: Theakston, Dave Simon Baker. Studios: Laughing Tiger, Ex'pression. Mastering: George Borden.

—Heather Johnson



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L.A. GRAPEVINE

by Maureen Droney

'Twas the week before Christmas and everybody was winding down—except for The 88, that is, who were hard at work in The Village's Studio D. The five-piece L.A.-based pop/rock outfit looked surprisingly fresh considering that the previous night they'd been *Jimmy Kimmel Live's* musical guests, and that several bandmembers had also pulled an early morning gig with their alter ego, children's group Gwendolyn &

for *The OC*, *Dawson's Creek* and *JAG*. They have a song—alongside Jet and the Dandy Warhols—on the hit Warner Bros. CD *Music From the OC* soundtrack, are championed by taste-making L.A. radio station KCRW and were voted Best Band in Los Angeles by the *L.A. Alternative Press*. All of that should be enough to swell some heads, but instead, The 88 remain a rather shy bunch.

PHOTO: MAUREEN DRONEY



The 88, serendipitously in front of the Village's Neve 88R. From L to R (standing): producer/engineer Ethan Allen, keyboardist Adam Merrin and drummer Mark Vasapoli, (seated) bassist Carlos Torres, singer/songwriter Keith Slettedahl and guitarist/percussionist Brandon Jay

The Goodtime Gang, before heading to The Village for tracking.

For an "unsigned" band, The 88 (www.the88.net) has amassed a stellar roster of accomplishments. Their first CD, *Kind of Light*, was a Record of the Week pick by *Radio and Records*, *Tower Records.com* and *Virgin Mega* magazine, with cuts airing on Fuel TV and MTV2, and U. They're also music supervisor darlings, with songs in *Get Shorty 2: Be Cool* and *Surviving Christmas*, as well as on soundtracks

"This band works hard," understates producer/engineer Ethan Allen (Gram Rabbit, Tricky, Luscious Jackson), who's hooked up with The 88 for their sophomore effort. "I don't think we've done a recording date where there hasn't been some other gig on the same day. Our recording schedule's difficult, but they organize it very well."

Allen calls the project a blend of "high- and lowbrow recording." Much of it was

—CONTINUED ON PAGE 146

NASHVILLE SKYLINE

by Rick Clark

I was at a crazy East Nashville art gallery party last Halloween, taking in the collective nuttiness when a buddy of mine (and fine singer/songwriter), Warren Pash, came over and began raving about this new studio that was opening called Sixteen Ton. Not a guy to loosely bandy about praise, Pash described the studio like it was some fantastical creation for those who yearned for a place that embodied the spirit of those legendary studios where great music was captured through consoles with big knobs and meters and the warm glow of tubes was everywhere. While Pash continued visualizing how it would be this incredible place to cut great rock 'n' roll, I became very intrigued.

I asked a few other seasoned session folks around town about their knowledge of this place and no one had heard of it. Just when I was about to chalk up Pash's enthusiasm to some pumpkin-induced hallucination, I bumped into someone who told me that engineer/producer Chad Brown was beginning work on Cerys (pronounced Karas) Matthews' second solo album at Sixteen Ton and, before the night was over, I was in the art deco-ish control room looking at a gorgeous console unlike any other I've seen in Nashville—or anywhere else, for that matter.

Sixteen Ton, the brainchild of Danny White and his father, Bill White, is clearly a very personal labor of love. Danny White, who once owned a studio in Phoenix called Formula One, put in his share of years as road warrior bassist for Roger Clyne & The Peacemakers before deciding to move closer to home to be with his family and get off the gig grind. "I left the band and jumped into this project," he says. "It was a dream of my dad, who was a singer, and I to do this studio, and he, as well as the rest of my family, helped to get this done, whether it was demolition, painting, drywalling, framework—whatever was required. My father and mother did all the tile work in the control room, fireplaces and restroom," says White.

NEW YORK METRO

by David Weiss

The attention to detail and quality is clearly evident throughout Sixteen Ton. You get a feeling that everything mattered in the realization of this dream. Then I found out that this very personalized environment also had a heartbreaking tragedy toward the end of its completion.

"My dad and I were very close during this project, and a week before we had our open house in September, he passed away suddenly and didn't get to see it done," says White. "So I guess this whole thing has taken on another dimension entirely for me and has made me work harder than ever to provide a great place to work and to make it successful. That's about as good an answer as I can give about why I did it and why I am still doing it. It certainly isn't to become rich or famous. My dad loved great songs and great-sounding recordings, and so this is a part of his legacy as far as I am concerned.

"We could have put the studio in a lot of other areas around town, but we wanted to be on the Row," White

—CONTINUED ON PAGE 148

Keeping track of New York City's quality live rooms is easier than it used to be. Not because of the amazing search power of the Internet, but because the economic oddities of the current music industry are shrinking the number. However, there are studios today within the five boroughs that thrive as tracking rooms—especially valuable spaces for recording drums, pianos, singers and other live instruments that unarguably sound better when they start life far away from the box.

In a business already chock-full of eccentric characters, New York City tracking room owners seem to occupy

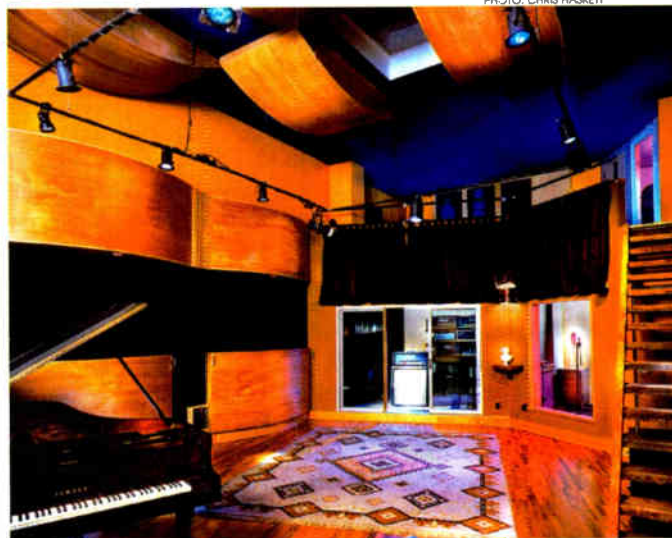


PHOTO: CHRIS HASKETT

The live room at Loho studios

their own strange space. Nowhere is this more evident than at Loho Studios (www.lohostudios.com), where co-owner/brothers Victor and Eddie Luke are nuts about getting great live sounds. "A tracking room is one of the biggest elements missing in recording today," says Eddie Luke. "That makes us different: We understand the physics of sound moving through air to get that sound. Most importantly, Loho is just a room, the gear is just the gear, but it's the people at Loho and any other studio that make it happen for the artist."

With a recent clients including Ryan Adams, Moby (see "Mix Interview," page 90) and Gary Lucas, however, it's clear that Loho is not "just a room." The focal point is the striking live space inspired by RCA's famed studios: a 1,000-square-foot space with 20-foot ceilings, a skylight and warm, lively sonic characteristics that no reverb plug-in can beat. "The live room is the closest we could come to replicating RCA's Studio A," Eddie Luke confirms. "We wanted to go back to the days of acoustic big rooms. Sound needs to travel from a source through some air to get any color or personality, and that's what we try to achieve with the high ceiling and long-

—CONTINUED ON PAGE 150

At Sixteen Ton, you get (from L to R:) Kevin Teel, Cerys Matthews, Chad Brown and Danny White (behind the console)



PHOTO: BUCK CLARY

DELTA RECORDING SERVICE CLARKSDALE STUDIO TAKES MUSIC AND RECORDING RAW

They say that Delta blues was born in Clarksdale, Miss., a town where "all of the original conditions that created the blues still exist, unmovable," according to songwriter, producer and Squirrel Nut Zippers founder James "Jimbo" Mathus. A love of that time-warped atmosphere partially inspired Mathus to open Delta Recording Service (www.jamesmathus.com), located in the former WROX-AM 1420 broadcast studio. "A lot of musicians want to check out [the city] and go to juke joints," says Mathus. "It just makes sense that while they're here, they'll cut some stuff. My studio is real old school—no comping to Pro Tools, nothing. It's an extension of Clarksdale."

The year-old facility's small but opulent equipment list includes RCA 44 (with original ribbon) and 77 ribbon mics, among others, as well as four channels of 1950s Telefunken preamps "with brand-new, old-stock Telefunken tubes," which run directly into three Alesis ADAT xt20s, using a Mackie 24x4x2 for monitoring. "We get the crunch on the front end," says chief engineer Will Dawson. "We're set up to run fast all the time. People here aren't looking to come in for three months. These are real, raw, juke-joint boogie people."

A few of those blues meisters include Cedric Burnside, the Jelly Roll Allstars (featuring some of Muddy Waters' old backing band), and, in a different genre, Elvis Costello, who recorded "Monkey to Man," from his



Engineer Will Dawson (left) and Jimbo Mathus

latest album, *Delivery Man*, at the studio.

Mathus also recorded his new album, *Knockdown South*, at DRS, and did so just like most clients—quick, raw and live. "I balance off the mic; if an amp's too loud, we just face it the other way," he says. "We get a lot of room sound naturally. We leave all the amps and mics on all the time; we can walk in and be recording in 20 minutes."

BO JONES KNOWS SUGARHILL



From L to R: Guitarist/vocalist Christopher Messina, twin brother/drummer Louis Messina, piano player Nick Greer and engineer Leigh Crain

Houston-based rock trio Bo Jones (www.bojones.net) shacked up at that city's SugarHill Recording Studios to finish their full-length debut, which was tracked and mixed by SugarHill's junior engineer, Leigh Crain. Crain recorded the 10-song album to 2-inch analog in Studio B, and later transferred tracks Pro Tools for editing and mixing. Guitarist Nick Greer notes how their sound has matured since recording their three-song demo in October 2003. "This time, we laid down two to three guitars using Marshall amps and tried out different miking techniques. We also used the ebow a lot more, and included a string and organ section."

JOHNNY TECH GETS BUSY WITH NEW X BUS

Johnny Tech, who has produced and/or engineered albums for Ice-T, Macy Gray and Nelly, among others, has launched a new production company with partner/friend Lamont Brumfield (aka Big Broom), New Kingz Productions, a division of his Hood 4 Life Records (<http://hood4life.com>).



The new enterprise already boasts a growing roster of up-and-coming hip hop acts, including Macadoshis, NME and the rap group C-Dott. To better accommodate their needs (and his increasingly busy schedule), Tech purchased a Mackie Digital X Bus 200 digital production console for his Los Angeles-based studio. "I use the Digital X Bus to record audio and its Mackie Control Universal layer to control Pro Tools for mixing," he says.

Tech incorporated four 4-channel mic/line I/O cards into his Digital X Bus, as well as three AES/EBU I/O cards to run 24 channels to and from his Pro Tools system.

INDIE SPOTLIGHT

PIPES BROTHERS CO-PRODUCE DEATHERAGE



From L to R: Todd Pipes, Toby Pipes and Damien Mendis (seated), and Todd Deatherage and pianist Carter Albrecht (standing).

UK producer Damien Mendis (Gorillaz, Electric Six, Atomic Kitten) traveled to Dallas to work with artist-turned-producers Todd and Toby Pipes (Deep Blue Something) at Bass Propulsion Laboratories. The trio collaborated on a project for roots-pop singer/songwriter Todd Deatherage, to be released on UK label Lizard King.

IT'S MIDNIGHT ELEVEN AT PILOT RECORDING



From L to R: Midnight Eleven guitarist Zonder Kennedy, drummer Joe Bonadio, Will Schillinger, co-producer Danny Kortchmar, vocalist/harmonica player Mark Grandfield

East Coast blues-rock combo Midnight Eleven stopped by Will Schillinger's Pilot Recording in New York City to record their D.I.Y. debut, produced by Schillinger and Danny Kortchmar. The combo worked out of the recently upgraded Studio A, which now includes a 60-channel Neve VR with Flying Faders, ADAM monitors, Samsung plasma displays and new outboard items from Manley, Pultec and Avalon.

NORTHWEST

Lloyd Maines visited Studio 880 (Oakland) to produce tracks for S.F. band The Waybacks with engineer Bruce Kaphan. Blackalicious buried themselves in Studio C to compile their upcoming release; George Clinton dropped in to lay down a vocal. MTV2 interviewed and shot (with video camera) 880 residents Zion I for the "Dew Circuit Breakout"...Congrats to SF Soundworks (San Francisco) for scoring its first *Billboard* Number 2 with Rod Stewart's "Do Ya Think I'm Sexy" remix, co-produced by Count and studio owner/engineer Tony Espinoza. Other recent visitors include Ice Cube with Lil Jon, Why?, Oranger, Rogue Wave and I Am Spoonbender...Nettleingham Audio (Vancouver, WA) engineer Kevin Nettleingham mastered an Oingo Boingo tribute with Clear Static, The Stereo, The Matches and Zebrahead, the Rocky Raccoons, Reel Big Fish and more. Bands Reid Mansell Overdrive and Whore also stopped in to master new albums.

NORTHEAST

Indre Studios (Philadelphia) hosted live radio broadcasts for Jet, Switchfoot, Muse, Taking Back Sunday, Three Days Grace, Ludacris, Nas, Howie Day and The Calling, all recorded by Michael Comstock...Electronic band Mynuskris recorded and mixed tracks for their new Powerhouse Records CD at HarariVille (Weehawken, N.J.) with Jeff Phurrough at the Neve VR-60. Vocal group ZAZ mixed songs for their new disc of pop classics and jazz standards with Rob Harari, who later tracked songs for alt-rock band Eva...Studio 8121 East (Washington, D.C.), owned by Three Keys Music, is now a public facility. Recent clients include Mr. Cheeks, Alyson Williams, the And 1 All-Stars, producers Sol Messiah and 88 Fingaz...Producer/engineer Kevin Shirley dropped by Avatar's (NYC) Studio A to record with Supagroup, as did producer Jerry Harrison, who teamed with engineer Eric "ET" Thorngren for O.A.R.'s latest; jazz great John Scofield was in with producer Steve Jordan and engineer Joe Ferla. Engineer Rich Costey mixed My Chemical Romance tracks in Studio B, and producer/engineer Ben Schigel mixed Windup Records' *Breaking Point* in Avatar's new Studio G...Pilot Recording (NYC) received a visit from Liverpool band The Mags, produced by Danny Kortchmar and Will Schillinger. Producers John Leventhal and Rick Depofi and mix engineer Roger Moutenot mixed the debut for Maverick/Warner Bros. act *The Wreckers*, featuring Michelle Branch and Jessica Harp...The Walker Recordings Jazz studio (NYC), owned by producer/engineer/musician George Walker Petit, has seen a steady stream of business as of late, with acts such as Chris Bergson, Allison Miller, Dave Allen and Matt Shulman all completing new albums in recent months...Sound on Sound (NYC) remains busy as ever, with Shyne (Def Jam) recording vocals with Bobby Springsteen and Bojan Dugic;



Dubway Studios (NYC) now includes a lounge, office and two studios, "dubbed" the Blue Room and the Green Room. Both are designed for overdubs, sound design and video editing, and offer Genelec monitors, Pro Tools, Final Cut Pro, Dangerous 2 Bus and more. Celebrating the renovations are (L to R) studio co-owner Mike Crehore, manager Steven Alvarado and co-owner Al Haughton.

and Tom Spahn and Rene Antelmann tracked a "Hooked on Phonics" segment. Also spotted: The Game (Interscope) mixing with Buckwild and Carlisle Young; Kenji (EMI/Toshiba) mixing with engineer Steven Stanley; and Klark Kent and Isaiah Abolin were editing and recording vocals for the RocLaFamilia Mix Tape (Roc-A-Fella)...The Cutting Room (NYC) says to keep an eye on Fight of Your Life, a promising indie rock band who mixed their demo there with engineer Paul Logus. Chris Griffin produced songs for new artist Katie Neil with Joe Nardone at the board, and DJ Kay Slay returned to work on projects with The Game, Cassidy, Papoose, Money Mark and Cannibus.

MIDWEST

Singer/songwriter Sarah Notley mastered her latest CD, *Broken Down Angel*, with Greg Reiersen at Rare Form Mastering (Minneapolis). Other recent projects include final master preparation for Yohany's new release and Victoria Acosta's new single, "The World's Gone Crazy."

SOUTHWEST

Maximedia Studios (Dallas) hosted tracking sessions for MercyMe with producer Brown Banister, Vanilla Ice with engineer Hal Fitzgerald and Nicole Nordeman with producer Jay Joyce...Mastering engineer Bob Boyd installed a TC Electronic Mastering 6000 in his room at Ambient Digital (Houston), which he promptly used with Our Lady Peace frontman, Raine Maida, who produced the band Sleepaway.

SOUTHEAST

JamSync (Nashville) has completed audio enhancement and authoring of Row-Loff Productions' *Shazam!* instructional DVD of percussion solos. Co-owners K.K. Proffitt and Joel Silverman took care of engineering and DVD authoring duties, respectively...Cheap Trick finished tracking and mixing a new project with engineer Jim "Pinky" Beeman at Big3 Studios (St. Petersburg, FL). ■

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recorded in his personal studio; in The Village's capacious Studio D (which had just been vacated by Trent Reznor and Nine Inch Nails), the band was enjoying the ability to spread out and record live. "It's great to be able to play with isolation booths and different places to put stuff," Allen remarks. "Brandon [Jay] plays acoustic guitar that goes through an amp, Adam [Merrin] is playing the acoustic grand piano and they were able to get their own spaces. We're also using the echo chamber room, leaving its door open to let the drums leak in."

While The 88 is influenced by some of history's coolest bands [The Kinks, The Beatles, The Band], their sound is their own. Songs are melodic and full of hooks, with expertly offbeat arrangements and playing by pianist Merrin, bassist Carlos Torres, drummer Mark Vasapoli and acoustic guitarist/percussionist Jay. Ultimately, however, it's singer Keith Slettedahl's stream-of-consciousness lyrics that draw you in.

"Keith will usually have an idea for a song," explains Merrin. "Sometimes, it's a complete idea with lyrics and a melody; other times, it's unfinished or needs a little help with the arrangement. Brandon is very good with that part, and during the making

PHOTO: MAJISEEN DROKEY



At Westbeach, from left: studio manager/engineer Seth Hum and producer/engineer Dave Dominguez, who was in working with Project Spiral for Platinum Artist Records

to say, and they have great common instincts that support the songs' ideas without stepping on them.

"It's inspiring to work with a band with such unflinching commitment to their music. I ask a lot from them. They respond and reach beyond their normal limits, and I feel compelled to do the same, which is really the way it should be!"

Westbeach Recorders isn't West, and it isn't

Sublime, Blink-182, Wayne Kramer, Bad Religion, NOFX and Reel Big Fish, among many others. In 2005, Westbeach celebrates its 20th year in business, although not all of those years were at the same location. Founded in 1985 by guitarist/Epitaph Records owner Brett Gurewitz and John Girdler, the facility's original location was in Venice—much further west, and much closer to the beach. In 1987, Girdler left the business, Cameron came onboard and the company moved to its first Hollywood location. In 1991, it moved again to its present location, a one-room facility originally built in the early '60s and through the years, owned by, among others, producer Mike Curb and a manager of Liberace. It was also formerly the site of the Producer's Workshop, where, among many well-known projects and live-to-2-track sessions, in 1979 a portion of Pink Floyd's *The Wall* sessions were recorded.

Since Westbeach took over, the 38x23-foot live room has been carefully restored to its classic '60s style and sound. "When we moved in, the floor was carpet and the ceiling's acoustic tiles had been painted," recalls Cameron. "We pulled up the rug, then researched and found replacements for the original floor tile. But then, because they'd changed the surface of the original ceiling by painting it, there was flutter echo. We had to hunt for the original type of random-holed acoustic ceiling tile, which we finally found up in Washington."

In keeping with the room's original era, Cameron has amassed a large collection of vintage gear, including a '60s Gretsch drum kit, a B3 organ with Leslie, a Mastering Room dual spring reverb, an EMT 240 gold foil reverb, various ribbon and tube mics, and—from Electrovox Studios—curved wooden baffles and hand-built tube mic

PHOTO: JETH MILLS



The 88 hang backstage with Bob (cat) Goldthwait (in red hat) after Jimmy Kimmel Live

of this record, Ethan also contributed many great [arrangement] ideas. He's also been very helpful in making some of our ideas complete. He's a perfect fit for this band."

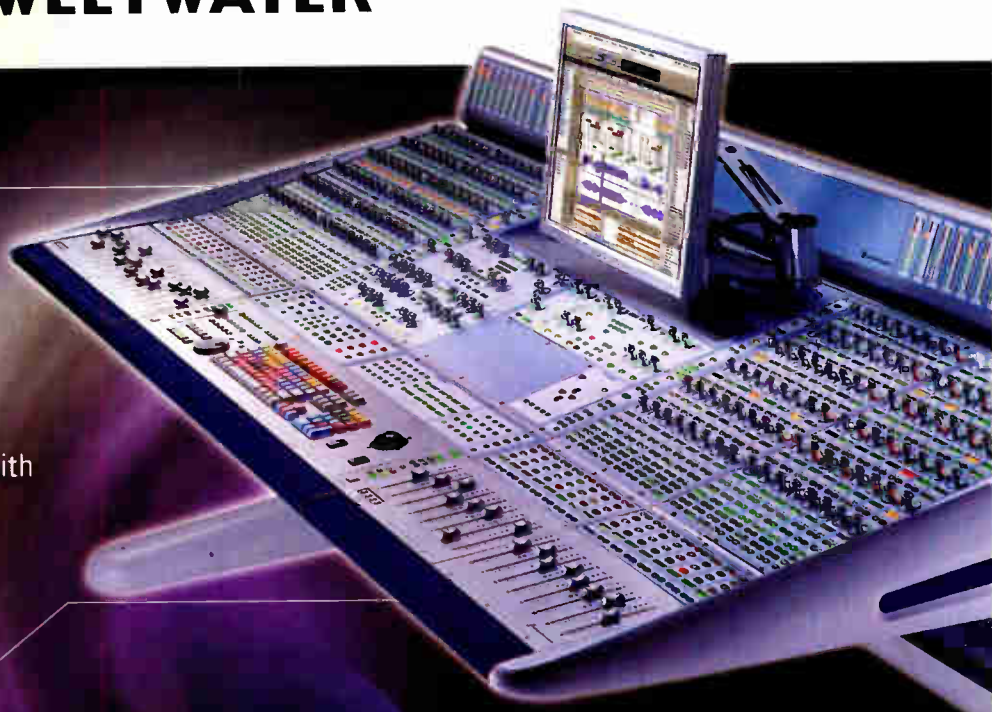
"To me, the identifying, central part of this band is the writing," comments Allen. "It's about songs. That seems ridiculous to state, but so much music isn't really solid songwriting. With The 88, the music is pop and familiar, but there's always something just a bit twisted. There's a very definite character that comes from telling stories. It's not a band that jams. They have something

Beach either, but it is a uniquely cool place to record. Although its official address is on busy Hollywood Boulevard, it's actually tucked away behind other storefronts and feels very private. The first thing you encounter after walking through the gate is an enclosed patio, complete with a barbecue. Inside, CD jewel-box wall art reveals the studio's history: recordings by such notables as Bad Religion, Offspring, Rancid, Mazzy Star and Sublime.

The facility is currently owned by engineer/producer Donnell Cameron, whose own long roster of credits includes

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World Radio History

pre's, circa 1930. There's much more: a large complement of good compressor/limiters and effects, a Kawai grand piano, instruments, amps, and both analog and Pro Tools|HD recording. The console is from the mid-'80s: a 64-input Trident 80B.

With Gurewitz as a partner, it's no surprise that many Bad Religion records and projects by other Epitaph Records artists were cut at Westbeach. Through the years the studio developed, it became legendary among punk rock fans. In 2004, Gurewitz—busy juggling touring and recording, label ownership and producing—was bought out by Cameron, who subsequently hired Seth Hum, a producer/engineer with his own

record company (Fallen Angel Records) to manage the studio. Rounding out the current staff are engineers Chris Gresham and Ben Meyer.

In addition to acting as a regular commercial studio, Westbeach offers recording packages that include producer, engineer, instruments and specialized gear. "There are a lot of people who recognize the quality of Westbeach," says Hum, a graduate of the Conservatory of Recording Arts whose first choice for an internship was Westbeach. (He didn't get it, ending up at Epitaph Records instead.) "A lot of people like me grew up listening to music that was recorded here. And it wasn't just punk; a

really broad base of music was recorded in this place, from Ray Charles to Fleetwood Mac. We've got a lot of good energy going on, with a staff that's dedicated, skilled and very much into quality. We pour our hearts into keeping this place in great shape." ■

Got L.A. stories? E-mail MaureenDroney@aol.com.

NASHVILLE SKYLINE FROM PAGE 143

continues. "Music Row has had some tough times over the last few years and we want to be a part of reinvigorating all the great things about Music Row in any way that we can."

At the heart of Sixteen Ton's control room is a visually stunning, custom-built console, inspired by the Art Deco era. Sitting in front of the board almost feels like being in the cockpit of some classic WW II-era B-52. "We even went to the point of finding new old-stock Bakelite knobs from the late 1940s for the controls," enthuses White, adding, "The curved mahogany legs are also very 1940s and the perfect complement to the control surface."

The guts of the console, which took three years to design and build, feature pure Class-A discrete tubes on the input side, and the monitor section is Class-A discrete transistor, based around the John Hall-designed (Langevin, Altec, etc.) SPA 690 amp block. There are more than 130 of these blocks in the console! The inputs employ 6072A tubes on the input and output stages, balanced by custom-wound transformers by Tom Reichenbach of Cinemag Inc. (Los Angeles). The design and electronic topology was done by Ian Gardiner of Boutique Audio and Design and Steve Firlotte of Inward Connections, also in L.A. The console is driven by a tube power supply designed by Steve Barker in L.A. "The design philosophy was minimalistic: straight-ahead hi-fi tube/transistor hybrid with minimal signal path, all hand-wired to boot," says White.

The control room was designed by Michael Cronin, who did a fantastic job throughout, and the woodwork is by Rick Perry. The room was tuned by Carl Tatz of Carl Tatz Acoustics in Nashville.

Even though Sixteen Ton has barely been open six months, there have already been some great initial projects, including Robert Reynolds and Scotty Huff of The Mavericks, Steven King (Keith Urban) and Tony Newman (David Bowie), as well as Howard Livingston.

All of this leads me to engineer/producer Brown, his production partner, Kevin Teel,

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and the very distinctive artistry of Matthews, the folks who connected the dots in my search for Sixteen Ton. Matthews was once the lead singer of Catatonia, a very popular band from Wales that enjoyed some sizable hits in the UK. After leaving the band, she set out on a musical/spiritual journey that eventually led her to Nashville and producer Bucky Baxter. The result was a critically acclaimed, mostly acoustic record called *Cockahoop*, an old English term for "over the moon."

"I came here mostly on a whim, but it also had some sort of logic to it," says Matthews. "I had a huge collection of old folk tunes and I didn't want them to have that British folk flavor. I wanted to put them in a different environment, so I fancied following them across the sea and I ended up in Nashville because it was close to the Appalachian mountains from where these songs originated many years ago. That was really the romantic idea behind it." *Cockahoop* did very well overseas and Matthews remained in town, setting up residence in East Nashville.

For the latest outing (which is co-produced by Brown and Teel), Matthews, Brown and Teel wanted to get as much tracked live as possible, but be more electric guitar-oriented in nature. "Teel plays these beautiful flourishing electric parts, so a lot of that will be based around him," Brown says. "It will be a bit more lush in that respect."

Matthews also feels that the new material reflects the grounding she has experienced since settling in Nashville and having a

rooted in one place and getting settled and there are a lot of things about trees and plants and seeds and things. It just seemed to happen that way."

Part of Sixteen Ton's appeal was also the large, homey lounge space that allows Matthews to work and be a comfortable space for her daughter and husband to spend time on occasion. "This is all about the musician and the song at the end of the day, and we are proud of being a musician's kind of studio—nicely done but still feeling like home," says White.

Seth Carolina, who is Matthews' husband and also head of A&R for Rough Trade (Matthews' label in the States), shares White's sense that the studio dignifies the creative process. "Sixteen Ton is a place where you want to stay a month or two and make the best thing you've ever worked on," says Carolina. "When I first got there, I thought, 'This isn't just a place to go record music. It is where you go record something you really feel passionate about expressing.' It's a great vibe." ■

Send your Nashville news to MrBlurge@mac.com.

NEW YORK METRO FROM PAGE 143

throw mics—we'll set up [Shure] SM81s at the reception door to get a Zeppelin-like decay. We're into pumping the drum set through a double 15-inch cabinet, replicating the sound of a live concert and laying it to tape, so you get the feel of the air moving and your hair blowing back.

That's what I want: the impact sound."

After the sound goes through Loho's Neve 8048 (32x24x16) and onto 2-inch tape or Pro Tools, Eddie Luke estimates that about 30 percent of his clients stay on to mix it there, while 70 percent leave with the tracks to work on it themselves. "A lot of people will make use of our room, take the recording to their home and wreck it," Eddie Luke says frankly. "They do it for the sake of economics and,

I think, control over their product, and the technology allows them to do so. I think that's where people really screw it up. We're into spending the money on tape, and we have a standard of quality here that we don't compromise on—everything hits the half-inch before it

PHOTO: NANCY WHITE



From left: the late Bill, Danny and Joe White, working on a "Sixteen Ton" project

child. "There was a lot of change that was going on in my life at the time of my last album, so there was a lot about oceans and movement—there are a lot of ship references and stuff," remarks Matthews. "On this one, it is more to do with being

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Nik Chinboukas and Pete Benjamin of Spin Music Studios

hits the DAT or CD."

While building in all this quality didn't exactly come cheap to Loho, it also didn't come that expensive either. Luke obtained a lot of the live room fixtures from the actual RCA Studio A by sweet-talking his way into the facility when RCA dismantled it approximately 15 years ago. Other gear was obtained with similar guerrilla tactics. "We built a shell and obtained stuff that was getting thrown out," says Luke. "We put our minds to thinking, 'How can we get to that level without having to spend millions of dollars?' *That's* engineering."

The way Loho sees it, the dependence that a lot of people have developed on loop libraries is precisely why everyone else who wants to stand out needs their tracking room. "People will mostly just use samples; therefore, we have a real good reason to be around," he points out. "There's a real demand for that simple element in the recording chain: a great-sounding source instrument in a great-sounding room with a great mic."

Because they're often a necessary expense in a project, tracking rooms become even more important when they can deliver the goods while keeping costs down. Spin Music Studios (www.spinmusicstudios.com) has made it work in New York City by providing top-quality tracking with much lower rents than the Manhattan big rooms, thanks largely to its location just over the East River in the Queens neighborhood of Long Island City.

"We picked this area because we liked the space for the cost," explains Pete Benjamin, founder/studio manager of Spin Music Studios. "You lose the prestige of being in Manhattan, but get so much space for the dollar. We wanted to build a larger facility, and this is right in the middle of most everything—it's quicker to get here than crosstown."

Designed by studio architect Alex Kyriavis, the 2,800-square-foot studio focuses on a spacious, reverberant and highly inviting 34x22 maple-and-birch-construction live room, with 13-foot ceilings and variable acoustics. "The room is designed to be loud and just take off," Benjamin says. "Drum sets are at home here, plus a lot of string sessions—that kind of thing. Everyone is blown away by the sound there. We're all rock guys, so this place is going to be a rock and pop facility, but we've been able to do everything. Plus, we also have the two iso rooms and line of sight for everything."

"The biggest thing I wanted, however, was for people to feel like they were at home. That's important for tracking, because really, feeling comfortable is the most important thing: If you and the client are comfortable, that will reflect in the way they play."

Many clients, like regularly scheduled producer Nik Chinboukas, will mix on Spin's Amek Big console and Pro Tools|HD system after tracking there, but many others will grab their sounds in the live room and then hit their personal studios. "When Pro Tools came out, they said middle studios would get squeezed out," says Benjamin. "That probably is the case, but we have a lot of factors working for us. In Long Island City, we can keep the rate as low as what we offer. We do get a certain percentage of people on the local level that track their drums here, then go home and finish everything in the box; or they do their overdubs in the box and then come back here to mix; or they record here and go to Avatar to mix. The room itself usually goes for \$600 a day, and then the engineer will negotiate on top of that."

With a clientele ranging from ultra-indie acts to Chris Caffery (Trans-Siberian Orchestra), Clown (Slipknot) and the Flux

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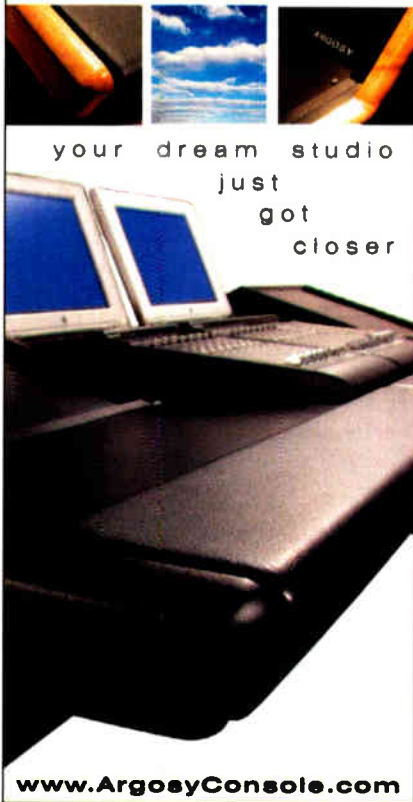
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Ira and Mitch Yuspeh of M&I Recording

String Quartet, Benjamin is happy to have found a formula that keeps his studio busy. "The biggest thing is sound-to-dollar value," he states. "I think in New York City today, everyone is so budget-conscious—even the bigger labels—you almost have to prove yourself to have a great-sounding drum room. People want the most amount of value for no money and to be comfortable while they're doing that."

You can forget about analytical thinking, however, when you head back to Manhattan and M&I Recording (www.mirecordingstudios.com), where "retro" doesn't even begin to describe the ambience. Founding brothers Mitch and Ira Yuspeh built their magical live room in 1978 and haven't changed the studio's décor since, treating visitors to a time capsule experience that mixes old-school engineering attitudes with 2005 gear and distinguished tracking.

The brothers have no desire to mess with anything connected to their successful sound, and they admit to getting a little lucky with how their makeshift combination of carpeting and shingles came together in the Phil Kapp-designed 25x35 live room. "We got more than the desired results," says Ira Yuspeh. "The warmth of the wood in the shingles really was incredible, and because they're not flat, they disperse the sound really nicely. The carpeting [on the wall] is about five feet up, and that was great for absorbing sound. Together, the wood and the carpet work really well.

"Our clients always come back to us and say they can't get the vocal sound they get here. We get a lot of gospel work and

people tell us there's something about that space in the middle of the room—the voice just sings in that spot; there's a presence. At the same time, horns and our drum sound have always been great. It's a combination of the room, and we were smart enough to get a really good complement of microphones—that's another thing people can't have in their home studio. It's also nice to have engineers with 27 years of experience in a single room who know how to get that sound."

M&I's aesthetically unchanging '70s flashback feel may seem strange in this image-conscious industry, but it's one that's kept them focused on the music and firmly in operation. "As far as the gliss and the gloss and the sushi bar—we didn't go in that direction," Yuspeh states. "Let's face it: This business has its ups and downs, and we're one of the few guys that are left. Many of the guys that spent a fortune upgrading their studios have gone out of business."

Recording through a Trident Series 80 console to Pro Tools or tape, the M&I client list ranges from Herbie Hancock, Dr. John and B.B. King to the NFL, NBC, radio, Broadway and beyond. "You can do a lot in a home studio, but number one is live musicians playing together and there's nothing like the sound of a real cymbal—you can use loops all you want, but it's just not the same." Ira Yuspeh says. "With a great tracking room, you don't have to think of anything but your music." ■

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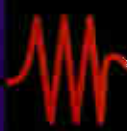
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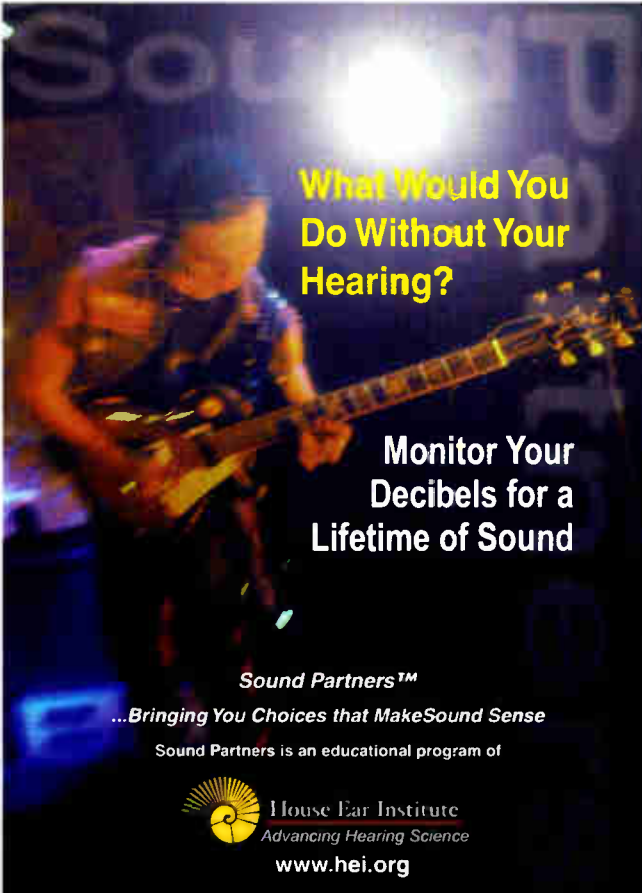
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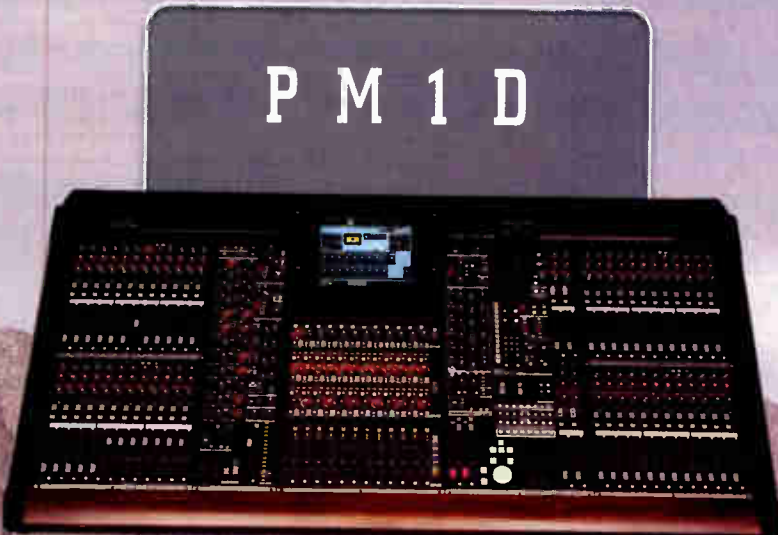
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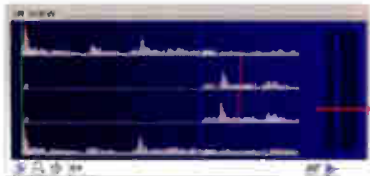
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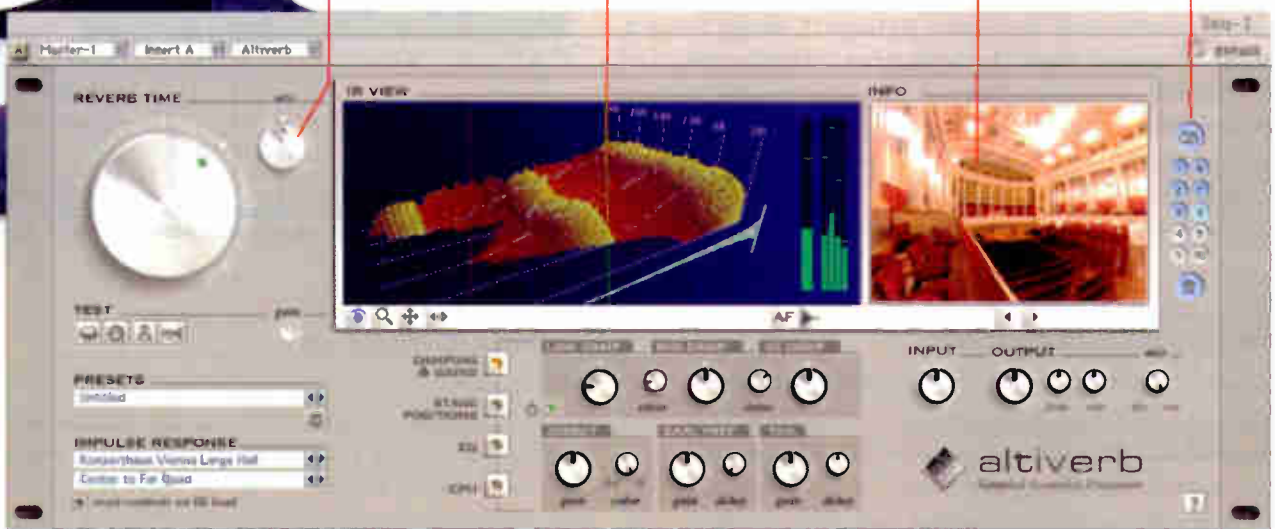


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the Liquid Channel fuses cutting-edge analog design with lightning fast SHARC DSP. Augmented by fully digital controls, the Liquid Channel provides unlimited possibilities with available FREE LiquidControl software, which allows for remote control of the Liquid Channel and future FREE pre and compressor replica downloads for unlimited additional sound expansion. The Liquid Channel provides the ultimate fluid vintage collection.



BIAS Peak 4.1 Mastering & Restoration Edition

Peak 4.1 plus SoundSoap Pro and SuperFreq. Imagine the world's most popular stereo audio editing, processing, and CD mastering program for the Mac, combined with unparalleled noise reduction and restoration technology — all at a jaw dropping low price. You get Peak 4.1 (including ImpulseVerb, Sqweez, VBox SE, Jam 6, SFX Machine LT, and more), SoundSoap Pro (combines four state of the art restoration and noise reduction tools in a single plug-in), and the SuperFreq suite of mastering EQs all in one great package. Launch Peak directly from DP4 for more editing and processing power. Run SoundSoap Pro within DP4 or in Peak as an AU plug-in. For the very best in sample editing, batch processing, file conversions, loop creation, sound design, restoration, and Redbook CD mastering on OS X, pick up the Peak 4.1 Mastering and Restoration Edition today — the perfect mastering and restoration companion for DP4!



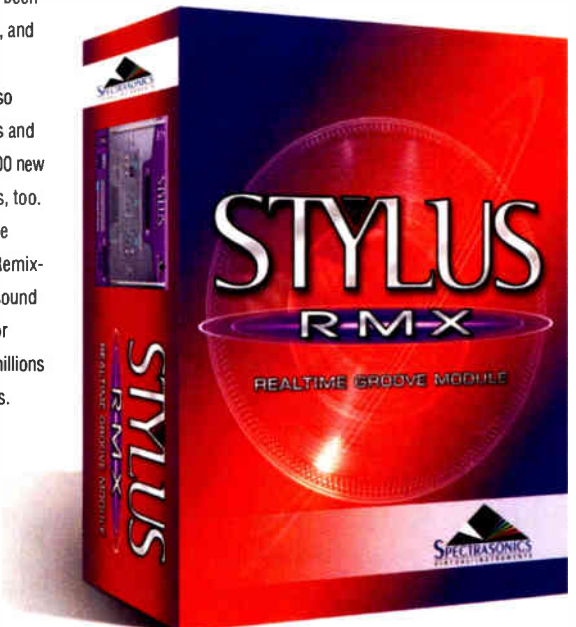
Native Instruments Absynth 3 Bend, mold, meld and morph sounds!

ABSYNTH was used extensively, together with Digital Performer, on the Matrix Reloaded soundtrack by electronica mastermind and Juno Reactor founder Ben Watkins. And now, this award-winning synthesizer hits the scene for the third time armed with a host of new and unique features. ABSYNTH 3 brings dozens of new features that greatly expand its already extraordinary sound spectrum. The powerful synthesizer now incorporates a new user interface with convenient one-window editing, envelope-controlled surround sound features, live audio inputs, real-time fractalization, unison mode, advanced envelope control, 2 new special effects and 256 additional presets. Combining FM and subtractive synthesis, ring modulation, a live stereo input, classic and granular sampling with the most advanced envelope control ever implemented, this unrivalled synthesizer will take you on the most outrageous sonic adventures. There's really nothing else like ABSYNTH 3.



Spectrasonics Stylus RMX The power of groove production

Stylus RMX is the first product to offer the combined power of Groove Control™ with Spectrasonics Advanced Groove Engine (S.A.G.E.™) giving users dramatic new control over groove production. Dozens of new features include a completely redesigned interface, a new 7.4 GB core library of cutting-edge grooves and sounds produced by Eric Persing, and the ground-breaking, always changing Chaos Designer™. Real-time groove creation has never been so simple, and has never sounded so good! Kits and over 10,000 new single-hits, too. RMX is the ultimate Remix-oriented sound module for building millions of grooves.



CALL SWEETWATER — MOTU STUDIO TO GO 800-222-4700

PreSonus Central Station™ A Console Master Section Without the Console!

The PreSonus Central Station is the missing link between your MOTU recording interface, studio monitors, input sources and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows you to switch between 3 different sets of studio monitor outputs while maintaining a purely passive signal path. The main audio path uses no amplifier stages including op amps, active IC's or chips eliminating coloration, noise and distortion enabling you to hear your mixes more

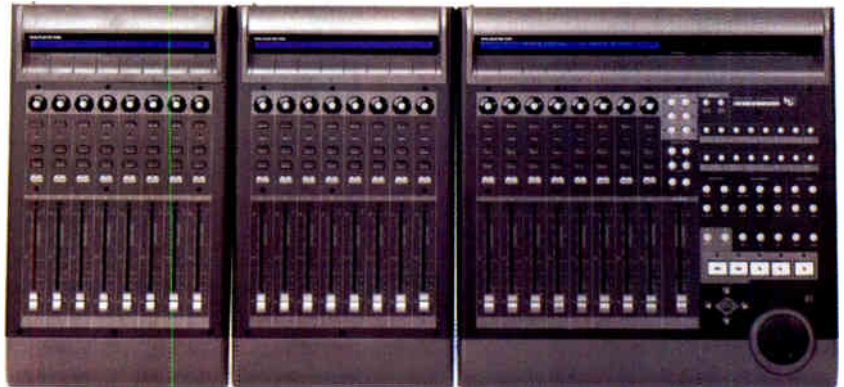
clearly and minimize ear fatigue. In addition, the Central Station features a complete studio communication solution with built-in condenser talkback microphone, MUTE, DIM, two separate headphone outputs plus a cue output to enhance the creative process. A fast-acting 30 segment LED is also supplied for flawless visual metering of levels both in dBu and dBfs mode.

Special limited time offer!
get a CSR-1 remote with your Central Station
for only \$99! Save \$50!



Mackie Control Universal™ Automated hands-on control for the DP4 studio

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie Control brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on Digital Performer itself.



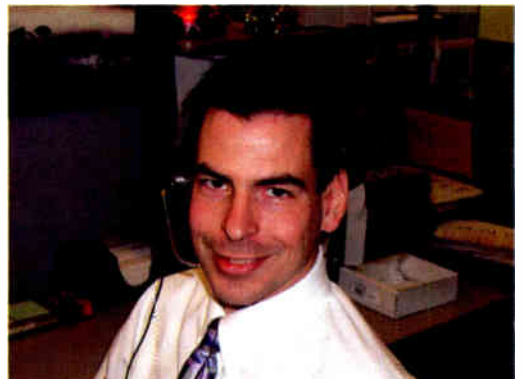
Mackie HR-series Active Studio Monitors Nearfield monitors for your MOTU studio

Mackie's HR-Series Active Studio Monitors are considered some of the most loved and trusted nearfield studio monitors of all time, and with good reason. These award-winning bi-amplified monitors offer a performance that rivals monitors costing two or three times their price. Namely, a stereo field that's wide, deep and incredibly detailed. Low frequencies that are no more or less than what you've recorded. High and mid-range frequencies that are clean and articulated. Plus the sweetest of sweet spots. Whether it's the 6-inch HR-624, 8-inch HR-824 or dual 6-inch 626, there's an HR Series monitor that will tell you the truth, the whole truth, and nothing but the truth.



Sweetwater SweetCare™ Your personal MOTU studio expert advisor

When setting up and maintaining a MOTU desktop studio, there are many considerations to factor in to your decision making. Both the hardware and software landscape are constantly changing, and it's hard to keep up with all of the advancements. That's where Sweetwater comes in. Your personal Sweetwater sales engineer offers much, much more than just a great price. They do the research, day in and day out, to ensure that you'll fine-tune your MOTU system to fit your exact needs.



**Call now for your MOTU Studio To Go
personal consultation: 800-222-4700**

Mackie HDR24/96 and MDR24/96

New Tricks for Your Rack Multitrack

It's hard to believe, but Mackie's HDR24/96 hard disk recorder/editor has been with us for more than four years; the bargain-priced MDR24/96 (same guts minus the graphical interface) is only a little younger. The MDR and SDR24/96 were discontinued, but the HDR's still in production, with 12,000-plus units in circulation. Try these tips to get the most out of your HDR or MDR.

UPDATES AND UPGRADES

The current operating system is Version 1.4 for the HDR and 1.3 for the MDR. Most recorders left the factory with V. 1.2 or earlier, but the latest OS is free from www.mackie.com. Installation is quick and painless.

PILES OF FILES

Each time you stop recording, a new audio file is created. Punching in a phrase five times to get it right adds five files to the pool associated with that track. The recorder maintains a Project file to keep track of which files belong with which track and when to play them, but when importing tracks to a DAW, you may have difficulty sorting through the files. The new software's time-stamping feature on Broadcast .WAV files makes this easier. If your DAW supports time stamp, then individual files imported to a track can be automatically placed in their correct time positions.

A simpler procedure for DAW track importing is rendering them, which creates a new file containing all of the audio (and all of the spaces) recorded on a track, just as you hear it. Rendering requires a few steps and extra disk space, but it's less confusing to import one rendered file per track than to dig through dozens of files for each track.

BIG HARD DRIVES

If you record concerts or do a lot of rendering, a larger-capacity disk drive is a must. The original HDR/MDR motherboard doesn't support disk drives larger than 32 GB, but a replacement BIOS chip from Mackie (\$49 plus shipping) extends this to 120 GB. Officially, Mackie supports only larger-capacity external disk drives with this



upgrade and only the HDR, but the BIOS handles internal and external drives equally well, in addition to supporting the HDR and MDR software. With the new BIOS, you can replace the internal drive with a new, big fast one and use larger-capacity removables.

When replacing the BIOS chip, you must change some of the CMOS setup parameters. On the HDR, pressing the [DEL] key during boot-up displays a Setup menu on the monitor. A variation to the CMOS settings that I like changes the power button operation, so it must be held for several seconds before the recorder powers off. This has been a lifesaver on remotes when someone has inadvertently bumped the button, which, with the standard configuration, instantly shuts off the recorder. On the HDR, you can manually change this from the CMOS setup menu. Locate the Power Management menu and change the Soft-Off by PWR BTTN setting to "Delay 4 Sec."

VIRTUAL TAKES

The units offer eight virtual takes of each track. Generally when using virtual takes, you'll be working with a single track, but here's a HDR shortcut for switching takes on a group of tracks (drums, for example): Choose Ctrl-Click to select the tracks, then Ctrl-Click on the take selector button on any one of the selected tracks. Select the new take from the pull-down menu and then release the mouse button. All of the selected tracks will change to the new take.

EASY MULTITRACK FADE-OUTS

Volume envelopes are a convenient way to fade tracks, but the HDR24/96 doesn't offer a way to copy a volume envelope once you've placed it on one track. However, you

can fade out all tracks in a project by taking advantage of the automatically generated fade-out at the end of every region. The default for this fade is 10 milliseconds—just long enough so that you don't get a click at the end of an edit—but it can be as long as you want.

To do this, select all tracks (Ctrl-A). Place the Hand tool in the upper half of the waveform at the end of any of the selected tracks. A fade-out icon will appear when you're in position to drag the start of the fade. Left-click and drag the starting point of the fade-out toward the beginning of the song. A red line representing the selected tracks. I suggest using a linear fade for this, although you can change the shape of the fade-out curve from the pop-up menu that appears when you right-click anywhere in the fade-out region of a track.

REMOTE CONTROL

Mackie's Remote 24 controller adds a feature not available from the front panel—two additional locate points. These can become auto-punch-in/out points at the press of a button on the remote, providing auto-punch capability on the MDR.

Bob Smith wrote a nifty Windows app (downloadable from www.bsstudios.com) providing nearly all of the Remote 24's features. It lacks the meter, but has a large onscreen timecode display and jog/shuttle control with the mouse that's handy for locating edit points by ear. Connect MIDI In and MIDI Out between your PC and the recorder and you'll have a remote control on your desktop. ■

Mike Rivers is the author of The Last Mackie Hard Disk Recorder Manual (available from Café Press, www.cafepress.com/mikerivers).

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