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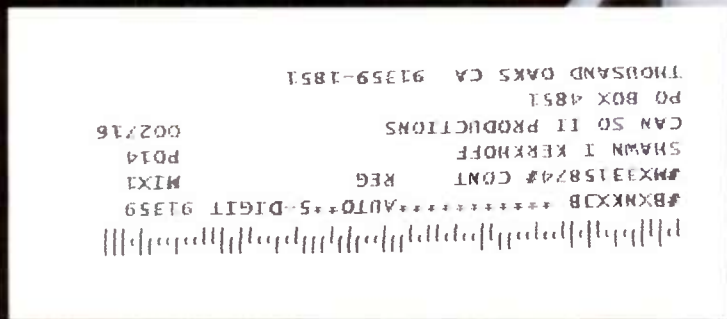
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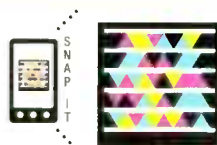
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Record Plant president Rose Mann Cherney has built her career by providing top-quality service to some of the music industry's biggest names. See interview, page 10. Photo: Charles Cherney.



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by HARMAN

Studio Business With Style


We love this cover shot of Rose Mann Cherney. It was taken very early on a late-summer morning along the shores of Lake Michigan in Chicago. The photographer was her brother-in-law, award-winning former *Chicago Tribune* staffer Charles Cherney. The lighting assistant was her husband, Grammy-winning engineer Ed Cherney, in town for the premiere of his work with Wynton Marsalis on a silent-film-with-orchestra project. (Brief aside: Chuck Cherney tells us that big brother Ed should keep his day job.)

The family connection was important to us in setting up the shoot because that's what Rose does best: She makes everyone who walks into Record Plant feel like a member of the family. Interns, runners, assistants, techs, first-time producers, multi-Platinum producers and engineers of all stripes and sizes. From the day in 1976 when she walked in the door to meet with studio co-founders Chris Stone and Gary Kellgren, on through her rise to president under the guidance of current owner Rick Stevens, she has consistently changed the game in studio management. She wasn't the first to dive into concierge-style booking and hosting; she has just done it better than anyone else, to the point that artists, producers and studio managers across the country acknowledge and even praise the sense of style she brings to the business.

Make no bones about it, Rose can be as tough as nails on the business side, especially when dealing with labels and payments. And don't ever treat one of her Record Plant family with disrespect; she has a memory like a steel trap, and if you live and work in L.A., it's good to have Rose on your side. At the same time, she makes a killer risotto and a dynamite dirty martini, and she would walk on fire to help a friend or a client—big or small, regular or first-timer.

There's no console on the cover, which is something of a departure for *Mix*, and no Grammy-winning engineer, producer or artist. So in a sense, Rose is representing all those who don't usually make a *Mix* cover but who keep studios running, day in and day out. We're talking Paula Salvatore, Jeff Greenberg, Shivaun O'Brien, Candace Stewart, Dave Dubow, Sharon Corbitt, Scott Phillips, Janet Leese, Zoe Thrall, Troy Germano, Trevor Fletcher, Kirk Imamura and many, many others. It hasn't been easy of late, as the commercial recording business has undergone dramatic changes during the past decade, with shrinking budgets, shorter bookings and stay-at-home artists. Money is still there to be made, and there's more audio and music being produced than ever before. Just listen to the world around you. It's just not the same recording industry that it was in 1976 when Rose took her first booking. But then it wasn't the same in 1986 or 1996, either.

Economic cycles come and go, technology forces change and the strong—and the adaptable—survive. With a little help from friends and family.



Tom Kenny
Editor

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Rose Mann Cherney

PHOTO: CHARLES CHERNEY



Rose Mann Cherney is the quintessential studio operator. She's spent the bulk of her 30-plus-year studio career at Record Plant in Los Angeles, and truth be told, the two are so intertwined it's hard to imagine one without the other. And it's not just a career; it's a lifestyle. Record Plant was the first studio to implement the philosophy that recording clients should be treated like guests in a fine hotel. Originally, studios had been seen as nothing but utilitarian song factories—a place to get the job done where comfort and service were not priorities. At Record Plant, all that changed, and Mann Cherney was key to making the new regime work. Her clients are welcome guests, and she goes to great lengths to ensure that the rest of the studio staff treats them that way. She understands the importance of comfort, vibe and, most of all, good service. She

also understands the value of privacy. A witty conversationalist, she's adept with entertaining stories. But when it comes to things that matter, her lips are sealed.

Now a partner in the business and company president, she's a confidante of rock stars, a champion of assistant engineers, a savvy judge of character, a loyal friend, a fervent foodie and great cook. But even though she's lived an L.A. lifestyle for those same 30-plus years, Mann Cherney, who was born in Chicago, is still deeply attached to her roots. Retaining the traits of a Chi-town native, she can be as bottom line as they come, she doesn't miss a trick and she tells it like it is. Married for 20 years to Grammy-winning, multi-Platinum producer/engineer Ed Cherney, she's assembled a large universe of friends and fans. She generously shares her business knowledge, and has

influenced studio managers and owners everywhere. She also shared some of that knowledge with me one recent evening as we relaxed in her patio garden overlooking the Venice canals.

How did you end up in this business?

I fell into booking by accident, back in Chicago. I was working on a modeling career and supporting myself as a bill collector. [Laughs] I had sort of an ethnic look—nobody wanted a model that looked like me! I was also hanging out with a band called Big Thing—which became Chicago—and I met a lot of people in the industry. Bill Traut, of Dunwich Productions, asked me to come and work for him. He thought I'd be good at booking. And I was!

That's an understatement.

I went on to work with Curtis Mayfield, and eventually had my own little booking agency

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New wave rocker Billy Idol (left) and producer Keith Forsey with Rose Mann Cherney

with like 21 bands, which is how I met Al Kooper. When I decided to move to L.A. and was looking for a job, I ran into Al at the Rainbow. He told me about a studio that needed a front desk girl/booker, and he arranged an interview for me with Chris Stone [one of the owners of Record Plant].

While I was sitting waiting to see Chris, I could feel the electricity and mystery in the air. I felt it from when I was buzzed in and I walked down the hall where Stevie Wonder was playing air hockey with Glenn Frey. Amazing. [Laughs] There's more to tell that I saw that day, but that's for my book.

The interview was pretty crazy. Chris was

velvet coat, and had a cooler filled with champagne. Very eccentric. [Laughs] But Al had warned me about him.

I told them I could only promise a year. I wanted to work in music publishing and I thought the studio was a good place to learn. But the week I started, Stevie Wonder was recording *Songs in the Key of Life* and The Eagles were working on *Hotel California*. Within six months I knew I had found my niche. I loved, and still love, being in the studio surrounded by music and creativity. Musicians, managers, promo guys, stylists, designers—it was definitely the scene and you could learn a lot if you paid attention.

One day a producer asked me to make him a screwdriver, and I made it fancy, like he was in a fine restaurant. He loved it, and that's when I got it: Treat the clients like they are in your home.

And that's part of Record Plant's philosophy.

That and "Everybody is a star; no one goes home unhappy. Whatever it takes to get the job done." Doing that has given Record Plant a reputation that has lasted. The look on a young band's faces or an intern's face when they first walk into one of the most well-known studios in the world—just to feel it is exhilarating. It gets me high—as does a full studio with artists jumping from room to room creating.

Back to 1976.

I have to admit, when I started I didn't know anything. One day they sent me to get a dozen nanowebers. And everybody went along with it. I called one of the rental companies, and said, "I'm Rose Mann from Record Plant. I just started here and I've been asked to order a dozen nanowebers." And the guy said, "You know what, let me check." He must have put the phone down, and gone, "Heh, heh," before he came back and told me they were all out. But you know, I'm engineer-trained.

What do you mean?

Engineers taught me how to do my job. Like when someone's mixing, you can't just go in the room and change things. See, in those days there weren't lockouts—or Total Recall either. It was hourly, with double shifts. Eight in the

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Engineer Ed Cherney, Rose Mann Cherney and Record Plant owner Rick Stevens.

morning until whatever at night, then whatever until morning. And when you had tracking, it was a problem because nobody wanted to tear down. It was the engineers who knew what was going on and taught me what you could and couldn't do. They also told me about client preferences and how to handle them.

I would take my booking book and sit with them and they would explain things to me. Gary Ladinsky, for example, taught me about microphones, about the difference between tube mics and what mics were good for snares, and how if you had to move mic stands you should mark where the stands had been so you could put them back properly—and to try not to move the drum kit! I also learned a lot from Gary Kellgren, who was a brilliant engineer. And, of course, I learned how to juggle bookings because when they said they'd be done at 12, a lot of times they weren't.

Things are a lot different today. What's still great about your job?

It's challenging but we are still doing what we love—making music with will.i.am, writing camps, DJ Steve Angello (Swedish House Mafia), Lady Gaga, Ron Fair recording strings...

My business is 50-percent songwriter-based now. Instead of a rock band with all their techs, more often it's one guy writing and working with five different artists. The creativity is there. It's just different.

You have a huge responsibility to keep multiple studios booked and you have demanding clients to keep happy. How do you do it?

I can do it because I have a really great management team: Sayoko Rutledge, who is studio manager, and Jason Carson, VP, who's been

with me 10 years. We work hard, play hard, have fun and the client is always right!

But you're also strict. There are things you just won't do—or allow.

In the studio you have to have balls. Enough balls so that you don't back down when someone tries to push you around. That was difficult for a woman in those days, and I think part of why I excelled. I didn't take shit from anybody.

The first time I held tapes [as collateral until payment was received] was my first encounter with bodyguards. Chris was worried about me because I was so angry. The band's manager is one of my good friends now, but that night I sat on those multitracks and dared those guys to touch me. All 120 pounds of me—in my layered '80s hair! I was sitting on them thinking, "I hope they don't print through!" That was my engineer training. They taught me about stacking tapes the right and wrong way.

I've heard you can be tough.

No one is ever going to tell me how to run my studios. Nobody can pay me enough money to disrespect the studio or my staff. I won't let someone come in being disrespectful to my kids. They work hard. The studio business—any good business—doesn't run on one person. It's a unit. We run as one entity, and if one little part of us is off kilter, even a runner, it throws the whole thing off. I really, truly, believe that you are only as good as your people.

Good people aren't easy to find.

You have to interview a lot of people. I'll interview 25 before I find one runner. I've always been fussy and I've been doing this so long I can spot things. When a guy is walking through the hall, I can tell if he's ready to leave the nest.

Or I can tell if they've lost interest, just by the look in their eyes. I can spot it, and I'll say, "What's wrong? Let's talk." Some people are just not cut out for studio work. And if they're not, I try to help the good ones find jobs.

You're big on training.

I have rules. I train staff by giving senior guys as much studio time as possible. The older kids train the younger kids. I also have studio etiquette classes. And no distractions allowed for the staff in the studios—they need to be present all the time. No hanging out on the Internet, no books, none of that. They have to be dressed a certain way—no flip flops; they have to be shaven. If they want to have lunch with the client, they can if they are invited, but, especially if they are new, I say to them: "If I were you, I'd be in the studio thinking about what my next step is instead of sitting there having lunch." I want people who are going to work at keeping their craft up.

I also work with label people. I'll invite new admin people over for lunch and show them how sessions work. And I'll advise having their own hard drive for security and labeling. With things so songwriter-based and people working in different locations, it's not uncommon that people lose track of where their files are. It's important to control your hard drives during each session. If you don't, 10 years from now you won't have to worry about a greatest-hits record because you won't be able to find anything.

If they take their hard drives home, the studio has no collateral.

There's no collateral anymore. The last time I had to hold something, it was a huge deal and I just locked up the entire studio with all the gear. But now the only collateral you have is COD. Even with purchase orders you have to follow up. You always have to keep your eye on things and you have to do your follow-up with labels so you know how they do things. You have to pay attention. Paying attention to detail in the recording studio is the most important thing. I keep riders for everybody, even A&R people. Notes on what they like. If you're not paying attention to detail, you might as well close your doors.

How about the ineffable skills—studio etiquette?

You have to be invisible. With an assistant, you want it to feel like he or she isn't there until something is needed—then they are totally there. You can tell what kind of assistant someone's going to be when they're a runner. The mistakes they make when they're running are the same ones they'll make later. That's

why nobody gets into a studio for the first six months except to clean it.

A lot of these kids come out of school and their teachers haven't taught them what the music business is really like. Many of the studios in town make interns work for free. I only intern a couple of people, but I pay them. After six months they can go, on their own time, and shadow sessions that the senior assistants do, then after that they assist the senior assistants. And the senior assistants can tell me what strengths the new people have. You have to do it that way. You can't just throw somebody in a room because you've known them for a month.

You've been doing it so long, don't you ever get bored?

Never. Some days I look around, and say, "What am I still doing here?" But I still get excited about it. Because the Record Plant is special. I lucked out to have worked for two extraordinary, powerful visionaries who had great senses of humor. Both Chris [Stone] and [current owner] Rick [Stevens] were corporate in their backgrounds, and they are both marketing guys. I learned a lot from them. Chris started me off and Rick fine-tuned me and has continued to be a great mentor. I have an unorthodox way of working. A lot of it is gut instinct and flying by the seat of my pants, which took a bit of time for Rick to get used to. Eventually, I think I wore him down and he just let me do my thing. I have to give him a lot of credit. We still do our share of head butting, but in the end our styles complement each other.

Do you have a secret weapon you'll disclose?

I know people who can do things for me. If you have a business like ours, you have to know how to find anything, from a sommelier to an au pair. I like to think there's almost nothing they can ask me for that I can't figure out how to get within minutes. We're in a service business. It's service with artists, producers, even the labels. People at labels really have it hard now. They have so many less people and so much more work to do. If you go out of your way for them, they're going to want to work with you again.

The thing is, you have a team where people care. That doesn't just happen. It has to start with you. You lead, you train and then get out of the way. I want my people to be better than I am. You have to be able to do that with your staff. III

Maureen Droney is senior executive director of the Producers & Engineers wing of the Recording Academy.



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CURRENT

compiled by Sarah Benzuly

MICS TAKE CENTERSTAGE

On August 22, 2010, members of the St. Louis Audio Engineering Society section held a mic shootout entitled "Secret Weapons Mic Shootout," conducted by Larry Cowser at 12 Bar Productions and Joe Blasingame of Blasingame Audio Productions. The goal was to see what engineers were using as their "inexpensive" secret weapon microphone. The mics had to be \$500 or less. There was an emphasis on cardioid condensers, but it wasn't a prerequisite. Mics were brought from various studios and engineers around the St. Louis area.

For the test, they captured the exact same performance for every mic, but with a more distant-mic approach to minimize the effects of not being in the sweet spot. A single one-pass live capture was their chosen *modus operandi*. Guitar (Tim Mauldin) and bass (Doug Moser) were miked from

around four feet away, acoustic guitar (Mauldin) at about three feet, spoken word/vocals (Bill Schulenberg, Jen Galinski and Justin Thompson) around two feet and drums/percussion (Dennis Stringfield) around six feet.

All microphones were connected using the same custom-built 12-foot Canare Star-Quad cabling with Neutrik connectors, created by Gateway Electronics tech Greg Meyers. The preamp used was a Focusrite Octopre; optical outs were passed to the ADAT input on a Pro Tools HD 96 I/O and a PC DAW at 24-bit/48kHz. Monitoring was via Control 24 on KRK V8 speakers and single head-

phone foldback from the RME Hammerfall 9652 card via a Gefen DIGAUD2AAUD A/D converter feeding a Gemini PS-121X mixer from the Nuendo DAW Toslink output. Reference mic was a B&K Type 4007; mics in the shootout included an ADK A-51, Avantone CV-12, Heil PR-30, Kel HM-1, Little Blondie, Octavia MK-219 and Studio Projects C1.

The results will be posted to aesstl.org for a fee.



A sampling of the mics used during the shootout



Students working in the Fusion Los Angeles school

FUSING TEENS WITH MUSIC

Youngsters who want to get a head-start on their musical career should check out Fusion Los Angeles (FusionLosAngeles.com), a school catering to students in grades six through 12. The school includes a state-of-the-art professional recording studio that houses an Avid 002 with PreSonus mic pre's, a wealth of outboard gear and mics from Sennheiser, AKG and Shure. Students and local bands are invited to use the school's pro software (Pro Tools LE 8.93, Auto-Tune, Melodyne, Logic Pro 9, SoundForge, WaveLab, etc.) to record and create a CD. Also available is a full MIDI lab with software for film scoring and other uses.

All Fusion music instructors—led by Art Department head teacher Mary Piazza Easton—are professional musicians. Each has played in various projects all over the country. They have extensive educational training, as well as first-hand, real-world experience.

CRAS INSTALLS APIS, CLASP

The Conservatory of Recording Arts & Sciences (audiorecordingschool.com) purchased two API Legacy Plus consoles for its C Studios and Endless Analog's CLASP for the A Rooms at the school's two locations (Tempe and Gilbert, Ariz.). "We went with API consoles because of their solid history and build, and CLASP because we feel it is the next step in audio production," said administrator Kirt Hamm (pictured). The Conservatory is the first audio school to integrate CLASP into its curriculum and will certify students in system setup/operation.



CRAS has long provided students with training in analog gear alongside digital technology. Each studio offers Pro Tools HD and a 2-inch analog machine. "Our curriculum emphasizes clean analog signal flow and tape alignment, as well as knowing your DAW," says director of education and *Mix* technical editor Kevin Becka.

Studio Unknown Update

Small to mid-sized studios are springing up all over, but that doesn't mean they can do everything the "big guys" can. Sometimes, the little guys can only take a project so far before handing it off to a larger commercial studio. The question is, how can studios of varying shapes, sizes, formats and delivery methods communicate effectively with one another to ensure success and sanity? Find tips from studios that have developed effective working relationships with one another in "Confessions of a Small Working Studio" at mixonline.com.



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Her Satanic Majesty's SVT Beast

THE DANGEROUS AMPEG TONE

■ Okay, I totally accept that old amps have their bad days, but this time she wasn't coming back. We were midway through bass tracking with the band Dishwalla and my sweet, sturdy old Ampeg SVT decided to take a holiday. So we reluctantly pulled out "The Beast"—my back-up SVT, which is rarely brought out of storage because it's just too damn hazardous!

The thing was a nightmare. Not a stitch of Tolex on it. Just a splintered bare-plywood frame around an ancient SVT chassis held together with rusty nails. One of the handles was broken—just try to carry a 95-pound SVT with one handle! There was a no-logo tattered fabric cover barely clinging to the front, and when you turned it on, it sounded like a jet engine warming up. The fan on the back was so loud you'd have to raise your voice in the room just to have a conversation, and that even without a bass plugged into it.

It was an orphan, an unwanted child. My dear friend Josh Gordon had brought it to the Greta sessions at Capitol in the mid-'90s to use for his bass tracks. Who knows where he got it, but the thing worked gloriously for about a day before it went bye-bye. Blown power tubes. He shook his head, and told me, "Take it, it's yours." I had to think a moment about how much it was going to cost to replace its six blown 6146 power tubes, and how the heck I was even going to load it into my 1970 Opel GT in the parking lot (with no trunk). But, of course, I took it. For the short time we were able to use it on the Greta sessions, its throaty squawk cut through layers of electric guitars beautifully. I knew there was a shining gem in there somewhere. I had The Beast re-tubed and it became part of my amp arsenal. A Fender Jazz Bass and the Ampeg SVT: That is what a bass is supposed to sound like. Ask anyone. The Beast worked great for years before resorting back to its bad habits and I was forced to buy a slightly newer and prettier SVT head to bring to sessions. The ugly old SVT Beast was retired to the storage locker.



The Rolling Stones onstage with all those beautiful SVTs, circa 1969

The Ugly Duckling

Back at the Dishwalla sessions again, it's one amp down, one more to go. Scot Alexander, Dishwalla's bass player, was ready to take the challenge. We flipped on The Beast and its motors began to throttle up. We dared each other to do it. Scot grabbed the cable and jammed it in the front. He was immediately jolted with an electric shock, but it wasn't enough to phase him! He shook it off and his Fender Jazz bass guitar roared through the amp with a ferocious voice, a song so beautiful we wept with excitement and joy. We hurried to finish tracking the bass before something else happened, but The Beast worked only about 10 minutes before it too was a smoking dead head. We sadly unplugged it. Scot said, "I can fix this thing." I responded, "Well, you can have it," and the old SVT had a new owner once again. After the session, Scot packed up The Beast and took it with him.

A Stones Tale

Fast-forward to two years later. Scot Alexander, now living in Idaho, called me unexpectedly. "I fixed up that old SVT, and I did some research on it. I want to bring it back to you because I feel guilty." Huh? He arrived with the amp, completely beautifully refurbished with new black Tolex, a new replacement cover on the front and a quieter fan, but still retaining all of its original attitude. An astounding transformation! Oh yeah, and The Beast didn't bite



The Beast before its transformation, holding up a stack of other old crusties

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PHOTO: STEREOGAP

The Beast, gloriously restored

any more. Scot had lovingly brought it back to life and tamed its propensity for electrically charging human flesh. He then told me a tale about the Rolling Stones and the Ampeg SVTs.

Apparently, in 1969 someone forgot to let the Stones know about the differences in international voltages, and when they switched on their Fender amps, brought over from the UK, they wouldn't function. About to go out on their "Her Satanic Majesty's Shakedown Cruise" tour, the Stones were desperate to get enough amp power for their stage show. So Ampeg stepped in with its freshly developed Super Vacuum Tube (SVT) bass amp, and as the Stones needed big, ridiculously loud rigs, Ampeg emptied out its workshop to provide SVT proto-

types for the tour. These amps were basically unproven, so Ampeg gave them six of the prototypes and had a tech go along to care for them on the road. This legendary Stones tour had all the stringed instruments being played through these monstrous SVTs—both bass and guitars—and the Stones *loved* them!

After the tour was over, the response to the new SVT amp was so positive that Ampeg went full-bore into production on these beasts, and they have become the most recognizable bass amp in history. Today's version of the original SVT is the Ampeg SVT "Classic," a far steadier version of the wild SVT, but still retaining a degree of the throatiness that we love.

And then finally, after becoming intimate with the innards of The Beast, noting its lack of serial numbers and the other roughly hewn elements of the amp, Scot Alexander suspected this was one of those original prototypes. He felt compelled to give it back to me. For that I will always be appreciative. I have continued the research on finding the original Ampeg prototypes but have been unable to absolutely confirm the providence of this amazing amp. But unless someone can confirm that it is *not* one of the prototypes, the story will continue to be told. The Beast very well may be one of those prototype amps from the Stones 1969 tour.

And now I'm probably in big trouble. Not simply for telling tall tales, but because my dear friend Josh Gordon is gonna kill me if he ever reads this article. No Josh, I'm not going to give it back. Nope. Just not gonna. ■■■

The unconventional producer and engineer of artists including Tool, System of a Down, Johnny Cash, Red Hot Chili Peppers, Tom Petty and Prince, Sylvia Massy is a member of NARAS' P&E Wing Steering Committee and Advisory Boards, and is a resident producer at RadioStar Studios in Weed, Calif.

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NEW

CLASSROOMS

SUPPORTING CHANGING APPROACHES TO AUDIO EDUCATION

For years, engineers out in the workforce have been asking us, “Why are audio schools still turning out all these graduates when there are no jobs?” And for years, our answer has been the same as the schools: “Not every audio graduate is going to record bands for a living; the industry is more diverse and robust than that.” Which is true.

But lately that old question has been nagging at us, because in the past two years, in this economy, we’ve watched a serious boom in recording studio build-outs within the audio schools. And it’s not like schools ever have money to burn. So why are there all these beautiful new studios/classrooms? And why now?

“I think it’s a product of the evolution of music production, the GarageBand generation where we’re now producing musicians and composers who need to be engineers,” observes studio designer Larry Swist. “Musicians need to know audio and that didn’t used to be the case. So within the music schools, these people who are going to be musicians and composers are actually asking the schools to provide these kind of programs because they want to know more.”

Swist teaches master classes in acoustics to the music students at the State University of New York at Purchase and SUNY Fredonia, and he has three school studio projects in the works at Purchase, the Eastman School of Music (Roch-

ester, N.Y.) and Buffalo State College (Buffalo, N.Y.).

“Peter Denenberg, who runs this program here [at Purchase], told me, ‘We’re turning practice rooms into acoustical studios,’ and brought me onboard because we have to train these kids to make their own environments down the road because the studios they’re working in will probably be their own. They’re turning four of what used to be strictly music practice rooms or classrooms into production suites and training musicians to work in studios.

“At Eastman, they don’t have a real sound tech program; this is an institution that’s private and classical in nature, but they’re hearing pressure from their student body to get technology into the program: ‘We need to know this stuff. That’s how we need to present ourselves to the world.’ It’s not just going into a recital hall and playing anymore. You have to get to know media somehow.”

Multitasking, in other words, is the wave of the future. And it’s one of the ideas behind the high-end Full Sail Live facilities at Full Sail University (Winter Park, Fla.). Full Sail Live encompasses a performance hall and a pro-level recording studio (see page 23), which is fiber-optically linked to the venue. Not only do the new installations add opportunities for sound reinforcement engineering students to mix live

bands, and for recording students to track artists in the studio, but the project also responds to the reality that SR engineers will be asked to record performances on the road, and it doesn’t hurt for studio engineers to learn remote recording.

“We used to offer a separate audio associate’s degree and a live associate’s degree,” explains session recording instructor Darren Schneider. “Recently, we switched to a bachelor’s program where recording and live students first have 12 months of core audio classes together, and at month 12 they split off into a live track or a recording track, but for the first year they interact. This is the first time everybody’s melding together because that’s what’s going on in the business. There isn’t a band out there that doesn’t have a live DVD, a live CD. We’re taking a more integrated approach.”

At the Art Institutes schools, many campuses are adding a Bachelor of Science in audio production, which has meant (mostly) Walters-Storyk–designed studios opening up consistently during the past few years. Nathan Breitling, academic director of audio production at the Art Institute of California, San Francisco, says the issue of sending students out into today’s music/audio marketplace is “a thorny question, and I’ve put a great deal of thought into this.

“Ideally, I want them to be in a position where they can, by the time they are in their

senior year and working on final projects, have developed a stance on what their future is, and they're ready to go out and pursue their choice: Do they want to mix sound-for-picture? Do they want to pursue music recording? Do they want to get into game audio? We help them put together a portfolio that really leverages that particular interest and talent they have. But at the same time, students have to create their own demand. The reality is that may mean freelancing—training them to be those owner/operators. You really have to zoom in on every student and help them define what they want to do, and even help them define what constitutes success, happiness and career advancement for them so they can pursue those goals even in this economy.”

Elsewhere in California, the struggling U.S. economy has been a boon to some audio education programs, such as the certificate-based audio technology department at MiraCosta Community College (Oceanside, Calif.), where 35-year-old dilapidated facilities were recently replaced with large new studios, classrooms and a recital hall (see page 63).

“The State of California has mobilized itself to get people work,” says Christy Coobatis, who heads up MiraCosta’s audio department. “The California Multimedia Entertainment Initiative was funded 13 years ago to set up regional training centers for the entertainment industry, which is obviously an important part of the economy here in Southern California.”

Thanks to vocational-training funds, MiraCosta’s certificate programs in MIDI, songwriting, business of music, music technology (analog recording) and digital audio (Pro Tools) are operating at full power, and the college is able to keep tuition down to \$26 per unit, which is huge at a time when tuition at most public and private four-year universities is high and rising.

Coobatis emphasizes that under his guidance, MiraCosta has developed relationships with NAMM, technology developers such as Avid and even local theme parks to assist students in finding internships and jobs. “It used to be that the goal of community colleges was a transfer into a four-year program,” he says. “Here, that goal expanded to also include employability, which is one of the mandates set by the State. Students might still transfer and go on to get their bachelor’s, but our job is to give them vocational experience so they will be employable.”

Check out photos of some of this year’s new studios within schools and read about the way they were designed to support audio education.

—Barbara Schultz

Art Institute of California, San Francisco

As we’ve reported previously, The Art Institutes are adding audio technology programs to their schools across the country. The San Francisco campus, in the city’s downtown Civic Center area, now includes new studios designed by the Walters-Storyk Design Group. Like many of the other AI studios, this one includes an SSL Duality console, an Aviom headphone monitoring system, and Dynaudio and ADAM speaker systems. Director Nathan Breitling says that while some programming may differ from campus to campus, all of the Art Institute schools emphasize a strong background in electronics and acoustics, and hands-on applications in the digital realm.



PHOTO: HELGA SIEWALD/GETTY IMAGES

Director Nathan Breitling at the SSL Duality, Art Institute of California, San Francisco



JBFC’s studio includes sightlines to two recording rooms.

Jacob Burns Film Center Media Arts Lab, Pleasantville, New York

Francis Manzella designed this studio for the Jacob Burns Film Center, a nonprofit institution that offers film, video and audio educational opportunities for youth and adults. Facilities at JBFC include a green-screen production stage, multiple classrooms and audio recording/post studios. This control room includes a 24-channel Avid D-Command control surface and Pro Tools HD; the two iso booths pictured were designed to serve interchangeably for Foley, ADR, music and voice-over work. This project required the use of environmentally friendly materials and design, and the facility has attained LEED Gold certification.

PHOTO: DAVID LAMB PHOTOGRAPHY

Full Sail Live Recording Studio, Full Sail University, Winter Park, Florida

Long known for its high-end, multimedia approach to education, Full Sail University recently completed installation of a 1,500-capacity performance venue, Full Sail Live (equipped with Meyer Sound MICA Curvilinear Array loudspeaker system and DiGiCo SD7 and SD8 consoles) and the 5,000-square-foot Full Sail Live Recording Studio. The studio is fiber-optically linked to the performance hall to facilitate live recording, and it provides recording technology students with an additional studio/classroom. The 30x30-foot control room includes a 72-channel SSL Duality, Studer A827s and a DAW running Logic, Nuendo and Pro Tools. The tracking room features room-within-a-room construction, live-end/dead-end acoustics and a large iso booth.



Students enjoy the spacious new SSL Duality-equipped studio adjacent to Full Sail Live.

NEW

CLASSROOMS



Honolulu Community College MELE Studio, Honolulu, Hawaii

An educational partnership with Belmont University (Nashville) resulted in the Mike Curb Family Foundation (also a supporter of Belmont) helping to fund a new studio that is part of HCC's new Music Entertainment Learning Experience (MELE) program. A control room and two tracking spaces center around a 64-channel Rupert Neve Designs 5088 analog console. Director Keala Chock says that HCC is the only program in the state of Hawaii that offers a degree in audio engineering. Designed by local architects Shimokawa + Nakamura, the studio offers a Pro Tools HD4 Accel system loaded with Universal Audio plug-ins and an array of out-board gear routed through a patchbay designed and installed by Belmont dean Wes Bulla.

In the Mike Curb MELE Studio at Honolulu Community College, faculty member John Vierra (left) and student Taylor Rohrbacker work on the new Rupert Neve Designs 5088 console.

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Mark Genfan of Acoustic Spaces designed this Pro Tools-based studio for UTA.

Studio 301, University of Texas, Arlington

Pictured is the new main studio within the University of Texas, Arlington's Music Media program. Designed by Mark Genfan of Acoustic Spaces (Austin, Texas), the studio is used for music recording projects and instruction. The control room can accommodate up to 20 students, and the tracking room, which contains a Steinway A grand piano, is roomy enough for large ensembles. An iso booth, which can double as a drum room, is attached. Equipment includes a Pro Tools HD3 Accel system, a Yamaha DM2000 console and ADAM S3A monitors.



PHOTO: C. CALOJA BURNIS

Studio A, Webster University, St. Louis, Missouri

Webster University's audio production department completed an overhaul to Studio A last summer. The studio was out of service while new GIK sound treatments were applied in the tracking room and control room. Bryan Pape provided acoustical redesign services. Studio A features an SSL Duality, and contains an Ampex MM100 24-track 2-inch machine, two Studer 2-track recorders, Pro Tools HD and RADAR digital 24-track. The studio supports Webster's classes in multitrack recording, music recording, advanced audio mixing and audio aesthetics.

GIK acoustical treatments were applied as part of a redesign of Webster University's Studio A.

Continued on page 63

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During the 2009/2010 academic year, 30 interactive concerts were streamed from the University of North Texas to more than 100,000 viewer/participants.



STREAMING FROM SCHOOL

UNIVERSITY OF NORTH TEXAS PRODUCES INTERACTIVE CONCERTS

By Blair Liikala

Using the Internet to broadcast live events has moved beyond being merely trendy to being expected or even essential. Public expectation and desire have been proven by record-breaking traffic for events like the World Cup and the Presidential Inauguration. Fortunately, live streaming is now becoming more affordable than ever. The University of North Texas (UNT) is one of a small group of colleges implementing this technology within their music programs to broadcast concerts live over the Web.

The major benefits are obvious: lower costs, larger audience, instant feedback. But they can also be more subtle. The National Endowment for the Arts recently released a study suggesting that the use of online media can more than double concert attendance and interest in the arts. As one of the largest music colleges in the nation, UNT has seen dramatic success in the year since starting online concert streaming.

Live streaming at UNT began with a push from the Wind Studies division, which was looking for a means to reach a remote audience. With just four months on the job as director of recording services for the UNT's College of Music, one of my main global goals was, and still is, to transition from hard media to Web-based distribution. The DVD market was too costly, with high production costs and relatively few sales. Moreover, many users ultimately encode these DVDs for their desktop and mobile viewing.

To make the change, we had to construct a system that produced better than the stereotypical small grainy video, with low overhead costs and without interrupting daily archival recordings. The solution was a combination of repurposing an older standard-definition video suite and using remote-management tools. UNT's network was no match for a worldwide content delivery network so we connected with Ustream.tv, a growing live-streaming

platform, to provide the primary video distribution through the Internet and their mobile-streaming possibilities, including their iPhone app. Starting with a free service like Ustream or Livestream allows anyone with a Web camera to broadcast video, and that is where we started—with just a little more equipment on the front end. Once the enthusiasm took hold, it opened the doors to expanded internal development of projects.

Going Social

Thirty classical concerts were streamed live during UNT's 2009/2010 academic year, and more than 101,000 people tuned in from more than 3,000 cities in 100 countries. The overhead cost was just \$1,000 per semester. A third of the audience came in through Facebook wall posts from students and proud parents, another third from various links and the last third from e-mail promotions. About a quarter of viewers were on mo-

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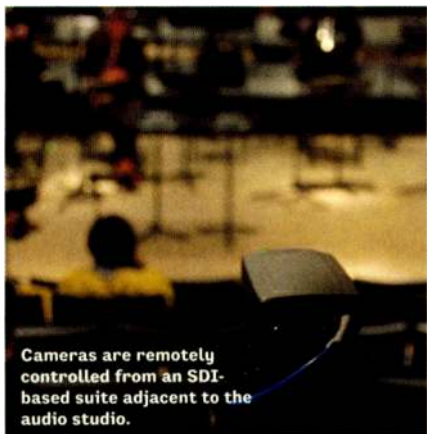
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Cameras are remotely controlled from an SDI-based suite adjacent to the audio studio.

bile devices; only one-third of total viewership was from our hometown of Denton.

Simply live streaming is old news to the younger generation, so we made extensive efforts to tap into the social-networking experience. Our goal was not to re-create the concert hall, but to create a different experience on the Web by taking advantage of what it does best: real-time interactivity. Video, while forming the basis of our production, became secondary. Students posted the link on their walls shortly before the concerts (using mobile phones), and we got a rush of referrals from "friends." Ustream had us on a featured list, and we made use of their iPhone app for viewing

and chatting. With parents, potential students, composers and even people at the concert participating, an amazing real-time event evolved and enhanced the concert experience.

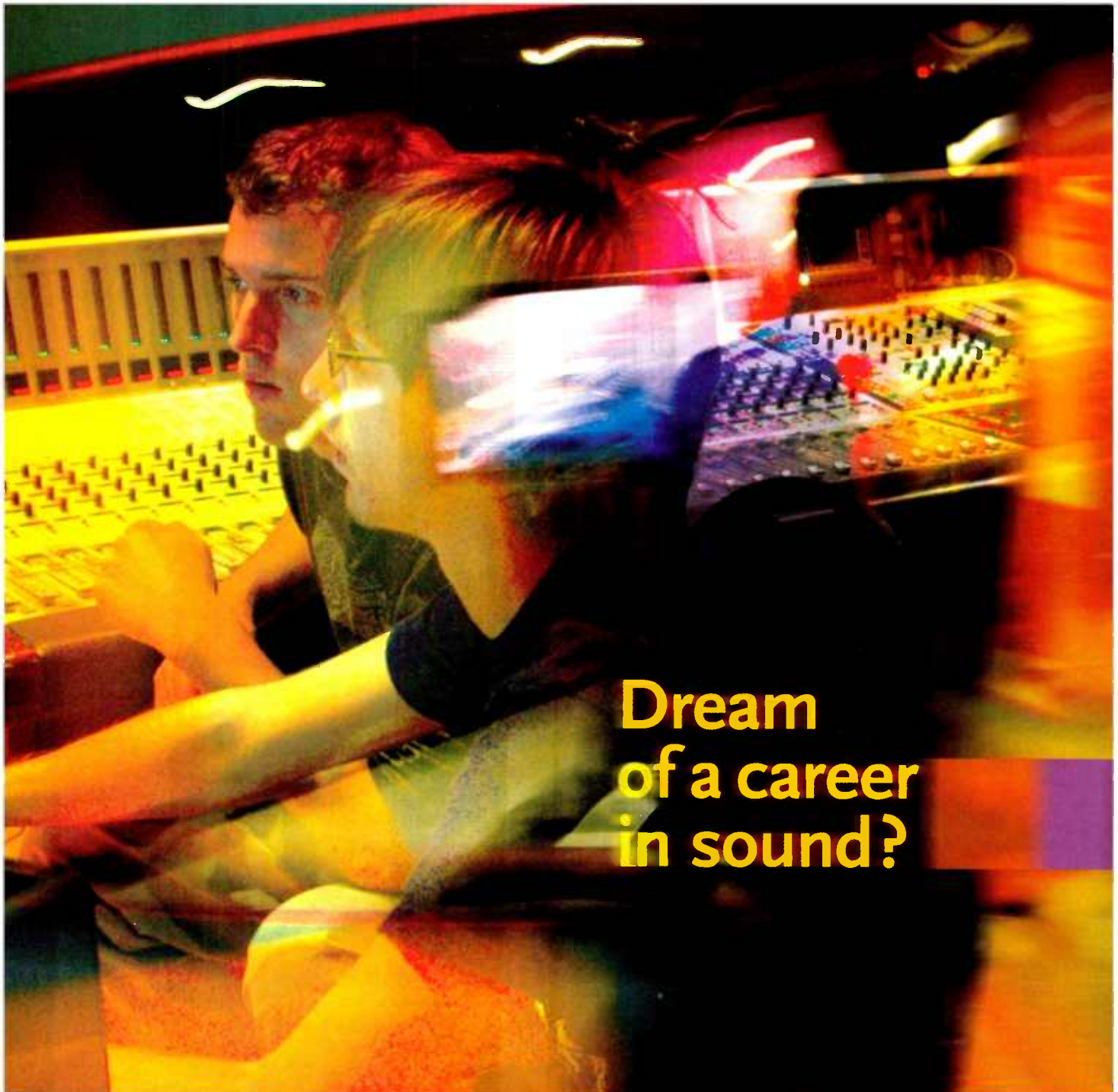
Suddenly, a prospective student in Japan who was interested in the UNT Wind Symphony was chatting with a player sitting in the audience on their iPhone about how much he liked the program. Parents used to seeing every high school concert could continue to see their children play hundreds or thousands of miles away. Composers having their works premiered logged in and chatted with the students. Grammy-winning and now Pulitzer-winning composer Jennifer Higdon participated when her percussion concerto was performed by UNT with faculty Mark Ford premiering his cadenza. Metropolitan and rural K-12 schools have had "band night" during which they assembled in their gym and watched performances that otherwise would have been out of reach.

One of my favorite things to do at each performance has been to monitor the chat for parent requests. A parent or friend would make a statement that their son or daughter is a violinist in the first row, and I forwarded the request to the stu-

Our goal was not to re-create the concert hall, but to create a different experience on the Web by taking advantage of what it does best: real-time interactivity.



An operator can zoom in on viewers' family members during the performance.



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World Radio History



Suddenly, a prospective student in Japan was interested in the UNT Wind Symphony was chatting with a player sitting in the audience on their iPhone about how much he liked the program.

dent running cameras. Within a few seconds, we had a close-up of the student player for a family member watching live from, possibly, the other side of the world.

Technical Lowdown

We started with the primary goal of providing exceptionally good audio, not only because our content is classical and jazz, but also because good

audio can create a more enveloping experience. This is especially true if the video quality is not as superb for some viewers. In the flagship hall, this is done from an installed Decca Tree with outriggers of DPA 4006s powered by a Millennia HV-3R fed into a LightViper fiber-optic system, providing the front-of-house and recording split. At the end of the 600-foot fiber recording run terminating in a separate building is a split between a Pro Tools HD rig and a Yamaha M7-CL, monitored by my personal favorite Grace M906 and 5.1 Dynaudio speaker setup. The M7 may seem like an odd choice, but the purpose is to provide the live stereo mix for the video suite, backup and return to the performing arts center.

An operator monitors the chat taking place during a performance.

Audio is run through a TC Electronic Fi-

A stylized, blue-toned image of a musician playing a guitar, overlaid with a digital waveform. The musician is shown in a dynamic, almost floating pose, with the guitar and strings highlighted. The background is dark with some light streaks, suggesting a digital or futuristic environment.

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Video is carried from UNT's Recording Services over the Web via Ustream.

nalizer for just the broadcast side, with the idea being that the intended listener is listening on laptop speakers with limited dynamic range and distortion in the very lows. I mostly monitor on my Macbook Pro or iMac, along with earbuds on my iPhone. Pro Tools also feeds a surround mix to video for later DVD release using an RME AES/EBU card.

The video rig comprises three permanent and one floating pan-tilt-zoom cameras remotely controlled from the SDI-based suite next to the audio suite. It requires one student operator to control shots and switch video while two Mac Pros provide recording and encoding through Blackmagic SDI cards. Encoding rates conform with several standards between Flash and HTTP Live. All audio is sent as an AAC-LC, 160 Kbps at 44.1 kHz to conform with the iPhone. The internal source has four bit-rate levels, from a 150Kbps iPhone feed to 1,500 Kbps for home-entertainment centers and limits the number of connected users. Ustream requires a 500Kbps feed and has great results for the majority of users on the desktop and iPhone app.

With 30 streamed concert productions in the past year, I have not always been available to physically be at every single stream. For technically simpler concerts, I have remotely controlled the setup with a student at the site controlling cameras. Apple Remote Desktop is used to control the Macs, while the M7 can be controlled with Yamaha's new software. Website management is, by nature, remote-accessible. With multiple M7 consoles between FOH and recording, it is simply a matter of recalling the console settings that the FOH engineer created that week and remotely changing scenes with real-time feedback via the stream.

Most live concerts are not released to the

public for rebroadcast. We use a content-management system called ExpressionEngine to manage the live queue, and we make archive recordings available to UNT staff, students and faculty via an on-demand streaming section for desktop or mobile phones. Once a live stream is completed, we simply drop the recorded file into a server folder and it is available within a few hours.

Opening this fall at UNT is the newly renovated Paul Voertman Concert Hall, which features a multichannel Meyer FOH system with a Yamaha M7CL-ES desk; recording with a Schoeps KFM Surround Sphere, Grace M802 preamps and Lavry A/Ds; and a high-definition

camera system for recording and live streaming. The hall is set for live streaming to begin on the NEA-sponsored November series.

With all the budget crunches facing higher education, we will be looking at paid subscriptions and pay-per-view-style systems for select live and delayed content. But for now, to see a schedule and watch performances, simply visit us at recording.music.unt.edu/live. Then go out and try it yourself! III

Blair Liikala serves as director, recording services for the College of Music at the University of North Texas.

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The Secret Sisters are real-life sisters Laura (left) and Lydia Rogers.

By Blair Jackson

The Secret Sisters

DUO UPDATES CLASSIC COUNTRY AND POP SOUNDS

Considering the music industry buzz surrounding the impressive debut album by the neo-traditional country duo the Secret Sisters, it's remarkable to think that a year ago the act didn't exist and that real-life sisters Laura and Lydia Rogers *hadn't* been knockin' 'em dead at talent shows or coffee houses in their hometown of Muscle Shoals, Ala., the past several years. They're that polished, that charismatic.

Indeed, as their producer Dave Cobb recalls of their origins, "We discovered them at an open-call audition in Nashville in October [2009]. One sister—Lau-

ra—got up and sang, and it was just the most magical thing: She sounded like Snow White or something; I'd never heard anything like it. It seemed very different but also sort of timeless. And she said, 'My sister is coming in a couple of hours and you should check her out, too.' So we paid attention to her, and she was great, too, and then they sang together and they were so good. But they'd never officially been a band or a group or anything and had never performed live. They didn't consider themselves professional singers."

Laura and Lydia Rogers, both in

their early 20s, are from a musical family and had been singing for years informally in church and around the house, but as Laura Rogers says by phone from San Francisco where she was about to perform with her sister and T Bone Burnett's band at the famed Hardly Strictly Bluegrass Festival, "Up until the point we were 'discovered,' nobody had a clue that we were singers. I have friends from high school who message me on the Internet, and say, 'I didn't even know you could sing! You just played the Ryman, you recorded with Jack White, you made a record.'" She laughs at the seeming ab-

surdity of the Secret Sisters' truly meteoric rise.

"It's been a crazy year," she continues. "Obviously, we never expected this. It's almost like we get these Christmas presents every few months: 'Oh, guess what, you're going to be doing a taping [for an upcoming TV special] with Jakob Dylan and Elvis Costello and T Bone Burnett's going to be there. And then you get to play in San Francisco for the bluegrass festival.' It's pretty humbling and very moving for us emotionally to know that these big names are inspired enough by two little girls from Alabama who nobody has ever heard of before, to want to be part of what we're doing."

For Cobb, after the Nashville audition had knocked him out, "We had to figure out what to do with them because it was so out of left field—it's certainly not your Lady Gaga or Katy Perry. What do you do with this? So my manager—Andrew Brightman—and I flew them out to L.A. and cut a couple of songs with them at my studio [known as 1974, after the year Cobb was born] and they were signed within a week. They had a couple of songs that they knew and we did an experiment with the recording and really had a good time trying to do something different. I love old records—I'm a huge fan of RCA Studio B [Nashville] recordings of the '50s and '60s, and also the whole Wrecking Crew era in L.A., and that's what we tried to do with it [sonically]. I thought it would be cool to bring back a little bit of Skeeter Davis and a little bit of Patsy Cline, a little bit of George Jones and kind of blend it all together. Country, but also pop. So we had some A-list guys here in L.A. come down—some friends of mine—and we did it really quick. We did the demos with this engineer named Greg Koller, and he had access to all sorts of original Universal Audio 610s and Fairchild's and [RCA] BA6A compressors, and we really tried to pick period-appropriate gear." Though none of those tracks made the eventual album, it set the tone for the duo's aesthetic—retro but with a modern twist.

"Then we went to Nashville," Cobb continues, "and did the record at Blackbird, mostly in Studio A, with the help of this pedal steel player named Robby Turner who used to play with Waylon Jennings, and he suggested Pig Hargus as the piano player. Pig was part of the whole RCA Studio B scene, and he actually helped invent that style of piano along with Floyd Cramer. It was funny, when we were going through and picking songs for the record, he'd say, 'Oh, I played on that one.' 'Yep, I played on that one, too.'" [Laughs.] Rounding out the house band were guitarist Jason Cope, bassist Brian Allen and drummer Chris Powell. The songs are a blend of old country nuggets by the likes of George Jones, Buck Owens and Hank Williams; a couple of traditional pieces; and two

originals written by the Rogers sisters. As Laura Rogers notes, "It was pretty cool to know that songs we had written in the 2000s were compatible with songs from the 1950s." Their sound at times resembles a female Everly Brothers (and Louvin Brothers)—"It's that thing where two voices sort of sound like one when they're together," Laura Rogers says. "Being sisters helps."

Cobb notes that at Blackbird, "We did it all live in one room together, though the girls were in a booth separately but looking at the band the whole time. There was a lot of bleed. The first



round of songs we did were with [engineer] Niko Bolas, and he did a great job capturing everything. Once again, we stuck with the old equipment. Blackbird really has anything you could want; it's unbelievable. I stayed up at night dreaming about the gear in the place! So we really took advantage of what they had there, plus Niko had some original tube mic pre's from a DeMedeo desk here in L.A. But the studio had some [Telefunken] V76s for the vocals and [Blackbird owner/engineer] John McBride had these old RCA OP6 [pre's] that he recommended and sounded incredible. Then we used all period microphones: Greg Koller, who did the demo, had an original RCA KU3A ribbon, which is a mic they used to use for film in L.A., and it's a great-sounding mic with a crispy top end, as well as the low end of a [RCA] 44; so we used that [as an overhead] on drums, a [AKG] D-30 on kick and then Niko also put up a couple of side mics—[RCA] 77s—to fill it in between the rack tom and snare, and one in between the floor tom and the kick. But in the final mix, it ended up being mostly the overhead and the kick. Nearly everything else was miked with 77s, except the guitar, which was an RCA BK-5—a really cool mic John McBride turned me onto. The girls were singing on a Neumann U48—just one mic in cardioid—and then on one particular song, 'House of Gold,' they were facing each other and we did that one in figure-8.

"We did the bulk of the tracks in about three days together—three or four songs a day—and

they were just nailing the lead vocals on the scratches. We set 'em up so they could maybe punch in or come back to something, but we didn't really need to. We did several passes on most of the songs and every pass was good. It was just really, really easy for them. They actually told us after a couple of days, 'This whole recording thing is really easy,' and we were thinking, 'Girls, you have *no idea* how laborious this usually is!' I'm not kidding—it was like hearing a finished record by pulling the faders up. We actually had a few more days booked for [Blackbird] Studio B for overdubs and fixes, but we mostly just ordered food," he chuckles.

Though Laura Rogers says she and her sister had some typical first-time nerves in the studio, "Luckily, we really connected with all the session players who were there and Dave [Cobb] was such a huge source of comfort for us. It felt like there was no pressure. All we had to do was walk into a room and sing, which wasn't hard for us."

About the only concession that was made to modern technology was using Pro Tools as a storage medium, but even that had an old slant: Cobb and Bolas used Endless Analog's CLASP system in which the recording signal bounces off the repro head of an analog tape recorder (in this case, a Studer A27 2-inch 16-track machine) directly to a DAW so that the recording retains the favored characteristics of analog tape without requiring thousands of dollars of the medium. (For more on CLASP, see the *Mix* June 2010 review at mixonline.com.) "We also had real slap going the entire time off a Studer B-67 and we printed slap live. We were printing effects as we were going," Cobb says. The producer lauds Blackbird's "incredible chamber, which is like a two-story-high entryway, but the ceiling goes up and goes down so you can change the size of it. It's pretty magical."

In truth, the whole Secret Sisters "package," if you will—the name, the look—came after the sessions for the most part. Laura Rogers comments, "Dave was especially instrumental in helping us hone what we wanted to do. We knew that we loved that old kind of music and we knew there wasn't a huge amount of it out there for the general public to hear, so we really kind of blossomed in the studio sessions at Blackbird. That's when we became the Secret Sisters. We really became ourselves in that moment. And then, once the music was there, that's when the label stepped in and they wanted us to have a unique look, so we decided the best way to go was let the style of what you see when we come out onstage match the music that you hear. So far it's working pretty well because people are starting to recognize that aesthetic of the Secret Sisters. When we walk out onstage, you're going to see us look-

ing like we just walked out of 1957. At the same time, in our regular everyday life, we don't dress that way and we prefer it that way because nobody knows who we are whenever we're dressed like regular people and we like that anonymity. It's kind of like the only time you get to see the Secret Sisters is when they come out onstage and perform. We like that mystery." The name was suggested by manager Andrew Brightman.

After the Blackbird sessions and some subsequent mixing work by Darrell Thorp, Burnett heard the Secret Sisters and was so floored that he wanted to get involved, too, and signed on as executive producer of the fledgling act's first disc. As Cobb says, "T Bone really opened up a lot of doors for people to pay attention to the record." Burnett suggested cutting one last song for the album—the haunting Bill Monroe ballad "The One I Love Is Gone" (which the Rogers sisters sing similarly to duo versions by Hazel Dickens and Alice Gerrard)—and also a couple of B-sides recorded at Blackbird with Cobb producing and McBride engineering. Burnett's engineering team, including Jason Wormer and Mike Piersante, also supervised the recording of a few guitar and steel overdubs (by Russ Pahl) and re-mixed the album at Burnett's Electro Magnetic Studios in L.A. on an API console, with Piersante and Burnett tackling four songs, Wormer the rest. Wormer says, "T Bone wanted to change the aesthetic a little bit and kind of bring it closer to what we do, which is a very traditional sound, but a very modern traditional sound. It sounds old-timey, but it's also full-fidelity big. I think Dave [Cobb] and those guys were going for more of a pure '50s sound, but when you hear the girls sing, they immediately take you to that era anyway, so T Bone wanted to hear something a little different."

Separate from all of these sessions was a day the Rogers sisters spent cutting a one-off single with Jack White, who had also become enamored with the Secret Sisters' sound. The feeling was mutual: "We're huge fans of his and had to pinch ourselves and try not to seem like girlie fans," Laura Rogers says. White and the ladies recorded the traditional "Wabash Cannonball" in a fairly straight style, but transformed the Johnny Cash nugget "Big River" into a full-blown, White Stripes/Raconteurs thrash number. "We were thinking it was going to be the same tempo as the Johnny Cash version, maybe have Jack play some bluesy bottleneck guitar on it, but before we know it, he's got that guitar and he's shredding!"

Not bad for a couple of unknown country girls—and that was all *before* their first album even came out. Their performing career is actually just beginning now. They're off to a good start. III



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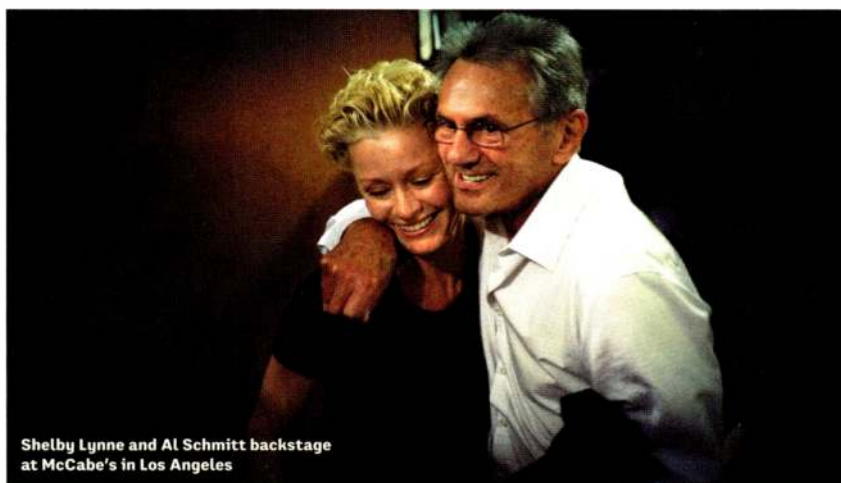
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Al and Shelby— Together Again

In August "Editor's Note," *Mix* wrote about Shelby Lynne and her love of analog recording, the sound of which permeates her recent, excellent trifecta of *Just a Little Lovin'* (the Dusty Springfield tribute produced by Phil Ramone), *Tears, Lies and Alibis*, and *Merry Christmas*, her first holiday record, released last month. She performed at Yoshi's in San Francisco on the night of our interview, then a few nights later was at McCabe's in L.A., where she took this photograph with her mixer on the three discs, Al Schmitt. She's a huge fan of Schmitt, saying at the time that she "just sends him the reels of tape and he sends me back CD refs. I don't have to be there because I know Al is just the best." Not surprisingly, Schmitt is a huge fan of hers.

"What gets me the most about Shelby is her writing ability," Schmitt says. "It's just so real. The silver trailer—she has this love for real things, real feelings, and it's there in her songs. But that's who she is as a person, too. Real, warm, honest. I told her down here at McCabe's that she should do a live album, just her and John Jackson on guitars, because the way she connects with her audience through her voice, her guitar and her emotions is just so honest."

Schmitt has mixed the past three Lynne projects in his home away from home, Capitol Studio C, on the 72-input VRQ. Lynne records to Studer 24-track at 15 ips, with guitar and vocals mostly done at her home in Rancho Mirage, Calif., then sends the ATR tape reel to Schmitt. He transfers it to Pro Tools, then mixes to a half-inch ATR analog machine. At the time of our August interview, she took pride in being an analog girl in a digital age, and she joked about not knowing what to do with more than 24 tracks; she preferred to commit to her decisions at the time of tracking.



Shelby Lynne and Al Schmitt backstage at McCabe's in Los Angeles

"That's her middle name: analog," Schmitt jokes. "Through and through. On this Christmas record, she didn't even run out to 24 tracks; a couple were only eight to 10. But she uses great microphones and a great tape machine. It's just her, her guitar, the Studer and her dog Junior. [Ed. Note: She sings into a Telefunken 251 and puts a Neumann KM81 on her guitar, then to her new favorite mic pre, a Karl Diehl NPNG, to her Mackie 24-channel board and straight to the Studer. Those tracks usually make it through to the record.]

"I think we did a couple of overdubs on this last Christmas record," Schmitt recalls, "but not for anything in the performance. When we did the Dusty record, and that is a wonderful record, there were no overdubs, no pasting, no tuning. Very pure. There are very few artists today who can make a record the way she makes a record."

—Tom Kenny



Studio Profile Megasonic Sound

Producer/engineer Jeremy Goody worked in and helped build various studios in the San Francisco Bay Area for more than 20 years before finally realizing a dream. In 2007, he collaborated with studio designer Chris Pelonis (www.pelonissound.com) to transform a single-story office building in Oakland, Calif., into his own full-service studio, Megasonic Sound (www.megasonicsound.com). Goody opened this facility in 2008, and in 2010 it won an award from local newspaper *East Bay Express* for Best Studio.

"It's my personal production space but it's also open to other engineers," Goody says. "This whole place is built to be a cost-effective way to

get high-quality audio. I think Megasonic is a nice bridge between custom-built facilities and project rooms." Goody's budget for construction was significantly lower than the budgets that Pelonis typically works with, "so I had to do a hybrid [construction] approach," Goody says.

Pelonis conceptualized a design and acoustic treatment using his proprietary semi-custom modular system, which is manufactured off-site by RPG Diffusor Systems and delivered to the client. "My design fee on a project like this is a fraction of



From left: Brian Hood (who handled much of the construction), Jeremy Goody and engineer Gilad Gershoni in Megasonic Sound's control room

⊞ Loudville Expands Studios, Services

Mark Keller's Loudville Studios (formerly Boomtown) in Sausalito, Calif., has received a thoughtful makeover: The facility, which has been providing music recording and mixing services for more than 19 years, was rewired and re-equipped to add video

eras: three in our big live room and one in the iso booth. Now clients can shoot their video, broadcast over TV or the Web in front of a live audience of up to 30, seated in our mezzanine area, or they can be creating B-roll during a recording session."

On the audio side, Keller purchased an Avid D-Command and Pro Tools HD; monitoring is via Genelec 8240A 5.1 surrounds. Senior audio engineers Paul Simmans and Mathew Trogner are enjoying the rush of applying their studio expertise in a new setting. "With the live shows, we use a lot of the same stuff that we would in a studio recording," says Trogner. "So we're using our nice preamps and mics and a lot of things that you

might not typically see on live recordings."

One thing that hasn't changed at Loudville: The studio is still home to Keller's voice-over work; he links via ISDN lines to studios on both coasts, providing narration for top clients such as the National Geographic Channel and CBS, for whom he recently completed the new season of *Undercover Boss*.

For more about Loudville, check out videos and photos at mixonline.com. —Barbara Schultz

Laughing Tiger Celebrates 15 Years in Marin



Laughing Tiger owner Ari Rios at the SSL G+ 4052 console in the Studio A control room

Laughing Tiger (www.laughingtiger.com) has thrived as a commercial facility in San Rafael, Calif., since 1995, serving a clientele that ranges from local musicians to San Francisco Bay Area luminaries Carlos Santana, Huey Lewis, Tomny Castro, DJ Shadow and Maria Muldaur, among others. Owner/producer/engineer Ari Rios attributes his studio's resilience to a combination of timing and foresight.

"I got in right at the tail end of big record budgets, before the whole thing fell apart," he says. "You had 9/11, Napster and then [Digidesign] released the 002 [audio interface/control surface in 2003]. When the 002 was released, I said, 'Everyone's going to record at home now, but in five or 10 years, a small percentage is going to realize you can't do it all yourself at home.' And that has become the reality. People do what they can in their own studios and then do what they can't in a bigger studio. I welcome that thinking."

Laughing Tiger comprises Studio A downstairs, offering a large tracking room, control room with a 52-channel SSL G+ 4052 console, dry iso booth, ambient iso booth and lounge; and Studio B upstairs, with a smaller live room for "tighter" acoustics, a control room and a vocal booth. Rios notes that "the plug-ins and amount of DSP in both studios' Pro Tools HD4 Accel rigs are identical, so you can move a project between studios with no issues."

Rios says his studio provides "world-class-quality gear, acoustics and service on a sliding scale so that every artist gets the same quality experience at a rate that they can afford, regardless of whether it's a community or major-label artist." —Matt Gallagher

Mark Keller live and onscreen in Loudville Studios

recording and broadcast capabilities.

"We wanted to evolve into something greater that would make clients want to do their music project here and capture as much as they want on video, or go live," says Keller. "We added a video control room; our video room and audio room talk to each other. We also installed four robotic cam-

by Matt Gallagher

what it is when I'm designing everything to be built in," Pelonis says. "But you still have to look at the proportions, room ratios, cubic volume, the HVAC, electrical, wiring, ergonomics, building codes—all that stuff. We do a combination of built-in and geometrical construction and architecture with prefabricated modular systems. I started doing that back in the '80s, and people are starting to recognize that this [approach] really performs."

"The construction went quickly and easily," Goody says. "We only had to build rectangles with good dimensions and isolation. We also built a few rigid Fiberglas panels to complement

the other treatments. The acoustic treatments showed up on a flatbed truck and were installed inside of a day."

Goody sees Megasonic as a "mastering room first with tracking rooms attached to it." Megasonic comprises a 21.5x18-foot control room, 24x17.5-foot Live Room A, 14x10.5-foot Live Room B and 11x7-foot kitchen/iso booth. Megasonic has no console; instead, an Avid Command 8 controls Pro Tools and Logic Pro software on a dual-core Mac G5 with a Pro Tools HD2 system and 24 channels of Apogee conversion. Mastering equipment includes a Dangerous Music Box EQ and Great River MAQ-2NV EQ. For analog

summing, he employs a 16-channel Roll Music Systems RMS216/JCF LEVR combination. Goody monitors with Pelonis Signature Series PSS110Ps based around 10-inch Tannoy dual-concentric drivers, as well as Dynaudio BM 55s and Auratone Sound Cubes.

In 2009, Megasonic hosted sessions for the album *La Guerra No* by John Santos Y El Coro Folklórico Kindembo, which was nominated for a 2010 Grammy Award as Best Traditional World Music Album. "That stuff's right up my alley because it's drums and voices—it's all about mic technique," Goody says. "There isn't much you need to do if you record it well." III

CLASSIC TRACKS



Metallica, circa 1990, from left: Lars Ulrich, James Hetfield, Kirk Hammett and Jason Newsted

Metallica

“ENTER SANDMAN”

By Sarah Benzuly

Today, San Francisco Bay Area–based band Metallica are aptly called “The Monsters of Metal.” But that wasn’t always the case. After finding their hometown not as receptive to their brand of metal, the then-current lineup (James Hetfield, rhythm guitar/lead vocals; Lars Ulrich, drums; Ron McGovney, bass; and Dave Mustaine, lead guitar) headed down to L.A. in the early ’80s to make their way into the burgeoning metal scene. They amassed a following but found themselves battling the ever-rising hair-club bands for true dominance. So they headed back to the Bay Area, where they caught a gig by metal band Trauma, whose bassist, Cliff Burton, joined Metallica shortly after, replacing McGovney. Meanwhile, in New York, a copy of *No Life Til Leather* (their 1981 demo) made its way to Jon Zazula’s record shop, the aptly named Metal Heaven. Zazula quickly had Metallica coming out east to play some shows and record an album.

Rumors abound on the actual reason why Mustaine was kicked out of the band after a few weeks in the Big Apple, but the guitarist was sent packing and replaced by guitarist Kirk Hammett. Metallica released *Kill ’Em All* and *Ride the Lightning*, and in 1986 *Master of Puppets* (produced by Michael Wagener) helped land them

a choice opening slot on Ozzy Osbourne’s tour. But that high was soon crushed when a freak tour bus accident killed Burton. Still, the band trudged on, enlisting Jason Newsted to fill the role. They quickly released an EP and then their fourth full-length, *...And Justice for All*. It is at this point where we find the band on the verge of metal stardom.

In 1989, the band called on producer Bob Rock, with whom they hadn’t worked before, to help sculpt their next masterpiece. Rock had just finished producing Mötley Crüe’s *Dr. Feelgood*, and the members of Metallica wanted to mimic that album’s bottom end. Rock brought along engineer Randy Staub to One on One in North Hollywood to begin the long and arduous process of recording *The Black Album* and its first single, and this month’s “Classic Track,” “Enter Sandman.”

Not only was the band working with new creative types, but Rock and Staub brought along a new way of recording an album. “The process was very different from any other record I’ve worked on—or since—in that the way they had recorded their previous albums is that they would construct a click track because there was a lot of different tempo changes in their song structure back then,” Staub says. “James would

go in and play a rough guitar part, and then Lars would go in and play the drums to that, but he wouldn’t play from start to finish; he would play the first verse until he got it right and then stop and punch in and then do the chorus and stop and punch in until eventually they got a drum track. And then they would do what are called ‘air cuts’: You physically remove a slice of tape in front of a beat, a kick drum, and that moves the kick drum up in time. So after Lars got the drums done, James would go in and play all his rhythm guitar parts, then he would sing, then they would put the bass on last. Everybody doing it separately; nobody playing together.”

But for *The Black Album*, Rock and Staub wanted to have all four members playing together in the same room. “They thought it was a lot of work,” Rock says, “and they didn’t understand it. This was the only way I knew how to make a record. To me it was about capturing the feel that they wanted. I thought there was just this weight and size and heaviness in them that I never caught on their other records; not saying it wasn’t there. I think Kirk had the hardest time with it because he had to play solos for each take, but as it turned out, when it came time to do the solos, we listened to everything off the floor, and he got a lot of his ideas for his solos off of those.”

“It was pretty unusual for them to be sitting in a room and playing together,” Staub adds. “But the way they record songs, it’s a form of construction. They never play a song start to finish. The guys would play their parts and Lars would play the feel for the verse. We’d do that for two or three reels of tape [on a Studer 2-inch] and then do the chorus and then drum fills. Eventually, we’d have all the individual pieces recorded and then Bob and Lars would go listen to them all and make a chart of the parts they wanted. I would go in and tape them together—physically cut the tape and put them together to make what is almost the final drum track.

“There were so many edits on the tape, I was scared to play the thing because almost every beat had a cut or an edit on it. We’d transfer it to a 3224 digital machine at the time and that

She is still
at the same number.

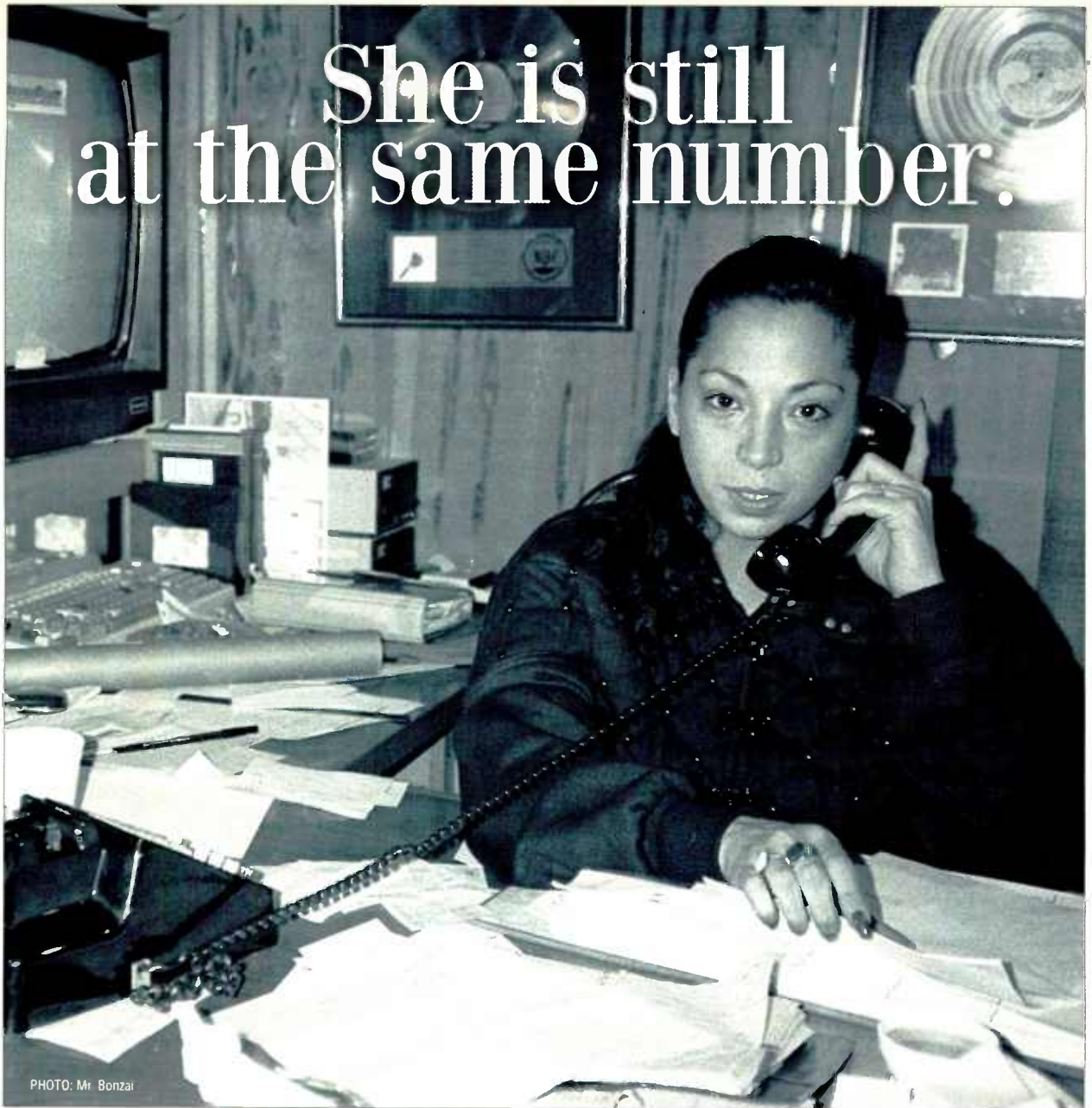


PHOTO: Mr. Bonzai

Rose Mann-Cherney, Record Plant Los Angeles Circa 1984

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became the master drum track, and then from there James would go play his guitar parts, get the bass line down pretty soon afterward and then do the overdubs. It was quite the 'construction.' This whole process would take, oh, weeks. [Laughs.]

"I don't think Randy had ever edited tape like that before," Rock says. "The way we were editing tape is how many people do it now in Pro Tools. We did a lot of editing; it's legendary. [Laughs] There were so many edits in the analog tape that we had to transfer it to a Sony 24-track digital because we wouldn't be able to play that tape back too many times. The Sony was the first

machine that I ever felt comfortable with."

It's difficult to say exactly how they recorded "Enter Sandman" because the band would bounce from song to song during the recording, working on drums first. "I think [we recorded] half the record first and that took three months," Staub says. "And then we started doing overdubs and give Lars a bit of a break. And then we went back and did the second-half of the record. The whole record took six days a week for months on end."

According to Rock, the demo for "Enter Sandman" had the basic riff and feel, but the arrangements were worked out during much of

pre-production. Originally, Hetfield's first set of lyrics very blatantly talked about crib death. "And I had the wonderful job of telling him that they weren't quite right, that maybe he could relook at them," Rock says. "I said to him, 'I think you can find a way to get at what you're saying without being so direct.' And that was the beginning of a wonderful friendship when we started talking that way."

When Hetfield went back to the lyrical drawing board, he came up with the idea of having a classic children's prayer in the middle of the song. So during Christmas break, Rock and his son, Mick, went into his home studio and recorded the lyrics: "Now I lay me down to sleep/I pray the Lord my soul to keep..." Upon returning to the studio after break, Rock played the recording to Hetfield, who was happy with the result.

Rock and Staub recorded via One on One's SSL using numerous Neve mic pre's. As for the room, it needed to be a bit doctored up as it had numerous soft surfaces, so Staub and Rock physically covered those surfaces with plywood (one side lacquered) to create more of a live room for Ulrich. Much attention to detail was paid to Ulrich's massive kit, using 50-plus mic models for double and triple-miking the set and room mics. Other mics include a Neumann FET for Hetfield's vocal (though he tracked with a 57). "James had a very specific singing technique," Staub says. "He wanted to do a lot more actual singing [than on other records]—and that came a lot from Bob."

Once drum tracks were laid down, the live room was put to use for Newsted on bass—who played through a few SVT cabs and taken DI—and Hammet's guitar; he played through Marshall amps with Mesa-Boogie heads.

Hetfield's guitar setup was a bit more intense: "We ended up building this huge guitar cabinet for him," Staub says. "It might have had an old Marshall head, and that would be just one part of the sound. I think his standard setup was this Mesa-Boogie head and then all these other amps were there to fill in the sonic picture. It would generally have a scooped kind of tone. I think we had nine or 11 cabinets—some stacked on top of each other, some on the floor, some baffled off from each other—and then we'd get this huge tent around this pile of cabinets curtained because as we were getting James' guitar sound, he kept saying, 'I want it to have more crunch.' And to Bob and myself, crunch was more of a high-end thing, but to him crunch was more bottom end. What he wanted was when he hit the low strings, he wanted to have some length to it. And the only way to get that length was by curtaining off this small room around the cabi-



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nets and we'd have some mics farther away to get some ambience."

This minute attention pervaded the making of *The Black Album*; Staub offers this example: "When we were doing drums, we changed the snare drum head eight, 10 times a day, and he'd play two or three takes on that snare drum head. And then when it was time to change the snare head, I'd take a sample of how that snare sounded and then half-hour to two hours to match how the new snare drum sounded to the old one."

Another example: "With James' guitar, we got to the point where instead of playing the guitar part from start to finish for the song, we'd play it from start to chorus, change the strings, and then double it from the start to the chorus. That way, the strings would be good by the time we got to the end of the song. And that would take days to do that."

"Enter Sandman" was the first track to be mixed on A&M Studios' (Hollywood) SSL 4000 Series console. And even mixing became a study in microscopic perfection. "One of the big things back then was that I would use the SSL 4000 compressor as the bus compressor," Rock says. "But James didn't like what it did to his guitars, which made me have to rethink the way I mix. What I came up with was, the fact that the SSL has three main buses, I could put an SSL compressor across the drums and bass, and I could leave the guitars uncompressed, which is James' sound. That's really the biggest part of how the Metallica album sounds; that's why it has that weight."

At this stage, Rock, Ulrich and Hetfield were at the helm, deciding on how the mix would sound. "Lars was a bit of a maniac about the top end of his kick drum; we called it the 'lead vocal kick drum,'" Staub says with a laugh. "It was sometimes a battle between James and Lars: James wanted more guitar and then Lars would say there wasn't enough cymbals. We spent such a long time on the sounds when we recorded them; the sound was set in the recording, not in the mixing. I think we spent a month mixing."

Adds Rock: "What's great about Metallica is that they have this attitude that we have to make something great; we have to break boundaries in terms of what people think is great and we're not willing to compromise. In the end, we needed a bit of a kick in the pants to finish [the album]. For the last four or five days, I think Randy and I were surviving on bubble gum and coffee."

Did either of them have any idea how big "Enter Sandman"—and *The Black Album*—would become? "I certainly didn't," Staub replies. "I knew it was a really good record, but by the time the record was finished, I was so burnt

out on it that I didn't have any real clear view on it. But I knew it was really good. I'm proud of that record—especially the amount of time I worked on it. Bob and I joked that we never fully recovered from that record."

"When you're in it, you just don't know what it's going to end up sounding like," Rock says. "I was just trying to help them make the album that they heard in their heads as best I could. At the end, I told them, 'This is great, but just don't call me. [Laughs.] I'm not into doing this again.'"

But that obviously wasn't true, as Rock and Metallica would continue to record albums together for several years—even through the rough

departure of Newsted and introduction of Robert Trujillo. The band and Rock parted ways after wrapping up production of *Reload* (1997). Rock continues to produce many great albums; he is currently mixing the next Offspring offering.

Staub also worked on Metallica's *Load*, *Reload* and *Garage Inc.*, and has since made quite a name for himself, including being nominated for the Juno Award for Recording Engineer of the Year nine times, and winning in 2002 for his work on Nickelback's "How You Remind Me" and "Too Bad." He still lives and works out of Vancouver, working on such acts as Stone Sour, Avril Lavigne and Alice in Chains. III

"I lean on Sonnox Plug-Ins"

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TAPE	POSITION	SIZE	WIDTH	TAPE	FEED	FEEDBACK
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	BACK					PHASE SELECT
	-9.1 %	10.7 m	0 %			7.9 %

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World Radio History

Live

Green Day, from left: Billie Joe Armstrong, Mike Dirnt and Tre Cool



Green Day

By Sarah Benzuly

HI-FI SOUND THRILLS THE CROWD

When Green Day finally hit the stage at the Shoreline Amphitheater (Mountain View, Calif.), the sold-out crowd went absolutely wild, eagerly anticipating what the punk-rockers would play from their extensive catalog. Would the set list draw heavily from their latest, *21st Century Breakdown*? Radio hits from *Dookie*? Would they pull out B-sides from back in the days of slugging it through small clubs in their hometown of Berkeley? In fact, they chose a little bit of everything.

And Green Day, over the years, has finely honed their sound—a gritty blend of punk and rock. Sure, it's a live show, but they want their signature album sound to pulse through the P.A.

Clair Global is providing all gear, including its new Clair i3 compact line array. According to systems tech/crew chief Jason Vrobel, the P.A. comprises 20 i3 boxes per side with 12 Prism subs per side. "In addition, we have four Clair R4s and four S4 subs and some P2 boxes for front-fill, just to fill in some of the spots we're missing with the P.A.," Vrobel says. "We're also using eight Clair IDLs per side [the new two-way delay box] on some shows to fill in the outside of the i3s. I tune the P.A. every day [using a rack full of Clair iOs]. With the shed run in the U.S., it's fairly consistent with the same sort of EQ we put on the P.A., but here and there we'll change different frequencies

for different rooms. We like the sound of the older amplifiers a little bit better [than Clair's newer models] because Green Day is a very analog-sounding band; no digital consoles. They're looking for a distinctive tone out of the P.A. so we're going a bit more old-school."

"We definitely want to make it a live experience," front-of-house engineer Kevin Lemoine adds, "but we don't want to alienate fans who are coming to the show who are used to hearing the CDs and the songs and the videos. You don't want to take them too far away from that." Lemoine, who has been with the band for the past 10 years, mixes with that in mind, but is also contending with

a few extra musicians to help bolster the sound. Jason Freeze plays piano, sax, accordion and Hammond B3, as well as contributing background vocals; Jason White offers his acoustic and electric guitar playing, as well as background vocals; and Jeff Matika, guitarist. The addition of these extra touring musicians, says Lemoine, "fills out the sound of the records that have come out since 2004. Their albums have gotten more advanced and they wanted to [mirror] that live. It helps [my mix] a lot because there's more things going on and it makes it sound bigger. I've got a lot more channels, but that's just fine."

Those extra channels are housed in his Midas

XL4 board. (He started using an API Paragon II at the onset of the tour but switched to the Midas about halfway through the North American dates.) "The Paragon is an older console and things just stopped working on it," Lemoine says of the switch. "We'd have to change out input strips and preamp modules a lot; maybe once every five days. I found the sound of it to be true and uncolored while the Midas brought a bit more grit to the mix. I like the Midas a lot; it's a 12-year-old console we're using, but it's really held up well."

Monitor engineer Beau Alexander—who is also quite familiar with the band's tone, having worked with them as a monitor tech in 2004 and

then as monitor engineer since 2005—mans a Studer Vista 5 console, using the board's 96 inputs and 56 outs. "A lot of the reason why I chose this console initially is because of the outputs I have. I wasn't sure [at rehearsals for this tour] if we were going to use wedges or in-ears. When we first started, I built mixes for wedges and in-ears at the same time." Since then, the band has opted to all go on in-ears (Ultimate Ears UE-11s), a switch that was brought forth by the bandmembers themselves; previous tours saw Billie Joe Armstrong (vocals/guitar), Tre Cool (drums) and Mike Dirnt (bass) on wedges and the support musicians on in-ears. "I went from mixing wedges, where I basically had a fixed mono spot, to a big, broad stereo mix, and they can run all over [the stage] and still hear what's going on," Alexander says. "With a stereo spectrum, I'm able to do a lot more with the mix and create a bigger atmosphere, which is a lot more fun for me—getting creative with the mix."

Alexander is giving each bandmember a pretty straightforward mix, but creating a stereo image where each performer can hear everything. "They like to be in touch with what everybody's doing," Alexander says. "Now that we're getting into more background vocals, it's a lot of spreading out vocals so they can harmonize together. With each individual input we have, they work really hard on creating a certain sound that they like to use for their instruments. My job is to present them with the way things are actually sounding instead of doctoring it up. With Tre, he likes to hear what his drums are actually doing, not like Kevin out front who is EQ'ing to make it sound more like the record."

Lemoine also keeps his mix pretty clean, invoking a few delays and reverbs, as well as an Eventide Harmonizer on background vocals. But where his mix gets a bit heavy is on the mic side. Cool's kit is miked with a Beta 91, a Neumann 170 and a Lawson FET47 reproduction on kick; a Telefunken M80 and an AKG 414 on snare top, and a Neumann 184 for bottom; a Neumann 184 on hi-hat; and Beta 98s on rack toms. Floor toms are miked with Josephson e22S because "Tre is a very dynamic player," Lemoine explains. "He'll hit with the strength of an elephant and the next second it'll sound like a fly just landed on the tom tom. We had to find a mic for the floor tom that would allow for that dynamic range. Cymbals are individually miked with 184s underneath. Overheads are Telefunken stereo single-source M215s—it's their version of an AKG C24. They're placed four feet above Tre's head and bring in some ambience."

Other mics include a Neumann TLM 103 on bass cab (taken DI out of a Vintech 1073), an SM7, a Sennheiser 421 and two Neumann 103s for each of Armstrong's two Marshall heads (going into two 4x12s). Freeze's piano is taken DI, while his

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Monitor engineer Beau Alexander at the Studer Vista 5

Leslie is miked with an old AKG D12 (bottom) and Shure Beta 91 (top); his sax takes a clip-on Audio-Technica mic. Guitarist Jeff Matika plays his axe through a Fender BassMan, which has an SM7 Extra guitarist White has a similar setup to Armstrong's, with the exception that each cab as a T1M 103 on it. "He also has a [Placid Audio] Copperphone—an effects microphone—that sounds like a real telephone," Lemoine adds. "I only use it on a couple of songs."

Everybody sings into Telefunken M80s, which were given a bit of a facelift. "Telefunken put their M80 capsule onto a Shure handheld wireless for Billie's vocal because he uses a wireless," Lemoine says. "We've used Shure 58 capsules on top of the Shure radio mics forever, and we sent [Telefunken] a handheld unit and they retrofitted it with the M80 capsule on top. They sound amazing, so we got them to do 40 of them for us because it's an aggressive show and Billie goes through one every other

show. It sounds amazing."

"It's a rock band and they have a lot of inputs, but I tend to lean more toward high-end microphones and preamps just due to the nature of the show," Lemoine adds. "It's a very hi-fi, traditionally inspired show. The audience has to be able to hear every little thing. Mike doesn't play your traditional bass line; he's more melodic. Most of the time he carries the song, along with the vocal. The two guitar players [Armstrong and White] have to be distinguished from each other so the tones have to be pretty specific. And everybody's vocal has to be there. It's pretty challenging to do that over 20,000 screaming kids, but I love it, it's a lot of fun!"

But what has Lemoine all excited is the prospect of his own FOH rig for the next tour. Right now, they're trying out different pieces of gear, including a Neve 5088 16-channel console, a slew of Chandler Limited items—"the best of the best," Lemoine enthuses. "I don't like the way digital consoles sound. And I'm taking cues from the guys back in the '40s and '50s who were doing early recordings where things that they needed to do their job simply didn't exist. That's where I'm sitting right now. We're going to make our own stuff up." III



Jason Vrobel (left) and Kevin Lemoine at the Midas XL4

Sarah Benzuly is Mix's managing editor.

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SOUNDCHECK

Juilliard Gets a Facelift

The famed Juilliard School of Music in Lincoln Center (New York City) has completed a major renovation. It now features 45,000 square feet of new facilities and 50,000 square feet of renovated spaces—many of which were turned “inside out” so that the hustle and bustle inside the school can be seen by pedestrians outside. According to system installers Altel Systems’ (Brewster, N.Y.) president/CEO, Andy Musci, this two-step process was “originally a bid project and we were awarded the initial job four years ago where we worked with Turner

“Altel also provided a substantial amount of the initial work in the other facilities in the building such as the Black Box Theater, so the infrastructure got handled during that first phase of the work. Then there was a secondary bid project, which came directly from the Juilliard School to outfit new gear for the main studio, rehearsal halls, music technology suites and the Black Box Theater.”

Juilliard’s longtime Recording Department director, Bob Taibbi, a 38-year veteran of the school, says that the department’s role is not to teach recording, but “to record the public performances that we do here at the school for archival purposes, which include orchestral performances, lectures, master classes and anything they want for the archives. With the renovation, the school was going to build a new orchestra rehearsal room, so attached to that—because I always need more space—they gave us this whole A/V suite that includes my office, two audio edit rooms, a video edit room, a control room that’s attached to the new orchestral rehearsal room and a video control room.”

Taibbi’s setup in the main control room includes a Soundcraft Phantom console, ADAM Audio monitoring systems, Millennia preamps, Aphex and Lexicon outboard gear, and Neumann, Schoeps, DPA and AKG microphones, alongside Middle Atlantic enclosures and furniture in the audio and video edit suites.



Construction to fully fit out Alice Tully Hall with both a Performance Sound System and a Cinema Sound System. Although housed in the same building, Tully Hall is managed separately by Lincoln Center for the Performing Arts and Juilliard is a separate and distinct entity.

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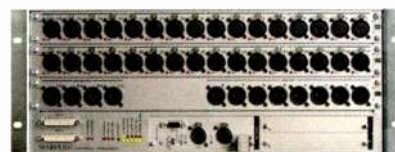
Yamaha iPad StageMix for M7CL Mixer



Yamaha’s StageMix (free from the Apple iTunes Store) iPad app offers remote control of the company’s M7CL mixer functions from anywhere

within a wireless range. Via iPad control, engineers can set up monitor mixes from an artist’s position onstage, directly controlling mix parameters: faders, sends, EQs, mutes, buses, etc. To run StageMix, a wireless connection from the iPad to a WiFi access point and an Ethernet connection from the WiFi access point to the M7CLv3 is required. www.yamahacj.com

Soundcraft Vi/Si Compact Stagebox



Soundcraft’s four-rackspace Compact Stagebox for Vi and Si consoles offers 32 mic/line ins, eight line outs, eight AES/EBU outs and two expansion slots for Studer D21m I/O cards. The D21m I/O architecture interfaces with digital platforms such as CobraNet, Aviom A-Net16, Ethersound, ADAT and RockNet. A MADI recording interface is also available. The Compact Stagebox connects to the host console via Cat-5 or fiber-optic MADI. www.soundcraft.com

fix it

Jay-Z Front-of-House Engineer Kenyatta “Kelo” Saunders



I break the band down as if it was a studio mixing session, with each [Midas XL8] VCA group being a different instrument type and the last two VCAs as master vocal and master band faders. This makes it easy to bring down the overall level of the band if I need the voice to stand out a little more. The EQ, gates and multiple compressors are stellar. When you EQ something, you can hear it changing just like on a Midas analog console. The multiband compressor is my all-time favorite. Jay-Z naturally has this 2 to 2.5k thing on his voice, depending how hyped he is. The multiband compressor allows me to keep that under control without sounding too extreme.

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The Black Keys



The Black Keys—guitarist Dan Auerbach and drummer Patrick Carney—have had a pretty packed few years. In addition to working on the highly acclaimed *Brothers* album (released in 2010), last year saw Auerbach creating his solo debut and Carney playing bass in his own combo, *Drummer*; they also fulfilled their Black Keys touring commitments, which included a two-night stay at Oakland, Calif.'s Fox Theater, where *Mix* caught up with the band.



As the tour is not carrying production—nor a monitor engineer—production manager/front-of-house engineer Jason Tarull is working with house-provided consoles and P.A.s; at the Fox Theater, he mixed on a Yamaha PM5D. Tarull does have his own mics and racks (an Alesis HD24 as they are multitracking every night, as well as Klark Teknik Square One splitters). “I also carry a rack of outboard gear—some analog stuff, mostly compressors,” Tarull adds. “There’s a Summit DCL 200 that I sometimes use on the main outs (usually when the desk is digital) and I like to use the dbx 160As on snare drum, bass guitar and vocals.”

“We generally run about 24 inputs: A few DIIs and a few mics, and we’re ready to rock,” he continues. “We’re looking into carrying our own production, including an Avid digital console at FOH. Having a different P.A. and console setup every night keeps me on my toes. We also don’t tour with a monitor engineer, which on occasion can stretch our our soundcheck.”

“To tune the P.A.,” he continues, “I’ll play a few tunes that I’m familiar with and work with the in-house audio tech and, if needed, work on some crossover settings, do a line check and then do a full soundcheck with the band.”



Patrick Carney's drum kit takes Shure Beta 91 and Beta 52 on kick; SM57 and Beta 56 on snare bottom and top, respectively; Shure KSM 137 (hi-hat); Sennheiser e 604s for rack and floor toms; SM81s on ride and crash cymbals, which are miked from underneath using LP claws; and an SM57 on cowbell.



Backing on keyboards and percussion is Leon Michels. His keyboards include a Moog Little Phatty and a Farfisa, which are amped by a Fender Super Reverb miked with an SM57. Both keyboards go through Countryman DI boxes. A Beta 57 is on hand for tambourine.



According to backline guitar/drum/keyboard tech Dan Johnson, guitarist Dan Auerbach plays a 1960s-era Harmony H75, a '60s white Supro Belmont, a '60s National Newport in black and a Harmony Stratotone. Johnson built the pedalboard, which comprises a Russian Big Muff fuzzbox, a Rosac Fuzz wah, Shinee Japanese Fuzz wah, Sitori echo unit, Electro Harmonix Small Stone Phaser, Analog Man-modified Boss tremolo, Radial Switchbone and Ernie Ball VP Jr. "The spools of tape, solder and sharpie are to keep him from stepping on buttons that he shouldn't," Johnson says.



Auerbach's Fender Quad Reverb (miked with a Shure SM57 and SM7) and 50-watt Marshall (SM57) amps rest on two large tires. The Marshall is a reissue JTM 45 head into a vintage 8x10 cab.



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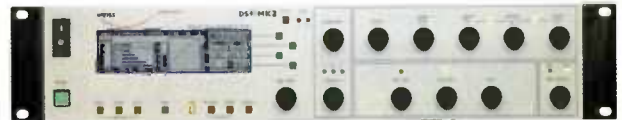
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Bringing HD to the Masses

Avid Pro Tools HD Native

Avid (avid.com) Pro Tools HD Native comprises Pro Tools 8.5 software (Snow Leopard and Windows 7) and a single PCIe card sporting two Digilink connectors, each offering 32 channels. The new platform boasts a redesigned mix engine and most of the features of Pro Tools HD DSP (except TDM plug-ins and Heat) at a fraction of the cost (\$3,495). Features include 64 channels across 192 tracks, 128 buses, delay compensation on hardware and software inserts, input monitoring, speed control, destructive recording and Quick/Track Punch. The card also offers support for third-party ASIO and Core Audio apps, and compatibility with HD IO, HD OMNI, HD MAD1, plus Legacy "blue" I/Os (192 IO, 96 IO, etc.), Sync HD and Sync IO, Control|24, VENUE D-Show, MixRack and ProFile, ICON and Video Satellite.



And Now Speakers!

Neumann KH 120

Primarily known as a microphone company, Neumann (neumannusa.com) has re-branded the Klein & Hummel speaker line and now offers its first studio monitor. The Neumann KH 120 (\$750) features a Mathematically Modeled Dispersion (MMD™) waveguide, flexible acoustical controls, analog and digital inputs, and an extensive range of mounting hardware. The biamped KH 120 has two 50-watt Class-A/B amps powering the 5.25-inch woofer and 1-inch tweeter, providing a 52 to 21k Hz (± 3 dB) response.



Upmix Processor

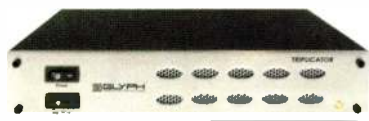
Soundfield

UPM-1 Plug-In

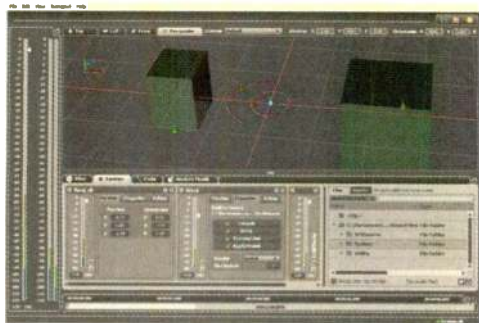
British mic manufacturer SoundField (soundfield.com) offers a software version of its hardware UPM-1 stereo-to-5.1 upmix processor. The plug-in (\$975) analyzes the stereo input material, separating ambient sounds from the direct sounds for detailed adjustment of the relative levels of direct sound and front/rear ambient sound in the final 5.1 mix. Features include Width and center-channel Divergence, plus level, mute and solo controls for each channel. Supported formats include VST (PC/Mac), RTAS (PC/Mac) and AU (Mac-only).

Backup Hat Trick

Glyph Triplicator



The Glyph (glyphtech.com) Triplicator (\$399) saves time when you need to copy critical data to multiple drives by making copies in a single action. When moving data to the Triplicator volume, identical data is copied to all of the target drives. Simply connect two or three drives to Triplicator's eSATA device ports, connect the Triplicator to a computer via FireWire 800, USB or eSATA, and then copy the data to the destinations, which are seen as one drive.



Multichannel Wizardry

VRsonic VibeStudio 2.5

VibeStudio Designer 2 (\$595) from VRsonic (vrsonic.com) is a spatial audio design suite comprising two applications: VibeStation and Profiler. Together, these apps create a one-of-a-kind spatial audio package with the ability to compose and render spatial audio scenes to binaural headphones or 2.1/4.1/5.1/7.1/8.1/10.2 loudspeaker arrays in post, live audio, exhibition, immersive theater or virtual environment systems. VibeStudio Designer 2.5 features a detachable script editor, support for 8/10-channel speaker arrays, support for native audio drivers and a small library of sound effects provided by SFXsource.



Mad About the Box

Solid State Logic MADI-X8

This versatile 8-port MADI audio router/splitter/aggregator from SSL (solid-state-logic.com) delivers a low-cost, 512 crosspoint router with eight MADI I/Os and clock distribution that can be controlled using SSL's cross-platform Logictivity™ Browser software from anywhere on a network. The single-rackspace MADI-X8 has six MADI fiber and two coaxial I/Os, providing a 512x512-point routing matrix. Up to four MADI-X8 units are controllable via a single browser, and multiple browsers can control a single MADI-X8 over a wired or wireless network.



Studio/Live Ribbon Mic

Cascade Knucklehead

Knucklehead (\$225) from Cascade Microphones (cascademicrophones.com) takes the 1.75-inch symmetrical ribbon element from the company's Fat Head microphone and incorporates it into a brass-and-aluminum body with an integrated swiveling shock-mount. The mic is offered in a 2.5-micron version as well as in a 5-micron model for live applications. Both versions of the Knucklehead can be ordered with a Lundahl transformer as a \$125 option.



Keeping in Control

Coleman QS8

The QS8 Master Monitor Controller (\$1,400) from Coleman Audio (colemanaudio.com) is a single-rackspace solution for stereo studio listening. The unit features three switchable input sources, with stereo analog summing from three aux sources, plus the stereo cue input, talkback level control and switching from the (included) talkback mic, onboard headphone amp, main/alt speaker switching, a passive stepped attenuator for the control room output and stereo/mono monitor switching.

Retro Echo Chic

Universal Audio EP-34 Plug-In

UA's (uaudio.com) EP-34 Tape Echo plug-in for its UAD-2 platform offers the warm tape delay effects and specific behaviors of both the EP-3 and EP-4 vintage Echoplexes. The plug-in is available as part of the new UAD Software Version 5.7.0 release, or separately at \$199. In addition to the EP-34 Tape Echo, V. 5.7.0 includes the officially licensed dbx 160 comp/limiter plug-in and performance enhancements for all Windows UAD-2 users. III



Steinberg Nuendo 5 DAW Software

User-Friendly Upgrade With New Features, Tool Sets, Plug-Ins

I started using Nuendo about 11 years ago, back when state-of-the-art, tape-based digital recording systems like Sony's PCM-3348 seemingly became obsolete overnight. You had a choice: Use Pro Tools, or die the slow, painful death of becoming an irrelevant recording engineer. There were other DAW options at the time, but computers were slow and not very powerful, so host-based DAWs struggled. Pro Tools offered a complete, proprietary system of software, hardware interfaces and DSP cards that made up for the deficiencies of the computer. There seemed to be little concern about how it sounded, as everyone just bought into the idea that it was digital, so it must be perfect. To me, Digi's 888 converter was far from perfect, and I was in search of something better.

I heard a demo of Nuendo 1.5 and sonically I was blown away. Everybody wants great sound, right? Well, Nuendo 1.5 had its share of problems, like crashing in the middle of a great take while tracking, but because I always seem to support the underdog, I stuck with Steinberg. Here we are all these years later with the release of Nuendo 5, which is solid and loaded with great new features.

Easy Upgrade

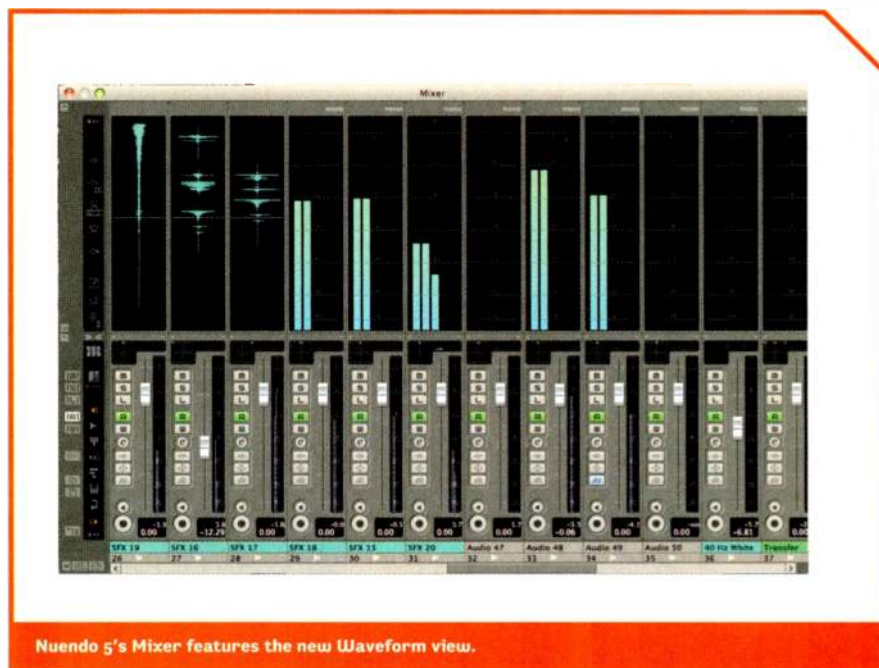
I should say up front that Nuendo 5 caters to the desires of post users, and the post engineer will find many new benefits. A post engineer I'm not, although I've found many features like direct busing useful for music production. I'll touch briefly on Nuendo's post functions, but will mostly restrict this review to features for studio recording.

PRODUCT SUMMARY

COMPANY: Steinberg
PRODUCT: Nuendo 5
WEBSITE: www.steinberg.net
BASE PRICING: \$2,340 retail; \$325 upgrade from Nuendo 4

PROS: Stable platform with optimized multi-core processor usage. Great new tuning and reverb plug-ins.

CONS: Price is significantly higher than other native DAW platforms.



Steinberg has always been 100-percent committed to backward compatibility, and V. 5 is no exception. I can still open one of my V. 1 projects in 5 without issues. In fact, I can still use all of the same plug-ins and hardware interfaces that I purchased all those years ago. Installation on my dual-core PC running AMD's latest 12-core chips (a total of 24 cores) was no problem. My entire plug-in, preference and template sets were automatically brought over.

Reassuringly, I didn't have to uninstall V. 4 to install V. 5, but I haven't looked back since doing so. All the great features like Lanes, Folder tracks, unlimited levels of undo, volume handles on each region, drawing volume curves directly on the region and the grooviest of all Zoom approaches have been retained. Many of these features have been copied by the competition.

Version 5 uses a brand-new mix engine. I initially thought this might mean sonic improvement (how could it though?), but what it really means is a lower CPU drain due to better optimization of the multicore processors. There's a new Native Video engine that works

with the new Scrubbing engine for super-smooth functionality while editing. Once you get going, V. 5 is immediately familiar to the V. 4 user and the learning curve is minimal. The most obvious change is a new easy-on-the-eyes look, with softer graphics and fonts that are less "childish"-looking. It's so similar that I foolishly jumped right into a full-on Nashville tracking session; fortunately, there were no hiccups and no one was the wiser.

New Plug-Ins

Nuendo has always come packaged with a complete plug-in suite and a mixer with highly useful EQ on every channel. Nuendo 5 adds a few new, high-quality VST 3 plug-ins. Most impressive is the new convolution reverb called REVerence. Its presets have all the expected IRs, including Halls, Rooms, Small Rooms and Plates. You can also import your favorite IRs and use them with this interface. Pitch Driver, another new plug-in, is a type of harmony processor with a width control, and last is Pitch Correct, a plug-in that's similar to Auto-Tune. It has an additional Formant function that



Nuendo 5's Surround Panner is capable of rotating the entire surround field.

can maintain the integrity of the human voice through pitch change or manually be exaggerated to make an older person sound younger, a female voice sound male, or vice versa.

In addition to Pitch Correct there's also a tuning function called VariAudio. It's unbelievably easy to use: Double-click on the file region, click on the Pitch & Warp tab under VariAudio, and Nuendo automatically analyzes the track's pitch. This is very similar to the Celemony Melodyne approach. Each segment can then be highlighted and adjusted with two variable sliders, one for quantizing the pitch and the other for straightening. A judicious amount of either or both can correct pitch discrepancies without dehumanizing and leaving the blue notes intact. And as VariAudio is part of the program, auditioning can occur in solo or within the mix.

But Wait, There's More

I've had a bit of success with surround mixing in the past, and Nuendo 5 has a great new Surround Panner that's capable of rotating the entire surround field. All Surround Panner functions are automatable. In fact, the automation for Nuendo has been completely redesigned and now has the most complete set of functions found on any software or hardware automation system I've ever used. The automation passes can now be saved in a form of a mix

tree so that previous passes can easily be identified and returned to, subsequently creating a new stem to branch out from.

Another handy addition is the Waveform view in the mixer. This allows for a visual per-track preview during mixing. It's also a great way to impress the producer and artist on playback. Oh, how they love flashing lights and visual distractions!

The addition of direct outputs was originally conceived as a way for post mixers to create the different stems required in films like music, Foley, voice, effects and more. In a music-mixing context, the direct outputs are useful for doing parallel compression. You can use direct outputs either in the box with plug-in compressors or using the old tried-and-true analog compressors as an external effect, all without any adverse delay issues. For me, this has been one of the main sacrifices when mixing in the box; while doing parallel bussing, I've always encountered timing

discrepancies that created unwanted artifacts.

Another post-production idea that has a place in the music production world is the desired capability of having multiple Marker Tracks. This may seem insignificant until you do a live recording where you'd like to have a Marker Track for each song, or perhaps you'd like one Marker Track for your MIDI events and another for the song format. If you've got a gazillion tracks, it's nice to have markers dispersed throughout to reduce the need to scroll up and down. Now that they're available, I'd miss them if they were taken away.

Nuendo's crossfades always amazed me because of what you can get away with and not have any audible artifact. Without bashing the other guy, crossfades in Nuendo simply work better. Double-clicking on the fade puts you into the Crossfade Edit window. Here, you can adjust the style of fade and even draw a shape to suit the situation. Within the Crossfade Edit window, a new Chaining mode will keep track of all your later edits and automatically bring them along when you do consecutive edits. This saves time and makes you look like a star when everyone's standing around watching you shorten a track that requires multiple edits.

Better Collaboration

Network collaboration is not new to Nuendo

5, but it's improved to include sharing content from the Media Bay. I could spend an entire article on the networking capabilities and potential uses of the Media Bay, but put simply, network collaboration is a great tool, particularly for the post environment, letting multiple operators work on a single project at the same time. Finding sound and project files is super-fast with V. 5's Media Bay upgrade.

In recent years, the NARAS Producers & Engineers Wing and representatives from record companies have produced comprehensive lists of production guidelines, which have now been adopted by all the major labels. (Go to "Mix Media" at mixonline.com for a PDF of the document.) Steinberg has incorporated features that make it easy to comply with these guidelines, and the company is committed to improving its software to deal with this mountain of metadata archival issues.

For instance, from within Nuendo 5, you can select individual (or all) audio tracks to do a Batch Export. This will automatically "flatten" the audio files, virtual instruments and group outputs to include all plug-ins and inline processing into the exported file. There's even an option to create a new project full of stems that can easily be imported into any other application. If all you need to do is copy your session to a new folder and consolidate your audio files, just choose Backup Session under the File pull-down. This will guide you through setting a destination, creating a new session name and options for exporting the audio and video files. Once in the new folder, you can safely range the entire song to create consolidated, contiguous files with a common start and end time. Once done, you can delete the unused original files from the audio pool—and *voilà*—you're ready to make multiple copies in the different recommended formats for delivery.

Indulge Your Curiosity

There's so much more to Nuendo 5. I haven't even mentioned the sequencer capabilities for which Nuendo is famous for, but hopefully some of these new features will pique your interest and you will take a look at it. ■■

Chuck Ainlay is a Grammy Award-winning engineer who wishes to thank Greg Ondo at Steinberg for his assistance.

Genelec 8260A Three-Way DSP/Powered Monitors

Tri-Amped Co-Ax Design With Auto Room Calibration

Genelec has been creating speakers for pro applications since 1978 and "Minimum Diffraction Enclosure" (MDE) cabinet designs since 2004. Sitting 23 inches tall and weighing 60.5 pounds, its latest 8260A monitors feature the same MDE, using the 8200 Series AutoCal software reviewed in *Mix's* January 2008 issue (read it at mixonline.com). The new 8260A three-way design is an evolution of the coaxial speaker concept, resulting in accurate midrange reproduction, extended bass response and a wide listening window.

Hidden Three-Way Agenda

The 8260A has the same overall look as the previous 8000 and 8200 Series, except that what appears to be a two-way design is actually a three-way system. Here, the tweeter (and the stealth midrange driver) shares the same waveguide in what's termed a Minimum Driver Coaxial (MDC) design. A virtually seamless, curved foam "skin" is part of the proprietary MF driver, whose outer ring smoothly attaches to the cabinet's waveguide. The interior of this foam cone is joined to the interior tweeter, again making a smooth connection. This eliminates any subsequent ripples of diffraction off of an otherwise protruding horn, maintaining the point-source coincidence preferred by many recording engineers.

All of the drivers are housed in the familiar 8000 Series extruded-aluminum enclosures, providing rigidity and neutral resonant characteristics. The 10-inch LF driver is rated down to 29 Hz (± 1 dB), with a -3dB down-point of 26 Hz. A newly redesigned amplifier provides 150 watts to the woofer below the 490Hz crossover point. The *piece de resistance* is the suspended

tweeter construction of the coaxial MF/HF coaxial. A 5-inch laminate cone is an integral part of the waveguide. The embedded coaxial $\frac{3}{4}$ -inch dome tweeter is an aluminum design, with two 120W power amps driving the midrange and tweeter. The low-diffraction design of the cabinet, with the integrated waveguides, amounts to superb imaging and a wide sweet spot.

The back panel offers many features. The top of the back-plate assembly has RJ45 In and Thru Ethernet connectors for use with the GLM (Genelec Loudspeaker Management) software. Two sets of seven DIP switches are used for manual operations or selecting the stored software settings after running the GLM software. Manual settings include Bass Roll-Off, Bass Tilt, Desktop, Treble Tilt, Stored or Manual, AES/EBU Channel, Driver Mute and System Level. Below these is the IEC AC connector, a 12V remote connection, AES/EBU input and thru ports, and the analog input.

Smooth Operator

Running the optional GLM PC/Mac software is a breeze. The system includes a mic, USB interface for your computer (Genelec recommends the interface's proprietary soundcard for speaker calibration), Ethernet cables to link the networked speakers together, a USB cable and a detailed 170-page manual.

I easily installed the software on a dual 2.5GHz Mac G5 PPC and set up the network using the supplied mic, interface and cabling. The system scans the network and tells you how many speakers are recognized on the system; it then simply walks you through the naming process. After saving this configuration, it offers the option to run the Acoustical Setup Wizard. I selected the AutoCal mode for automatic implementation of the onboard equalization system. This is a 6-point notch filter, along with two LF and two HF shelves. Once the system is calibrated, you can go into these settings and manually adjust the frequency, gain and Q.

After careful placement of both speak-



The 8260 cleverly houses the midrange driver and tweeter in one seamless piece.



Rear panel controls include Bass Roll-Off, Bass Tilt, Desktop and Treble Tilt, and Stored or Manual controls.

PRODUCT SUMMARY

COMPANY: Genelec
PRODUCT: 8260A
WEBSITE: www.genelec.com
BASE PRICING: \$5,850 each; GLM software, \$595

PROS: Detailed, accurate midrange. Wide listening window. AutoCal speaker calibration.
CONS: Heavy; must have extremely sturdy speaker stands. Beyond the budget of the average user.

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(Loggins & Messina, Poco, Buffalo Springfield)

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Entertainment Business
Game Art
Game Design
Graphic Design
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Web Design & Development

ers and mic. I had the option of calibrating from a single position (SinglePoint) or up to a total of three positions (MultiPoint). The multipoint analysis will yield a softer, less-dramatic system-applied EQ to generally compensate for additional listening positions. After typing in the mic's serial number, I chose the single-point option and the system started its routine. It analyzed the sound-card's output, measured the room background noise and conducted a sinewave sweep. The software then showed me the anomalies of my room on a logarithmic graph and placed the compensatory EQ in place, complete with the resultant EQ response curve after the adjustments have been made. I then saved the settings and recalled them every time I launched the GLM software.

While operating the speakers, I launched GLM software. Its main page shows the available groups of speakers, network status and input audio source (analog or digital). It also presents a large fader for variable level in 0.5dB increments, along with three preset levels and a -20dB dim control. The GLM System Setup can be launched from this page for manually tweaking the EQ.

I'm Listening

The 8260s are simply remarkable. While listening to many different sources and types of music, my first impressions were simple: accuracy and realism. Most notable was the vocal range. Vocal tracks were reproduced with an incredible degree of detail. Strings had detail and separation, almost as though you could pick out individual players in a section. The soundstage is superb, and the imaging is tight and concise. In many instances, the imaging went beyond the left/right boundaries of the speakers. The phantom center is dead on, and the coaxial midrange places the vocalist right in front of you.

Pianos had great detail and nuance; I could hear all the little resonances and pedal movements, and the breathing of the wood. Acoustic guitars sounded powerful with all of their associated harmonic structures intact, whether in delicate finger-style work or slammin' rhythms.

The low-frequency response begs the question, "Do I need a subwoofer?" Kick drums were punchy and tight, and I could really hear the room around the drum on many tracks' information that simply gets lost on other speakers. And these speakers can get loud (123 dB @ 1m). They're great rock 'n' roll speakers.

These speakers helped to make my decisions more accurate while tracking guitars, key-

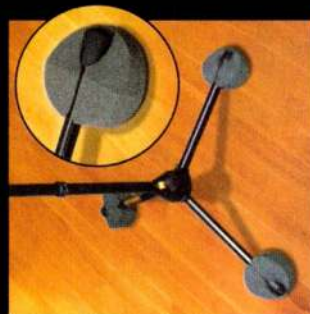
board and vocals. The 8260As gave me a truly transferable representation of what I was recording. I loved the delicate way in which they reproduced the midrange timbre in the vocals. I'm going to miss these hefty jewels when it comes time to mix. I recommend these speakers for a mastering environment as they accurately handled every type of music I put through them.

I did an A/B comparison of the 8260A's digital vs. analog inputs by simultaneously taking a digital and analog output of my Lynx Aurora converters and connecting to the corresponding inputs on the 8260As. When switching back and forth, I preferred the sound of the Aurora's analog inputs, even though the signal was going through two conversion processes—my Aurora ADC and the Genelec ADC, which is always in place on the analog input. Although the differences were slight, the separation of instruments appeared to be more accurate with the Auroras, as was detail in reverb (space), cymbal swells, drum overtones and piano harmonics. The Genelec converters are quite usable and by no means second rate. I simply found the overall experience of my outboard converters to have a bit more detail. I was surprised that this "dual-conversion process" sounded more musical than the direct digital input.

A Beautiful Find

The 8260As' three-way design is a thing of beauty. The melding of the 5-inch MF driver with the waveguide, with no outer edge to produce additional turbulence, is intended to control midrange dispersion characteristics, and it works quite well, with very linear horizontal directivity in the critical 1 to 8kHz midrange frequencies, thereby increasing the sweet spot and providing a wider, more accurate listening window in the horizontal plane. Given the extended bass response, superb imaging and clarity in the midrange, plus the advanced networking and calibration technologies, the 8260s will no doubt be seen and heard in the most discriminate recording, mixing and mastering environments. III

Bobby Frasier is an audio consultant, engineer and guitar player/vocalist in the Beatles sound-alike band Marmalade Skies.



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Tascam DR-680 Portable Recorder

Eight-Channel Unit With Six Preamps, Digital I/O, SD Card Storage

In recent years, Tascam has released a range of portable, handheld recorders featuring built-in stereo mics and limited I/O. The DR-680 ups the ante, offering eight inputs, six XLR mic preamps, dedicated outs for each recording channel, S/PDIF digital I/O and the ability to sync to an external clock. The I/Os will perform at 24-bit, 96kHz rates, with the option of recording two channels of stereo PCM at up to 192 kHz. Data is stored to SDHC cards so there are no moving parts. On paper, I see all the makings of a respectable mid-level field recorder, but how does it perform?

Recording Music, Voice and FX

My first test of the DR-680 was recording music and voice. A friend wanted to record his grandfather performing some old-time country tunes to be used as source music in an indie film. Grandpa didn't want to go to a studio so we went to him. I used a pair of Mojave MA-101s in a tight X/Y placement on guitar to avoid picking up too much living room and a JZ V67 for vocals. At 24-bit/96kHz, I was impressed by the sound. Having great mics and recording a voice with wonderful texture certainly played a role. (You can listen to this recording at mixonline.com's "Mix Media" section.) But a great front end can't hold up against poor A/D conversion or inaccurate clocking. Fortunately, this is where the DR-680 really shines.

The digital capture was executed with great transparency. The preamps offered plenty of gain without imparting excessive noise. I loved being able to create a 2-channel stereo monitor mix of my three mics and print it to a stereo track while recording the multitracks. This way, I could pull the stereo files and give the artist a reference on the spot without having to mess around with printing a mixdown after the fact.

PRODUCT SUMMARY

COMPANY: TASCAM
PRODUCT: DR-680
WEBSITE: www.tascam.com
BASE PRICING: \$1,399

PROS: Great sound quality and plenty of I/O.

CONS: Menus could be aggregated for more convenient operation.



Two DR-680s can be run together bringing the total track count to 12.



I/O includes six analog in/outs and stereo digital S/PDIF ports.

During this recording, I used the included power supply, as the manual suggested that supplying phantom power to microphones would significantly reduce the unit's battery life. I was printing to a 4GB Class-4 SDHC card, which was also suggested by the manual. At the time, however, I could not find a card that was included on Tascam's rather short "tested media" list. I'm not sure which of these factors contributed, but I experienced an error saying "write timeout" several times, and another saying "file not found in take" at the end of a recording. Thankfully, the recordings were on the card when I dumped the files. Nonetheless, these errors were troubling at the time. Lowering the sample rate did not solve the problem. As the manual suggested, I reformatted the card, which may have helped for a while. The problem reappeared other times, inconsistently, usually when recording uninterrupted for durations longer than three minutes.

Meanwhile, I had other successful, error-free sessions recording sound effects while running the unit on eight AA batteries. When operated this way, the recorder is fully functional, with all inputs, outputs and sample rates still avail-

able. I used the Holophone H3-D surround mic, which I thought would be a perfect match as the six available mic pre's would nicely accommodate the H3-D's six capsules. When recording louder sources, operation was successful, with impressive battery life, fueling the six condensers with phantom power. For quieter sounds, like rain on pavement, a noticeable issue revealed itself, resulting in unpleasant noise. This was perhaps an issue directly related to the H3-D as I didn't experience it with other mics. I also recorded sound effects with a single phantom-powered shotgun mic. The batteries lasted a little longer than three hours, broken into several sessions. Again, the sound quality was impressive, and the device proved light and comfortable to carry.

File Management, Transfer

The operating system lets you store three file-naming presets for easy file management. This way, scrolling through letters and numbers to create file names can be handled before the fact and then retrieved quickly as production moves from one scene to the next, or one song to the next. When recording WAV or BWF files, the au-

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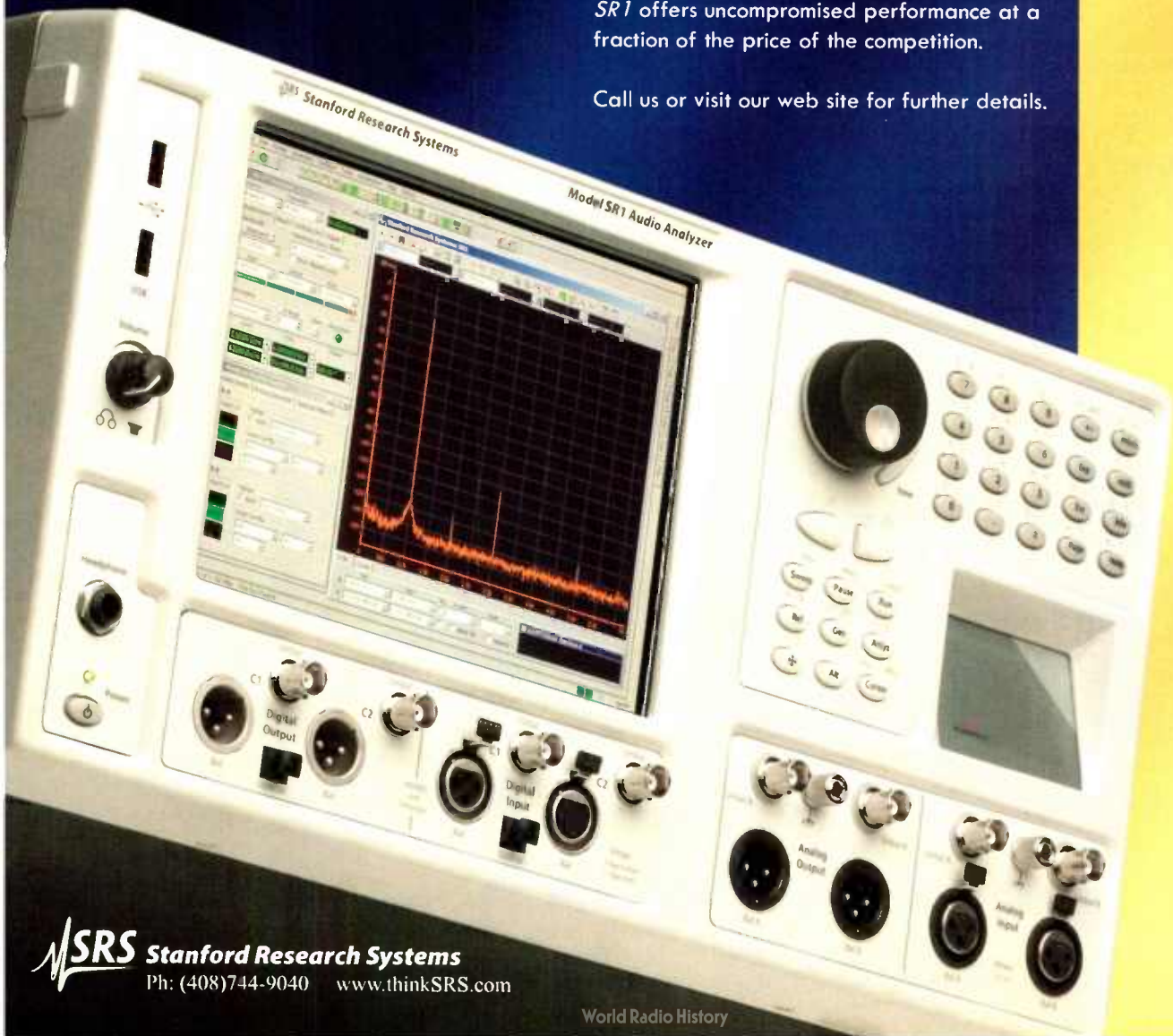
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World Radio History

dio can be grouped into three stereo interleaved pairs, a single 5.1 track or six completely separate mono files. When the user is recording in the MP3 format, recording is limited to four tracks. Transferring files to a computer is very easy. Naturally, you could just pull the SDHC card and transfer the files with an SD card reader. I appreciated the USB 2 connection and how it provided for bus-powered file transfers, even without the power supply connected or batteries in the unit.

Despite the DR-680's elegant file management and transfer functions, its menus were a little clunky. For example, the menu for basic settings like auto-shut-off, battery type or "Format Memory Card" is available through a button on the device's large top surface. A completely different Home/Func menu for setting things like low-cut filter and limiter is available from a button on the skinny front panel. And though the front panel also provides access to the mic trims, level controls and pans for the onboard mixer, the track-arm buttons and sample rate selection are stranded back in the menu on the top of the unit (which might be preferable if you're shoulder-bagging the unit). While engaging the low cut actually takes place in the Home/Func screen, setting its frequency happens in the Menu. It seems as though two different teams worked on the OS in halves and then the two were loosely integrated. Furthermore, guessing which button would page through settings in some of the nested menus was somewhat unpredictable. Hopefully, these annoyances and the actual OS errors I experienced will be corrected in future software updates.

A Great Little Recorder

Aside from a few minor issues, my experience with the DR-680 was very positive. Recording quality is impressive and monitoring well-executed, as the headphone mixer is very easy to grasp. A small speaker lets you reference recordings quickly without headphones. The unit is light, portable and convenient, with enough inputs for most field-recording applications. And if you need more, you can sync two units together using a proprietary protocol. File management and naming are well thought out, and though there are no time-based sync functions, these features are rare on a unit at this price point. If all this suits your needs, then the DR-680 is worth checking out. III

Brandon Hickey is an independent engineer and film audio consultant.

NEW CLASSROOMS

Continued from page 25



MiraCosta Community College, Oceanside, California

After 35 years in operation, the music performance and recording spaces at MiraCosta Community College have received a much-needed redesign by acoustician Mark Rothermal and architect Greg Beard of BP Architecture. Program director Christy Coobatis says that lines of sight were essential to the redesign; these control rooms can accommodate up to 35 students at a time, and class work requires the ability to observe the recording process from any angle. The studios feature Pro Tools systems, Genelec 8050A and Yamaha NS-10M monitors, and a host of plug-ins and outboard equipment. MiraCosta has relationships with local studios, theme parks and NAMM, and uses those connections to help place students in internships and jobs.

New facilities at MiraCosta Community College include two identical control rooms, which offer sightlines into recording spaces and each other.



University of Lethbridge, Alberta, Canada

Jay Kaufman of Kaufman and Associates designed this studio, which is used in the university's advanced recording, mixing and sound-capture labs.

This new studio at the University of Lethbridge supports the school's four-year Bachelor of Music/Digital Arts program.

It also features dedicated audio, video and Aviom lines to a 200-seat recital hall for large-ensemble recording. Featured equipment includes a 48-channel SSL Duality, Kaufman & Associates custom 5.1 monitoring, Dynaudio near-fields, Pro Tools HD2 and the Aviom Pro 16 personal monitoring system. The University of Lethbridge offers a broad-based program emphasizing musical and technical creativity, including courses in computer-assisted composition, acoustic science, sound design and interactive computer music, as well as audio engineering. III

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TAC System NML RevCon-RR

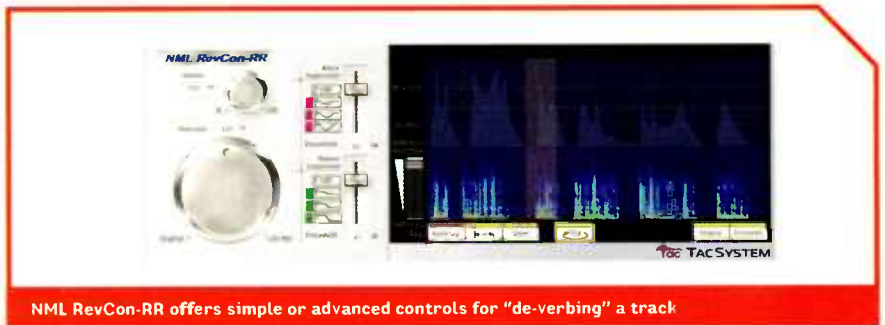
Plug-In Reduces Ambience Embedded in Recorded Material

One fundamental problem that has always plagued audio engineers is the detrimental impact of excessive levels' reverberation on the intelligibility of recorded speech tracks. So what happens in a film or TV production when a particular recorded take is the "best" take, yet speech articulation is lost to excessive reverberation? You can try to fix it in post-production—maybe.

Removing excessive reverb from speech tracks is the aim of NML RevCon-RR, a Pro Tools Audio Suite plug-in designed by NTT Communication Science Laboratories for manufacturer TAC System. The company's Website calls it the "world's first plug-in for speech de-reverberation." The only similar such product I've come across is the "De-Verb" MicroPlug from SPL, which offers a simple, single-knob solution for reducing the room's role in a recording. On the other hand, NML RevCon-RR is designed specifically to increase the intelligibility of speech, and it does so by offering advanced controls and powerful processing.

Great GUI

The user interface of this Audio Suite-only plug-in is large and eye-catching. It doesn't offer an overwhelming number of controls, but does provide some complex and truly unique means of achieving its goal and making the results sound better. The most apparent control is the largest knob in the window, which adjusts the balance of the original recording to the processed version. For quick and dirty applications, this might be enough to get the



NML RevCon-RR offers simple or advanced controls for "de-verb" a track

job done. However, the struggle here is walking the line between the desired effect and an unlistenable, digital-sounding outcome—and, of course, this outcome is dependent on the source.

As with any plug-in processor, the quality of the original recording plays a big part in the results of processing. In this case, noise in the track causes inaccurate detection of the actual reverb decay envelope. RevCon's solution is to allow the noise to be analyzed and extracted before the de-reverberation processing is calculated, and then re-introduce the noise later to add realism. While RevCon's NR toolkit is good, I obtained better results when using BIAS' SoundSoap 2 for my noise reduction and then let RevCon apply the de-reverberation. After this, I used a long sample of ambience recorded before the voice to add as much as I needed for dynamics back into the mix from an extra track in Pro Tools. This was helpful in hiding the gating effect imparted by the processing and masking low-level sounds, which seemed to turn to artifacts very readily.

Deeper Controls

If the first approach falls short, you can apply more advanced controls. This is where the GUI's large, visual readout displaying waveform envelopes and a spectrogram became useful. By toggling back and forth between the before/after views, the actual effect of removing decay is visually evident. The Attack Suppression control let me attenuate early reflections that were not reduced by the plug-in's basic Reduction knob, while

its Release Suppression control allowed me to tailor the cut-off of the reverb decay. With the proper balance of these controls—and just the right amount of the basic reduction—I was able to take dialog recorded in a variety of reverberant environments and successfully attenuate the echo to the point of improving dialog intelligibility.

Did It De-Light Me?

RevCon does a standup job of reducing embedded ambience in a track, but not without some caveats. A fast machine with plenty of RAM is recommended when using this product, as processing on a slower machine is a bit sluggish. Also, the effectiveness of this process is heavily dependent on the quality of the audio.

Don't expect that NML RevCon-RR can suddenly transform ADR sessions tracked in a shower stall and universally translate them for any physical space. Likewise, if you're charged with the task of polishing poorly home-recorded music into a hit release, don't expect that this plug-in can resurrect super-roomy vocals and make them sound like those recorded in a pro studio.

However, for well-recorded production sound that contains just a bit too much natural reverb to cut through the score and sound effects in the finished mix, RevCon-RR might be just the thing to help you create more distinguishable syllables. ■

Brandon Hickey is an independent engineer and film audio consultant.

PRODUCT SUMMARY

COMPANY: TAC System
PRODUCT: NML RevCon-RR
WEBSITE: www.tacsystem.com/en
PRICE: \$1,280

PROS: Unique process. Flexible controls. **CONS:** Successful outcome is contingent on quality of original files.

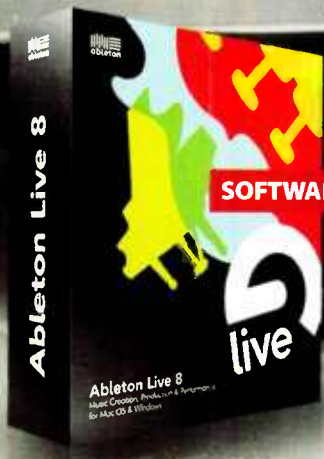
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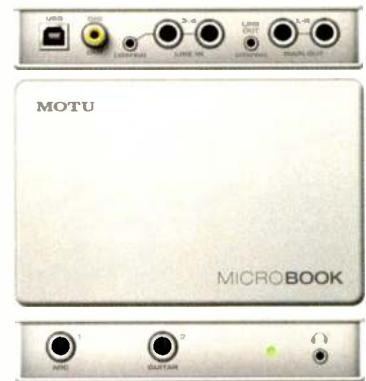
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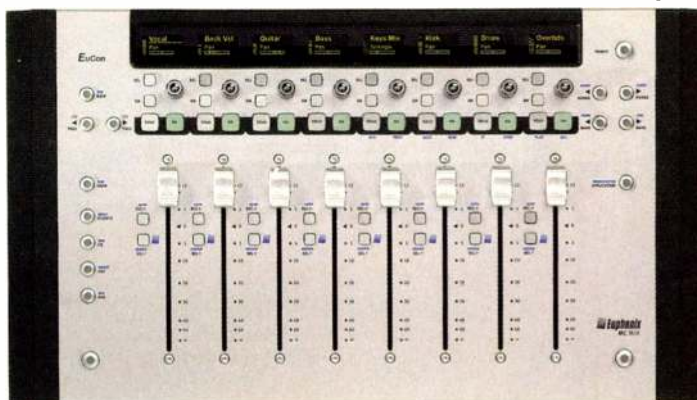
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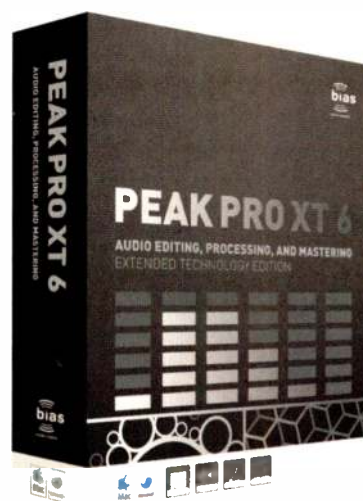
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World Radio History

George Massenburg

Recording Renaissance man gives back through teaching

So I just found out that your life changed pretty dramatically. How did this move from Nashville to Montreal come about?

Well, I've spent a fair amount of time in classrooms, and I've been an adjunct professor here at McGill for about 15 or 16 years. Finally, I succumbed to an invitation from Wieslaw Woszczyk to teach. We have a superb Sound Recording program up here, Master's only, and a great infrastructure—the largest purpose-built scoring stage to come online in North America in the past 40 years. You have to have a music degree (perhaps for an instrument) coming in. It's essentially modeled on the European Tonmeister track with an added emphasis on practice. Our faculty includes Richard King, formerly of Sony Classical, and Martha DeFrancisco, formerly of Philips. These are serious producer/engineers who understand the importance of quality sound and meticulous methodology. I packed up my gear, found a nice apartment 10 minutes walking distance from the facility and now I'm immersed.

Did they go after you for the research or the studio life?

A little of both. McGill has solid research credentials in many departments, including sound. Our Master's students fall into one of three main areas. About a third go on to careers in education, teaching and starting new Sound Recording departments at other universities. About a third move onto a Ph.D. And another third will become practitioners, doing audio engineering for sound and music recording, Internet, TV and motion pictures, and also doing R&D in industry. Also, I've agreed to supervise a Ph.D. candidate, one who is doing advanced research testing in sound perception, and focusing on codec issues and other artifacts that we've been suffering with as listeners. That's something I've been casually trying to figure out for years—on the professional and consumer sides. I'm also working with this terrific young artist named Marilou and her fantastic band, so I get to keep my ears in the studio, too.

Even though you've been teaching for decades,

you've also been an outspoken critic of audio education. And now you're on the inside.

This is the best time imaginable to be alive and working in or around music. There are fantastic opportunities, a huge new constituency—the world's out there, man!—and great game-changing technology. But it's really not the technologies themselves where we're getting it egregiously wrong. I think we're missing the practitioners. And that reveals a gap in education, in my view.

How so?

My problem is with anybody who tries to teach without knowing what the real gig is, anybody who tries to advance the fiction that you can teach without a real room (aka, a studio), without musicians, with no experience in critical listening. Students, interns, assistants—and you know me, I'm blunt—they need to sometimes just shut up, sit in the back of the control room and learn how to listen. Listen to the music, the nuance, the lace and filigree, as Doug Sax calls it. And more—maybe the bass player is talking about some cool track they heard last night. That's a clue you need to pick up on. It's that socialization that takes place in the studio that's missing.

But then again, this idea of "training" a "recording engineer," well, who needs training in the face of cheap access to self-prompting, sometimes highly automated, tools? Go out and get a cheap, no-support deal from Guitar Center, bring home a buncha boxes, plug 'em in, turn 'em on and check GearslutZ or the DUC if you have any glitches. Bring up the music creation software, the DAW, the plugs, the loops, the samples, more plugs. Tweezer some song ideas together from a torrent of the more-than-accessible pool of "current pop hits." Sample some stuff. Get the babysitter to sing it, tune it, shift it and hit Record. Shit! Wait, don't forget to squash the f--- out of the mix with some crappy plug with presets and how can you go wrong that that? Fan-TASTIC! Sounds like a hit Lady Gaga record, right? No problem.

So why doesn't it sound, uh, good? What's missing? Well, lots of stuff. A sense of a story that's worth telling, maybe a melody, maybe not. But more than anything else, a killer performance. Maybe a singer who can sing in tune or close enough to it; a performance with some sense



of innovation and presence, with the subtleties, the idiosyncrasies, the unknowns—the unknowables. What the hell was John Lennon thinking? [Laughs]

But seriously, we believe that there are plenty of jobs out there. And it's clear that there's specific training that's required in an increasing number of different "sound engineering"—related careers. But in an era where the cosmos has the last laugh, there are less and less seats at a traditional recording console in a traditional pop music recording studio for a "fader-pusher." Besides Al Schmitt, few now depend on getting continued calls

Any final advice to students, now that the real George has had his say?

[Laughs] Couple of things would help. Get a real education. Learn accounting—how to read a profit-and-loss statement and a balance sheet. Get a real career—work in a hospital emergency room, like my friend Luca Pilla, between sessions. Learn graphic arts, shooting and editing video. Oh yeah, would you please learn how to write? And, at all costs, avoid thinking about getting rich. When the time is right, be ready to tell a real story, not just some regressive, simplistic, emo drivel about the bad hand that's been dealt you at the hands of the powers of the universe.

Then learn to listen. It's almost a lost art. And I mean critical listening to real musicians in a real space. But I also mean listen for subtlety, for nuance. Listen to how producers interact with musicians, how musicians interact with each other, how engineers can make a big difference capturing real performances. Maybe also learning how with a subtle placement of a microphone you won't have to use a plug-in. Then, listen for the story in the song. That's why we're here. III

We're with the band.



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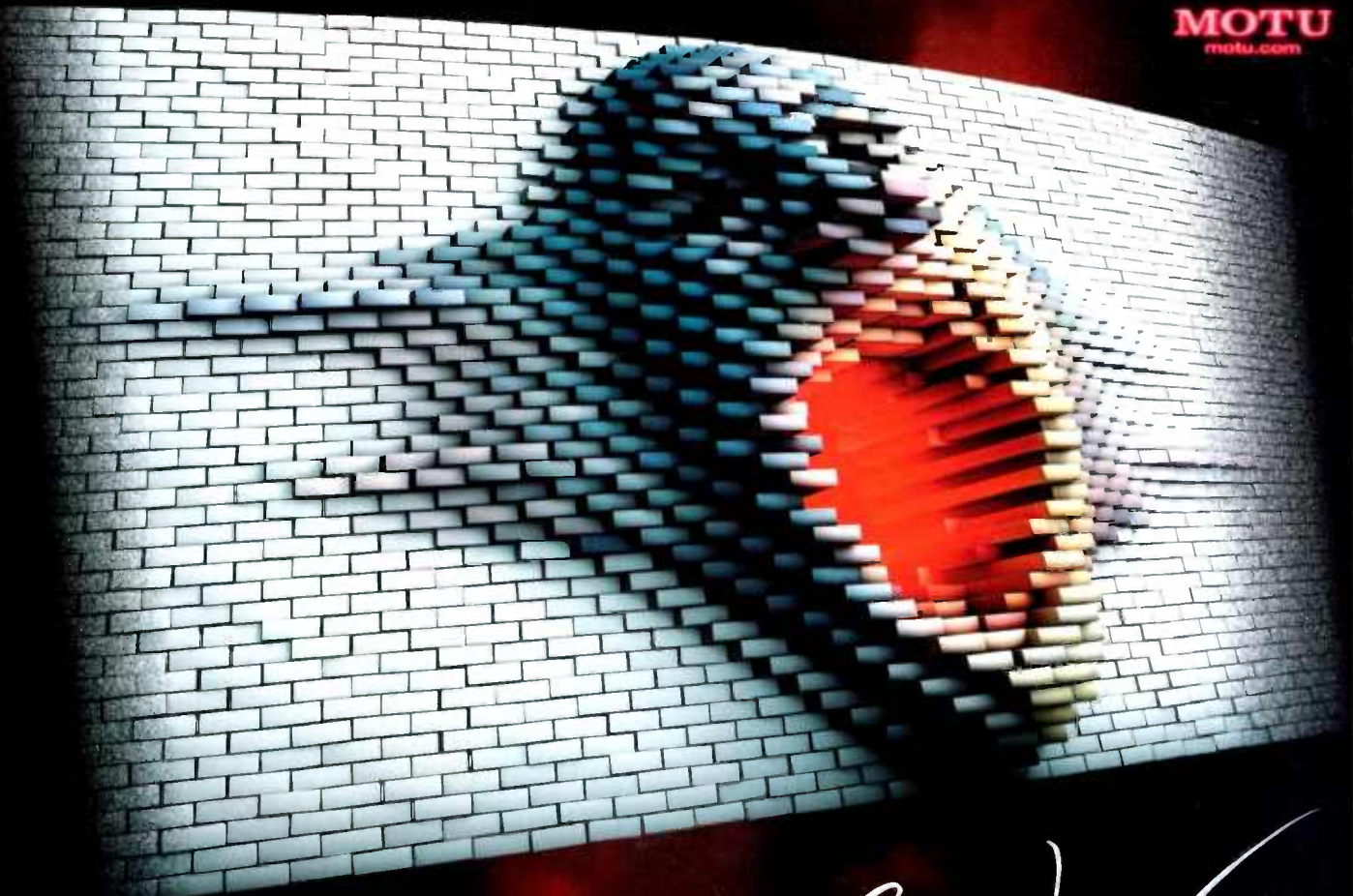


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