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Talk Box

. . . NOW I'M A BELIEVER

We're entering a new year, and there's a natural tendency to speculate about what the future will bring. But lately, I feel that I've started to move into the future in a way that I hadn't really anticipated—and I like it! Here's why.

As some of you know, I do quite a bit of video work (primarily using Sony Vegas on a PC Audio Labs 8-core Intel machine). The computer has a removable drive so I can switch easily between Windows XP and Windows Vista-64, but aside from some excursions into using the 64-bit version of Sonar and enjoying the benefits of extra RAM with virtual instruments, the Vista-64 drive hadn't gotten much exercise . . . until now.

Sony recently released Vegas 8.1, which is optimized to run on 64-bit systems (they simultaneously released an update for 32-bit systems). I was cautiously optimistic that there might be an improvement with 64 bits—but I was not prepared for render times being cut nearly in half! If that was all 64 bits did, that would be enough because rendering is a major time sink. But pre-renderings happened almost instantly, I could open up multiple instances and cut and paste among them—and use voice recognition to navigate around the program. Things were rocking indeed in the 64-bit world.

Of course, I'm totally aware of the people who have found Vista problematic, to say the least. And not everyone has a powerful enough computer to take advantage of what it can do. What's more, I have no interest in being an apologist for either Microsoft or Apple: They both have their moments of genius and stupidity. So, I'm not going to get into the XP vs. Vista vs. Mac debate because all I know is what works, or doesn't work, for me.

Still, there's no denying I've had a taste of tomorrow—and it's sweet. It's often been said that the future of computing is 64 bits, but until now, I never had a practical reason to believe the hype. However, time is the most precious commodity of all, and anything that saves me lots of time is something I'm going to pursue. By that standard, 64 bits is well worth pursuing.

So should everyone run out and buy 64-bit systems? Not necessarily. But someday, we'll have no choice. And based on what I've experienced recently, that just might be a good thing.

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Executive Editor Craig Anderton, canderton@musicplayer.com
Editor Matt Harper, mharper@musicplayer.com
Managing Editor Debbie Greenberg, dgreenberg@musicplayer.com
Contributors Merrick Angle, Dan Daley, Roberto Martinelli, Ken Micallef, Michael Papatonis, Joel Patterson, John Payne, Will Romano, Michael Ross, Joe Shambro, Angelina Skowronski
Art Director Patrick Wong, pwong@musicplayer.com
Staff Photographers Paul Haggard, phaggard@musicplayer.com, Craig Anderton, canderton@musicplayer.com

Group Publisher Joe Perry
jperry@musicplayer.com, 770.343.9978
Advertising Director, West Coast & New Business Dev. Greg Sutton
gsutton@musicplayer.com, 925.425.9967
Advertising Director, Midwest Jessica Sullivan
jsullivan@musicplayer.com, 661.255.2719
Advertising Director, East Coast & Europe Grace Newman
gnewman@musicplayer.com, 631.239.1460
Advertising Director, Southwest Albert Margolis
amargolis@musicplayer.com, 949.582.2753
Director of Specialty Sales Mike Montgomery
mmontgomery@musicplayer.com, 650.238.0307
Specialty Sales Associate, North Allison Smith
asmith@musicplayer.com, 650.238.0296
Specialty Sales Associate, South Will Sheng
wsheng@musicplayer.com, 650.238.0325
Production Manager Beatrice Kim

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Please direct all advertising and editorial inquiries to:
EQ, 1111 Bayhill Dr., Ste. 125, San Bruno, CA 94066
(650) 238-0300; Fax (650) 238-0262; eq@musicplayer.com

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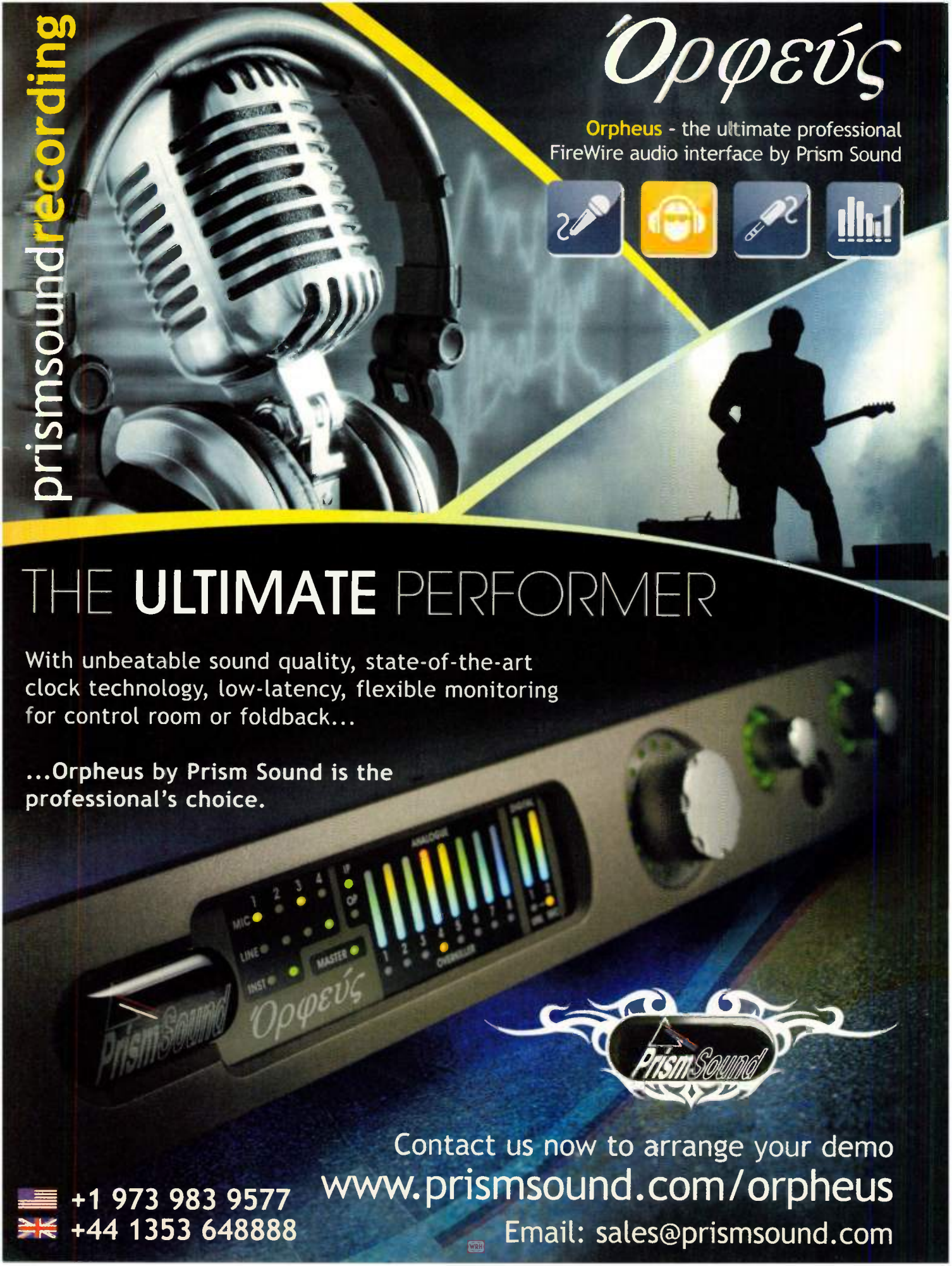

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SOUNDING BOARD

A QUICK CORRECTION

In your article on Brian Wilson ["Another Day"—11/08] I'm introduced as having worked on all of Brian's albums, starting with 1998's *Imagination*. However, that is one of Brian's solo albums that I did almost no work on. I actually began working with Brian 11 years earlier on his first solo album *Brian Wilson* and have continued to work both with him on his solo albums and on various Beach Boys historical projects, like the Grammy-nominated *Pet Sounds Sessions* box set.

Mark Linett (via email)

FIRE(WIRE) THAT AUTHOR!

In "New Gear for Production and Performance" [10/08] Craig Anderton states: "Dedicate a FireWire or USB port to your mixer—don't daisy-chain hard drives and other devices on a port."

First off, you *cannot* daisy-chain USB, only FireWire. Second, unless your computer has multiple FW buses, which very few do, using separate ports is the same as daisy-chaining. FireWire is designed to be daisy-chained, up to 128 devices on a bus. USB, being a serial connection, cannot be, and requires a hub. The author's recommendation is fundamentally wrong, and is telling the reader to spend money foolishly, something none of us have extra to spare these days.

Audiorules (via email)

Executive Editor Craig Anderton responds:

I believe most readers understood that the reference to daisy-chaining pertained to the FireWire part of that sentence; however, thanks for clarifying that for those unaware of FireWire and USB basics.

Using separate ports on, for example, a motherboard can indeed be the same as daisy-chaining because the ports connect to the same controller—which is why I specifically recommended adding a FireWire or USB card for "better performance than using the motherboard's built-in ports." As to FireWire being designed to be daisy-chained, in practice most manufacturers recommend *not* daisy-chaining FireWire devices (*e.g.*, hard drives) on the same port as audio gear due to bandwidth issues.

In fact, several companies make the same recommendations I do. TC Electronic support says, "You may need to consider adding another FireWire bus to your system. There are several affordable PCMCIA/PCI/PCI Express FireWire adapter cards that will do this, and allow you to use multiple bandwidth-intensive FireWire devices simultaneously." And MOTU's support section says: "When powering the Traveler or UltraLite via the FireWire bus, we do not recommend daisy-chaining other FireWire devices on the same bus. In general, daisy-chaining FireWire bus-powered devices is not recommended." Furthermore, some companies also recommend separate USB cards for bandwidth reasons; having solved a nasty USB problem that way, I agree.

BANG YOUR HEAD

While your publication seems to be reasonably unbiased, I've noticed that the Power App Alley column seems to avoid Steinberg's Nuendo/Cubase. Is this on purpose and, if so, why?

I realize that you featured Dimmu Borgir and Cryptopsy but please do a feature on Meshuggah too. Their production distinguishes them in its *über*-clarity and musicality. Having met them, I can say that they are articulate and affable guys. They're also responsible, in part, for Toontrack's Drumkit from Hell software.

Brock Purviance

Editor Matt Harper responds:

There was a Cubase Power App Alley in the 4/08 issue on using the Arrangement track (it's online at www.eqmag.com > techniques > Power App Alley) and another in 10/08 on creating guitar processing racks in Cubase. The 5/08 Vocal Cords column described vocoder applications, including the one in Cubase, and Cubase 4 was also the subject of the 12/08 Cheat Sheet. And there have been plenty of other mentions of Steinberg products, because both Craig Anderton and myself (as well as many of *EQ*'s contributors) are avid users of their programs.

As far as Meshuggah goes, as *EQ*'s resident extreme music fanatic I agree they deserve coverage. Unfortunately, when we reached out to them not long ago, we were told that guitarist/producer Frederik Thordendal was not interested in speaking about the band's recording techniques. *C'est la vie.*

WOEFULLY GREEN

Going green is making me blue, my eyes red, and my neck sore! It must be a sign of the times: saving paper, downsizing, smaller packages, faster delivery, the "I want it now" generation. When we upgraded to Cubase 3.0 last century, it came with a beautifully boxed set of manuals. One could peruse the manual at bedtime, on vacation, or while sitting on the throne.

Recently, I sat in front of the computer researching an upgrade for DAW-based recording, made the plunge, and now I am sitting in front of the computer reading the .PDF file. When problems came up, I joined a forum to ask questions. And I'll be sitting in front of the monitor once more, trying to get my client to sound like a rock star using a pitch correction program I'm still learning.

Now the light comes on: Here I sit in front of yet another monitor ranting and raving about all this!

I'm done.

Anonymous (via email)

Got something to say? Questions, comments, concerns? Head on over to www.eqmag.com and drop us a line in our Letters to the Editor forum, send us an email at eqeditor@musicplayer.com or snail mail c/o EQ Magazine, 1111 Bayhill Dr., Suite 125, San Bruno, CA 94066 for possible inclusion in the Sounding Board.

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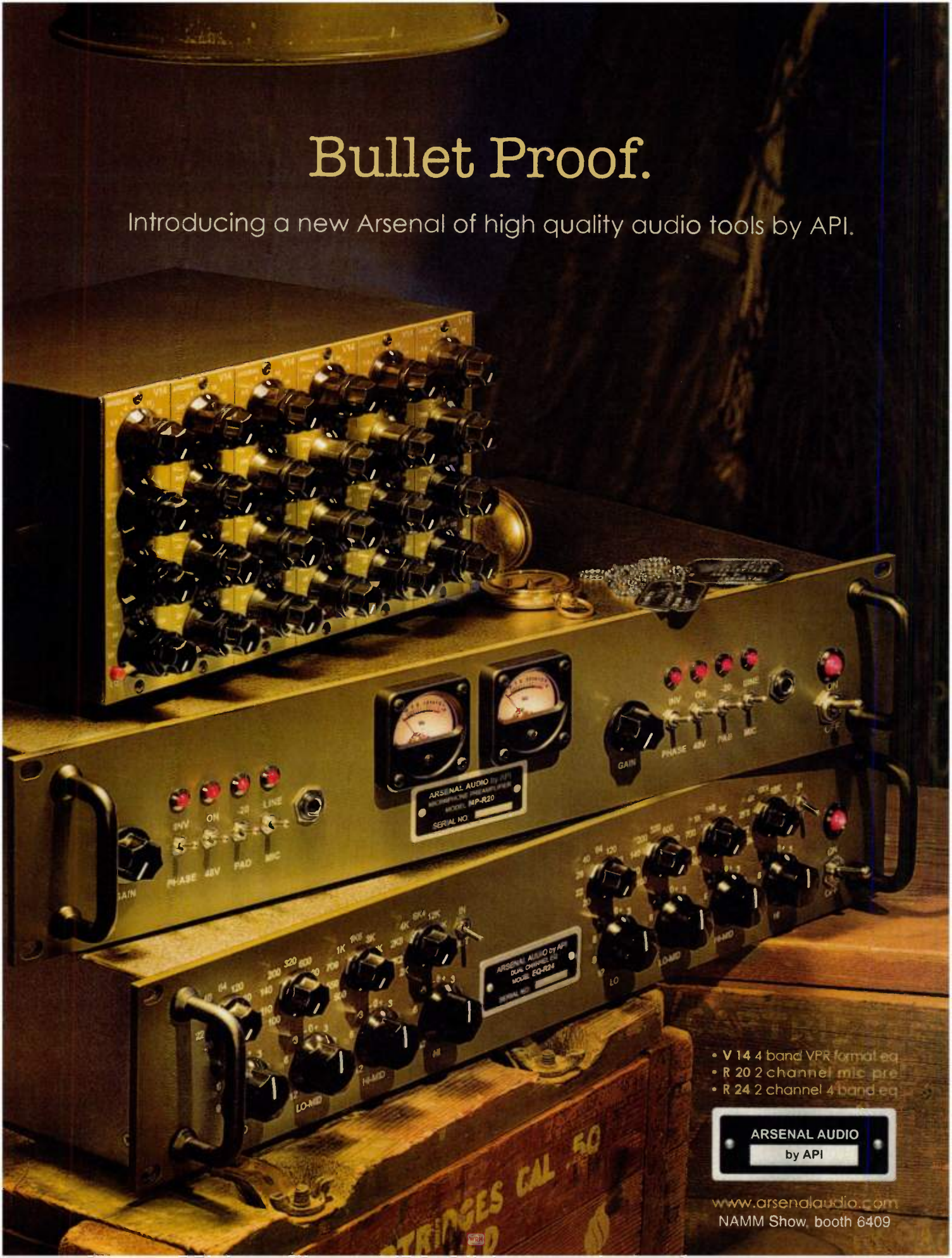
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PUNCH IN

TWISTING GROOVES

Daedelus' Loop Improvs Make for Surprising Beats

BY JOHN PAYNE

Alfred Weisberg-Roberts—otherwise known as Daedelus—is a nattily attired young man whom one might like to refer to as a "DJ," except that he's really more of a 21st Century classical composer working in the experimental dance/electronic realm. However, Weisberg-Roberts doesn't eschew the former label, even if the title isn't likely to garner him the respect he deserves in the popular music press. In fact, his newest effort, *Love To Make Music To* [Ninjatune], is what he calls "a super-upbeat virtual homage to rave culture" that, in many respects, is a total departure from his more outwardly intellectual past work.

While the admittedly anti-minimalist Daedelus does strip things down on this album, there's still a truckload of sonic information vying for attention in these tracks. But for all of the thick compositions present within *Love To Make Music To*, it's the fat, buzzing analog synths the maestro says give the tracks an in-your-face sort of sociability, and serve as the direct atavistic link to the beloved 1992 rave scene he celebrates therein.

Weisberg-Roberts says that he decided to lean heavily on an ancient Roland SH-09 for his newest album. "In rave culture, the SH-101 is the most popular analog synth, and one of the first to have an arpeggiator—albeit in a real cheap form," he says. "It wasn't your kind of really fancy Jupiter synths—it was more a ground level kind of thing. A lot of the UK-artists had a love affair with it. The SH-09 is similar. It doesn't have an arpeggiator, but it does have a unique bass sound. People talk about the Moog series having an amazing bass sound, but this is *really* different."

For additional variations on synth textures, he made extensive use of the MicroKorg and the Dave Smith Evolver, which marries analog circuitry with digital control. For sampling, Weisberg-Roberts goes directly into Pro Tools because of the "interesting harmonic distortion" he claims the rig generates.

"It's not the most savvy way of going about treating sampled material, because the converters on a typical Pro Tools rig aren't the most pristine," he says. "But I feel that it's the ghosts in the machine that are giving you the personality. The dirt that you can get under your nails will make you happy."

Making use of the recent spate of software that simulates 8-bit and 12-bit sound was inevitable, he says, adding: "It's funny how we talk about old equipment. It's true that old gear can produce a kind of distortion that's very melodic, and that has a warmth which is really endearing. It's funny how that's the bane of digital existence, these little imperfections. But it's not everything, and it's not the perfect choice for all my material."

Matching gear to the song's needs is also why Weisberg-Roberts uses everything from cheapo Radio Shack mics to the built-in microphone in his MacBook to capture sounds—the

Daedelus showing off his Monome MIDI controllers.

LAURA DARLING

latter of which was used to record the entirety of N'fa's cameo on "Twist the Kids."

"The reality is that take was the best take," he says matter-of-factly. "And, anyway, crystal clear vocal production doesn't necessarily fit with my concept of using vocals as more textural elements of the songs. Re-recording N'fa with a better signal chain wouldn't have been the right thing for the song."

For *Love To Make Music To,* Weisberg-Roberts integrated a Monome MIDI controller (www.monome.org)—one of the staples of his gigging gear—into the production process, using it in conjunction with Cycling '74s Max/MSP. "I'm able to sample bits and pieices of a song I've created—or even live material—as I sample directly into the machine, and it rips 'em apart on the fly," he says. "Basically, this allows for a lot of improvisational-type controls in an immediate fashion. The results can be unpredictable, because samples have a bit of their own personality—especially when you're dealing with complicated drums. You can find places that are unexpected, and use the controller to repeat those moments. For example, I'll haphazardly play across the machine with some basic expectations. You've got to hit a point in a typical drum loop that's usually kind of a null point—where there's usually nothing going on—but the way that affects the beat is sometimes really interesting. You can drop in on the second beat in a three-bar loop, and, suddenly, the beat turns around in a funny way. It's the wrong beat in the wrong place, but you can take a break beat, and make it something that sounds 4/4. I love that about this machine—you can really get outside of your expectations. In fact, it can *foil* your expectations." **EQ**

NOIZES IN THE BEDROOM

The Menahan Street Band Tracks Between Trains

BY MICHAEL ROSS

Menahan Street Band (left to right)—Homer Steinweiss, Gabe Roth, Dave Guy, Leon Michels, and Tom Brenneck.

There is no bed in the bedroom of Tom Brenneck's apartment on Brooklyn's Menahan Street—just drums, amps, tape machines, and speakers. It is just as well. The periodic noise of the M subway line going by would make sleeping—not to mention recording—in this long narrow space problematic.

"It has become a superstition," says Brenneck. "If we are about to roll tape and the train goes by, we know it will be a good take. We have three minutes of quiet until the next train comes."

The title song of the Menahan Street Band's *Make the Road by Walking* [Dunham], must have been one of those good takes. An earlier release of the tune was sampled for Jay-Z's "Roc Boys (And The Winner Is)," deemed by *Rolling Stone* to be the number one song of 2007. Brenneck explains: "The Hit Men [the production team that works for Puff Daddy] sampled the peak section of the song—about four bars—sped it up, and put drums on top of it. They just layered on top of our single."

Brenneck, guitarist for the Dap-Kings (of Sharon Jones and Amy Winehouse fame) *and* the Budos Band, started the Menahan Street Band as an outlet for compositions that didn't fit the other projects.

"Those bands have really strict guidelines," he says. "For example, Budos' music is always dark and aggressive, and the members rejected some of my songs as too 'pretty.' So I'd come home and record them."

"Home" is located over a community center in a residential area, and sports virtually no soundproofing. "We try not to record the drums until after 5 o'clock, when they finish up downstairs," he says.

If this sounds low tech, he is just getting started.

Brenneck reveals the entire record was recorded through a TASCAM M312b board to an Otari MX-5050 1/2-inch 8-track deck. "We miked the drums with one microphone—a Shure 5455D that predates the SM57. I found it in Portland for about 50 bucks. Its high end really breaks up, so we stick it under the drums—about a foot away—and point at the snare drum. It doesn't sound good on anything else, but it sounds great on drums. All we do is pull out some of the bass frequencies, so that we can bump those when we mix, and have better control over the tone. Then, depending on what we are doing, we might push the treble or the mids a little bit. It is more about hitting the tape. Usually, we hit the tape until it breaks up a little too much, and then we back off the input signal a bit so there is a lot of tape distortion on the drums. We love the old funk 45s where the drums are distorted. We spend a lot of time moving the mic around inch-by-inch while we are getting sounds. Once we find the sweet spot for the mic, we start messing with the input levels until we find the sweet spot for tape distortion."

Brenneck's radical recording techniques extend to the direct-recorded bass guitar. As he plays back the bass track, the needle slams into the red. "You don't hear it as distortion," he says. "That's how I learned to use tape machines—don't look at the meters, just listen. See—the bass levels on the board are maxed out, and the preamps on the tape machine are maxed out, and every note is in the red, but the sound is still not breaking up. The Otari's preamps are really good, so you can crunch the tape hard before it begins to break up."

Electric *and* acoustic guitars were typically recorded with a Shure SM57. "That's all I've got—the 5455D and two 57s," he says.

Bouncing tracks was inevitable, but the process was viewed as a positive rather than a negative. "I got really into it," he explains. "By the end of the record, I would be bouncing over and over—just to give the drums more tape distortion. We put a lot of effort into the songs and into the performing, so you get these beautiful songs with really crappy sounds. I think that makes for an interesting record."

The Jay-Z hit brought validation to Brenneck's recording style, as well as enough money to build a new studio at another location. But Brenneck's aesthetic remains intact.

"All we are going to do is stick these drums in another room, and record them with the same mics," he states. "I don't think the new studio is going to change the sound, because we are going through the exact same machine. However, before we leave the old studio, I'm going to record the subway train rumbling by so that we can play it for inspiration." EQ

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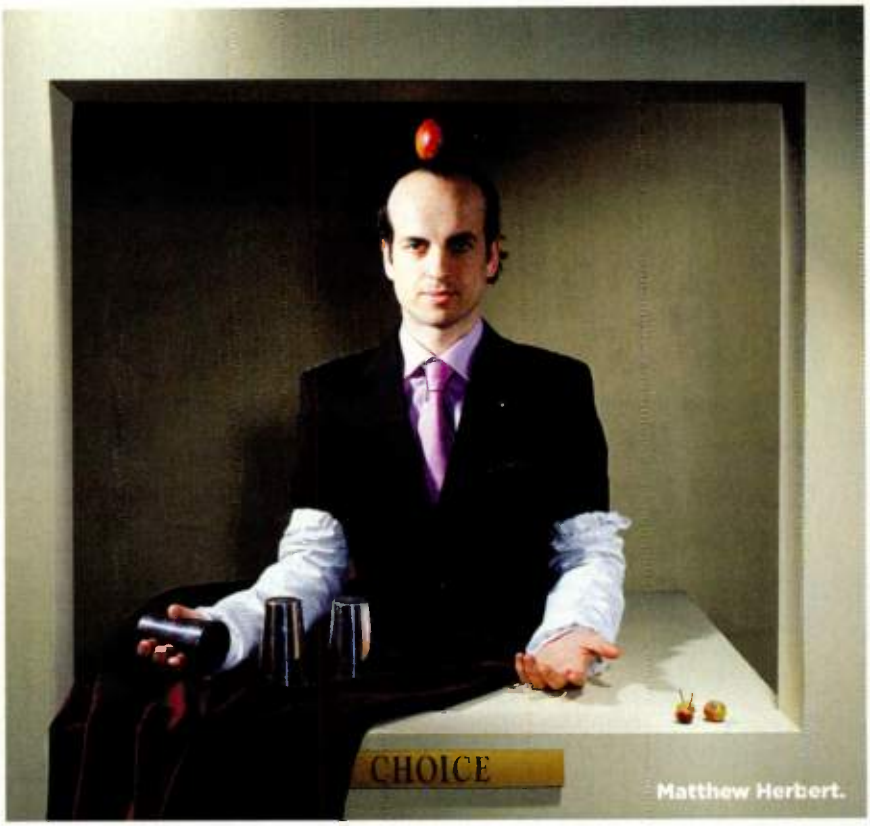


FOUND SOUNDS

Matthew Herbert on Composing with Landscapes

BY JOE SHAMBRO

Outfitted with an arsenal of field-recording equipment—as well as the singular goal of creating what he calls "a documentary of music"—Matthew Herbert mixes samples captured from various exotic locales with precise instrumentation on *There's Me and There's You* [CFP Domestic]. To hear the electro-musician/producer tell it, making a record from a foundation of field recordings is business as usual. His 2006 release, *Plat du Jour*, used samples recorded at factory farms to make a statement on the quality of mass-produced food, and 2001's *Bodily Functions* centered around samples recorded from the human body. What is notable about *There's Me and There's You* is Herbert's message about the current state of the world, and the locations he sampled to serve as sonic examples of what he considers to be a huge downturn in the global quality of life—locales that included the British Houses of Parliament, a McDonald's restaurant, and even a local landfill.

For recording locations where going stealth isn't necessary, Herbert relies on a Nagra V 2-channel hard-disk field recorder that delivers high-definition sampling (24-bit/96kHz), portability, and long battery life. His mics are a pair of Neumann KMR 82 shotgun mics and an Audio-Technica AT825 stereo mic.

For situations where discretion is critical, however, Herbert uses a wide arsenal of smaller recording devices. True to the mission of his recordings, he places the content of the sample over the quality of the medium.

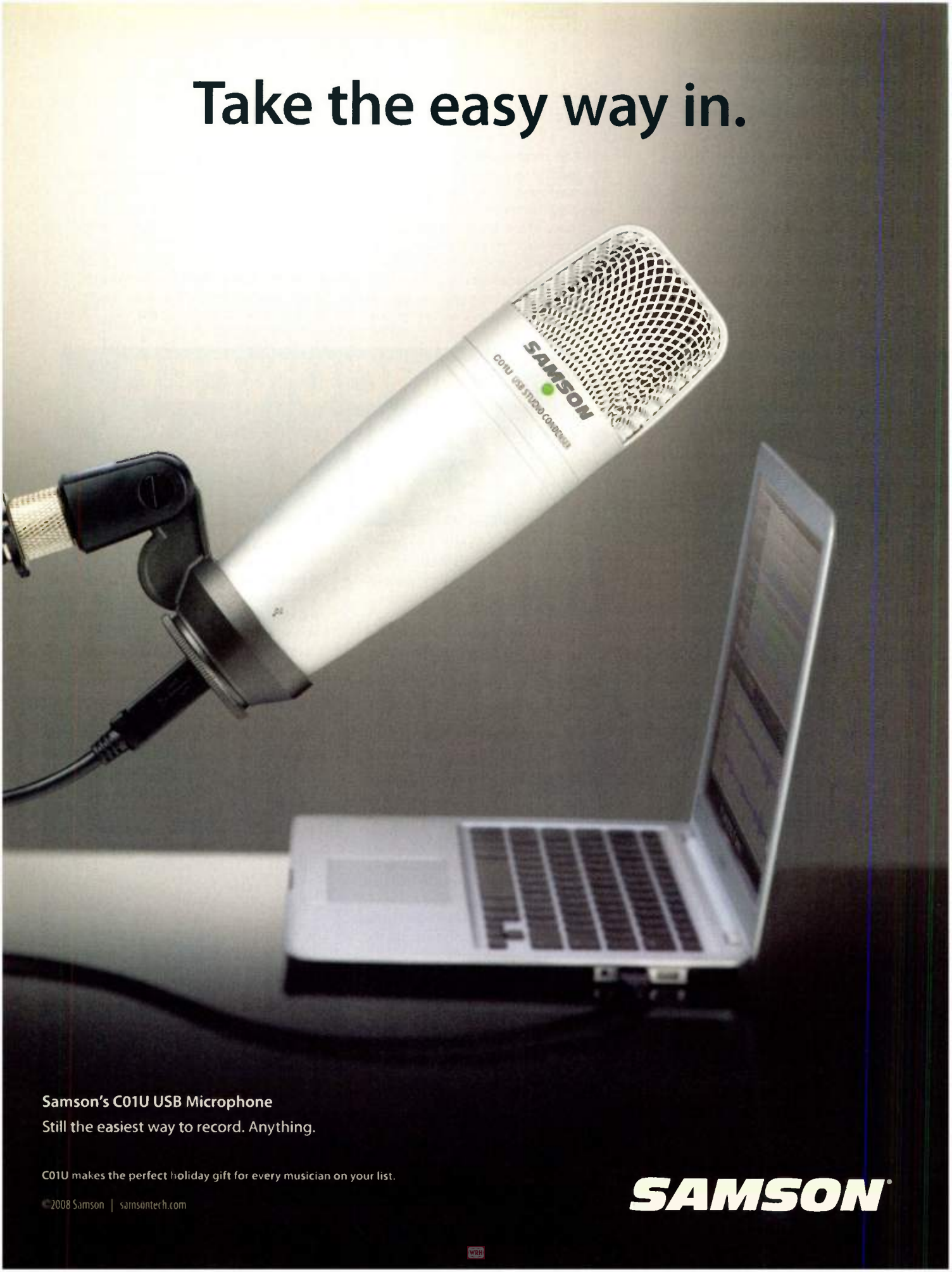
"When I'm in a suppressed situation, I go for whatever I can get away with," he says. "It might be a mobile phone, or a cheap MP3 player with a built-in microphone. It doesn't matter what it's recorded on. If I can capture the sound of something extremely prolific, then the story trumps the medium."

After collecting the samples that will serve as the basis of each track, Herbert moves his ensemble, the Big Band, to Abbey Road Studios in London where he tracks additional instrumentation. Afterwards, he exports the tracks to mix at home using Apple Logic 8.

"Sometimes, I have up to 300 or 400 channels of audio to sort through at the end of a session," he says, noting that keeping all of his tracks organized can be quite a challenge. His solution—create three master folders for each song: one for the field recordings, one for the Big Band masters, and another for his vocals.

When starting to mix, Herbert begins constructing each song by creating a submix in each folder. "I prefer to make each element sound like itself first, before worrying about the overall mix," he says. "It's very important to me that the Big Band sounds like a Big Band, and that the field recordings work together on their own."

An analog aficionado at heart, Herbert says that, although he works largely in a digital environment, he edits his samples with an Akai S612 to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(Continued from page 12)

ensure a tactile mixing experience. "The S612 was the first sampler that Akai ever made, and it has this great ability to edit samples physically, using levers and buttons," he says. "There are no internal menus or selectors—it's the closest you can get to an analog feel in a digital sampler."

After he has edited his samples using the S612, he mixes them with the Big Band tracks and vocal stems into the final 2-track mix that goes off to the mastering house. Herbert says he is awed by the recent technological leaps that have made producing great-sounding recordings cheaper and easier than ever—most notably in the field of portable recorders.

"It's a revolution in music, because composers have long written about places," says Herbert. "But you can now go out and record the actual landscape! I no longer have to write a song about going to a McDonald's. I can actually go there, take my gear, drop chairs and tables, stomp on french fries, blow into straws, and record the noise of a Coke. I don't even have to put words to it—it just is what it is. It's an incredible liberation." EQ

WINNER ANNOUNCED FOR JZ MIC GIVEAWAY

Congratulations to Matt Ramey of Raleigh, NC-based act Gods of Harvest, who posted the following on www.eqmag.com's Letters to the Editor forum:

"I was trying to get the perfect kick sound to my ears—deep but not woofy, sharp but not slappy. After many hours of trying, here's the setup that worked best. I used a Groove Percussion 22 x 18-inch kick, miked with an AKG D112 and a Røde K2. The D112 was placed just outside the sound hole (about three to four inches away from the rim, facing directly towards the back end of the kick). The K2 was placed about 12 inches away from the kick, dead center, set to a cardioid pattern. These mics were then run into a PreSonus Firepod into Logic.

"The D112 really picked up the attack without sounding too slappy, and the K2 picked up the bottom-end boom. The room we recorded in—which measured about 20 x 20 feet—had hardwood floors (with a rug underneath the kit, of course) and vaulted arch ceilings. It was an absolutely beautiful room to record in, as the reverb was nice and lush without being overly so."

We suggest you check out Mr. Ramey's band by heading over to www.bandmix.com/godsofharvest. Good stuff for sure. He did manage to a get nice kick sound using tools that are practically in any recording musician's budget. And now he has a brand new JZ Black Hole to aid him in the quest for the perfect tone!

Stay tuned for more giveaways in upcoming issues of *EQ*. EQ

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Tracking Tuvanese throat singers Hun Huur Tu at Fantasy Studios, Berkeley, CA

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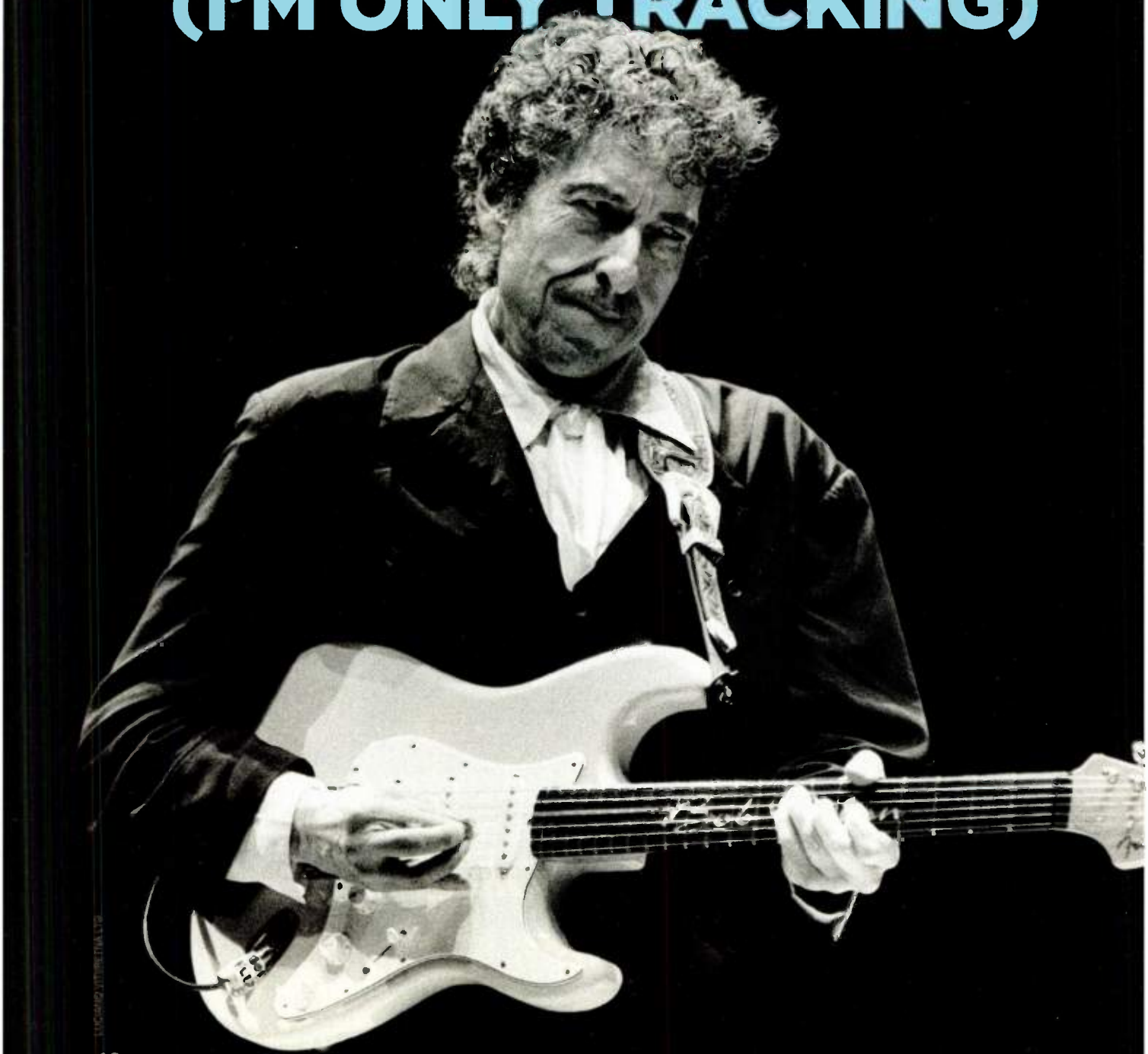


When You Are Recording With Bob Dylan, You Never Know What's Going to Come Next

Recording Bob Dylan is an exercise in unpredictability, spontaneity, and early commitment—a journey into a land where experimentation is the only reliable certainty. On any given day, for any given song, Dylan's group of top-shelf musicians (such as multi-instrumentalist Larry Campbell, guitarist Charlie Sexton, and bassist Tony Garnier) will be handed an assignment that would cause anyone except the most seasoned of session players to cower in fear: Learn and execute a track with little to no prior knowledge of its workings. Within a 10-hour window, the song will be in the can, awaiting a final mix. And, according to Chris Shaw, who has served as Dylan's go-to engineer for the past nine years, even the final mix won't take very long. After all, how else can you explain one artist putting out 57 albums (including live recordings, greatest-hits LPs and sanctioned bootlegs) in 44 years?

"After we tracked the song 'Things Have Changed,' for *The Wonder Boys* soundtrack, Bob asked me for a quick mix," Shaw recalls of his first session with Dylan. "I figured the final mix would be done by someone like Daniel Lanois. So I did a quick rough mix to DAT. Bob listened and said everything was too clear, too easy to pick out every instrument and note. He wanted to 'mush' it up."

According to Shaw, Dylan employed a trick of his own for ensuring his vocal track was tailor made to sit perfectly in what would become a delightfully murky mix: running his vocal back through a guitar amplifier to exaggerate its natural asperity. Shaw took it one step further and placed an Electro-Harmonix Graphic Fuzz box in the signal chain (he also says that he ran the snare and the room mics through the unit as well). Nodding in approval, Dylan reached over and pushed the percussion track up nearly all the way, the shaker now a bayonet piercing the left side of the mix. "I thought, it's just a reference mix and ran the DAT again," says Shaw. "A couple of days later Jeff Rosen, Bob's manager, called and asked me for the quarter-inch [tape] of the mix. I was stunned—it was just a rough mix, a very rough mix. Jeff said, 'Oh, you don't know Bob. That *was* the final mix.' The DAT was the master. Two months later it was nominated for an Oscar for best song. Two months after that, it won the Oscar for best song."

The first full Bob Dylan album Chris Shaw did was 1999's *Love and Theft*, which the engineer says was recorded at Clinton Studios in NYC—a studio that served the singer-songwriter's needs well. "It's a big, bright, airy room that has a nice, natural reverb that doesn't slap back and decays evenly and naturally," the engineer says. The console, a vintage Neve 8068, and a one-inch Studer A827 two-track for mixing (15 ips, no noise reduction), sealed the deal at a time when Dylan was recording exclusively to analog.

"Bob is enamored with old Americana recordings like the Carter Family records," Shaw continues. "He loves the idea that those records were made with one microphone that everyone leaned in around. So he wants the whole band in the room when he tracks. I'll mic instruments and amplifiers individually, but leakage is a big part of the sound. In fact, I'd say three-quarters of the sound is just what leaks into Bob's vocal microphone. People have asked me how I get that big thumpy drum sound and I tell them that most of it is coming from Bob's vocal mic. Virtually all of his 'pilot' vocals are actually the vocal you hear on the records."

That puts a lot of pressure on a single microphone, in this case a Shure SM7. "The large-diaphragm condenser microphones that most people use on vocals would just be too sweet on Bob's voice, and he's also a surprisingly loud singer, so a dynamic responds better to that," Shaw says of the choice to use an SM7 on Dylan. "A dynamic microphone is also good for Bob because his vocal sound is formed closer to his mouth than his throat. The SM7 captures the explosiveness of his singing better than, say, a [Telefunken] 251 might."

One collateral issue is what happens on the relatively rare occasions where Dylan needs to punch in a line on a vocal—not only is there a lot of band leakage on the vocal track, but Dylan dislikes headphones and won't use a floor monitor. With neither, how could he be cued in to sing at the right moment and on pitch? Shaw's solution, which he devised during *Love and Theft*, is quintessentially Dylanesque.

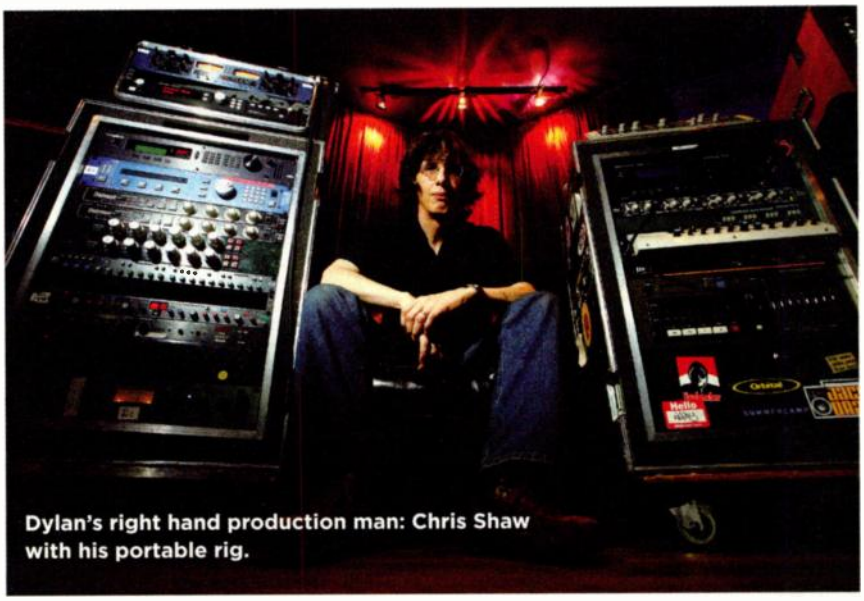
"I have the band play along with the track at a lower volume while wearing headphones, and I have Charlie Sexton sing the lead vocal he's hearing in the headphone and Bob follows along in the room," he explains. "Then I punch in for the line. It gets the same spillover from the band on the punched part of the vocal track." As a back up for the ambience, Shaw also sets up a second SM7 about two feet in front of Dylan's vocal microphone and pointed in the same direction. "Just in case he has to do a punch without the band in the room, because when the ambient sound disappears, you really notice that it's gone."

(Continued)

by Dan Daley

IT'S ALRIGHT, MA (I'M ONLY TRACKING)

Shaw further tempers Dylan's vocal sound by running the SM7 through a Millennium HD3D mic pre. Dylan asks Shaw to crank the midrange on his voice, which he does by adding a couple of dB between 2kHz and 3kHz on a Neve 1073 module. Shaw then compensates by adding some additional low end and a little airy EQ around 12kHz, then heavily compressing the signal through an Empirical Labs EL8 Distressor. "I drive it untill the red lights don't blink anymore," he says. "You can hear all the bleed from the band into the vocal microphone pumping under the compression and it adds a cool thickness to the sound."



Dylan's right hand production man: Chris Shaw with his portable rig.

Dylan going digital was not nearly as radical or traumatic as his raucous transition from acoustic to electric at the 1965 Newport Folk Festival. His first LP to use Pro Tools as the recording medium was 2006's *Modern Times*, though his introduction to digital nonlinear multitracking came while doing several one-off tracks for film soundtracks in between tour dates. Shaw, who is comfortable in either domain, has a knack for doing multitrack edits across one-inch and two-inch tape. "I still love it," he says. "I used to make money doing stutter edits for dance records in the '80s."

Moving to Pro Tools may have been less adventurous but was definitely more productive. "Dylan records get made quickly—a track a day, usually—and I went to Pro Tools as a result of the time pressures more than anything else," he says. "I never asked Bob about it—I just did it. On one of the first songs on that album I had a multitrack edit done before Bob could walk from the studio into the control room. That convinced him, but he never had any issues with the sound of digital in the first place."

Neither did Shaw, who at 42, straddles the analog and digital epochs. "I never had that nasty aversion to digital that so many other engineers seem to have," he says. "Digital is fine as long as you record what you want to hear. I use Neve 1073 and Pultec EQP1A EQs, [Universal Audio] LA3 compressors, and dynamic microphones through tube preamps to get the sounds I want before they're recorded. I mixed that record in the box but it sounds just as it did when we recorded it. The signals were passed through a lot of analog stages and that's where the warm sound came from."

Nonetheless, Dylan still pursues an old-timey sound and likes to see the accoutrements to do so in place, which calls for some maneuvering by Shaw. "As you never know where the song is going to go, I'll often set up microphones for both really old-school and for close-in miking," he says. "The drum kit will have one set of a few microphones—a Shure SM57 on top of the snare and a Neumann KM 84 on the bottom, some U87 for overheads, and a Sennheiser 421 inside the kick drum—and another set with mics on every drum, where I'll add a Neumann FET 47 outside the kick, angle an RCA 44 down in front of the kit to add some low mids to the sound, and add AKG 414s on the toms. As a result I'll often have 15 to 18 tracks of

Shaw making notes in between takes.

SOMEDAY BABY

Bob Dylan won the GRAMMY Award for Best Solo Rock Vocal Performance in 2006 for the song "Someday Baby," from the *Modern Times* LP, which itself garnered a GRAMMY for Best Contemporary Folk/American Album. Chris Shaw was looking for a dense, Muddy Waters-like sound for the track. He placed a Neumann KM 84 microphone on the bottom of a snare drum purposely selected for its "crappy" sound, with a Shure Bullet microphone on the top on a stand over the kick drum, and rounded the center of the kit off with a Shure SM57 on the rack tom. Dylan's Gibson Every Brothers model acoustic guitar is usually recorded using one B&K 4011 pointed at the 12th fret. The distant-sounding slide guitar, played by Larry Campbell, is mixed hard left and owes its spooky allure to the Neumann U87 room microphones.

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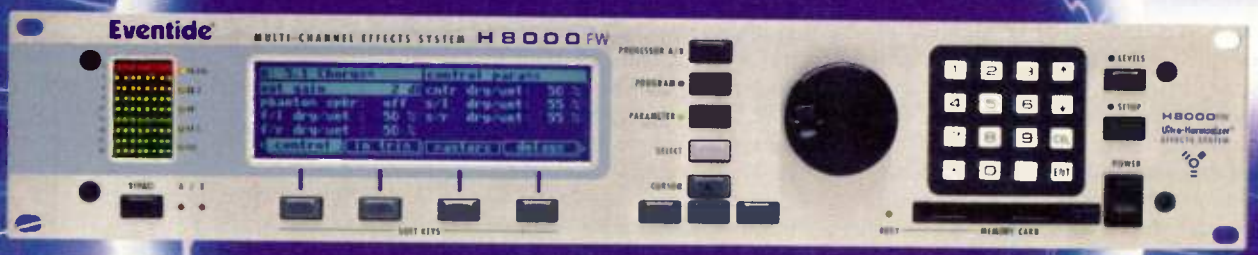

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drums up on the console and mix the sets as the song evolves. And that can happen in the space of two takes."

Shaw also tries to balance Dylan's preference for "mush" with the need to create some definition between individual instruments. "I'll set up some gobos and Tube Traps while the band is setting up, maybe a blanket over something," he says. "I try to sneak in as much isolation as I can before he complains."

Dylan is nothing if not quirky, and Shaw is sensitive to that. "Bob sits in the circle with the rest of the musicians but he always sits with his back to the control room," Shaw says. "He doesn't like distractions. I watch him through the glass and I've had to learn to read his body language."

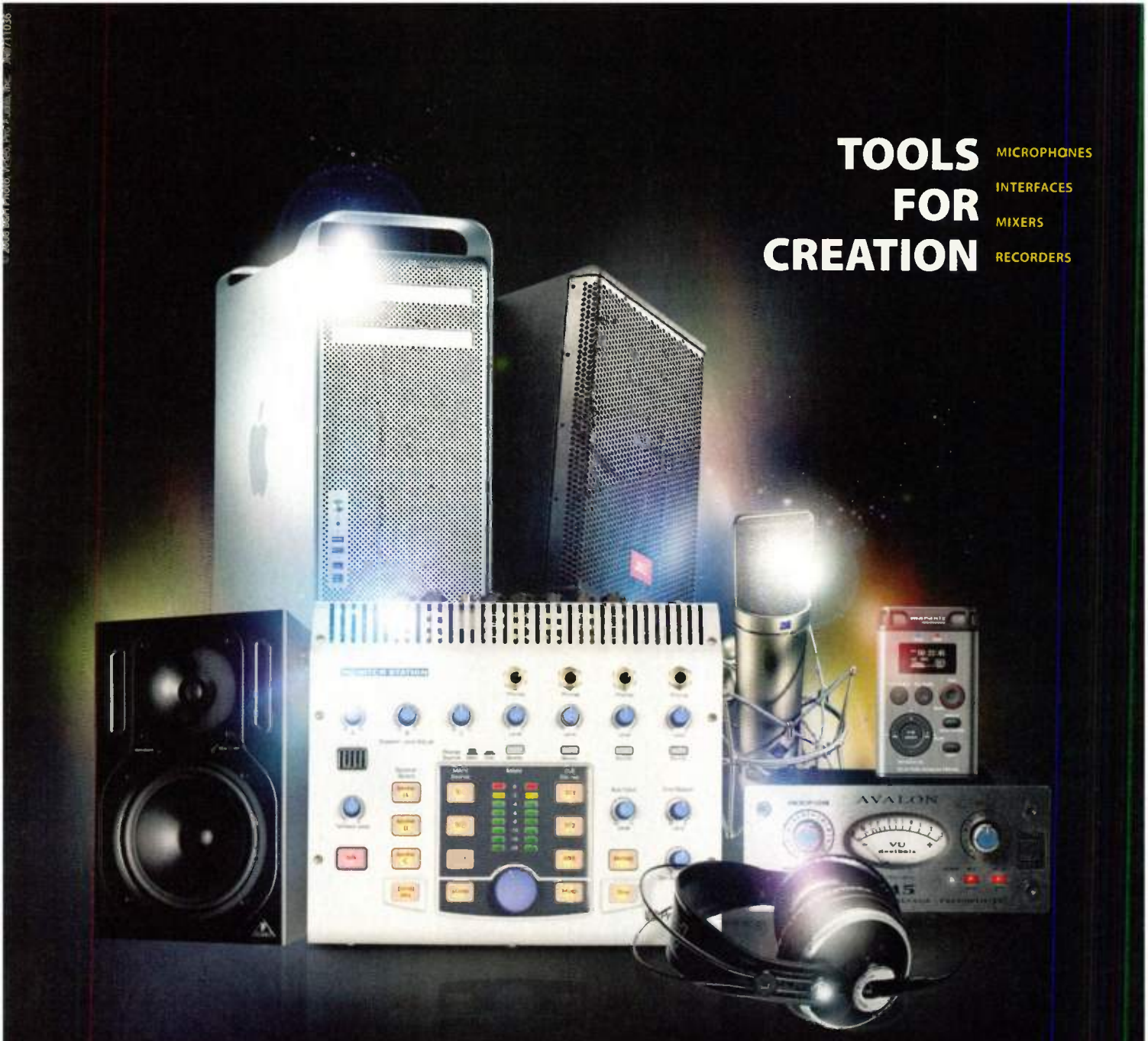
Shaw concedes he was never a huge Dylan fan growing up, yet could not fail to be awestruck at the thought of working with the most iconic solo artist since Elvis Presley. He seems to enjoy the unpredictability that characterizes Dylan's sessions, as well as the gentle cat-and-mouse game he plays trying to make sure that each track has definition while still letting the "mush" be there in all its glory. Shaw laughs when he recalls the one and only time he didn't hit "record" during a rundown of a song.

"Bob never says 'roll,' so you always have to be sharp," he says. "I was tweaking a sound while the band was running down what I thought was the intro, but that turned into the first verse and I realized, uh-oh, this is the take! I started waving my arms at the band through the glass and they were nice enough to cover for me—one of them 'missed' a note and we were able to start over again [*laughs*]."

PARSING DYLAN ON TECHNOLOGY

While Chris Shaw says Bob Dylan is not a technophobe, the singer is on the record as being somewhat contemptuous about how contemporary records—including his—sound in general. He told a *Rolling Stone* interviewer, "You do the best you can, you fight that technology in all kinds of ways, but I don't know anybody who's made a record that sounds decent in the past 20 years, really. You listen to these modern records, they're atrocious . . . just like—static. Even these songs [from *Modern Times*] probably sounded ten times better in the studio when we recorded 'em."

Shaw interprets: "You have to know Bob to know what he means. He means that the way records are made today—individual tracks done one at a time and heavily layered and time-tooled and pitch-fixed to death—means they have sound but no performance. I was working on the soundtrack to Martin Scorcese's *No Direction Home* and I got my hands on some of the old four-tracks from that time. You've got drums and organ on one track and Bob and his electric guitar bleeding into everything else, all mushed together. But it's also magic. It's all about the performance. Bob is constantly trying to get back to that sound."



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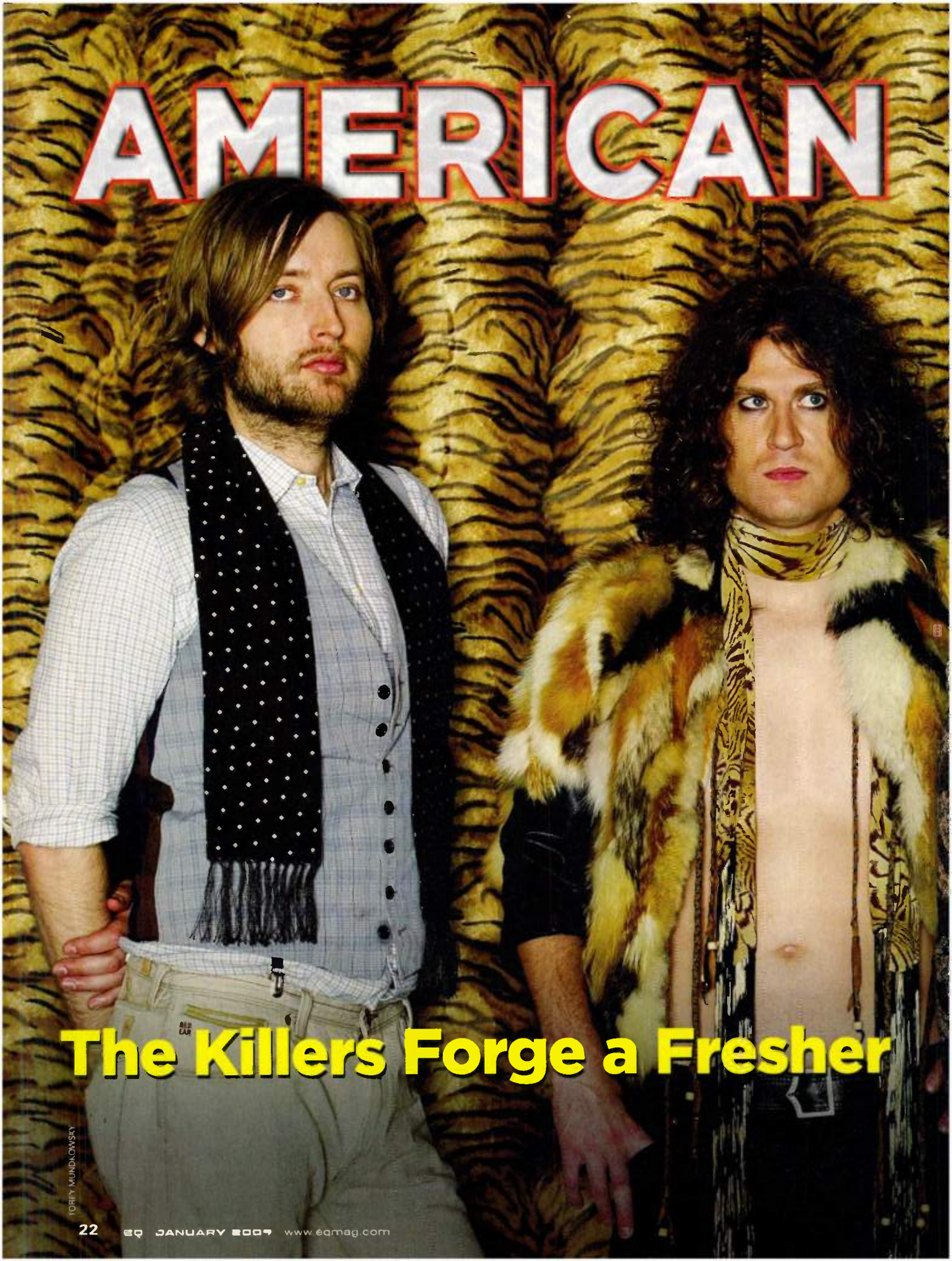

The Killers Forge a Fresher

TOREY MUNDKOWSKY

MAJESTY

Sound for *Day & Age* in Their New Personal Studio

by Ken Micallef

AMERICAN MAJESTY

When Las Vegas-based quartet The Killers released the chart-scaling *Hot Fuss* in 2004, they laid the groundwork for other soon-to-be superstar Sin City bands (read: Panic at the Disco) to raid the airwaves and secure the Strip a place in the short list of hot musical centers that aren't within a hop, skip, and a jump from a shoreline. Expressing a love of dance pop, '90s rock, and old fashioned sing-along songcraft, *Hot Fuss* (and follow-up release *Sam's Town*) introduced a thrilling young band as likely to channel the epic qualities of Bruce Springsteen ("When You Were Young," "Sam's Town") as the intimate emotions of early Billy Joel ("All These Things That I've Done"), the hip-shaking energy of INXS ("Andy, You're A Star"), and the cold glamor of Joy Division ("Somebody Told Me") and the Smiths ("Change Your Mind").

In a few short years vocalist Brandon Flowers, drummer Ronnie Vannucci Jr., bassist Mark Stoermer, and guitarist Dave Kuening had solidified a small legacy not bereft of controversy, but chock full of innovation. Never content with standing still for too long, the foursome sought out prolific dance producer Stuart Price to collaborate on a handful of new tracks. After crafting extensive demos recorded at their practice space and in Vannucci Jr.'s home studio, The Killers decided to tempt fate and its tendency to favor the bold by spending their royalties on a building a new studio, Battle Born. With Price and engineer Robert Root on hand (and a casino's amount of new gear), the band set out to record their most adventurous album to date, the recently-released *Day & Age*.

What does *Day & Age* sound like? For sure, Stuart Price's years producing everyone from Madonna to Missy Elliot has informed The Killers' worldview. That's not to say that *Day & Age* rides over simple house grooves or poppy synth lines—far from it. Vannucci Jr.'s drums still pound the solar plexus like nothing else this side of Hal Blaine/Levon Helm, and Flowers' grandiose vocals still inspire throngs of teens and young adults stadium-wide. But there's a sense of experimentation in *Day & Age's* sonic supplication. Opener "Losing Touch" confirms this year's best INXS impersonation, first single "Human" apes New Order plying dark, emotional melodies against a robotic rhythm as does "Spaceman," a synthetic track which is impossible to resist as pure pop music confetti. But it's the doleful and heroic "The World We Live In" that confirms *Day & Age* as a modern classic and The Killers as one of the era's enduring rock bands. With Vannucci's mighty drumming cresting like climbers mounting Everest, the song's whirring synths and layered vocals rise and rotate like some Mahler song cycle. Overall, *Day & Age* is heady stuff from Las Vegas' newly-crowned masters of melody.

Ronnie Vannucci, Jr. (left) makes a mix request to Stuart Price (foreground), while Brandon Flowers (background) watches on.

TOREY MUNDKOWSKY

PRODUCER STUART PRICE'S HOME RULE

When not recording under the aliases Les Rythmes Digitales, Thin White Duke, or Jacques Lu Cont, British producer/performer Stuart Price lends his heavyweight production talents to such superstars as Madonna, Missy Elliott, Gwen Stefani and Keane. Here, we learn how Price brought his demanding techniques and unusual attitudes to The Killers' homespun recordings, effectively stretching everyone's boundaries in the process.

Did you enjoy working with the band's setup at Battle Born?

Yes. We built a really good setup based on Logic Pro, an Apogee Symphony system, and the API desk. They already had a huge mic locker. Every piece of equipment used was purchased for this project. But we had limitations as well: The console was originally 16 channels and we had to expand it to 32.

The only plug-ins we had were from the Logic Pro bundle, but that wasn't a big deal. Before the newest version, I always felt that an Apple Logic setup was good only for solo artists. Up until now, Pro Tools, in my mind, was the only thing that reliably provided the power you needed to track a real band, but Apple has really stepped it up.

Does that mean that you generally prefer Pro Tools?

I have been working with Logic on my own for eight years now, but I love Pro Tools as well. Coming from a background of using Cubase and doing a lot of MIDI sequencing, obviously I gravitated towards that integration within Logic. But there is a cliché that Pro Tools is solely an engineer's system and Logic is more creative, and I don't believe that.

How much of *Day & Age* was cut live as opposed to recording each musicians' part independently?

You have to look back to the demos; the band constructed demos

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and the original ideas often came from one member at a time. When we got in the studio, most of the songs were pretty well formulated, so we would cut stuff in sections in confidence. There were a few songs done entirely live, like "Losing Touch," whereas other songs like "Human" were constructed from the ground up.

Where does "The World We Live In" fall in that regard?

That is a good example of a song that came from a demo that Ronnie had originally programmed at home, then they got in the studio and cut new sections. It really took on a life of its own once he handed it off to the other guys.

Did they re-record it completely or integrate new sounds with the demo tracks?

The drums were from the original demo, but re-recorded, then in the end we went with the demo drums. Sometimes you can record something with cheap microphones and a cheap mixer at home and it sounds better than what you get with an expensive setup in the studio. . . .

How did you push the band to bring their best game each day?

My approach is to hang a clock on the wall and tell everyone that they have until midnight to finish the song, and the next day we're moving on. At first I thought that would be met with resistance, but they got really excited about that challenge. To them it inspired an urgency which I think you need to hear on a record. When there is a slight sense of urgency, a slight rough edge, that can make an album exciting. So many musicians think that they can just fix everything later or make all their decisions in the mix, but I think it is good to take a more old-fashioned approach. They may have their own studio now, but we still got this album done in six weeks. We'd start midday and, every night, we'd have another song done.

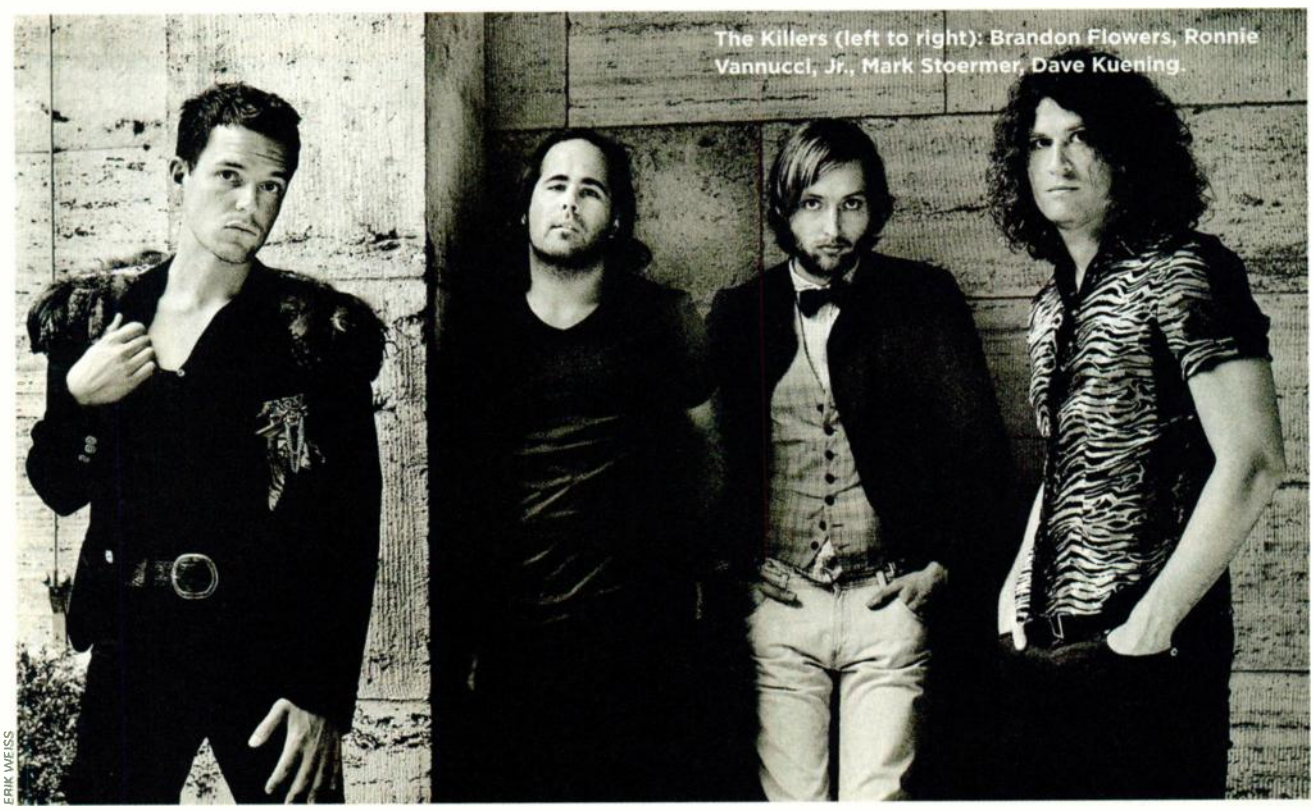
Can you pull that stuff with, say, Madonna?

In general, I am a big fan of working quickly. When you work quickly you are more honest with yourself. Sometimes when you have a great idea the best way to get it done is to take the shortest route. That goes for all bands. You keep whatever was good about it in the moment and make that moment what ends up on the record, not an overworked version of it. Don't let the production overtake the music.

There are some very interesting guitar sounds on this album. What techniques did you introduce to the party that the band ended up adopting?

We'd start with what I call a principal mic—a Sennheiser 421 or a Shure SM57—on Dave's Hiwatt, Fender De-Ville, or Marshall JCM. This mic would go directly on the grill. My approach is to settle on a principal sound and the use room mics to build the image around it. Everyone says that you can get a great guitar sound with a 57—and that's true—but you can't get a great *stereo* image with a single 57. So sometimes we would point a second 57, from the same position, towards the back of the room, so that both mics were out of phase. Then we'd pan each mic hard left and right. That makes for an interesting effect. Or, instead of a second 57, we would use the Crowley and Tripp ribbons for their figure-8 patterns, with a bit of stereo decoding.

I think it is important to get the right guitar effects going in. You can process other instruments—vocals, synths, drums—after the fact and get a good result, but with guitars any



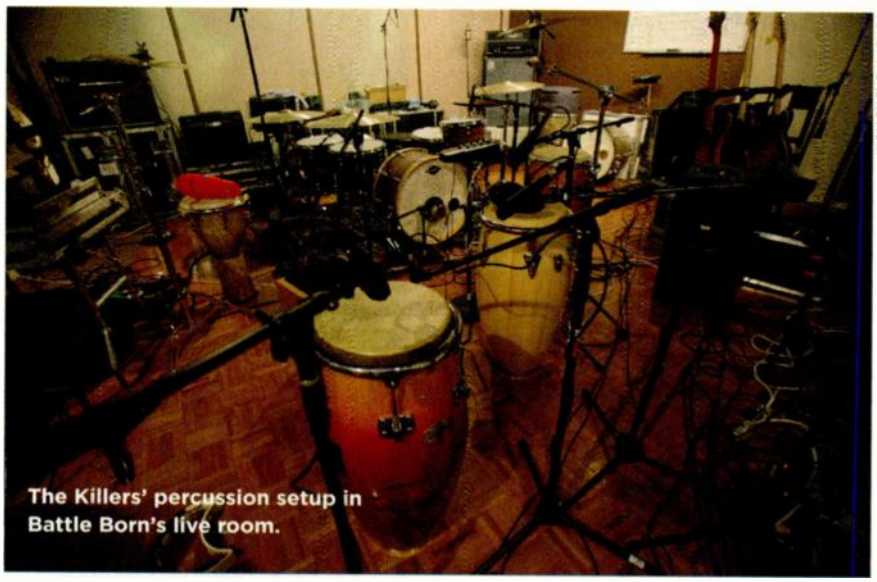
The Killers (left to right): Brandon Flowers, Ronnie Vannucci, Jr., Mark Stoermer, Dave Kuening.

ERIK WEISS

posthumous processing just makes them sound cheap to my ears.

How do you think having a personal studio helped the band grow, beyond the obvious business side of things?

Having their own studio was an important part of giving the record a unique sound as it kept them comfortable. Since they are all in Vegas, they have grown accustomed to being a little more detached from the rest of the music business, and they are fond of that. They really embrace the whole mentality of a homegrown product. Personally, my studio has always been at home, whether in a bedroom, or a spare room. I wouldn't think of having it otherwise. For The Killers, it was important not to be in the center of things. It kept the excitement level of when they did their first record, before they hit it big.



The Killers' percussion setup in Battle Born's live room.

TOREY MUNDKOWSKY

ENGINEER ROBERT ROOT ON TRACKING *DAY & AGE*

Robert Root worked at The Killers' Battle Born studio long before the band owned it, and well before they had even recorded their first demo. Back in the mid-'90s (when the studio was called Studio Vegas), Root recorded everyone from B.B. King and Motley Crue to Vegas icons Engelbert Humperdinck and Wayne Newton. Currently dividing his time between Battle Born and Digital Insight Studios, Root maintains a busy schedule in a decidedly non-musical town, but he managed a free moment to chat about getting The Killers sound right at the source.

Tell me about a typical day in the studio with The Killers.

We're talking late morning to late night—10 to 14 hour days. The process for this album actually started way before we walked into Battle Born. I got involved with Ronnie recording demos on his MacBook while they were rehearsing. It was meant to show Stuart Price the direction they were heading in. All the songs had that foundation, that was the framework. Ninety percent of it was we had a structure then we would replace a drum part with the same tempo or pattern, but the sonic differences are what changed when they began re-recording the songs. A lot of the times the demos were irreplaceable. Where there was a feel or sound that just worked for the song then you didn't want to try to recreate it.

Rumor has is that Ronnie Vannucci Jr. is adept at recording, and is quite adventurous as well.

He actually did a lot of recording before I was involved. He knows his way around Apple Logic Pro and he gets a good sound. His drums are by far the best-sounding drums in person, they just sound like drums should sound. Putting up mics that wouldn't take away from the sound of the instrument was the approach. Ronnie is a very controlled drummer, which is obviously important for getting a good recorded sound. He is a dynamic player and when he needs to be quiet he can keep the tone—it's all in his technique.

How do you handle recording his huge hi-hats? I hear they are 18-inches.

He uses no hi-hat mic at all which at first I found odd. He uses those giant hats, which I love. It makes sense not to directly mic them. Hi-hats are almost annoying at certain frequencies—you want to get rid of them rather then add them in most cases. When they are sizzling or open they cut your head off. But with Ronnie's hats, they never got in the way of anything, yet they were there and present. He's great at manipulating them. The general setup of the overhead mics captured the hi-hats well.

How did you record Brandon Flowers' vocals?

He used a Shure SM58 for a lot of the album, either in the control room or in the live room, Brandon typically cups the mic when he performs. We did put up a [Neumann] M149 on a couple tunes. The mics ran right into the API 1608 console, which has the same preamp design as a 3124. The 1608 is a brand new board—the band got the third or fourth model. It's modeled after an old console, the 1604. The new one has more routing options, they also purchased the Expander. Stuart used either the 560 or 550A EQ for Brandon's vocals. Other than that the vocals were generally very dry while tracking. Stuart would add a little reverb with a pre-delay for listening back, but all of those final decisions were left for the mix.

Did the vocal sections require much punching in?

Less than average. Brandon likes to go through the songs straight through then make a simple comp afterwards. Once he was in the right mood, he might do two takes, but rarely more.

Battle Born has a huge mic cache. If not on Brandon, where do the Crowley and Tripp Studio Vocalist Ribbons get used?

Guitar cabs and saxophone. Brandon plays great sax, and that ribbon gives it a great rounded top end. Bill Thomas at Mercenary recommended those for guitar cabs, so that's why we picked them up. We also used the Crowley Naked Eye Ribbon for the cabs as well, along with a Shure SM57.

How did you mic their cabs?

Generally, for guitar cabs, I place the mic slightly off-center, off-axis. Trying

to get the diaphragms nice and tight on the two mics so there are no phase issues, close up on the cone.

Did you find yourself having to keep the volume down when working with those ribbons? Depending on what you are working with, some makes can be too delicate for a cranked Marshall.

They take the high SPL really well. The guitar amps were screaming. We had them in an Iso booth with 80dB-rated soundproofed glass and it was still loud. Of course a 57 can handle it, but those ribbons are really durable. They never broke up. Not once.

DRUMMER RONNIE VANNUCCI, JR. ON BIGGER BANGS

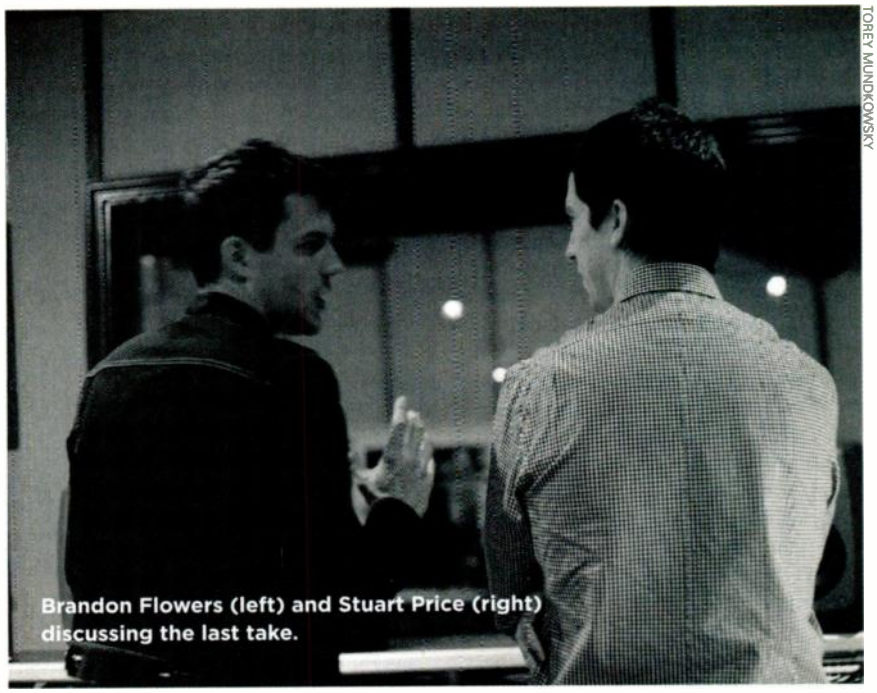
Ronnie Vannucci, Jr. is what producer Stuart Price calls "a fantastic player. He realizes that the biggest secret to his drum sound isn't how he records it, it's the sound he makes as a performer. He is one of those people I could record with a video camera's mic and he would still sound awesome." Beyond that, the skinsman is The Killers' resident recording geek. Here, Vannucci, Jr. details his approach to performing and producing the godly drum sounds of *Day & Age*.

What kind of sound were you going for on *Day & Age*?

There wasn't any concerted effort to sit down and decidedly pick a direction or sound for the record. There are two reasons for that: I don't think we are good enough to do that just yet, and it's a good thing *not* to do that because it would put a muzzle on us. The most important thing about the songs we write are the songs themselves.

If you didn't have a clear idea of how you wanted the album to sound, why did you seek out Stuart Price? What did you anticipate he would be able to bring to the party?

Before starting *Day & Age*, we went to Stuart's home and started working in his basement studio. Five minutes in we realized this guy was speaking our language. Nothing was lost in translation. It was an easy deal so we decided to do a few songs on *Sawdust*, a collection of B-sides and cutting room floor material. It was effortless and so fast that we ended up re-recording some old songs because we were ahead of schedule.



TOREY MUNDKOWSKY

Brandon Flowers (left) and Stuart Price (right) discussing the last take.

From then on we knew Stuart was the guy, not just because he is fast, but he is a musician also. Most producers act as mediators, but he has a musical background to make what you are trying to say a reality. There is a part on "The World We Live In," a chromatic run, a couple of whole steps making a line into the last chorus. It was easy for me to name a couple references as to how I thought the run should sound—very big and decorated and orchestral. I wanted the line to really sing with flutes and horns. He got it immediately, all I had to say was "A Day in the Life" meets Rufus Wainwright and *Phantom of the Opera*.

You recorded a lot of the drum tracks on the album yourself. I hear you are a minimalist in terms of gear. . . .

That's true. Take "The World We Live In" for example: I actually recorded the drum tracks in our rehearsal studio by [McCarran] airport. If you solo the track you can hear the planes flying overhead. And, yes, that was a bare bones setup, but it sounded great. Two [Shure] Beta 58s as overheads, Audix i5s as tom mics, an Audix d6 on the kick drum, and then two Shure SM57s for the snare, top and bottom. Everything went straight into a MOTU 8pre. I put a lot of heavy compression on the overhead mics to get a nice "smack" effect. I was going for the sound Ringo got on the early Beatles' recordings.

How did your approach change when you hooked up with Stuart?

Stuart liked the fact that I was only using eight mics tops for the drums. So we generally kept things the same, though we started using the Earthworks System DrumKit package, which is two TC25 omni condensers for overheads, one SR25 cardioid condenser for the snare, and the KickPad for the bass drum. We would experiment with locations and rooms—most of the album was recorded in an iso booth or a live room—and every once in a while we'd add in a Neumann U87 over my shoulder, but that's it. The days of me using 23 tracks for drums are over.

Why is that?

I feel like I don't have to change my playing as much to accommodate the gear. In turn I don't have to ride faders to get my point across. I feel like if you put two overheads and a kick drum mic on me, you will get more of an honest sound—both from the drums and from the player—than you would giving every drum two mics.

But what about all the snare tracks on "This Is Your Life?" That song is overdub city!

But that's because we were going for a marching band sound. It began

as a second line feel, but with more of a 3/4 feel than a strict 4/4. I wanted to take the march idea further so I used a couple Johnny Craviatto 26-inch bass drums and a bunch of different snare drums, doubling up everything. We used two snares all the way through, and we didn't try to make it sound too slick. As the song needed it, we brought those other snare drums in layers. So as a part is building, the amount of snare drums increase in layers. It was a staggered process, bar by bar.

Besides "The World We Live In," did any other demo drum tracks make their way onto the album?

For "Neon Tiger" we couldn't decide on the demo drum track or a new one I recorded in Battle Born's iso booth on a smaller bop kit. Both of them had essences that needed to be in there. So Stuart put both snares in the middle, and panned the rest of both kits hard left and right. There was a bit of a problem with the tracks not lining up and creating a few inappropriate flams, so we had to time-align a few sections, but for the most part it worked.

You play 18-inch hi-hats. Tell us why, and how you go about getting a good sound out of them.

I have been using larger hi-hats for a while; back when I used smaller hats I was always getting a glassy sound which I never really liked. They have more body and lower tones, which I really like. You hear that sound on old Creedence Clearwater Revival records. Matt Chamberlain and Charlie Drayton also use big hi-hats.

I always had to treat the mic somehow by either squishing it with compression or running it through a guitar amp or synth to get the sound I wanted. On *Sam's Town* I overdubbed the hi-hat sounds with my mouth just to get that 'chick' that I wanted, that rusty sound. Then it came time for the first show back after recording *Sam's Town* and I brought an 18-inch Zildjian ride from the '40s, and put an 18-inch Constantinople crash on top of it. [It was] a beautiful sound. Those are my hats now. Though they are not as loud as you may think, we only directly miked them for one track. The rest of the hi-hats on the album are from the Earthworks overheads.

BASSIST MARK STOERMER ON BIGGER BOTTOM

While Ronnie Vannucci, Jr. may be The Killers' most outspoken gear head, bassist Mark Stoermer is a close second. "[Mark] was in there getting hands on, switching out instruments, moving knobs—he got into it," says engineer Robert Root. Stoermer concurs: "I am 100 percent involved in the signal coming out of my amp, and work directly with the producer/mixer to achieve the final sound of the bass in mixing." One hot Vegas afternoon, Stoermer took some time to sit down with us and talk specifics about how he, Root, and producer Stuart Price got *Day & Age*'s smooth bottom end.

Tell me about the rig you used on this album.

On this record I mostly used my old Hiwatt 200 head and matching 4x10/1x15 cab. However, on a few

AMERICAN MAJESTY

Ronnie Vannucci, Jr., taking a break at Battle Born's API console.

TOREY MUNDKOWSKY

tracks at Olympic Studios, Stuart Price re-amped my signals using a small 15-watt Fender guitar amp. As far as basses, I used a 2001 Fender Jazz Geddy Lee Signature model, which I have used since the beginning of the band. On four tracks I used a 1967 Hofner Beatle bass; I used a 2005 Rickenbacker on "Neon Tiger," and a 2008 fretless Fender Jazz on "Goodnight Travel Well."

Did you record your parts live with Ronnie?

Sometimes the tracks were recorded "live" with the drums and scratch tracks, but others were punched in. It depended on the song.

Did you run direct for most of the session or record an amp out in the room? Both?

Most of the time the bass was a combination of a mic and a direct signal. However, each direct signal was processed using Logic's amp simulator. We never used a clean direct signal.

What mic did you use for your cabinet? Straight on or off-axis? Did you close-mic the 10-inch speakers or the 15?

The mic was always placed straight on, in front of one of the 10-inch speakers. The mic was usually a Sennheiser e609 though we tried the 421 on a few tunes, and a generic direct box going through my pedals then back to the API console.

It sounds like you and Stuart switched up the variables a lot on this album.

Most definitely—we experimented on every song. We never stuck to one tone; we were always trying to get exactly what each individual song needed. eq

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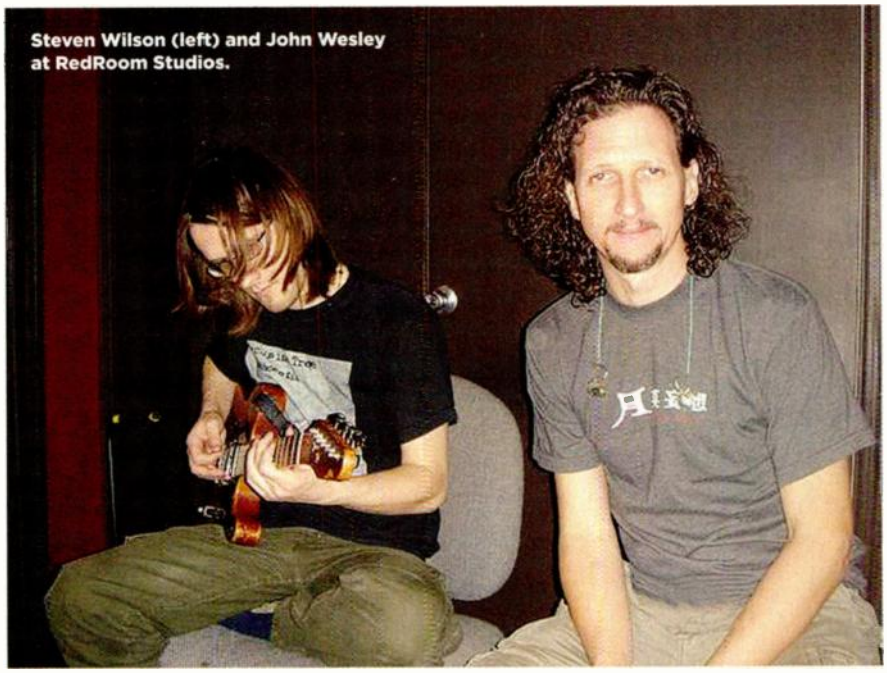

Steven Wilson (left) and John Wesley at RedRoom Studios.

THE PROG-ROCK PROCESS OF PORCUPINE TREE AND MAGENTA

by Will Romano

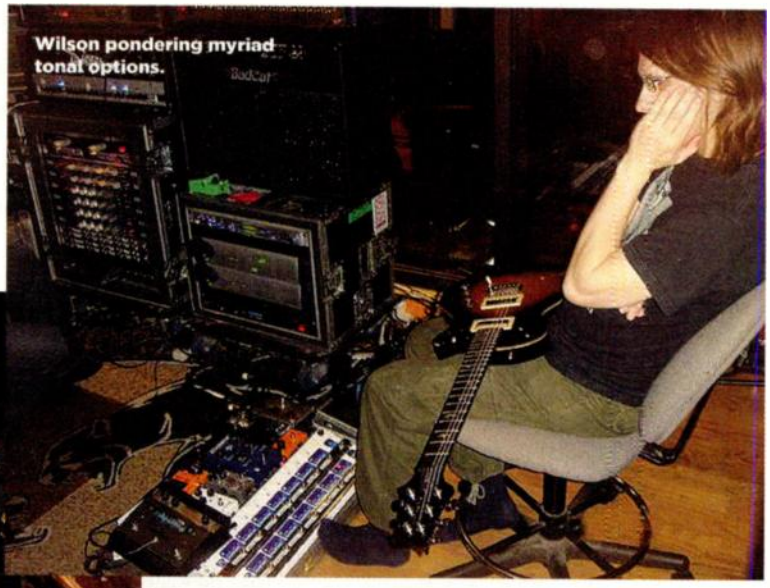
"We are a post-digital technology kind of band, and we'll get the sounds we want by any means necessary," says Porcupine Tree guitarist and studio hound Steven Wilson about the plethora of digital and analog guitar tones he crafted for his band's 2007 releases, the full-length *Fear of A Blank Planet* [Atlantic], and the *Nil Recurring* EP [Transmission].

"Steven is very experimental within the digital realm, but he combines that expertise with organic starting points," says John Wesley, who co-produced Wilson's guitar tracks for both releases at his RedRoom Recorders in Tampa, Florida. "Steven demos his ideas on a Line 6 Pod, and he is so skilled at getting tones from it that we kept some of those original tracks for the final mixes," says Wesley. "It was almost like Steven threw down the gauntlet and dared us to beat the sounds he created with the Pod."

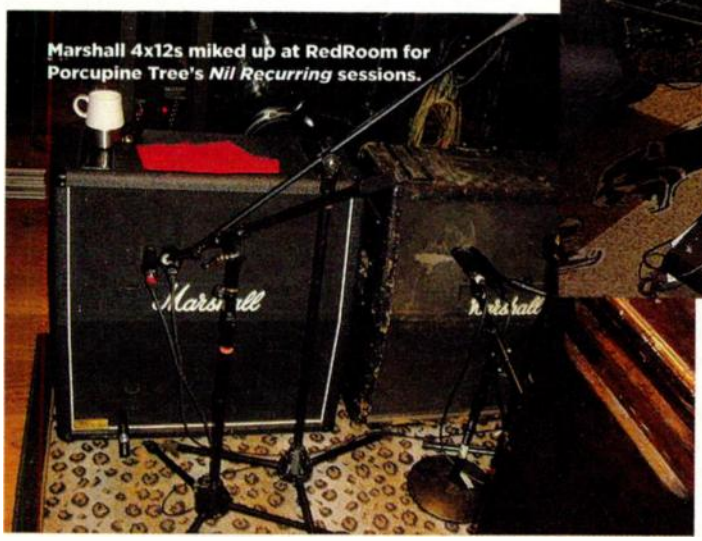
At RedRoom, Wilson started out old-school, layering savage, slick, and subtle guitar tracks with a Gibson Les Paul, a PRS 20th Anniversary Singlecut, and a '71 Fender Telecaster (loaded with Joe Barden pickups), as well as a combination of amps that included a Bad Cat Hot Cat 30 combo, a Diezel Herbert, and a Marshall 6100 30th Anniversary head. At this point, some good old stompboxes were utilized for most effects, with Wilson using a GigRig Pro-14 switching system to select or combine different pedals. The most-used processors included a mid-'70s Electro-Harmonix Electric Mistress, Klon Centaur, SIB Echodrive, and a mid-'70s MXR "script logo" Phase 90. Wilson also fired up a Boss RT-20 Rotary Speaker Simulator and a vintage Leslie cabinet to create some aural squalls.

"We had an early '70s plexi Marshall head driving the Leslie, which was miked with a Shure SM57 on the high rotor, and a Sennheiser MD421 on the bass speaker," says Wesley. "We placed the SM57 near the edge of the cone, and the MD421 was positioned a bit further back and outward. To avoid phasing issues, we placed both mics on the same horizontal plane."

To introduce some vintage-style coloration to the Leslie tracks, Wesley employed a Vintech X73 mic preamp that's based on the design of the classic Neve 1073. "The Vintech



Wilson pondering myriad tonal options.



Marshall 4x12s miked up at RedRoom for Porcupine Tree's *Nil Recurring* sessions.

helped us achieve the kinds of classic-rock guitar sounds Steven and I grew up with," Wesley says. "We didn't even need to use the preamp's onboard EQ—in fact, it was switched off—because we dialed in tones by routing the SM57 and the 421 to separate tracks. Then, if Steven wanted a brighter, more rippin' sound, we would bring up more of the SM57. If he wanted the sound to be darker, we'd bring in more of the 421."

Once conventional recording wrapped, Wilson digitally manipulated his guitar tracks in Apple Logic Pro 7. "'Cheating the Polygraph' [from *Nil Recurring*] is a good example of how you can get even more creative by editing guitar tracks," he says. "I took a guitar chord with a long sustain, copied it, reversed it, pasted the copy to the front of the original chord, and executed a crossfade. The backwards track morphing into the 'normal' guitar chord created this *mmmorrwoow* sound—it was almost like a sine-wave tone from a vintage synthesizer. It sounded particularly nice with the sweet, warbling Leslie, and I used the part to start the song."

Rob Reed, the driving force behind Magenta, also deployed an outside-the-box mentality during the recording of 2008's *Metamorphosis* [Laser's Edge]—a four-song, 54-minute concept album documenting the violent unraveling of a serial killer's damaged psyche.

"I had 100 tracks to work with," says Reed, who recorded the bulk of the record at his Porth, South Wales, home studio. "I'd record a couple of chords into Logic, and then loop them, which would lead to constructing some basic chord structures. Due to the album's subject matter, I wanted it to have more aggressive guitar sounds than our previous keyboard-based records, so I'd search for the most discordant chords, all the while building up layers of guitar tracks. Initially, I was layering the tracks using some filthy, over-the-top heavy metal models from a Line 6 Pod*xt*. Those models sounded great in isolation, but I found the tones lacked mids, and they sounded a bit 'mooshy' when other guitar textures were layered on top of them. I kept wondering why I couldn't get good signal separation. That's when I decided to mic a real amp, and I never looked back."

For the miked guitar tones, Reed plugged a Fender Telecaster into a 100-watt Marshall JCM900 4100 and Marshall 4x12 cabinet, and positioned a Shure SM57 three inches from the center of one of the speaker cones. The Marshall delivered the midrange punch Reed desired, and, ultimately, he felt the amp models and miked amp tones complemented each other very well.

"I love that big, chorused guitar sound," says Reed. "So I double-tracked many of the guitar parts, and I used an Eventide Eclipse to add some chorus and delay. I also brought in a Universal Audio 6176 preamp to add valve warmth and Urei 1176LN-like compression to the tracks. In the end, the signal chain created this vibrant wall of guitar sounds." EQ

THE ROOT NOTE OF THE ROOTS: OWEN BIDDLE

by Merrick Angle

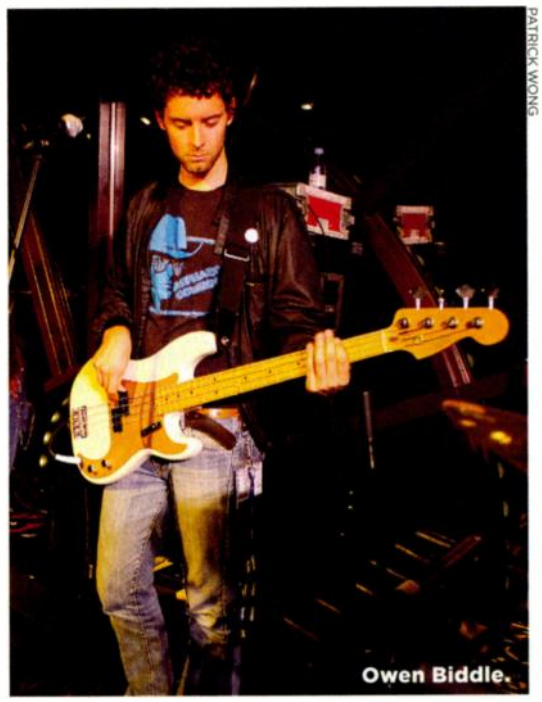
You don't see a lot of musicians asking for smaller amps—but then there's Philly-based bassist/producer Owen Biddle. "Backline companies never seem to have the smaller, inexpensive amps I like—the big rig thing is cool, but I prefer the sound of a smaller amp distressing itself."

Going with what sounds best, rather that what you should be doing, is all trademark Owen—and is what brought him to the attention of Al Green, Taylor Dayne, Corinne Bailey-Rae, and his current band, The Roots. With typical self-deprecation, he adds he just "sort of slid into producing and writing" for the hip-hop demigods. The result: 2006's Grammy-nominated *Game Theory*. And when bass player 'Hub' departed after a 17-year tenure, Owen was the natural choice to step up.

"Most of the music came together in Philadelphia, where we have a studio at the back of Larry Gold's place." Larry was in Woody's Truck Stop, the seminal Philadelphia band that also launched Todd Rundgren's career. "Most of it was done on Pro Tools|HD, but all the early jam sessions were tracked on a laptop with Pro Tools LE. Lately I've been using Logic more—mainly because it has more toys to keep me interested!"

Toys aside, Owen's approach is actually refreshingly no-nonsense—especially with bass. "I like to record with the B100R, a solid-state Ampeg amp that's similar in design to the flip-top tube amp. It has a really focused sound with good projection in the lower mids—all my favorite bass recordings have that throttle in the low end. It's more intelligible and you get a good sense of it on laptop speakers, but it also works as well on something more hi-fi."

Owen likes the classic bass sounds of McCartney, Jaco Pastorius, and Jeff Berlin—"anything with that definition in the low end but breaks up a little at the higher end of the spectrum." Miking is also a back-to-basics affair: a medium-sized amp, not necessarily expensive or vintage, miked with a sympathetic ear. "We've been using an AKG D112 or something similar within a foot of the speaker. Live, our sound guy has also been using a clip-on snare mic actually clipped onto the speaker—which seems to give good definition."



PATRICK WONG

Owen Biddle.

Isn't he ever tempted to DI the bass? "I don't believe in right and wrong, but I can't emphasize enough how important it is to mic an amp. Some people can DI and sound amazing but I'm never really satisfied, even if the DI unit has a great integrated EQ. You just aren't getting the whole story. If you compare the transients and sustain on a DI track and a miked amp, there's no comparison—the amped sound has a much smoother envelope." Yet Owen concedes that DI boxes have come a long way. "The SansAmp—that's the best I've used. It's a close second to a miked amp when it comes to capturing that earthy bass sound." Concerning compression, "I don't use any outboard compression on bass. I do have an Empirical Labs GL7 Fatso. It's a great device because it has that subtlety, like the SansAmp. It's nice, but miking a good amp properly will also give you that leveling off."

So how about production? "There's a reason why so many bass players get into production: The bass inhabits certain domains frequency-wise, and other things can encroach on that." Whether it's a badly EQ'd kick drum or rhythm guitar that butts up against the bass line, Owen emphasizes the importance of listening to the other players, both in mixing and the playing itself. "The way I honed my skills was playing with some great gospel guys in Philadelphia, like Harold Robinson—one of my big inspirations. He has this talent to get to the core of the music, but in a way that didn't impose on anyone else."

As to the bass itself, "I have a few, but the one I use the most is the Callowhill, that's made by [Tim Cloonan] in Philadelphia. He makes an amazing instrument."

Even on tour, he never stops tinkering and honing his craft. "My laptop has these recordings I did recently in a friend's studio—he has this great API desk and a good drum set, and I just 'harvested' a bunch of drums." These tracks have been chopped up, and now serve as inspiration for Owen when he's on the road.

As you might expect, Owen has definite opinions on the other half of the rhythm section: "Drums are my muse. Nice organic, warm drums always give me ideas. They make me happy in life!" EQ

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SAVING WITH SYS-EX

by Craig Anderton

Despite the proliferation of software synths, hardware-based keyboards remain popular in many studios. But when backing up, how do you save this external data as part of a DAW project?

Fortunately, the developers of the MIDI spec anticipated that instruments could have non-standard data apart from the usual MIDI commands for notes, controllers, etc.—such as patch data. So they created a special MIDI data type called *system exclusive*, or *sys-ex*. This data string starts with a unique header identifying a particular manufacturer, followed by the data, and ending with an end-of-message command. If a MIDI device recognizes the header, it will "listen" to the data; otherwise, the data is irrelevant. Sys-ex data can provide a "snapshot" of the synth's contents including programs, combis/multis, effects settings, and the like.

Instruments send sys-ex as a "data dump," which can almost always be initiated from the instrument itself (the instrument might also be able to send a data dump in response to a request from a program like an editor/librarian). As this is MIDI data, it can be recorded into a DAW's MIDI track. Incidentally, sys-ex isn't restricted to hardware keyboards; for example, signal processors can often generate sys-ex data.

To save this data, you patch a cable from the device's MIDI out to your computer interface's MIDI in, initiate a dump at the device, and record the data into a MIDI track in your host. To reload the data, patch your computer interface's MIDI out to your device's MIDI in. The data from the track plays into the device, restoring its settings.

However, some issues can complicate this process. Such as. . . .

Size. Large sys-ex dumps may bog down your sequencer if it can't accept the rate at which data flows in. However, most gear can send varying types of sys-ex—a single patch, all patches, etc. To change just a synth patch in the middle of a song, dump that single patch into the instrument's track. It will likely be only a few kilobytes, and your sequencer should be able to burp it back into your synth easily.

You could insert a program change command instead, but that assumes the keyboard will contain the same patches as when you inserted the program change command. By sending sys-ex, you're sending *the actual patch data*, not just calling up a particular memory slot.

Like most programs, MOTU's Digital Performer defaults to not recording sys-ex data. Going Setup > Set Input Filter brings up a dialog box where you can enable sys-ex recording.

Misset preferences. Most hosts disable sys-ex recording because unlike note data, it's not something you record all the time. So, check for a "MIDI filter" dialog box and make sure the host can record sys-ex (see screen shot above). Sys-ex input might also be disabled on your outboard device; check that too.

Track assignments. Ideally, you'd include the patch data needed for an outboard device at the beginning of the MIDI track driving it, but that would re-send the sys-ex every time you start the song. A more efficient approach is to record all needed "setup" sys-ex, one data file after another, into a single track. When you start a song, solo that track, and as the sequence plays it will sequentially load up all your devices with the appropriate patch information. Then, unsolo the sys-ex track and mute it.

Variations among sequencer protocols. Not all sequencers work the same way. For example, MOTU Digital Performer treats sys-ex like any other MIDI data: Record it into a track, then play it back. You can even edit the sys-ex data if you're handy with hexadecimal. Cakewalk Sonar limits sys-ex recording to 255 bytes, which is optimized for short messages like control setting changes. However, Sonar also has a sys-ex librarian that's saved with each project, where you can store up to 8,192 banks of sys-ex data. You can insert a track event that triggers sending a bank's contents through the MIDI out, thus accomplishing the same result as playing sys-ex from a track.

Get into the habit of saving sys-ex with a project; next time you re-load the project and play back the sys-ex, your outboard hardware should be exactly as you left it. Sys-ex can be an important part of your backup protocol—take advantage of it.

LOUD AND CLEAR

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Jason Scott Alexander/ Producer/ Mixer/ Remixer Mix Magazine Contributor/ September, Mix Magazine Tech Review

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Stephen Dent/ Managing Director/ Head Engineer Daddy's House Recording Studios

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Elton Ahi/ Music Scoring Mixer Rusk Studios

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Gary Gray/ President Audiolin Music/ Toronto Symphony Orchestra

"I love having the option of tuning the monitors to the room manually or via an automated process. It gives the more experienced audio engineer the ability to have an extremely high level of control while, for the less technically inclined engineer, the software can make the critical decisions."

Gerhard Joost/ Chief Engineer/ Mixer/ Producer Groove Addicts Studios

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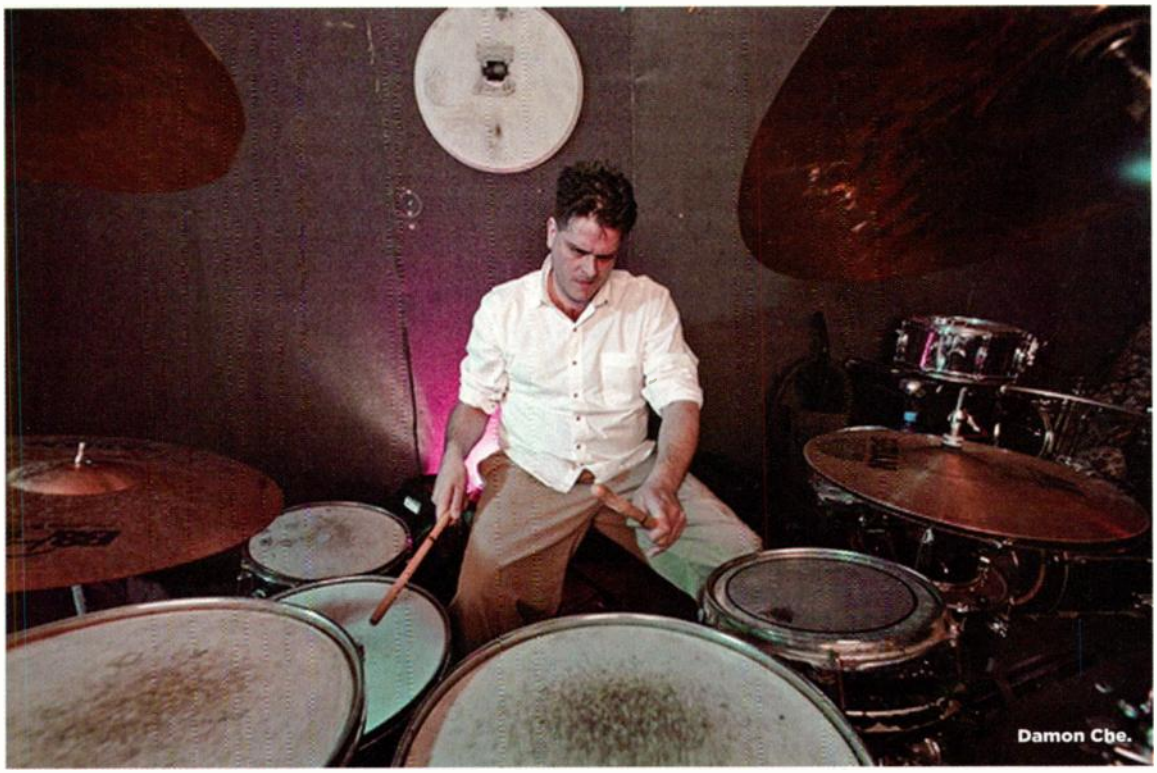
Damon Che.

DAMON CHE'S WICKED & WACKY TONES

by Roberto Martinelli

Don Caballero drummer Damon Che is one of the foremost monster players in the indie-rock world. Aside from his ridiculous chops and a low-end setup so awkward that only *he* can get the right sound out of it, Che works with engineer Al Sutton—owner of Detroit's Rustbelt Studio—to capture sounds that venture far beyond standard percussion philosophies. I recently spoke with Che and Sutton, and asked them to detail any unusual recording techniques employed for Don Caballero's latest album, *Punkgasm* [Relapse].

What was your drum setup for *Punkgasm*?

Che: I bought this Pearl Export kit in 1985. I've got 12" and 13" rack toms with Ambassador heads—which make the toms come at you much more. However, I kept an Emperor head on my 16" floor tom because I hit it pretty damn hard, and a thinner Ambassador head would likely cause drumhead suicide. My snare drum is a 13" Ludwig Power Piccolo with an Emperor coated head. I've used that drum on every record except the first one. My bass drum is a 22" Pearl Export with a Tama Iron Cobra double pedal. All my cymbals are rides—except the hi-hat, of course, and I use two bottolm cymbals for that. It's a brutal sound. It pounds utter weaklings out of the arena! I like the Sabian B8 Pro ride for the same reason—the ding bell is so penetrating that it's like you're in a boxing ring when you hear it. My other cymbals are a Sabian Signature Universal ride, and an HHX Evolution.

Isn't the Export kind of a bottom-of-the-line kit?

Che: It's an affordable model, sure, but I haven't played a rental kit yet that can match it. None of them are as loud, or can penetrate like my Pearl Export, and in crap clubs with crap sound systems, that's what you need, man.

When you went in to record *Punkgasm*, what ideas did you have about the drum sound?

Che: I went in wanting a slightly tighter, dryer sound than what I've come to be known for. With Al, you throw up the mics, and see what you get. It goes pretty fast.

Sutton: When you record Don Caballero, you have to steer a ship

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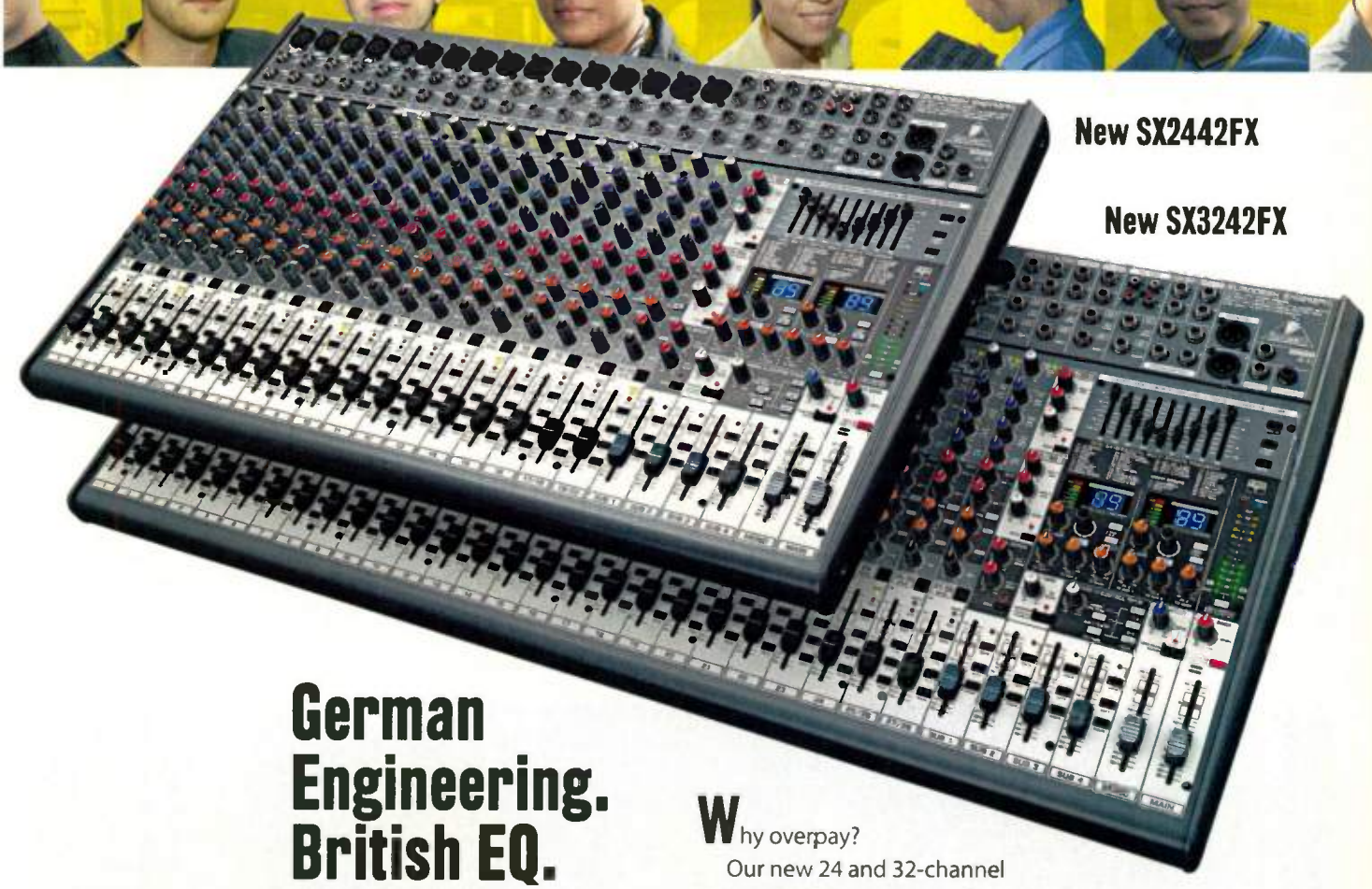

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that's going in its own direction, and keep it off the rocks. They know what they want, and they spend a lot of time getting it before they come in. They typically record live in one room, and after two or three takes and a couple of minimal overdubs, you have a song. There's not a lot of control from my end—Damon's drum tones are what they are. Well, Damon is certainly open to suggestions, but by the time the band is in the studio, he has already done much of the work in terms of tone selection.

He also has an odd style of playing the drums. He uses marching sticks—those giant things the size of broomsticks—and he holds them backwards so he can hit with the fat end. His snare drum is on an angle I've never seen before, and his kick pedal spring is so tight I couldn't even push it down at first. I can't play a single beat on his kit! Damon is definitely an enigma in his ability to get tones out of drums—and anything else. In fact, there's a bit of a legendary story about the first record I made with him around 1997 or '98. He had a working table saw as a part of his drum set. He would hit the saw blade with a stick, turn the power on, and the spinning blade would bend the pitch. I had to mic this! It was hilarious.

How did you mic the kit during the *Punkgasm* sessions?

Sutton: I really like miking drums in the old school, Bonham style of using room mics, but, with Damon, he wants so much of the detail in his playing that I have to use close mics for everything. For example, there's a section on the record when he taps his fingers on the snare drum while holding his other hand on the head, and he wants all that to come through. I even had to mic the kick-pedal spring for a section where he wanted the squeak featured.

The basic setup involves miking the top and bottom snares using a Shure SM7 for the top, and an old AKG C414 for the bottom. I used an AKG D112 on the kick drum. For the smaller rack toms, it was Shure KSM141s, and there was a Sennheiser MD421 on the floor tom. If Damon used a Roto Tom, I'd mike it with a Beyer M 88. I put a mic on each of his cymbals, and a mic underneath the ride—right in the bell. In my experience, you don't really need to mic a ride cymbal if it's played well, but, nine times out of ten, when you're doing a mix and you're not getting enough of something, it's the bell. So I put a mic up underneath the bell to get a ping you can blend into the mix after if you need more. I'll use only that track for

those situations. Otherwise, it's muted. In the older days, I'd print the ping track in with the overheads—that was back when I'd shoot for eight drum tracks. On *Punkgasm*, we had 15: kick drum, top and bottom snare, one for an extra snare, two crashes, ride, hi-hat, four toms, and three room mics.

How did you mic the cymbals?

Sutton: I started with Schoeps M221s on the crashes, but they sounded too open, so I switched to Beyer M 260 ribbons. There were no actual "overheads" on this session, just cymbal mics. The hi-hat and ride were miked with Neumann KM84s. For the room mics, I used Neumann UM57s, and I had an R-F-T Funkwerk CM-7151 in front of the kick for the low end.

So the Neumanns were stereo pairs, and the R-F-T was in mono?

Sutton: Right. The stereo room mics have a nice, washy sound, but they don't really capture the rush of air and bottom from the kick drum. However, if you put the mono mic about eight feet out from the kick drum—or from wherever the sweet spot is—you'll get some good low end.

What other gear was used to document the sounds?

Sutton: I have a 40-input Neve 53 Series console with Neve 33114 EQs that used to belong to Mitch Easter. It's a very nice desk—much better than the Neve 10 Series consoles. Those are good for tracking, but not so great for mixing. The 10 Series tones are wide, fat, and fluffy, but when you go back to mix with them, it's like too much of a good thing. The EQ on the 53 Series is a little narrower and more focused sounding, and I like that better for mixing. I have a Fairchild 670, Urei 1176s, dbx 165s and 263Xs, Calrec PQ15 EQs, BBC AM6/14 limiters, and a bunch of other stuff. My DAW is a Pro Tools|HD 3 Accel rig.

I can't imagine you doing a whole lot of work on the drums after tracking, as Damon's kit always sounds dirty and raw.

Sutton: That's the way he likes them. You can't get it too slick sounding. He doesn't like any click on his kick drum, so you can't add any high end. He never has any muffling inside his kick, so it's wide open and ringy. He's not too particular on the overall tone of his drums in the sense of EQ. He wants to make sure his parts are there, but, otherwise, he's a hands-off guy in terms of not getting in the engineer's business. When I first recorded with him, he came in with all sorts of sonic references and specifics about kick punch, panning, and tom sounds, but now he doesn't give me input on anything. We've got a cool trust thing going. **eq**

ANTONY HEGARTY UNSMARTS TECHNOLOGY

by Joel Patterson

If there's a lesson to be learned from the vocal recording techniques that have worked so splendidly for Antony Hegarty of Antony and the Johnsons—careful, you might not want to hear this—it's that the vocalist should concentrate on rehearsal, vocal exercises, and nurturing one's psychology, and leave the technical side to the professionals. To detail this approach, *EQ* spoke recently with Emery Dobyns, who recorded Hegarty's 2005 breakthrough, *I Am A Bird Now*, and Stewart Lerman, who worked on 2008's *Another World* [Secretly Canadian].

"During the *Another World* sessions, Antony worked very carefully with all of his string players, handing out charts and going over every note with a fine tooth comb," says Lerman. "We would discuss the particulars of the instrumentation, rearrange the room for a particular arrangement, and hit the Record button. We basically did a song every three hours."

Through it all, Hegarty remained completely unconcerned about—and entirely oblivious to—the gear being used to record his vocals.

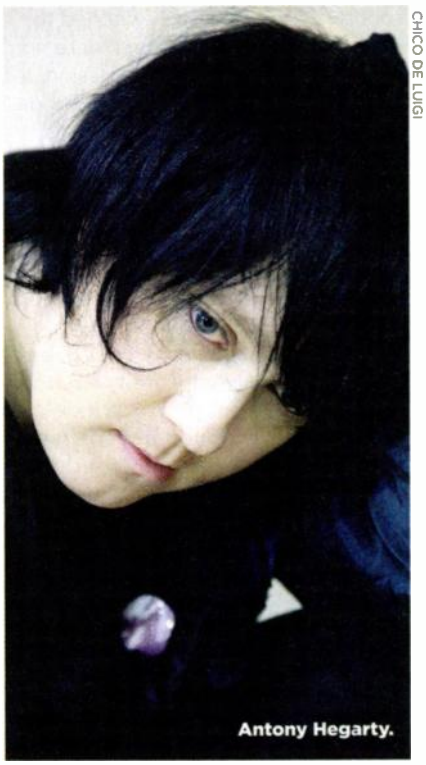
"I don't think that part of the recording process is of any interest to him," says Lerman.

"When he described his songs, it was in ethereal, rather than practical terms," adds Dobyns about tracking *Bird*. "He'd say what the song was about, but he wouldn't give us any clues such as, 'It's going to get really loud in the chorus.' We never had a warning about anything. In order to react to any surprises in signal levels, I kept one hand on the vocal fader at all times. We were really alert and on our toes during those sessions. We never knew when he'd take the vocal dynamics up or down."

The first session for *I Am a Bird Now* was for "Hope There's Someone," where live vocal and piano tracks were recorded in a converted garage in Woodstock, New York. The signal chain was a Groove Tubes GT55 large-diaphragm condenser mic routed through a MOTU 828 audio interface to Digital Performer.

"It was beautiful out there," remembers Dobyns. "It was winter, and there was about two or three feet of snow on the ground. The control room had these French doors, and you could look through them into the backyard. Antony's voice was quite strong in the room, and a big part of the vocal sound is his voice leaking into the piano mics. We added a touch of reverb with an EMT 140 plate in the mix, but what you hear is really just the sound of him singing in the room with the piano. It's all in the performance. I could have used a Shure SM57 dynamic mic to record him instead of the GT55, and the performance would have sounded no less emotional."

However, it was difficult convincing Hegarty to leave everything as it was, because he was somewhat uncomfortable with how spare the tracks sounded. As a result, "Hope There's Someone" became the only track from the Woodstock sessions that ended up on the *Bird* album. Subsequent sessions landed at New York City's Dubway Studios, where Hegarty's vocals were recorded through a Neumann U47 and Mercenary Audio preamps into Pro Tools.



CHICO DE LUIGI

Antony Hegarty.

The U47 saw action again during the *Another World* sessions at Allaire Studios in the Catskill Mountains, but the mic was routed through a Neve 31106 preamp and an Urei 1176 limiter before hitting Pro Tools.

"Antony is a very dynamic vocalist, and I used the 1176 because it wouldn't distort if he hit it really hard," says Lerman. "And he is very bold—a master. He sang and played live without any gobos or separation of any kind. As a result, his vocals are in every mic in the room—the orchestra mics, the drum mics, and so on. There's no soundcheck, either. You hit the Record button the instant he makes a sound—it's as simple as that." EQ

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BASS - D6
GUITAR - I5
MANDOLIN - SCX1
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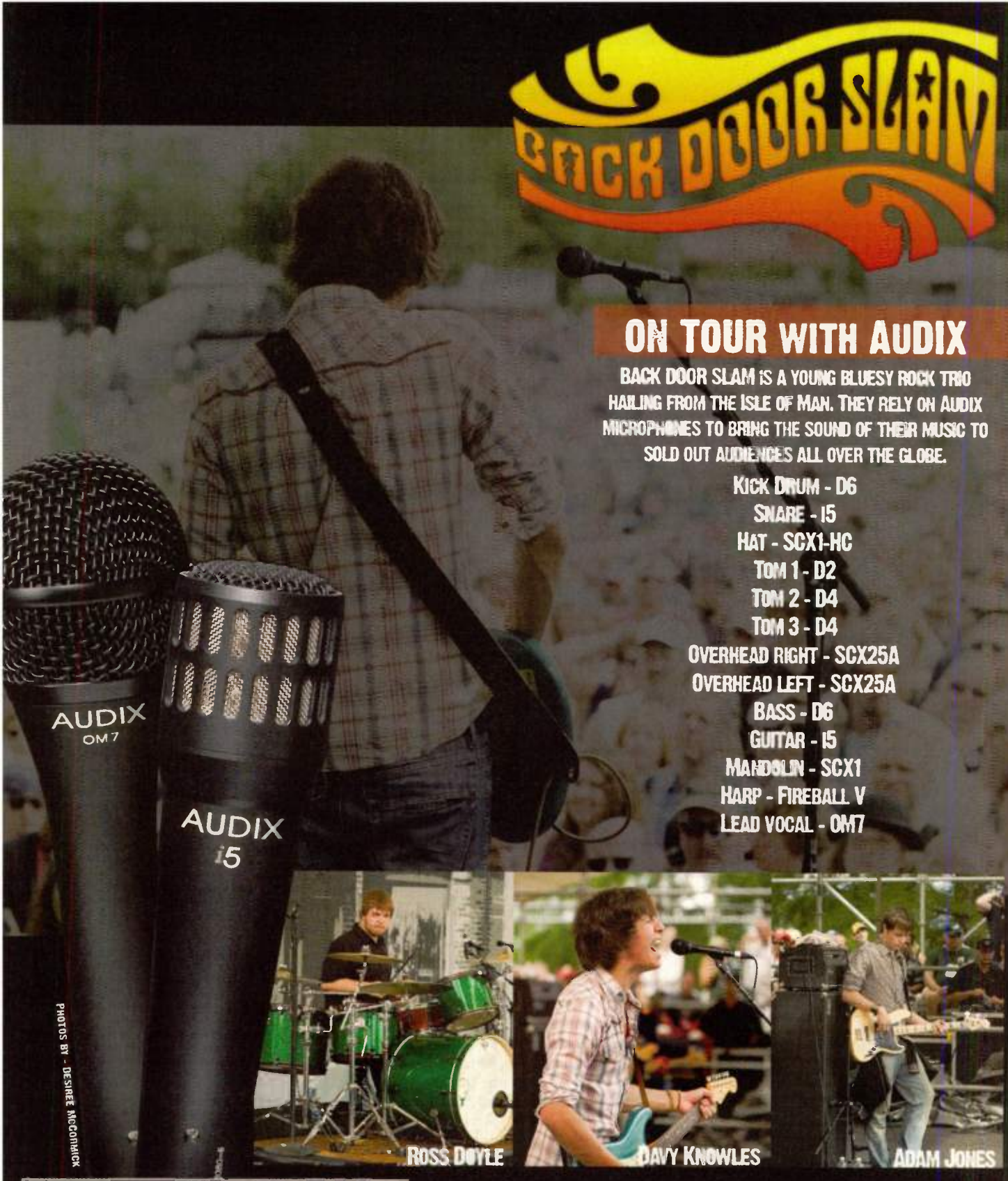

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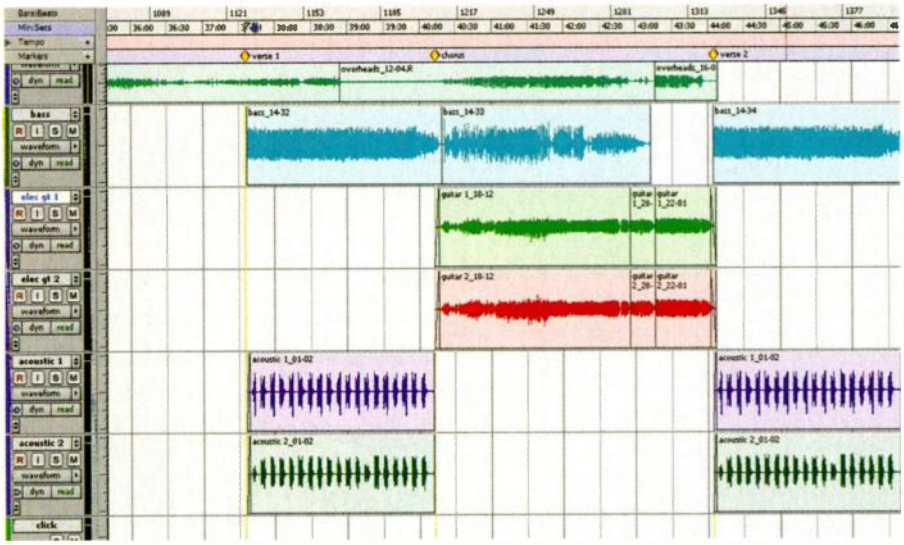

Staggering parts is a great way to open up a mix and create texture changes. Here, note how the acoustic guitars in the verse give way to the electric guitars in the chorus, which deliver the added density and punch needed to drive the chorus home.

4 WAYS TO IMPROVE MIX MUSICALITY

by Michael Papatonis

We've all experienced a mix that just won't come together. You tweak and tweak—more EQ, less EQ, more compression, change panning, use more pitch correction, and so on—but nothing seems to make the mix sound the way you think it should. Sometimes, the problem is your mixing chops, and you need to gain more knowledge and experience in order to overcome these obstacles. Sometimes, however, the challenge is focused around musical issues, and the mix simply needs to be worked from a different angle than twisting knobs and negotiating mouse clicks.

SCRUB UP THAT ARRANGEMENT!

A work's arrangement is quite possibly the first thing in the mix process that starts you either on the road to Happy Mixville or Tedium Township. Arrangement typically refers to the order of the parts, and how they are voiced and put together. One of the main issues with poor arrangements is "frequency fighting." When two or more instruments are playing in the same frequency range, they can mess with overall mix clarity and impact. Panning similar parts away from each other is beneficial, but when there are three or more parts doing somewhat the same job in the same frequency range, it's time to look at the arrangement.

There are a few simple fixes for this. The first option is to drop some of the parts that are redundant. It's surprising how often artists try to cram more and more tracks into a recording in the belief that a massive sonic collage will sound bigger, or more professional, or simply more badass. The reality is that a "less is more" approach often helps a mix jump right out of the speakers. This doesn't mean that you should never add extra instrumentation or ear candy to a mix. It just means that you should always ask yourself if the extra parts really serve a clear and explicit purpose.

A second option is to stagger the parts. For instance, if the acoustic guitar is filling space in the verse, it can drop out and leave room for a piano in the chorus. Staggering instruments between sections is not only a great way to clean up a mix, it also creates texture changes within the song that add interest.

A third approach is to change the octave or voicing. If the piano and organ seem like they are cluttering things, drop or raise one of the parts by an octave, or use different inversions on one of the instruments. This simple maneuver will create more detail without having to use EQ. In essence, you are "EQing" by changing the notes that are being played.

EMBRACE THE POSSIBLE

Have you ever mixed and mixed and mixed, only to take a step back and ask yourself, "Why does this suck?" Sometimes, it's because the *performance* sucks. Even with all of our digital mixing tools, you really can't fix it in the mix. In many ways, the situation is also like this old joke: A man goes to the doctor and says, "Doctor, it hurts when I do this with my arm." The doctor replies, "Don't do that with your arm." So what's the lesson we need to learn? Well, if the singer can't hit the high notes, then don't write songs with those high notes. If the guitar player can't play blistering runs during the solo, don't ask for them. Instead, consider some melodic riffs or lines that work well with the song.

The critical point is that the arrangement must work with the performer's strengths. It's certainly okay to take a few passes at a part, but if you have to spend all day getting the right performance, it's probably something that's not worth recording anyway. Nothing is more tedious than spending hours trying to capture a useable performance, rather than nailing a great performance, so be realistic—don't write beyond the artist's means. A simpler part that's executed cleanly and with feeling will always translate better in the mix.

THINK AHEAD

Most good songs have a "cool part." It may be a great melody in the bridge, a memorable guitar riff, or a big push through the chorus. Whatever it is, it has to be recorded in order to be part of the mix. That sounds simple, but it's true. If you aren't excited about the parts *before* the mix stage, you most likely won't be excited about them afterwards. So make sure the parts you're recording do the job. You should be thrilled about how a part works in the song—even without hearing the part mixed just so, or dressed up in sparkly effects.

In addition, a mix can often lack power because there is nothing there to create the necessary energy. For instance, a big chorus needs something to support it. Heavy guitars or a huge organ pad might do the trick, but, once again, these have to be conscious decisions during the tracking stage. Great producers always have the final mix in the back of their minds when they work on an arrangement.

BE A RAY OF LIGHT

If you are the artist as well as the producer and/or engineer, tampering with your song probably isn't much of an issue. If you take a gig as an engineer for another artist, however, suggesting changes to an arrangement can be tricky. If the opportunity does arise to chime in, here are three things to consider:

- The song is the artist's (or songwriter's) baby, so treat it as such. The artist will usually be more emotional and temperamental about the song than the recording.
- A polite demonstration of the techniques we've discussed can go a long way. For example, you could simply mute the tracks that are cluttering the mix, and then ask the artist how he or she feels about it. This one action may start a positive discussion about whether a part really needs to be present.
- Don't push a point too hard—even if you feel you're right. This is an industry that hires by comfort level and likeability as much as talent. Believe it or not, a lower-quality mix in return for a higher-quality relationship is still money in the bank. EQ

CHEAT SHEET

IK MULTIMEDIA AMPLITUBE FAMILY

by Craig Anderton

Cheat Sheet delivers concise, explicit information about specific recording/audio-related tasks or processes. This installment describes basic operations for the AmpliTube series of guitar/bass processors, as well as the X-Gear "shell."

ABOUT X-GEAR

X-Gear is a "shell" that hosts the four AmpliTube variations (AmpliTube 2, AmpliTube Jimi Hendrix, AmpliTube Metal, Ampeg SVX) so that you can mix and match components from these versions. X-Gear also allows for control with the Stomp I/O foot controller, which also provides full MIDI control. Except as noted, the following tips apply to X-Gear and all AmpliTubes.

CHECKING THE CURRENT VERSION

Click on the I button toward the lower left corner and look for the version number on the splash screen that appears. If the IK website user area has a more recent version, download and install it.

BEST POSSIBLE SOUND QUALITY

Click on the Preferences button in the lower left. Check all Oversampling options (if present), as well as High Resolution. Caution: The more of these you check, the harder your CPU has to work.

CHANGE MODULE ROUTING

All except SVX: Eight series and parallel routing options are available for the Stomp, Amp, Cab, and Rack modules. To choose a routing, click on one of the eight buttons to the right of the preset name.

CALLING UP MODULES

The buttons below the routing diagram change the GUI to show Tuner, Stomp, Amp, Cab, and (all except SVX) Rack modules.

PARALLEL EFFECTS SETUPS

All except SVX: Routings 2, 5, 6, 7, and 8 place the two "pedalboards" (with six effects each) in parallel. 1, 3, and 4 place the pedalboards in series.

PARALLEL CABINETS

All except SVX: When using a routing with parallel cabinets, adjust the stereo spread by clicking on each cabinet block in the routing diagram and adjusting its pan control (along the bottom strip of controls).

MATCH CONTROLS

All except SVX: The EQ Match and Amp Match switches choose the default amp and EQ sections for a particular preamp. *SVX:* Match chooses the default speaker cabinet.

USE A PHYSICAL SPEAKER CABINET

X-Gear: To use X-Gear as a front end for "real" speakers, in Preferences select Cabinet Global Bypass; any cabinet used in any patch will be bypassed. *AmpliTube:* Click Bypass on the Cabinet module for any preset you want to use with a physical speaker cabinet.

MIC AXIS

Regardless of which mic you use, the Off Axis sound is more "filtered" than On Axis, which has more bandwidth and presence. The Off Axis sound can be "sweeter" for some applications.

PHASE AND MIX CONTROLS

X-Gear, SVX, Metal: These controls work together to simulate miking an amp while taking a direct feed. The Mix control goes from cabinet mic only (counter-clockwise) to pre-cabinet, post-stomps direct sound only (clockwise). Due to the time delay between the direct and miked sounds, the Phase control affects the tonality when the mix control mixes both together. Negative values delay the direct signal, positive values delay the cabinet signal.

TUNING MONITOR

For a quick tuning check, if the Tuner module has been turned on, then the Tune window along the bottom of Amplitude shows the note being played (even if the Tuner doesn't have the focus). The bar graph shows whether the note is on-pitch.

ADVANCED TUNING

Calling up the Tuner module shows a higher-resolution meter (calibrated in cents), and displays the tuning deviation in cents. To tune silently, enable Mute. To change the tuning reference, click on the display that shows the default of A=440Hz, and use the QWERTY keyboard backspace and cursor controls to enter a new value between A=425 and A=455Hz.

TAP TEMPO

There are two ways to set tempo when appropriate: Go *Settings > Preferences* and click on the Tap button. Or, on your QWERTY keyboard, hold Shift and tap the "T" key.

RECALL PREVIOUS SESSION UPON OPENING

Go *Settings > Preferences* and check the "Reload previous session on Startup" box.

MIDI EXTERNAL CONTROL

X-Gear only: Although all AmpliTube family members can be automated within a host, only X-Gear allows traditional external MIDI control in stand-alone mode. MIDI can control volume/wa, preset up/down, stomp effect on/off, and Wharmonator (Whammy pedal; part of AmpliTube Metal). To do this, go *Settings > Audio/MIDI Setup*, and under MIDI input, specify your MIDI control source. Then click on the MIDI button, click on the parameter you want to control, click on Learn, and then move the controller or switch. When finished, click on OK.

STOMP I/O MIDI CONTROL

X-Gear only: For external control over parameters in stand-alone mode, the Stomp I/O foot controller allows for extremely flexible assignments and is highly recommended.

HOST AUTOMATION WITH X-GEAR AND METAL

The other family members use traditional VST-style automation: Enable Write, move controls, then enable Read to play back automation data to those controls. With X-Gear and Metal, you need to assign particular X-Gear parameters to up to 16 parameter numbers. These parameter numbers are in turn exposed to the host for automation. Stomp I/O can also create automation data.

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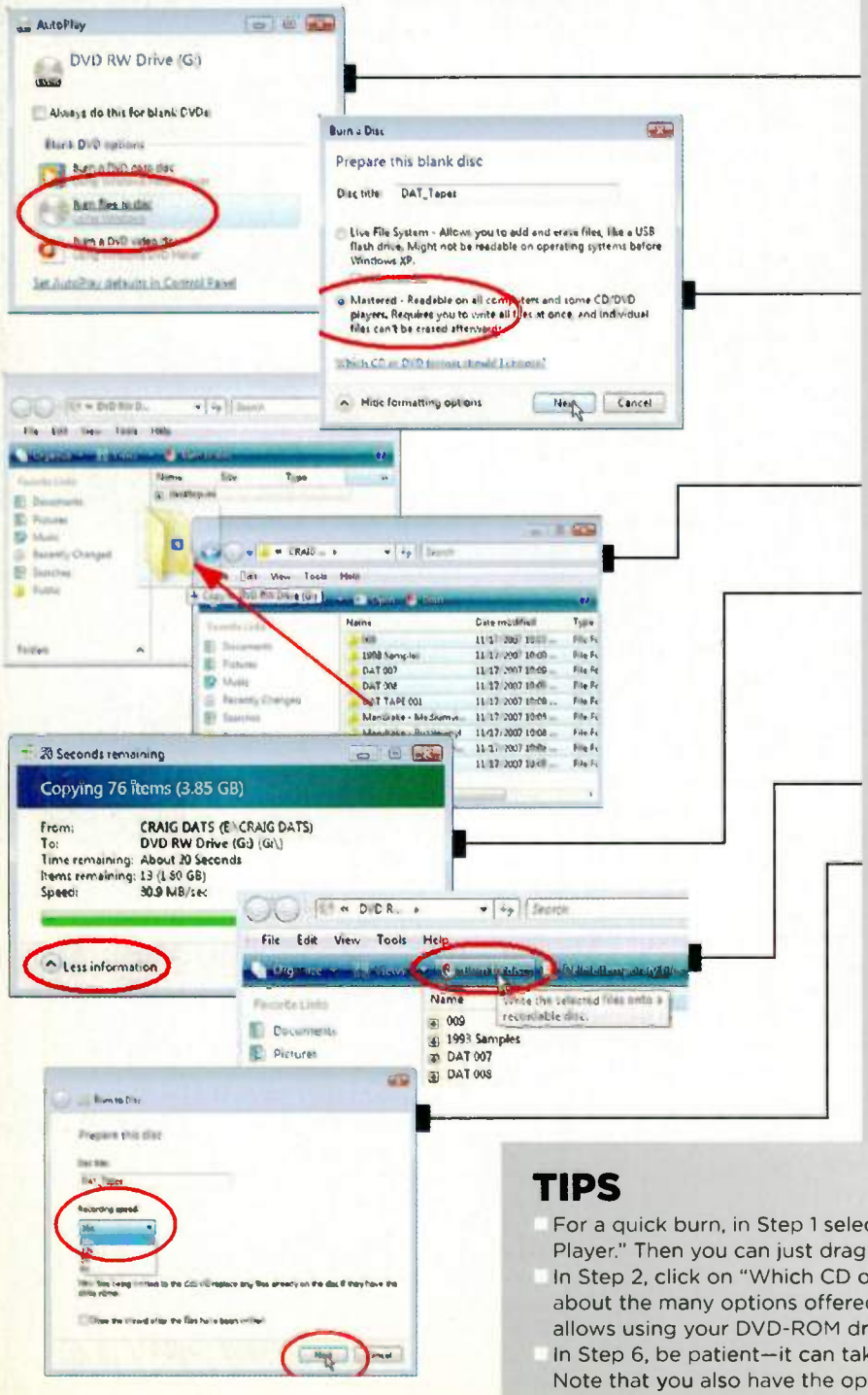
BY CRAIG ANDERTON

MICROSOFT WINDOWS VISTA

Back up your data to DVD-ROMs

OBJECTIVE: You know you should save your data—and Windows Vista makes it easy to save data to DVD-ROMs.

BACKGROUND: Windows XP included a function to back up data to CD-ROM, but not DVD-ROM. However technology moves on, and now DVD-ROMs are almost a necessity with today's high-resolution audio and video files. Fortunately, Vista can now save data to DVD-ROM, and do so in several different ways.



STEPS

1. Insert a blank, recordable DVD-ROM into your computer's DVD drive. The Autoplay screen appears; click on "Burn files to disc using Windows." This offers more flexibility than burning a data disc using Windows Media Player.

2. The Burn a Disc window appears. Title the disc, then click on "Show Formatting Options" and select "Mastered" to create a DVD-ROM readable in both Windows and Mac computers. Click on Next.

3. Drag the files you want to burn to the DVD drive window pane.

4. A window shows the progress in writing temporary files that will be burned to the DVD. Click on More Information for data on the copying process, or click on Less Information to hide this data.

5. Click on Burn to Disc.

6. Choose the desired Recording Speed (as supported by your drive and media), then click on Next. Files will be added to the disc image, burning begins, and a progress bar keeps you informed of what's happening. When all files are copied, click on Finish. Done!

TIPS

- For a quick burn, in Step 1 select "Burn a DVD data disc using Windows Media Player." Then you can just drag files into a pane and select "Burn Disc."
- In Step 2, click on "Which CD or DVD format should I choose?" to learn more about the many options offered by Vista, including the Live File System that allows using your DVD-ROM drive almost like a USB memory stick. Cool stuff.
- In Step 6, be patient—it can take a while to write the files to the disk image. Note that you also have the option to burn another disc as well as finish.

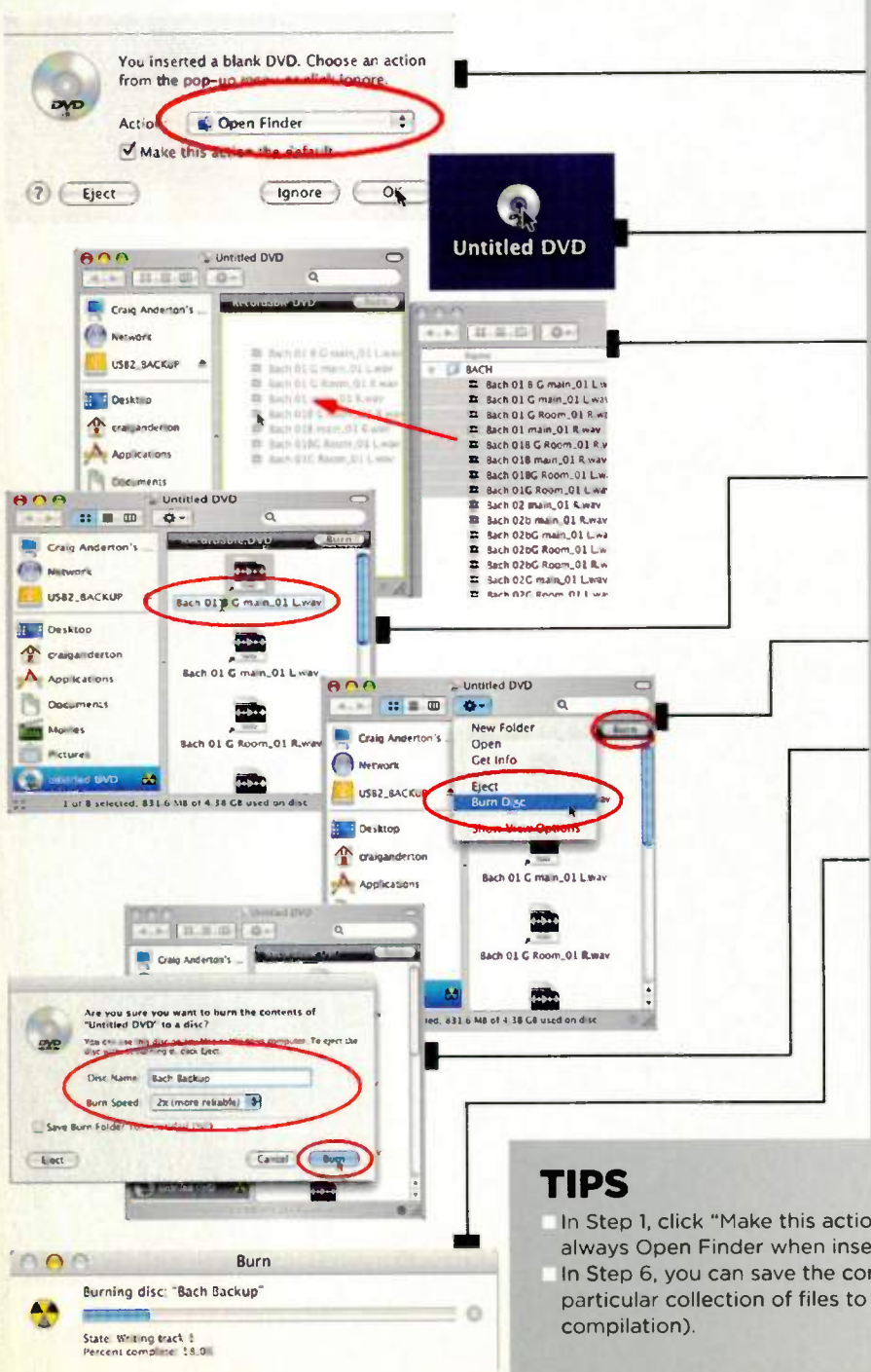
BY CRAIG ANDERTON

APPLE MAC OS X

Back up your data to DVD-ROMs

OBJECTIVE: Save your data using the built-in CD/DVD-ROM burning options within Mac OS X.

BACKGROUND: If you have a SuperDrive in your Mac, you can back up data to DVD-ROMs using utilities built into the Mac operating system. As with Windows Vista, it's also possible to burn multi-session DVDs so you can back up a project's data incrementally.



STEPS

1. Insert a blank, recordable DVD-ROM into your Mac's optical drive. A dialog box appears; select Open Finder, then click on OK.

2. A disc icon will appear on your desktop. When the icon appears, double-click on it.

3. Drag the files you want to burn into the empty DVD-ROM window. This creates an alias of the files.

4. You can edit the alias names in the DVD-ROM window without altering the original files, and the DVD-ROM will be burned with the edited names.

5. Select Burn disc from the drop-down menu, or click on the Burn button.

6. Name the disc, and specify the burn speed. Then, click on Burn.

7. A progress bar shows the status of the burning process. When it's finished, the DVD-ROM is done.

TIPS

- In Step 1, click "Make this action the default" if you want a blank DVD-ROM to always Open Finder when inserted.
- In Step 6, you can save the contents in a "Burn Folder." This holds aliases for a particular collection of files to be burned (such as all the cuts in a compilation).

SEEING THE "LITE:" LITE SOFTWARE ROUNDUP

AFFORDABLE VERSIONS COME OF AGE—AND DELIVER SERIOUS VALUE

by Craig Anderton

Cheap and powerful: two words that usually don't go together. Yet there's a new breed of software, built on proven foundations, that make this combination a non-oxymoron.

The focus of this roundup isn't free software, software that's bundled with other products, or isolated programs that are cost-effective in their own right (*e.g.*, Reaper, Mixcraft). Instead, we're focusing on derivatives of "flagship" programs that nonetheless exhibit serious value. In fact, many of these *were* yesterday's flagship programs. (One exception: We're not reviewing Pro Tools LE because so many musicians consider that the "standard" version, and Pro Tools|HD more of an "über-version.")

We can't cover everything worthy, so we picked some favorites based on two criteria: value and functionality. All these have the "EQ seal of approval" for being big-time overachievers.

However, we must also be realistic about what these programs *don't* do. There's a reason why flagship programs exist, and for many critical applications they have features certain users can't live without. Fortunately for the budget-minded, though, many of us don't need those higher-level features.

Most companies that offer full and lite versions provide comparison charts on their websites where you can check out differences. While useful, though, they don't necessarily relate the subjective element . . . hence this article. (Note that most of these programs have upgrade options to full versions and trial versions available; as these are subject to change without notice, check the websites. Also, all prices given are list prices.)

Ready to do cool stuff and save money? So are we. Here's what we found.

APPLE LOGIC EXPRESS ($199)

With Logic Studio selling for $499, the big question is what do you give up to gain $300? Concerning Logic itself, the answer is: not much.

The main attraction of the Logic Studio package is that it's a *package,* with Logic Pro 8, MainStage, Soundtrack Pro 2, QuickTime 7 Pro, six content DVDs (Jam Pack collections, sound effects, surround music beds, etc.), and much more. That's a lot of stuff; you don't get anywhere near as much with Logic Express, other than the Apple Loops Utility (which is available as a free download anyway), content for the included instruments, and a DVD with Logic Artist Spotlight demo songs.

But Logic Express is a valuable program in its own right. It uses the same code base and newly-streamlined interface of Logic 8, and includes most of the same functionality—in fact, when you first open Logic Express, you might wonder if Apple slipped you Logic Pro 8 by accident. Even though Express is sold as a "lite" program, you can also think of it as Logic Studio without the accessorizing.

If you don't see a lot of differences compared to Logic Pro 8, that's because there aren't. The instrument that looks like it came from Area 51 Is the Ultrabeat drum module.

What you don't get: Like many "lite" programs, Logic Express eschews surround—it's two-track mixdown only. And while it has most of Logic Studio's

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instruments and effects, it doesn't have some advanced effects (Space Designer and Delay Designer), nor does it have the Sculpture modeling synth or suite of vintage instruments (EVP88 electric piano, EVB3 Hammond clone, and EVD6 clav). Express doesn't support TDM hardware, Digidesign's DAE, or distributed audio rendering—admittedly features mostly for hardcore users.

What you get that you didn't expect: Logic Express has amazingly few performance limitations compared to Logic Pro 8. There's the same track count (255 tracks maximum), 24-bit/192kHz resolution, notation, control surface support, beat mapping, and the Quick Swipe comping (*i.e.*, all the various bits are assembled automatically into a single track) that everyone loves about Logic Pro. Express also bundles 36 virtual instruments (including the Ultrabeat drum box, ES2 "virtual analog" synth, and oldie-but-goodie EXS24 sampler) and 70 plug-ins, including Guitar Amp Pro—so you really have the plug-in bases covered.

The bottom line: Before the price drop on the Pro version of Logic, Logic Express represented exceptional value. Many musicians realized it was all they needed, and happily pocketed the change.

That's a harder call to make these days, because an additional $300 buys you a lot more goodies; MainStage alone is almost worth that if you gig with an Apple computer. Throw in all the Jam Packs and the extra instruments, and that's exceptional value.

On the other hand, Logic Express doesn't mess around. It has Logic Pro 8's single-window interface, time-stretching, beat mapping, pitch correction, and the latest plug-ins (like Spectral Gate and Ringshifter). You really aren't giving up much core functionality at all.

While it's a tough choice, if you're strapped for cash and need Logic *now*, Logic Express will *definitely* not disappoint. www.apple.com

ABLETON LIVE 7 LE

($149 DOWNLOAD, $199 BOX)

The lower section shows the Simpler instrument and its associated MIDI track. The browser on the left shows some of the devices included with Live 7 LE, while the upper part shows Session View, which is optimized for working with loops.

I'm a fan of Ableton Live, so I have mixed feelings about the LE version (which also includes the Operator instrument—a nice touch). Why? Because Live is an extremely versatile program that can be used in many ways. Some people (including myself) use it primarily for live performance, some as a DAW, and others for remixing or generating loops. So we not only need to evaluate Live LE vs. Live, but also, for its intended application.

What you don't get: Live LE mostly restricts functionality. For example, there's 64 audio tracks max instead of unlimited—then again, I've never needed even close to 64 tracks. Similarly, being limited to two stereo in/out pairs won't trouble most users. You're allowed a maximum of eight Ableton instruments/12 Ableton effects/two VST or AU effects per project (instead of unlimited), and two send/return buses instead of 12. Also, you don't get some sophisticated features like being able to treat virtual instruments or effects as plug-ins, ReWire, complex warp mode (an amazing time-stretcher for program material), track freeze, MIDI sync, MIDI out for external instruments, REX file support, dithering, instrument rack editing (although they can be loaded/played), and video support.

To me, the biggest limitation is having only eight "scenes" instead of unlimited (selecting a scene triggers a collection of loops in sync with the tempo), because the typical live performances I do require several dozen scenes. Those who tend to work within a scene (*e.g.*, enabling/disabling individual loops), use Live as a DAW, or do mostly DJing likely wouldn't find this limiting.

What you get that you didn't expect: The audio engine equals the full version: resolution up to 32-bit/192kHz, smart memory management, and multicore/multiprocessor support. Most MIDI functions are present (unlimited MIDI effects/MIDI tracks, superb MIDI mapping to external controllers, time signature changes, etc.). There are also the same generous file import/export options, plug-in delay compensation, the full complement of 23 built-in audio effects (many with sidechaining), and the Impulse and Simpler instruments. The boxed version adds a collection of sampled instruments (piano, guitar, bass, drums, harp, woodwinds, etc.), and additional content from Puremagnetik.

The bottom line: With the boxed version costing a third of Ableton Live 7 and a fifth of the Ableton Suite (which bundles cool instruments and lots of content), LE represents a significant savings. Thanks to free trial versions of Live 7 and Live 7 LE, it's easy to compare them.

If you work a lot with basic MIDI, Live 7 LE is an excellent choice for creating loops (although it won't drive

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external MIDI gear). It's also an excellent compositional tool with a different "feel" than a standard DAW. And even if you have a primary DAW program, Live LE is a useful complement that opens up other musical options—it provides an inexpensive, simple way to get some of that "Live mojo" in your studio.

While LE lacks some features that make Live such an exceptional program, the cost savings are substantial. However, if you download the trials and prefer the full version, you'll probably regret not getting it over LE. Live 7 still offers savings compared to the Ableton Suite, and you can always add more instruments and content a piece at a time, as your financial situation permits.
www.ableton.com

SONY VEGAS MOVIE STUDIO PLATINUM PRO PACK

($129.95 BOXED, $114.95 DOWNLOAD WITH LESS CONTENT)

If you're thinking "Why is EQ reviewing a video program?," Vegas Movie Studio is actually five programs in one: video editor, hard disk audio recorder, digital audio editing program (Sound Forge Audio Studio, Sony's "lite" version of Sound Forge, is included), DVD creator, and Cinescore, an automatic score generator that has to be heard to be believed. However, like Vegas Pro, there's no support for MIDI.

This is the highest-end version of the Movie Studio series; the lower-level versions (Vegas Movie Studio $69.95 packaged/$54.95 download, and Vegas Movie Studio Platinum ($99.95/$84.95) are more video-only and contain less content. However, given the relatively minor price difference and many extra features, *EQ* recommends the Platinum Pro Pack.

What you don't get: Compared to Vegas Pro, there are four video and four audio tracks instead of unlimited track counts. (However, you can have an unlimited number of events per video and audio track.) There are also some workflow limitations: You can't save customized window layouts or create templates, no recording of automation (you can draw envelopes, though), and no control surface support. DVD authoring is basic, but the choice of delivery media sure isn't: You can burn to video and multimedia CDs, DVD, Blu-Ray(!), and both Disc-At-Once and Track-At-Once Red Book CDs.

Audio-wise, maximum bit depth/resolution is 16/48kHz, whereas Pro does 24/192kHz and 5.1 surround. The same limitations apply to Sound Forge Audio Studio. Pro includes 35 DirectX effects (many automatable) as opposed to Studio's 25 DirectX effects, which aren't automatable (nor are 3rd-party DX effects). And there's no bussing for aux or effects (everything dumps into the master out), or on-the-fly punch-in recording.

More esoteric limitations include no support for certain high-end video boards, Broadcast WAV files, system-wide media management, or 32-bit float video processing. Titling is basic, but adequate; however, Vegas Pro includes the Pro Type titler. Also, only Vegas Pro offers 64-bit Windows Vista compatibility—when time is money, that can be a big deal.

What you get that you didn't expect: The Cinescore plug-in, which generates soundtracks based on criteria you specify, is very cool, and not included with Vegas Pro (Sony assumes pro users will buy the full Cinescore version, which is more versatile). Also, the inclusion of Sound Forge Audio Studio gives a lot of processing and mastering power (including sound restoration tools that Pro doesn't have), albeit for up to 16-bit/48kHz files only.

Vegas Movie Studio's brilliant one-window interface places video, audio, browsing, transitions, and effects at your fingertips. The floating window is Cinescore, which is about to generate a high-energy techno-type soundtrack. Note the extensive cross-fading and automation on the lower audio track.

"Consumer-friendly" options not found in Vegas Pro include direct publishing to YouTube, 1,001 sound effects, ten Cinescore themes (others are optional at extra cost), and several extra 3D transitions and effects. And while Pro accommodates HD videos, surprisingly Studio does too; capture and export options are plentiful. Studio also includes several movie-making wizards and interactive tutorials, which Sony presumes the typical Pro user won't need.

The bottom line: For getting into video, it's hard to imagine a more cost-effective/beginner-friendly option for Windows—yet there's enough depth that it's also hard to outgrow. Vegas Pro has always had a reputation of being particularly easy to use for musicians, due to its heritage as a hard disk audio recording program. Vegas Movie Studio continues that tradition. Furthermore, the ability to do four tracks of hard disk recording, along with ASIO, Sound Forge Audio Studio editing software, and support for VST/DX plug-ins as well as "Acidizing" files and time-stretching, are a huge plus.
www.sonycreativesoftware.com

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CAKEWALK SONAR HOME STUDIO 7 XL ($209)

The non-XL version costs $139, but XL is a more complete solution: It includes Cakewalk Studio Instruments collection (drums, bass, electric piano, and strings, along with pre-recorded patterns), Studio Devil guitar amp sim, Boost 11 loudness maximizer, a "lite" version of the Dimension sample-based instruments plus the Garritan Pocket Orchestra sound library, and a step sequencer. If you don't need these, the regular version saves $70. This compares to $369 for Sonar 8 Studio or $619 for Sonar 8 Producer (S8P), which folds in more instruments, effects, and content compared to Sonar 8 Studio.

Cakewalk has worked hard to give Home Studio its own identity. Despite the shared Sonar code base, the GUI is quite different (and very clean), and the recording process is more streamlined. Still, you can do serious work with it; this is a "prosumer," not "consumer," program.

What you don't get: There's no Windows Vista 64-bit version, nor S8P's extensive menu and toolbar customization options. Although MIDI tracks are unlimited, audio maxes out at 64 tracks. Home Studio doesn't use S8P's 64-bit audio engine, but with resolution up to 24-bit/192kHz, few will complain. And while there's a good selection of effects (*e.g.*, the Sonitus:fx and some others), you don't get the rich assortment in S8P such as advanced reverbs, Guitar Rig LE, Linear Phase mastering EQ and multiband compression, Vintage Channel strip, VST sidechaining, POW-r dithering, etc. However, there's built-in 6-band EQ for each mixer channel. And aside from Dimension LE, you don't get the cool S8P instruments like Rapture LE, Psyn II, Pentagon (with vocoder), Beatscape, TruePianos Amber, z3ta+, and Session Drummer 2.

Other limitations include no surround, less sophisticated loop recording (no track layering), no iZotope algorithms for pitch stretching, and no AudioSnap for lining up audio to a grid or other audio, OMF import/export, or the V-Vocal Editor for pitch correction/pitch-to-MIDI.

What you get that you didn't expect: Home Studio supports Intel Macs running Boot Camp, as well as ReWire slaves. But one of the biggest surprises is the wealth of assistant tools, templates, and content (over 2GB) intended to simplify workflow (the non-XL version of Home Studio has over 1GB). It even includes S8P's new loop explorer that allows browsing audio loops (and MIDI loops through soft synths), along with loop construction/editing facilities. You'll also find the Synth Rack, which allows consolidating crucial instrument controls in one place for simplified tweaking and automation, and REX file support via the included DropZone sample/REX player (other included instruments include GrooveSynth, TTS-1 General MIDI synth, and a simple analog emulation synth). There's video support (including QuickTime export), notation, Cakewalk's ACT technology for simplified hardware control, the Cakewalk Publisher module that provides uploadable players for websites, track freeze, audio CD creation, track folders, and more.

Home Studio has a clean, inviting look that reflects its identity as a more "prosumer"-oriented application compared to Sonar. The Studio Instruments module is in the lower right, and the step sequencer (both are exclusive to the XL version) in the upper right.

The bottom line: Home Studio XL is extremely cost-effective—but so is S8P. Adding all those instruments and effects to Home Studio XL would cost far more than the $410 price difference. But S8P is also a deeper program with a steeper learning curve; XL offers more hand-holding and a simpler workflow, with tons of functionality—arguably, more than most people need.

Given S8P's extras, if you're into serious production and don't already have a lot of plug-ins, it's probably worth scraping together the extra bucks. But if you're on a tight budget, Home Studio XL offers exceptional bang for the buck and has few "deliberate" limitations—this program easily exceeds expectations. www.cakewalk.com

STEINBERG WAVELAB 6 STUDIO ($399.95) AND WAVELAB ESSENTIAL 6 ($130.99)

Steinberg's Wavelab 6 digital audio editor ($699.95) has spawned not one, but two different lite versions. Of the two, Studio is still relatively costly, but incorporates pretty much all the important elements of Wavelab 6. Essential has a considerably stripped-down feature set, but as the name implies, delivers the essentials of audio editing at a very good price.

What you don't get: Compared to the full version,

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Wavelab Studio includes some excellent plug-ins, and most of the editing features of Wavelab, its big brother. The menu shows the extensive DSP processes; the master section offers six effects slots.

Studio lacks the "higher end of the bell curve" features, like 64-bit floating point editing (it maxes out at 32-bit floating), no spectrum editing (an esoteric, but very useful, feature for advanced editing techniques), six master section slots instead of eight (four for Essential), limited "montage" (multitracking) features, only two output channels instead of eight, two effects maximum per track/clip instead of 10 (one for Essential), and a maximum of eight audio tracks and one video track—Wavelab has no limits on either. Essential does only two audio tracks.

There's no option to burn DVD-Audio, but with DVD-Audio a fading format, this may be moot. You also won't find sampler support or audio databasing. However, Studio can do both DVD-ROM and CD-ROM data backups—a feature I've found very useful with Wavelab.

As to Essential, anything Studio can't do, Essential can't do either. Furthermore, it can't apply editing to a selection, just a file; and for playback, unlike the others, it doesn't offer variable speed, jog/shuttle, or a time display window. Audio CD burning is more basic (*e.g.*, no support for Audio CD indexing), and it can't import a CD image file.

What you get that you didn't expect: Studio contains a wealth of offline processors, lacking only pitch quantize, error detection/correction, effect morphing, and a pan normalizer compared to the full version. Realtime plug-ins are almost identical, less the high-res Apogee dithering (although the standard Apogee version is included), 192kHz resampling, and the ability to use plug-ins with externally-input audio or use external hardware as a plug-in. Surprisingly, Essential does almost as well as Studio although there is no Apogee dithering (only the "house brand"), no multiband compressor or ducker, and for offline processing, no loudness normalizer (only peak normalization). Also surprisingly, like its bigger brothers, Essential includes a video window for editing to picture and podcast creation functions.

All Wavelabs support VST and DX plug-ins, Broadcast WAV files, and 24-bit resolution; for sample rate, Wavelab and Studio top out at 192kHz compared to Essential's 96kHz, and Essential is limited to 2GB files whereas Wavelab and Studio support the w64 format for unlimited file lengths.

The bottom line: Having two "lite" choices may seem to complicate matters, but a careful analysis shows each has its own uses. The full version of Wavelab is a program where no matter what you ask it to do, it'll probably say "Yes, I can." However, not everyone is going to ask a program to do DVD-Audio, 192kHz editing, multitrack "montage"-style editing, or take isolated noises out of a track via spectral editing.

If you just need the basics—trim files, process them, and get them ready for prime time or podcasting—Essential will likely offer all you need, although the omission of a multiband compressor is something you'll want to rectify for serious mastering. If you need a pro-level digital audio editor, unless you're doing a variety of projects on an almost daily basis where you have no idea what people will throw at you, the Studio version will satisfy all but the most critical applications.
www.steinberg.net

BIAS PEAK LE 6 ($129)

Peak LE—the junior version of the pre-eminent Mac digital audio editor—costs 20% as much as Peak Pro, and 10% the price of Peak Pro XT (which includes an additional collection of mastering-oriented plug-ins). But does the huge price difference also represent a big hit on functionality? Let's find out by comparing LE to Peak Pro.

What you don't get: The main difference is no looping tools like Peak's Loop Tuner (although you can loop selections, and nudge loop points). So if looping is a big part of what you do, Peak LE is not the droid you're looking for. Also, resolution tops out at 24-bit/96kHz, as opposed to 32-bit/10MHz (not a misprint!).

There are also a few file handling limitations: no batch processing, limited region export, generic MDA dither instead of BIAS's cool DCAT and POW-r dithering, and no SMDI sample transfers. A bigger limitation is that editing is not RAM-based, but hard-drive based. For short files, this isn't a big deal but with longer files, your hard drive will get a lot of exercise.

As to plug-ins, there's AU/VST support but LE doesn't include the Vbox series/parallel matrix router, which is great for sophisticated editing. Also, there are only three

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plug-in insert slots compared to five, and for DSP, LE has 17 options—less than half the 40+ DSP processes in other Peaks. But the essentials are there; the only function I really miss is "Find Peak," which I use in mastering to locate "rogue" peaks so I can bring down their levels. There are also no restoration tools (*e.g.*, repair clicks, SoundSoap LE).

What you get that you didn't expect: First up: Peak's superb sample rate converter made the transition to LE; although quality is limited to five out of 10 for offline editing, performance is the same as Pro's for realtime playback. Editing features are also unexpectedly complete, and there's a lot of bundled content: WireTap Pro (captures Internet/system audio), SFX Machine LT, six-month Broadjam.com membership, sound effects, audio loops, and more. LE also supports 14 formats—including QuickTime with video playback—lacking only the RAW and DDP 2.0 file formats.

And although there are also a few limitations in playlist/CD creation (*e.g.*, no graphical waveform editing—although of course you can do that outside of the playlist), LE can convert that playlist into a fully-compliant Red Book CD. LE even does CD Text, automatic PQ code generation, ISRC and UPC codes, and the like.

Furthermore, LE supports podcast publishing (no additional software needed) and has a handy ducking feature to lower music during voiceovers. And in a nod to consumer-oriented applications, you can export audio directly to iTunes from the playlist.

NATIVE INSTRUMENTS GUITAR RIG XE AND SESSION ($119 AND $249)

Not only DAWs have lite versions: So do plug-ins. Guitar Rig XE isn't just a "teaser" for the full version, but more of a "Guitar Rig's greatest hits" that stands on its own.

What you don't get: For about 1/3 the price compared to Guitar Rig 3, you get about half the amp models, effects, and tools. Although the full version includes six more amps, interestingly XE includes the amps I use the most: Lead 800, Twang Reverb, AC Box (AC30), Gratifier, Citrus, and Bass Pro. GR3 has 44 effects; XE has 21 (including the two modulation sources). While XE has all the basics—distortion, compression, EQ, phaser, autofilter, noise gate, wah, chorus, flanger, etc.—it doesn't have some of my GR3 favorites: the Psychedelay with its wonderful backward delays, octave divider, harmony synthesizer, synth low-pass filter, and rotating speaker. (The remaining GR3 effects tend to be variations on EQ, delay, octave divider, filters, noise reduction, and the like—good for broadening your palette, but not as "essential.")

Modulation sources lack the envelope, step sequencer, and analog sequencer, making it difficult to do AdrenaLinn-type synced effects. As to accessories, you get the two "tape decks" that can record/play back riffs and final outputs, tuner, and metronome, but no loop machine, split (essential for parallel effects), or crossover—another powerful tool for parallel processing. There are also only 150 presets compared to 500.

What you get that you didn't expect: The models and effects included in XE are the same as those in GR3—not junior versions. They even have the "advanced" parameters for tweaking parameters like Sag and Bias on the amps. XE also includes the same drag-and-drop,

Peak LE 6 not only looks elegant, but includes a ton of features from Peak Pro. The menu shows the available DSP processes; grayed out ones are available in the Pro version, but note that these tend to be the more esoteric functions.

The bottom line: Given the minimal competition to Peak on the Mac (other than i3's DSP Quattro), it's very commendable that BIAS has folded so much into LE yet attached such a low price. You probably wouldn't even know Peak LE was a lite program if the functions available in Peak Pro weren't grayed out in the menus.

If you're into serious 24/7 mastering and sound design, the additional tools in Pro—as well as the suite of plug-ins in the XT version—are worth the extra investment. But for many (maybe even most) users, Peak LE 6 gives everything needed to edit audio on the Mac—and more. www.bias-inc.com

easy-to-use, rack-oriented interface as GR3; you're not limited to specific combinations or orders of effects, and you can instantiate multiple versions of the same effects. It also has GR3's "Live View" mode, a boon for onstage use (yes, XE works in stand-alone mode), and is compatible with NI's Rig Kontrol optional footswitch/pedal hardware.

An additional variation, Guitar Rig Session, bundles a high-quality, portable, guitar/line/mic interface with XE. Session also includes the Pop Drums sound set (with the Kore Player for playback) and Cubase LE. For an extra $130, if you don't have guitar-friendly interfacing hardware, this does the job simply, but in style.

The bottom line: Guitar Rig XE actually feels more like an earlier version of Guitar Rig than a 'lite' version of GR3. GR1's list price was $499, but it had only three amps, and about the same number of effects as XE (although it did have the split module). So yes, XE is extremely cost-effective. If you're deep into amp sims and want the most versatile amp sim on the market, then an investment in GR3 is easy to justify—but XE gives the essentials at a *very* cost-effective price. www.native-instruments.com

Guitar Rig XE has the same flexible drag-and-drop interface of Guitar Rig 3, as well as a subset of the flagship program's modules. Note the browser on the left, and also, the advanced "hidden" parameters under the Delay Man processor.

WAVES GTR SOLO ($140)

Similarly to Guitar Rig XE, Solo is the "greatest hits" from Waves' GTR 3. It has Clean, Drive, and High Gain amps (along with a Bass amp); each has various algorithms, giving 10 amps total, as well as plenty of effects. Solo can also work in stand-alone mode.

What you don't get: At almost three times the price of GTR Solo, GTR 3 ($380) is clearly the flagship product. But Solo makes the right decisions about what to include. While lacking GTR3's 25 amps, Solo's 10 options cover a broad range of sounds. Solo has 10 cabinets instead of 29, and 13 effects instead of 26; but again, they're the important ones—Solo even includes a harmony synthesizer. The additional effects in GTR3 tend to be variations, such as multiple "flavors" of distortion.

The biggest difference is the architecture. Solo offers a fixed "pedalboard" with four effects and the amp (effects can be placed before or after the amp as desired). GTR3 lets you load up to six effects in "pedalboards" that are plug-ins in their own right, and can go before or after the amp (you can instantiate as many amps and effects as you want). However, while GTR3 is more flexible, some will find Solo more streamlined and less intimidating.

What you get that you didn't expect: Solo's effects are based on the same algorithms as Waves' big-bucks product line. They're very clean, and work extremely well with other instruments (*e.g.*, vocals and drums). So, you're getting a bundle of Waves effects at a righteous price. What's more, luthier Paul Reed Smith—universally recognized as one of the industry's best—has been heavily involved in the GTR project, from loaning his own amp collection for modeling to doing "reality checks" on sound quality. Although Solo is not as flexible as some other guitar modeling programs, few would argue with the stunning sound quality.

The bottom line: People often wonder what's "the best" amp sim, but really, each has its own personality—just like real amps. As a result, one program may work better in an application than another. That said, the availability of superior "lite" programs makes it possible to own a "collection" of amp sims without busting your budget—interestingly, GTR Solo *and* GR XE cost less than GTR 3 or Guitar Rig 3 by itself, with change left over for strings and picks. GTR Solo gives that great Waves sound quality, and the amp emulations are spot-on. It's a winner.

www.waves.com EQ

Beneath those funky graphics lie Waves' processing algorithms, and they sound very good indeed. This example shows two effects before the amp module and two effects after, but there are no limitations as to which modules go in which slots.

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GADGETS & GOODIES
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We received two sweet new pieces of gear for recording bassists, so sit down, put on your fuzzy slippers, pour yourself a tasty beverage, and read on (all prices are MSRP).

WARWICK HELLBORG PREAMP

($3,499; WWW.WARWICKBASS.COM)

When Warwick approached me with their new preamp, the Hellborg, the first words out of my mouth were, "yeah, the *Bass Player* magazine guys are a few offices down to the left." Sure, it can be argued that any musical gear is relevant enough to entertain the option of reviewing for *EQ*—after all, musicians *are* our audience, and last I checked musicians tended to be into musical instruments. But it's not like we're reviewing a new snare drum or Strat this issue. Then they explained to me that, while the Hellborg is perfectly at home on stage, the pre is more of a high-end bass signal processor, tailor-made to emulate the warm, enveloping sound legendary bassist Jonas Hellborg achieved by tracking direct into vintage Neve desks. Right about then was when I noticed the Neutrik combo input jack, the -20dB pad, the switchable EQ section, the DI XLR out, and the DI output selector (pre EQ/pre effect, post EQ/pre effect, post EQ/post effect). Aha! I get it now. . . .

Before we go any further, I have to point out that the Hellborg is not for hobbyists. If you are not primarily a (serious) bassist and obsessive about your tone, you're probably better off just getting a decent direct box and putting your shekels towards a more multi-purpose component to your studio, like some decent converters . . . or a Neumann U87. At an MSRP of $3,499, the Hellborg is a helluva commitment, but one well worth the price of admission if you are deadly serious about your bass tone.

What makes the Hellborg so dope? Transformers - namely one that couples the amp's input to the first gain stage. Also, the EQ section is one of the most musical you're likely to find. Using coil-based inductive EQ (just like an old Neve) and Baxandall shelving filters on the Bass and Treble controls spells only good things for your ears. Couple this kind of high-def design with a wide range of control (the Lo Mid EQ is selectable between 110, 300, and 800Hz while the Hi Mid EQ is selectable between 1.5, 3, and 5kHz, both with ±15dB range), and you have quite a versatile, charmingly boutique, package.

It should also be noted that the effects loop is of particular interest to recording bassists: the +4/-0dB pad feature on the effects send is a welcomed feature, effectively doing away with your gain-staging nightmares.

Highly recommended for bass tone enthusiasts; not recommended for pedestrians. *—Matt Harper*

GENZ BENZ STL 3.0-8T

($879; WWW.GENZBENZ.COM)

Equally suited for bedroom warriors and small home studio geeks that want to get a good amp signal but don't want to haul in an Ampeg 8x10, the Genz Benz STL 3.0-8T (they only sent us the 1x8 combo, but there are many other cab pairings in their Shuttle series, as well as a 12AX7 tube head version called the STL 6.0) is an incredibly handy, downright sweet-sounding rig that's great for recording buttery bass lines late at night without waking your neighbors.

While the space-efficient neodymium cab is lighter than most housecats and likely to be called "cute" by your grandma, make no mistake—it packs a serious punch for its size. The ported cabinet, while *über*-portable, doesn't lack low-end balls, and can deliver more volume than you would expect.

As much of a feat of engineering the dainty cab may be, I was most impressed by the feature-rich Shuttle head. The three-band EQ (with semi-parametric mids) and switchable voicing filters—L.F. Boost, Mid Scoop, and H.F. Attack—equally allow for a quick dialing in of a useable tone or deep, geeky tweaking. Going around back, you'll find an effects loop, a tuner out, a headphone jack, and a direct out that, on the rough demo tracks I laid down for Nero Order's upcoming album, *The Tower*, sounded clean and pristine.

It would be easy to take one look at Genz Benz STL 3.0-8T and write it off as being a simple practice amp that no self-respecting bassist would ever drag into the studio, but then again it's always easy to make a foolish assumption. For my two cents, this bad little 300-watt bastard means business. It is not without its flaws; I do have to wonder why there are no input pads, but no piece of gear is perfect. The bang is big, my friends. I suggest you check one out if you get a chance. *—Matt Harper* EQ

SOUNDS

PROPELLERHEAD SOFTWARE: REASON ELECTRIC BASS

If you've checked out any of Propellerhead's ReFills, you've probably already bought Reason Electric Bass (REB) . . . so go back to making music.

I got turned on to this series with Reason Drum Kits, which almost sounds "alive"—and so does REB. This set of eight sampled electric basses (from Fender, Rickenbacker, Music Man, Gibson, and Kay; some are played with fingers, some with a pick) work only with Reason, but they fully exploit what Reason has to offer. There are "Combinator" patches with multiple signal chain options, "producer" patches, keyboard layouts that let you add in realistic nuances (*e.g.*, fret noise, slides, hammer-ons, etc.), and effects presets for Reason's processors. There are even "templates" using particular mics, basses, and amps for building your own patches, and audio examples for quick auditions of the bass sounds.

Propellerhead's "hypersampling" technique involves multiple velocity levels, different samples with the same velocity so hitting two notes in succession sounds natural, and capturing instrument nuances. It certainly works. And based on the quality of this collection, the price is a bargain. Are they simply nice guys? Is this a ploy to get people to buy Reason just so they can run REB? Whatever. If you use Reason and need playable, expressive electric bass sounds, this is what you want. —*Craig Anderton*

Contact: Propellerhead Software, www.propellerheads.se
Format: Two DVD-ROMs with identical content, but one with 16-bit resolution and one with 24-bit resolution
List price: $129

SONY: BHANGRA BREAKS

Sounds readers know I tend to like sample libraries with exotic forms of music, because throwing in even just a loop or two from one of these collections can really spice up a tune. Here, the spice is curry: Come with me to the Punjab, where hip-hop, dance, Bollywood, and classical Indian music collide in a beat-drenched, melodically-flowing confection known as Bhangra.

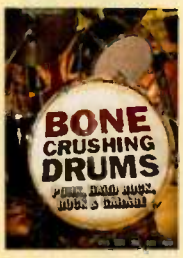
This is a collection of mix 'n' match loops (not construction kits) with Sony's usual excellent Acidization. Twelve "combination" loops are basically mini-rhythm sections; 185 loops are percussion-based, with instruments like tabla, dholak, dhol, and the like. For melodic interest, you'll find flutes, harmonium, keyboards, bass, mandolin, and tumbi (the latter is the signature sound of many Bhangra rhythm loops).

Much of Banghra's strength comes from adding western-style loops; this collection wisely sticks to core Bhangra sounds, so it's up to you to add your own culture clash. Good as this set is, though, I want more—like some of those great Bhangra vocals and chants! Also, I felt a few files were "overmaximized." While that's part of the Bhangra sound, I'd prefer the option to screw up the sounds myself, thank you.

But those niggles don't diminish an adventurous, eclectic collection that adds a welcome taste of the exotic. Pass the tandoori chicken, please. —*Craig Anderton*

Contact: Sony Creative Software, www.sonycreativesoftware.com
Format: CD-ROM with 504MB/293 loops (+25 bonus loops from other libraries); 16-bit/44.1kHz
List price: $59.95

BIG FISH AUDIO: BONE CRUSHING DRUMS



Even though none of my bones were actually crushed, no one will nail this title for deceptive advertising—we're talking crude and lewd, dude. Loops are duplicated as dry and room versions, and separated into four folders: garage (198 loops total), hard rock (170), punk (158), and rock (310). The folders are further divided into "drum construction kits" with fills, beats, intros, etc., making it easy to cobble together complete parts.

These are human-played (often at breakneck tempos), so there are slight timing variations—but rather than sounding wrong, these add "feel." Also, the loops are not overdone. You might expect "bone crushing loops" to have distortion and extreme filtering, but thankfully, the files are minimally processed for the most flexibility.

REX and Apple Loop slicing is good, but for the WAV files Acidization is haphazard: Some are, some aren't. Big Fish says putting Acid on the cover was a typo, so just consider these as ordinary WAV files. I'd advise considering them as ordinary WAV files. Also, only the Pro Tools version is multitracked; in a few of the stereo loops, I would have preferred less cymbals (or better yet, cymbals as a separate loop) but a little EQ does the job.

This set is about attitude (love the oomph on the toms!), so if you're looking for polite pop, look elsewhere. These raw materials are indeed raw—and some judicious processing fulfills their potential. —*Craig Anderton*

Contact: Big Fish Audio, www.bigfishaudio.com
Format: DVD-ROM with about 1.42GB (836 loops) of unique 24-bit/44.1kHz WAV files, duplicated as Apple Loops (and REX files where possible); also has Stylus RMX installer
List price: $99.95 (DrumCore version $79.95, Pro Tools/OMF/AIFF version with multitracked drum projects $199.95)

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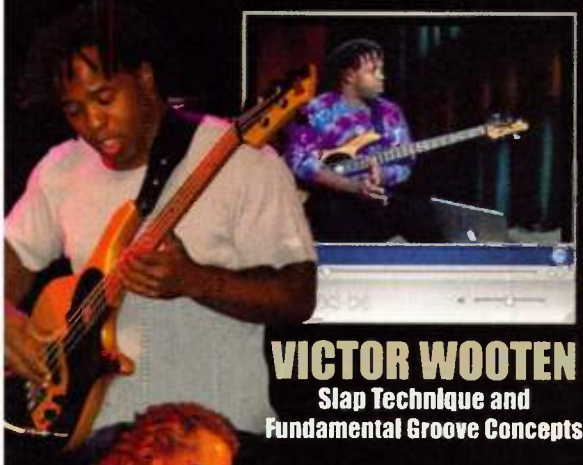

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ROOM w/a VU

by Angelina Skowronski

STUDIO NAME: Central Command Studios
LOCATION: North Hollywood, CA
CONTACT: www.centralcommandstudios.com
KEY CREW: Julian Beeston, Ullrich Hepperlin, Jason Miller
CONSOLES: Digidesign Control|24
COMPUTERS: Apple Dual G5 PowerMac
RECORDERS: Digidesign Pro Tools|HD 3 Accel System w/ 192 (2) and 96i I/Os; TASCAM DA-78 (3)
SOFTWARE: Ableton Live 7; BIAS Peak Pro XT 5; Digidesign Pro Tools 7.4; Propellerhead Reason 3.0.5
STORAGE: G-Raid FireWire 800
MONITORING: Furman HDS-6; KRK Rokit 8 (powered by Samson Audio Servo 300); Tannoy iDP-10 5.1 surround system; Yamaha NS10
MICS: AKG 4033 (2), C414 B-ULS (2), D112; Blue Ball; Electro-Voice RE20; Neumann U87, KM184 (2); Sennheiser MD421 (4); Shure SM57 (5)
PRES: Avalon VT-737sp; Focusrite Octopre (2); PreSonus DigiMax 8
OUTBOARD: Digitech Vocalist Live 4; Empirical Labs EL18/SX (2); Line 6 PODxt Pro (2); Universal Audio 1176 (2)
INSTRUMENTS: Korg Electribe EMX-1 (2); Kurzweil SP88X; Novation Remote25; Roland V-Synth GT, XP-50
AMPLIFICATION: Mesa/Boogie Rectifiers (2); Rivera Knucklehead; SWR Bass-350
PLUG-INS & VIs: Access Music Virus; Antares Avox TDM bundle; Digidesign DigiRack 6.0, Bomb Factory Plutonium Bundle, Maxim, Sound Replacer; Eventide Octavox, Reverb 2016; Focusrite d2, d3; IK Multimedia AmpliTube, SampleTank 2, T-Racks; Line 6 Amp Farm, Echo Farm; McDSP Compressor Bank, Filter Bank; Serato Pitch 'n Time; Sony Oxford EQ; Synchro Arts VocAlign Project; Waves Diamond Bundle, Platinum Bundle

NOTES: Bandmates Jason Miller and Ullrich Hepperlin came together to build Central Command Studios as a hub for their industrial rock band Godhead. But as many studio owners know, a good facility is hard to sustain in this day and age, so the duo began tailoring their digs to double as an anime ADR (audio dialogue replacement) studio. "We realized that we couldn't just do music there because it would drive us nuts . . . and break our bank accounts," says Hepperlin with a laugh.

Because an analog studio doesn't bring in anime producers quite like it would rock bands, Miller and Hepperlin work primarily "in the box." "There is a contingency that believes two-inch tape sounds better," Miller says. "As a musician, I can understand being meticulous about your gear selection and your processes. But when I hear of people spending a week finding the perfect snare sound by putting together the most expensive signal chain, it drives me nuts. The fan doesn't care if that reverb is from a real plate! Most couldn't tell the difference. Why not use digital tools, which can make great sounds with a fraction of the expense and the work?"

Ullrich agrees, and has the MP3s to prove it: "Frankly the drums on our last album [*At the Edge of the World*] were 100 per cent Reason kits."

Going a step further, Ullrich says that the Central Command Studio you see in the pictures above is a significantly downsized version of the original incarnation. "We don't need a live room," he says. "As long as I have a chair in front of my computer, I can orchestrate an entire band without ever taking a guitar off my lap." EQ

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