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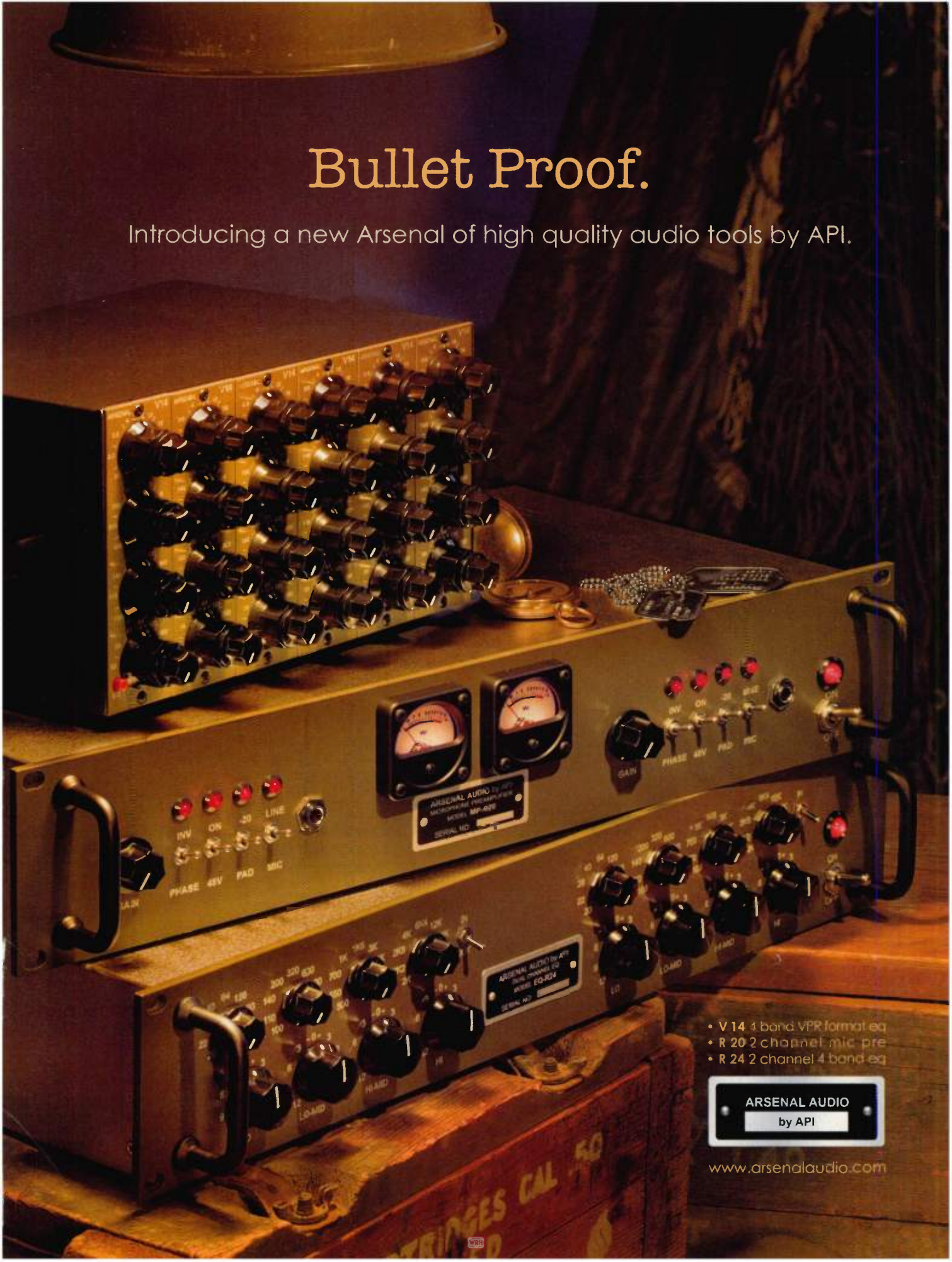
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Talk Box

MIX, REMIX, OR RE-INVENTION?

I saw the latest Indiana Jones movie the other day, and realized it's not only music that does remixes—so do movies. All the familiar elements were there: Evil people seeking power from some ancient artifacts, a Really Nasty Guy pounding Indy, car chases, clandestine government activities, and more, but . . . well . . . remixed.

Then again, the more you think about it, lots of entities fall into mix and remix categories. Original iPod: Mix. iPod Shuffle and iPod Nano: Remix. Version 1.0 of a program: Mix. Version 2.0: Remix. Original Volkswagen Beetle: Mix. New VW Beetle: Remix. Guitar Hero: Mix. Rock Band: Remix.

Now, I don't have a problem with remixes. In fact, when it comes to musical remixes, I think great DJs *are* musicians, in the same way that an arranger or conductor is. But remember that to have a remix, you need a mix in the first place—an original, creative, novel impulse. And if you're going to do a remix, it had better bring something new to the party, not just be a re-shuffling of elements which then get the tag of "new and improved." A good remix deconstructs pretty much completely, then re-constructs from the ground up, with fascinating new twists and additions. So while the elements are recognizable, they're put together in a way that makes them fresh.

Think of performers who've sustained long careers: When they remix themselves, it goes beyond re-shuffling and borders on re-inventing (think Madonna, Prince, David Bowie, the Beatles, Miles Davis, and the like). It can be an instructive exercise to consider whether a remix is indeed "just a remix," or something much closer to a re-invention.

So how does this relate to us recording music? When creating something "new," it's easy to hit the default button and just use variations of what's gone before. And with today's gear, it's easy to produce something with the "look and feel" of music, but without the soul that makes a unique musical statement. Believe me, this is not what audiences crave.

One review of the Indiana Jones movie said that it met all expectations, while exceeding none of them. Whether you agree or not, that's a perceptive comment—because a good test to apply to a "remix" is whether it simply meets expectations, or exceeds them.

So the next time you're producing yourself or someone else, ask yourself the following question: Is it a mix, a remix, or a re-invention? It's a question well worth considering.

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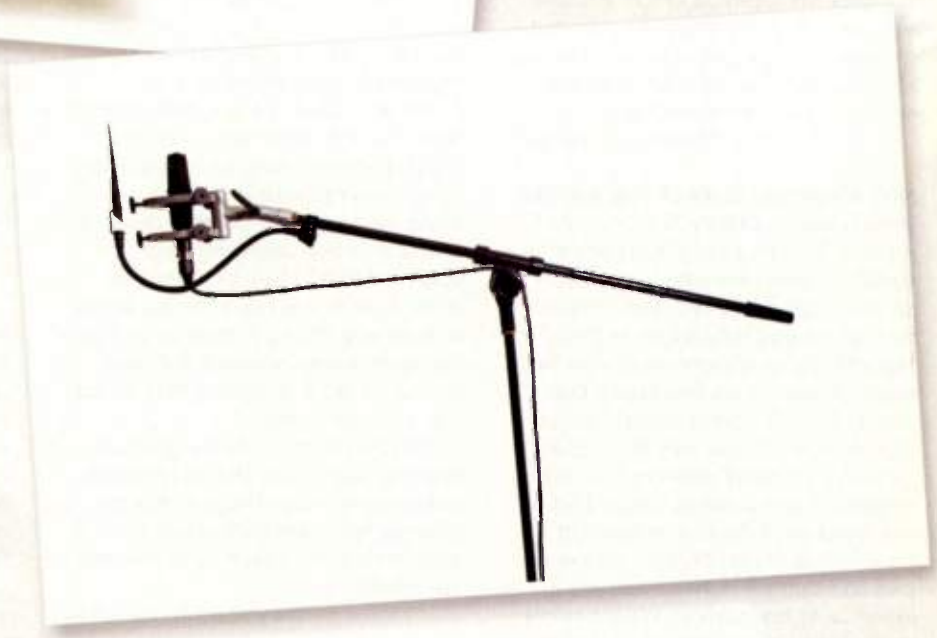

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WILD THINGS

"Taming the Wild Upright Bass" was a great title for Paul Grundman's article [Bass Management—07/08]. Not only is the upright bass hard to capture, it's hard to get it to behave itself in the mix. For those folks who don't have a [Neumann] U47 or Schoeps CCM sitting around, try wrapping a [Shure] SM58 in a piece of foam and then tucking it into the tailpiece. For something a little more detailed with a bigger bottom, try a Crown CM-700. Neither of the mics will create as hi-fi of a sound as the Neumann/Schoeps combo, but they are way cheaper. You'll be amazed at how good they do sound and how easy your bass tracks will be to mix.

Steve Chiasson (via email)

NOT KNOWING IS HALF THE BATTLE

When reading Craig's Talk Box ["All I Know is There's a Lot I Don't Know"—07/08], I remembered a recording seminar I attended ten years ago led by the one and only Roger Nichols. Nichols told us a story about making some digital copies of a Steely Dan album. [Steely Dan guitarist] Walter Becker asked Roger why the copies he made sounded different than the original. Roger assured Walter that he had used all of the test equipment at his disposal to identify any discrepancies and that all of the copies were identical to the original. Walter swore there were differences in the copies, so Roger conducted some blind listening tests during which he did things like panning the tracks to different speakers in an attempt to confuse Walter. Walter was able to pick out the copies every single time.

Moral of the story: There really is a lot we don't know . . . and technology is nowhere near as reliable as our own ears.

David Smith (via email)

WHAT IS THIS WORLD COMING TO?

As I read Devine Evans' "Turning Dreary Vocals into Pop Star Performances" [Vocal Cords—7/08] I said to myself, "*This* is what is wrong with pop music!"

Obviously Devine is starting with a singer that lacks the ability to convincingly put the song across. In fact, it sounds like this singer has little or no talent at all. While it may in fact be possible to create something that sounds reasonable by spending hours massaging inadequate performances, it sounds like his "demo singer" actually has the chops. So why waste time polishing crap when he can just use the demo singer's performance?

I understand the realities of the recording biz. Oftentimes we are presented with singers who can't quite pull off what they want to do. At what point are you doing them a disservice by completely transforming them into someone else? What happens when they get on stage? The extreme modifications Evans suggests would be better replaced by singing lessons, perhaps from that "demo singer," before heading into the recording studio.

It's very hard to figure out where to draw the line these days, with tools like [Celemony] Melodyne that allow us to mold recordings like wet clay. More and more I find myself drawing that line further away from plastic surgery, letting more of the warts show. That is due in part to my sense of right and wrong in regards to a performance being tweaked, but also because I like a recording that sounds like a human being.

Maybe I'm not in the target audience for pop music any more. Great singers performed the pop music I grew up with. Am I supposed to believe that there aren't any new ones out there?

Gary Mankin (via email)

BAD, CHEATERS, BAD

In Cheat Sheet ["Recording Electric Guitar"—07/08], you state in regards to combining direct and miked sounds: "The sound coming from the mic will be delayed compared to the direct sound . . . nudge the miked sound forward (earlier) in time to compensate."

This would be absolutely incorrect. First off, nudging the miked sound forward would put it later, not earlier, in the track, and thus further out of time with the direct track. The correct method would be to nudge the track backwards to align with the direct. However, if the monitored track was the miked track, the better method would be to nudge the direct track forward to match the miked track, as that track was the player's reference.

Nick Joyce (via email)

Craig Anderton responds:

You're confusing "forward in time" (as stated) with "forward with respect to physical position on a track." I realize it's counterintuitive that moving a track's clip to the left on a linear timeline (what you would call moving "backward") moves it forward (earlier) with respect to time, but that's the way most DAWs work. That's why I added "earlier" for further clarification.

As to monitoring, your point is well-taken but most engineers keep the mic pretty close to the speaker—a few inches—so we're talking about only hundreds of microseconds of delay (which is exactly why there are comb filtering issues). If the mic is further away from the speaker and used more as a room mic, then not only does the engineer probably intend to include the ambient/delay sound, but comb filtering will not be as serious an issue because the delay differential is so much greater.

But this brings up the opportunity to add one more tidbit beyond the scope of the original Cheat Sheet: Just because you've matched the two tracks doesn't mean you're done. For example, if the direct track is used for re-amping through a plug-in, there will be additional latencies that will require moving the direct track further forward in time (or if you prefer, "backward" on the physical timeline).

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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FUZZY LOGIC

How the Kooks Mangled their Guitar Tones on *Konk*

BY LILY MOAYERI

The Kooks have done a lot in a short career. The young Brighton, U.K., quartet—singer/guitarist Luke Pritchard, guitarist Hugh Harris, bassist Max Rafferty, and drummer Paul Garred—have sold two million albums internationally, toured the globe, opened for the Stones, and recorded at Abbey Road. They still aren't allowed to legally rent a car in North America, but that minor detail isn't slowing their progress. The band's new release, *Konk* [Virgin], is a serious sonic step up from its 2006 predecessor *Inside In/Inside Out*.

"We intentionally made *Inside In/Inside Out* sound like a first record by using less expensive, gritty gear," says Todd Burke, who engineered both records alongside producer Tony Hoffer at the Kinks' Konk Studios in London. "One of the adjectives that kept coming up was 'humble'—letting the sounds be, and not dressing them up. For *Konk*, even though the Kooks are an aggressive, super-raw band, we weren't shy about going a step further in terms of audio sophistication and fidelity."

"I wanted to get away from what I know on this album," says Harris, who employed everything from bowed guitar lines to octave pedals to add new dimensions of sound to his usual "straight" guitar approach. The guitarist also dabbled with creating his own fuzz pedals prior to pre-production, placing his Frankenstein creations alongside favorites such as the Z. Vex Super Hard-On and the Maestro FZ-1 Fuzztone.

"We were doing the *wrong* things, given this type of music—like not having our amps super loud and our tones super saturated," remarks Hoffer. "Hugh would be playing, and I would be changing the pedals over the course of the song. Things got different on the guitar, rather than being static, and it made the sound more intense as it was morphing throughout the song."

Burke says the band also opted to leave their amp stacks at home. Harris' go-to setup was a '60s Fender Twin Reverb paired with either a WEM/Watkins Clubman or a Fender Champion 600.

"The idea was to use a bigger amp to fill out the extreme corners of the stereo field, and let a little amp—driven to be all nasty and fuzzy—sit at the center," explains Burke. "It suited the band's vision for the album to create different guitar personalities on a 'per song' basis, and it's hard to find one amp that can suit all of those personalities. But with two or three amps, you can get into some higher-level sound design. It's like having more colors to draw with."

Listeners will notice that Harris' acoustic-guitar sound on *Konk* is slightly distorted. This is a decision the guitarist says was made in order to maintain a sense of uniformity between the electric and acoustic sections.

"We miked his large-bodied '60s Martin with a single Shure SM57 and put the signal through a Neve 80 Series console," explains Burke. "You can open the preamp up on that board, bring the fader back, and get a really hot, hype-y sound. Then, we would use a limiter on the signal. Obviously, that compressed the sh*t out of the acoustic-guitar signal, but it also injected a lot of personality and attitude into the song, and it helped the acoustic guitar tracks settle with the fuzzy and overdriven electric guitars." EQ

The Kooks (left to right)—Hugh Harris, Max Rafferty, Luke Pritchard, and Paul Garred.

PUNCH IN

Drew Daniel (left) and M.C. Schmidt (right) of Matmos.

AJ FARGAS

FEAST OF FRIENDS

Matmos Cuts Up Improvisation to Construct *Supreme Balloon*

BY MERRICK ANGLE

"We've received our fair share of raised eyebrows because we've sampled everything from hair clippers to the sounds of plastic surgery," says Drew Daniel, one half of *musique concrète* powerhouse Matmos. "We've had crowds shouting, 'Where is the *music*?' We've actually had a lot of fun with that. But for *Supreme Balloon* [Matador], we wanted to get away from the wacky samples and create something purely electronic."

Departing from the electro-pop-meets-Stockhausen fare of 2006's *The Rose Has Teeth in the Mouth of a Beast*, the Baltimore, Maryland, twosome of Daniel and M.C. (Martin) Schmidt have created what they believe to be the most accessible release of their decade-long career. But make no mistake—*Supreme Balloon* isn't Matmos' attempt at pandering to radio program managers. In a sense, it's as deep and challenging of a listen as the pair has ever produced.

"The album is full of friends of ours just soloing and improvising," Daniel says. "We had a 20-minute solo that Marshall Allen from the Sun Ra Arkestra did for us. He was playing an EVI—basically, it's a breath-controlled oscillator. It was great to have this 80-year-old jazz legend bottlenecked through this one oscillator. Our craziest field recording never came close to that."

Like Matmos' previous albums, *Supreme Balloon* was created mostly in Daniel and Schmidt's home studio.

"We just begged for and borrowed all of the equipment we needed—which, for this album, was all-analog synths like the Korg MS-20 we got from [San Francisco electro artist] Safety Scissors," says Daniel. "We also got to perform on this rare, '60s modular synth called a Coupigny at Maison de Radio-France. It has 11 oscillators! It's truly one-of-a-kind.

"We'd record long sections of improv, chop them up, create banks of samples, and then structure them into compositions using MOTU's Digital Performer as our sequencer. We'd load alternate samples into two laptops—one running DP, and one running Ableton Live. We don't sync to a master clock, so with the two programs running, the timing of the samples and loops gradually falls apart."

Though clearly unorthodox in the approach they take to creating their art, Daniel and Schmidt's choice of mastering format is still bound to shock even the most ardent of experimental recordists.

"We use DAT," exclaims Daniel. "I know that must make us sound ancient, but I'm passionate about the format. We believe in it. We are part of a declining minority."

But Matmos has always been single-minded and reckless when it comes to recording. Case in point: the source of some of the samples that made up *The Rose Has Teeth in the Mouth of a Beast.*

"That album was basically a bunch of biographical portraits of artists," Daniel says. "One of the tracks was about the late Germs vocalist Darby Crash. Amongst Germs fans there was this thing called a 'Germs' Burn,' which was a brand on the inside of your wrist that was given to you by one of the band members. So we had former Germs drummer Don Bolles give me a Germs' Burn, and we sampled my cry of pain. Then, we manipulated it and put it on the album. How's that for suffering for your art?" EQ

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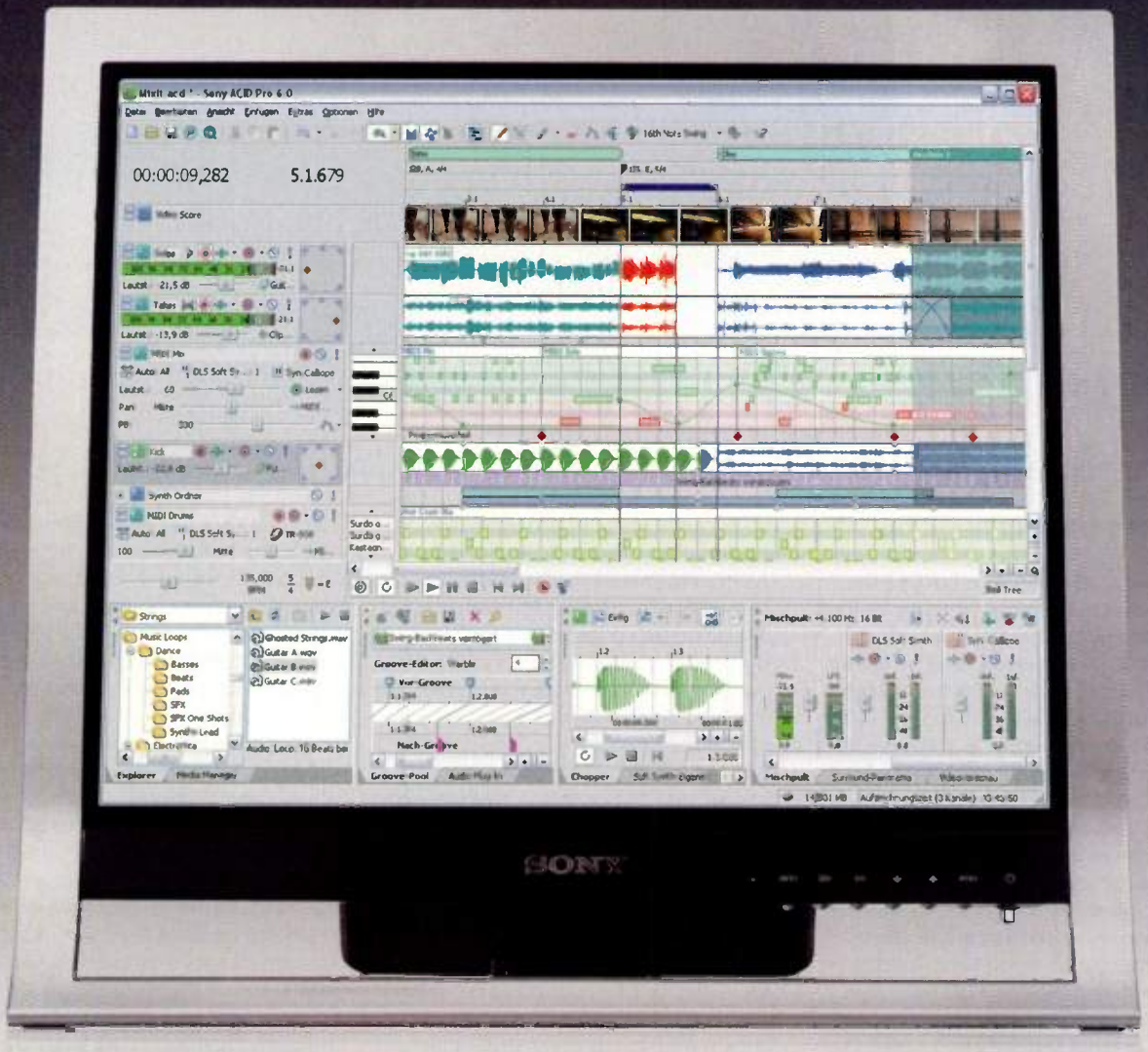

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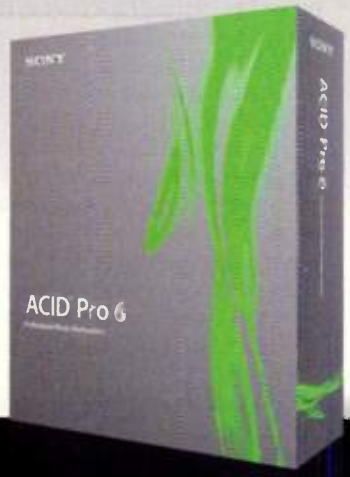

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Chinese punk band Demerit recording at Beijing's YYYD Studios.

PEKING PUNK

Public Enemy's Brian Hardgroove Visits the Great Wall . . . of Sound

BY MATT HARPER

You know that Beijing is hosting the 2008 Summer Olympics, however it's also home to a thriving punk-rock scene. But when Public Enemy bassist Brian Hardgroove was invited to produce the Chinese band Demerit—after connecting with the owner of Maybe Mars Records at the 2007 Beijing Pop Festival—his first Beijing experience was a studio that wasn't designed for rock.

"If you wanted 100 folding chairs and music stands for a string section—no problem," he says. "But there were no instrument cables over ten feet! And I had to be careful about pointing out problems because of the culture there. A technical issue might be taken as a personal criticism. In general, the engineers dictate how the artists do things. So the fact that we listened to the band's suggestions set a standard for what they should demand for themselves in the future."

Hardgroove found a more congenial environment at A-String Entertainment studios. "It was beautiful," he says. "Granite floors, wood accents, big glass doors, a Neve Capricorn, and a Taiwanese owner who had been working all night long. It was a much more passion-driven environment. The woman who showed us around was a singer, and into the music culture, so we didn't feel like we were being looked down upon because of the genre of music we were doing."

As to the music itself, Hardgroove says, "All these guys are incredible players. The only issue we had was I needed to show the singer/bassist some bass techniques for recording—like when going from an *A* to *E*, don't go from one open string to another. You play the *A* on the *E* string. We also had an arrangement with Gibson where the band could pick what they wanted for recording from the local showroom. They chose a Thunderbird bass, a 1960 Les Paul reissue, and an Explorer. On the T-Bird—which has a hollow center—I encouraged the bassist to use the neck pickup instead of the bridge to get more low end. But aside from a few tweaks, it took a lot less to get something out of them than most bands I've produced. And they were playing great stuff—interesting changes, with a depth of harmonic knowledge that kids in the U.S. don't have. They mixed genres seamlessly—'50s, Metallica, AC/DC, Clash—but they also had their own voice."

There were a few modern technical gaps, however. "Take tuning," notes Hardgroove. "They didn't own any tuners before we came. They tuned everything by ear. We tried to find a Boss tuner, and then we had to remind them constantly to tune up before a take. We wanted to raise the standards a bit. Even slightly out-of-tune records sound weak instead of powerful."

Punch-ins were also a bit unusual. According to engineer Michael Chavez: "They did punches as an entire band—not individual parts—because that kept a better vibe. We'd want them to keep going, and just punch the part, but they'd stop, then go ahead and pick up from where they left off. Besides, there was no timing reference on which to base the punches on because there was no click track."

For Hardgroove, that was a conscious decision. "We wanted to make a rock record," he says. "No click track. No, 'Hey, we'll replace that later.' That's what happens when technical people start making the call, and I'm a *music* guy. It was a real pleasure working with the band, because they were good enough players that they nailed the way I wanted the record to sound."

As to the rock scene in general, Hardgroove notes, "The problem isn't so much low standards, as *no* standards. Many things that we take for granted don't exist there—at least not yet. None of our reference points mean anything in China, and the sooner you realize that, the better."

So would Hardgroove go back?

"Absolutely! Everyone was really friendly. But what's most important is that music *really* matters to these kids. When you appreciate that only a few decades ago they might have been killed for what they are doing now, you recognize the huge changes that are happening. It's great to be able to show them a thing or two to help them on their way. But I think the generation of musicians coming up in China might have a few things they can show us, too."

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IN THE MOMENT

The **Wedding Present** Applies Steve Albini's Three Rules for Genuine Recordings

BY MERRICK ANGLE

When The Wedding Present decided to dust off their boots and get back into the studio, main man David Gedge said there was only one choice in terms of engineers: Steve Albini (he hates being called a producer, if you haven't heard).

"We had worked with Steve before, and it has always gone over really well," Gedge tells us from his Sussex, England, home. "He reminds me of some of the old engineers we recorded with at [legendary BBC recording studios] Maida Vale. He's totally dedicated to capturing the moment."

As Albini is the consummate *EQ* personality—namely, a recording musician—we figured he could impart some useful knowledge about capturing the moment in the studio. Using The Wedding Present's newest release, *El Rey* [Vibrant], as the backdrop, Albini discusses his three rules for honoring a band's natural state in the studio. Overtrackers and bands that fuss with mic placement for three weeks would do well to make notes.

RULE #1 BE BRIEF

"I want to say you should take no more than four days for the basic recording, but it could be as little as three," says Albini. "By contemporary standards, that is pretty quick, but most contemporary records are terrible. All an album should be is a representation of a band doing its thing presented in a permanent format. It shouldn't take a month to do that."

Gedge concurs with Albini's get-in-and-knock-it-out philosophy. "When we made our first album it took six weeks, despite being well-rehearsed, and having all our material already well-arranged," the vocalist says. "But you'd listen to it, and wonder if it was worth all the trouble [*laughs*]. When we did *Seamonsters* with Steve, we recorded it quickly, and it sounded brilliant. It also cost half the money!"

RULE #2 TRACK LIVE

"I prefer letting bands play in the studio like they play live or in rehearsal," Albini says. "Eye contact and other non-verbal forms of communication are very important. It helps if they are in close proximity to each other—not reach-out-and-touch-you close, but at similar distances as when they are playing live. I resist screening one musician off from the others, because that is essentially a 'live overdub' situation. Bands are very complex with their interactions, and bands are a very fragile system. The recording process shouldn't interfere with their natural interaction. I don't think it's a coincidence that all the albums people refer to as classics or benchmarks are records that were tracked by the band together as an ensemble. And there is nothing in contemporary recording that would make this practice obsolete."

RULE #3 SPEAK YOUR MIND

"David [Gedge] is comfortable around me," says Albini. "He knows he is the boss, and he knows how to tell me what he wants. I tend to follow the band's lead. If they don't feel that they did a good take, then I believe them. If they think they did a good take, then I believe them, as well. If they feel burnt out or unproductive, we'll drop the song for the day. You have to succumb to the group dynamic and not force anything. If there is a consensus on what everyone wants to do, then that is what you do—especially when it comes to a band like The Wedding Present, who have such a strong identity. For a third party to come in after the fact and say, 'You have been doing this wrong for 25 years, let me straighten you out' would be ridiculous. Bands should do their thing in the studio. They should always call the shots." EQ

The Wedding Present (left to right): Terry de Castro, Graeme Ramsay, David Gedge, Chris McConville.


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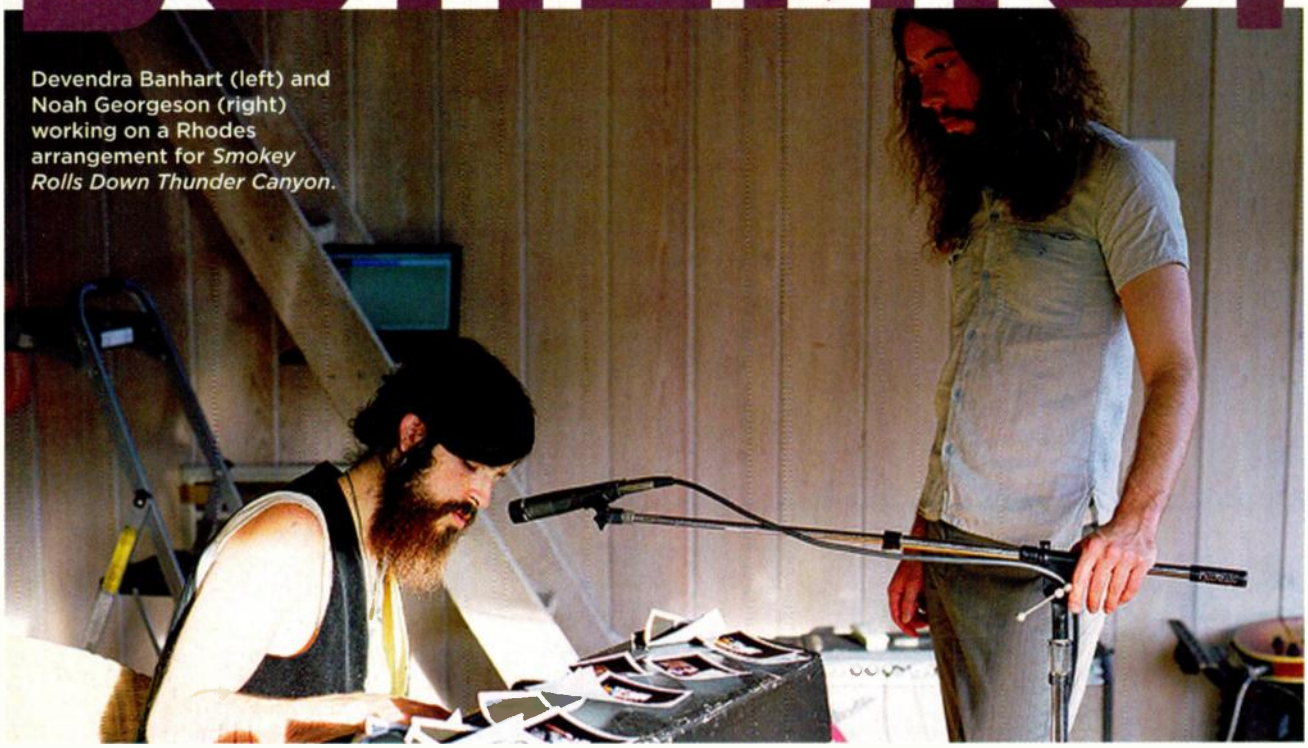

Devendra Banhart (left) and Noah Georgeson (right) working on a Rhodes arrangement for *Smokey Rolls Down Thunder Canyon*.

In the Studio with the Kings and Queens of Freak Folk

By Will Romano

Drawing on such wide influences as The Incredible String Band, Brazilian Tropicália, and obscure 1970s horror soundtracks, artists working in the fabled "freak folk" movement—an *avant-garde* strain of indie rock built upon the foundation of psychedelic folk—create music that is at once traditional and groundbreaking. It's a fascinating subgenre populated by some of the most creative musical minds of the modern day—one in which lo-fi recording techniques clash with academic musical aesthetics to create a sonic style that is characterized by equal parts Byzantine experimentalism and roots orthodoxy. Jumping into the studio with the wunderkinds of the freak folk world—Devendra Banhart, Grizzly Bear, Midlake, A Fine Frenzy, and The Valerie Project—we offer a unique view into the diverse recording practices and philosophies of the new guard of Bohemian music.

SMOKEY SIGNALS

With a catalog of critically-celebrated releases spanning reverb-soaked folk recorded on a four-track to Kinetoscopic psychedelia, singer-songwriter Devendra Banhart is one of the leading lights of the freak folk movement. Surprisingly coherent given the schizophrenic mishmash of musical elements contained therein, Banhart's latest offering, *Smokey Rolls Down Thunder Canyon* [XL Recordings], finds the artist experimenting with analog tape to create soundscapes that are both rich and lo-fi.

"We tracked nearly everything to tape using an old one-inch Scully 8-track at slow speeds," says producer/bandora player Noah Georgeson, who engineered the record with Beau Raymond, Maggie O'Brien, and Alex Pavlides at Banhart's Topanga Canyon home studio. "We were running at 15 ips a fair amount of the time, but we were also running 7-1/2 ips, which the machine was not completely prepared to handle. The strange warble effect you hear in certain places is due to us running at 7-1/2 ips."

Georgeson says that the team mixed *Smokey Rolls Down Thunder Canyon* in Pro Tools, but often transferred

tracks back to tape in order to manually manipulate tape speeds. "Devendra wanted a slow-motion sound for 'Samba Vexillographica,'" Georgeson says. "Something akin to a tape machine being shut down. We tried to achieve that sound with tape emulators, but it didn't really work. So we took a marker, marked a spot on the tape, grabbed the reel, and slowed it down with our hands. It took a bunch of passes to get it down right, because if you grab the tape too quickly the reel will stop spinning, but it produced the exact effect Devendra wanted."

According to Georgeson, tracking *Smokey Rolls Down Thunder Canyon* to tape gave the album a kind of steadiness despite the disparate musical influences being conjured by Banhart. "Putting everything to the same brand of tape, on the same machine, makes for a very consistent sound—it's almost pre-mastered in a sense," Georgeson says. "From track to track, you have an enriched low end and a sort of glow on top. It took a lot of time to record—six months—and it was because we were very careful to keep everything uniform. But, texturally, the album makes sense, even though it's all over the place musically."

HORRIFYING SPILLS

Greg Weeks, guitarist, multi-instrumentalist and founder of the Philadelphia-based band The Valerie Project, recently led his group through the recording of an alternate soundtrack to the cult 1970 Czech horror-fantasy film, *Valerie and Her Week of Wonders* [Drag City]. "I've always been a fan of merging folk with psych and prog," Weeks says.

"The album was quite a challenge," says recording/mixing engineer Brian McTear, who runs Philadelphia's Miner Street Recordings studio with partner Amy Morrissey. "We captured the whole of the performances live in the studio with as many as seven musicians at any one time, stretched out across a span of only 15 feet. The amount of signal bleed from instrument to instrument was tremendous. A cello mic was acting like a room mic for the drums, and a six-foot concert harp was only eight feet away from the drums and it was picking up all the cymbals."

To combat this potential mix-killing malady, McTear was forced to develop a few unorthodox miking strategies. "For the harp, I used an old Revox M3500, wrapped in foam as a shockmount, and stuffed inside the sound hole of the harp so that it functioned like a pickup," the engineer says. "I also used a Shure KSM32 on the outside of the harp's soundboard, but that was almost a foot away, and it was picking up the most bleed. I needed it to round out the harp sound, but, in reality, it wasn't much more than a room mic for all of the other instruments. Thankfully, using the M3500 like I did allowed me one signal for the instrument that was totally malleable in the mix."

In order to avoid what was sure to be an enormous amount of bleed from Weeks' searing, fuzzed-out guitar, the guitarist's rig was isolated in Miner Street's isolation booth. "Greg's sound is, in part, due to the ear-bleeding volume he plays at," McTear says. "There is no way any other instrument could be in the same room with him."

"My objective is to get a guitar tone that is as thick, nuanced, and filled with as many weird overtones as possible, while keeping a certain clarity," says Weeks. To that end, the guitarist matches up a Fender Deluxe Reverb with a Leslie 145 speaker. "I'll use a Leslie cabinet without the effect. The Leslies have a really weird midrange-y sound even when not engaging the horn."

McTear used two Shure SM57s on the Leslie, and a Coles 4038 ribbon on the Fender Deluxe Reverb. "The 57s were at either end of the Leslie—180 degrees—pointing directly at the horns through the cabinet vent holes," McTear remembers. "The Coles would have been about 30 inches from the speaker, pointed at the center of the cabinet."

But even placing Weeks' amps in the isolation booth didn't keep his signal clear of bleed. "The Deluxe and the Leslie were sitting between a pair of very old upright pianos. The muting on the pianos is over 100 years old, so there's always a little piano reverb finding its way into the track."

In spite of all the steps taken to drive out the demons of signal bleed during the recording of *The Valerie Project,* there is still a significant amount of spillage on each track. But that's okay, according to Weeks and McTear. "Particularly with the mics placed next to Greg's metalaphone and recorder, the bleed from the other instruments added a glue to the band's melancholic music," McTear says. "Those mics functioned as default room mics, and, even in the sections where those instruments weren't being played, if I muted those tracks it became immediately clear that they should be 'on.' I figured that out about two seconds into the mix. A little bleed works in favor of bands like this. It's part of the sound."

THE BEAR'S TALE

For Brooklyn-based experimental indie-folk collective Grizzly Bear, everything from 1930s Big Band music and bluegrass swirls together with folksy guitars, ghostly quasi-choral arrangements, and horn and woodwind swells to create the unique sound of their most recent effort, *Yellow House* [Warp]. According to multi-instrumentalist/producer Chris Taylor, the band's primary objective is to evoke a powerful, psychedelic image in the minds of listeners. "When recording, I think about how to convert visuals into sound and vice versa," says Taylor. "If we wanted an antiquated sound for a track, we'd pick antiquated instruments—like an old Steinway piano. And if we want to set a perspective for our audience, we place mics where we think their ears should be. For example, with the Steinway we wanted to reproduce the perspective of a person with their head in the instrument, so we opened the lid and placed a Neumann U87 inside the piano, facing diagonally across the sounding board toward the low

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VS-2480 digital workstation."

Critical to Midlake's sound is the group's proclivity for integrating multiple keyboards into sections. On 'Roscoe,' for example, the piano sound is an equal blend of a Kurzweil SP88X stage piano and a Korg MS2000B synth. "Blending the two creates a strange electric piano sound," Alexander says. "We ran both instruments straight into a Brent Averill BAE 1272 as it smoothed out the top end. It fattened the lows a bit too much, though, so we had to use the EQ on our Mackie 16•8 board to cut some of the low end and make it sound more natural."

Alexander credits *Van Occupanther's* natural synth sounds to his trusty Empirical Labs FATSO. "We put the FATSO on virtually every synth track on the album, as well as the mix bus," he says. "Not because we needed to even out the dynamics, but because it added warmth to the instruments. Applied on the mix bus, a good analog compressor will really help the instruments coagulate."

A FRENZIED ATMOSPHERE

Twenty-two-year-old Alison Sudol (*a.k.a.* A Fine Frenzy) crafts beautiful, piano-driven lite-rock mixed with freak-folk on *One Cell in the Sea* [Virgin]. The album saw her teaming up with co-producers Lukas Burton and Hal Cragin to create a tapestry of noises that serve as a foundation for the singer/pianist's sweet-and-salty melodies. "This album is all about atmosphere," Burton says. "On one hand, it's very produced with lots of layers of Roland Juno and Korg Triton synth patches. On the other hand, particularly for Alison's voice, it was very bare bones. We didn't want to trample on the wispiness, clarity, and vulnerability of her voice, so we tried to stay away from the compressor as much as possible."

Engineer Brian Scheuble credits Sudol's vocal sound on *One Cell in the Sea* to a modified Neumann U87, courtesy of Stayne from Innertube Audio. "It's a tube mod for the U87," Scheuble says. "In that respect, it's more like a U67. I'm not usually one for modded mics, but I heard how clear the mic's sound was, and I had to use it on her."

Scheuble points out that the grit present on *One Cell in the Sea* is, in part, due to his applying a cheap cassette recorder as a room mic. "It picks up everything," he says, "and it adds a little bit of noise—which makes the recording feel more real."

While Burton and Scheuble claim that retaining the natural beauty of Sudol's voice and her pianos (an upright Yamaha and a Steinway grand) was considered of ultimate importance, there are a few choice sections on *One Cell in the Sea* where the executive decision was made to slather a track or three in effects. "There were slow, vibe-y songs, like 'Whisper,' 'Ashes and Wine,' and 'Almost Lover,' which begged for some atmosphere," says Scheuble. "So we'd put reverb on the piano, and flip the signal for a backwards effect so it had a long trail coming up to the hit. That created a real spooky, ominous vibe to the songs." EQ

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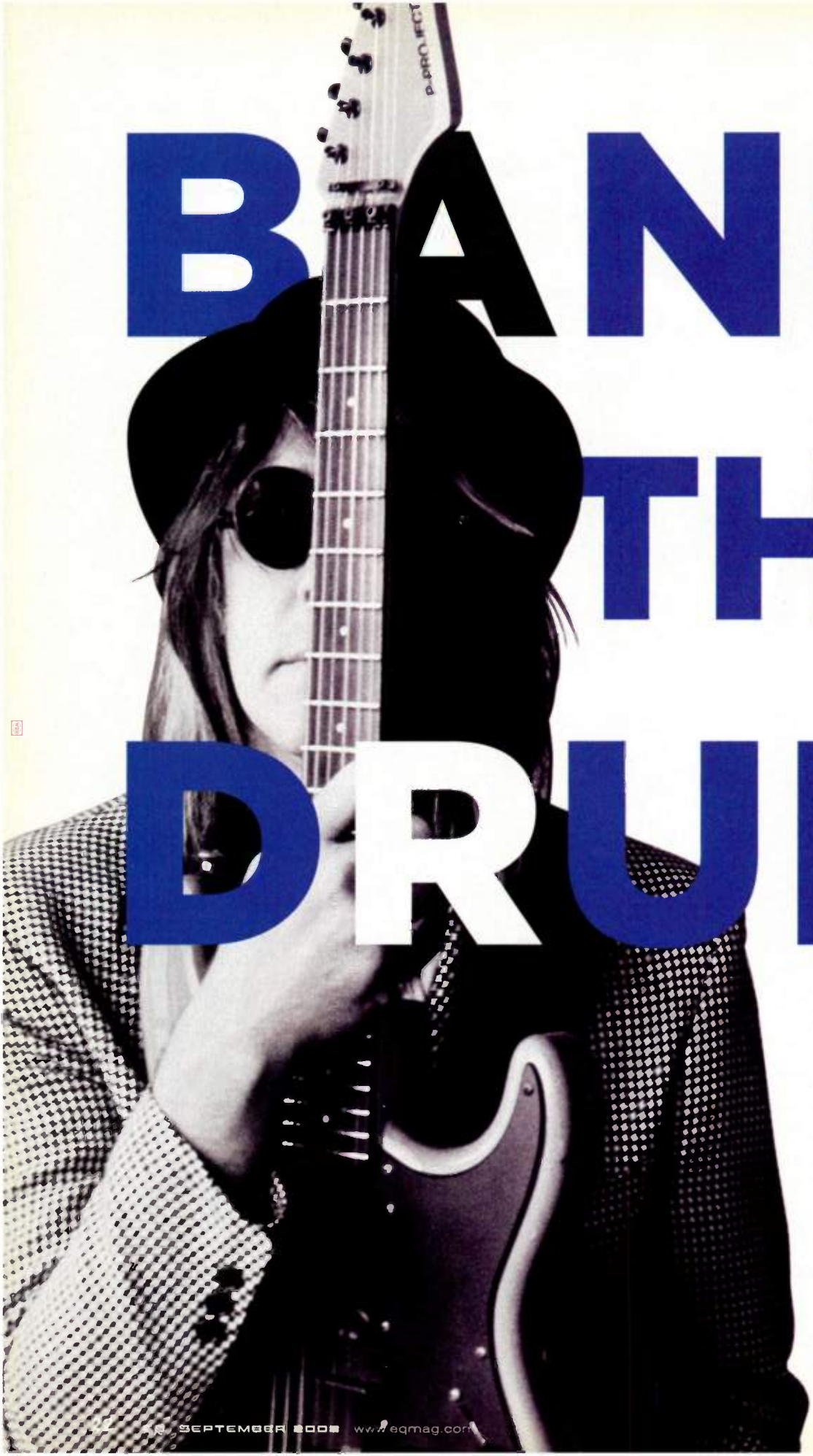


Todd Rundgren Comes Clean About Producing Himself, Others, and How His Music Has Survived Changing Technology and Times

If you are anything like us, your pre-work morning shower is invariably scored with a begrudgingly performed rendition of Todd Rundgren's most immediately recognizable tune, "Bang The Drum All Day" (for the neophytes, the appropriate refrain is "I don't want to work, I want to bang on the drum all day," and it succinctly sums up our work ethic). And if you are anything like many young readers, the aforementioned ode to the leisurely-challenged is where your familiarity with Rundgren's work begins and ends . . . or so you may think. Rundgren himself owns up to his waning popularity in modern music circles, telling us, "I haven't had a charting album in years and years . . . but I still make a living out of music."

The latter half of that quote was the main qualifier for the ensuing cover story you now hold in your hands. In 2008, Rundgren may not pack stadiums, but he's as active as ever. He's not merely subsiding on mailbox dollars, though he's certainly enjoyed his fair share of success over the years, from his illustrious solo career to his time in the trenches with artists such as Meat Loaf, the New York Dolls, Patti Smith, the Ramones, Cheap Trick, the New Cars, XTC, Ringo Starr, Bad Religion, the Residents, the Psychedelic Furs, and literally hundreds more. Simply put, Todd Rundgren is one of the most prolific musicians in the history of recorded music. And he's been producing albums since long before practically any other musician had the bright idea to wear both hats in the studio.

While his newest release, *Arena* [DeaconLight], isn't likely to get hyped by Pitchfork, receive rotation on TRL, or secure him a spot opening for Justin Timberlake, Rundgren couldn't care less. He still enjoys a fanatic following, and real music junkies all know him by name. He's out there touring right this moment, and when he's done promoting *Arena*, you can count on him jumping headfirst into the next project and writing, playing on, and producing something wildly different, with seemingly no worry as to what the masses think. That fact alone is more than enough to secure him a prominent slot in these pages. His work has been to the top and the bottom of the charts, but he's held steady and displayed an unwavering dedication to his craft.

How did you go from being strictly a musician to getting into recording?
It happened fairly early on. My best friend growing up and I had a reel-to-reel, which we would use to record bits from the radio on and then play with. I had a little bit of experience with tape machines before I ever recorded an album.

I remember discovering how to create a flanging sound by accident: I just made a fake stereo recording and copied it over twice. Invariably, in those days of analog recording, there would be speed variations, but you could get them in sync. At one point while trying to sync, the phase crossed, and I thought, "Wow. I've discovered the secret!" With the very first song [early psychedelic garage rock band] the Nazz recorded, "Open My Eyes," I knew that I wanted to use that technique to get that sound.

We thought we had to get a "real" record producer [for the Nazz's *Nazz*—SGC]. This guy named Bill Traut came

By J.J. Blair

Photograph by Jacques Lowe/Retna Ltd.

in, and essentially just read all throughout the sessions and watched the clock. That's what old-fashioned record producers did. They were there simply to manage the process and make sure the band didn't go over budget. By the time we got to the second album I was thinking, "What do we need this guy for?"

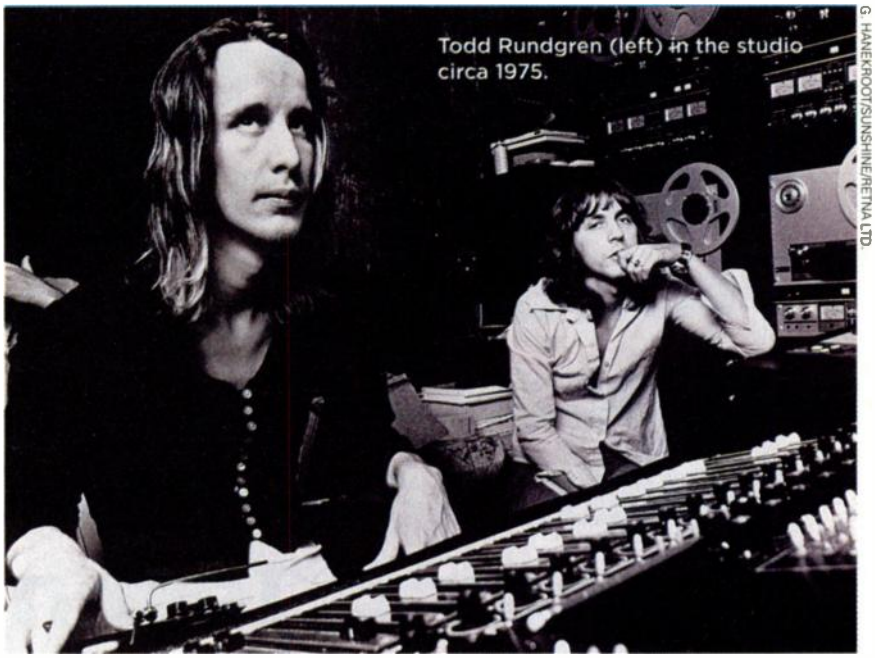
So I took over the production side of the band, decided how things should sound. When it got time to remix the record—we initially did a slapdash mix, because the band was already breaking up—at Sigma Sound in Philadelphia, I figured that I had been watching this process long enough; I might as well sit down in the chair and start doing it myself. The process was simple enough. You only had three-band, fixed, notched EQs and pan pots. I remixed that record, and after that I had the skill.

I left the Nazz and was brought into [ex-Bob Dylan manager] Albert Grossman's organization by Michael Friedman, who was previously a partner in the management of the Nazz. I came in to record their stable of artists. This was before they started the record label. I mixed [the Band's] *Stage Fright* [Capitol], worked with Jesse Winchester. All of these folk acts that came after the Beatles hit weren't getting much attention because they weren't contemporary, so I worked with any of Grossman's artists that needed a refit. After I had a few projects under my belt, they let me cut a solo record [*Runt: The Ballad of Todd Rundgren*—Ampex] as an indulgence.

You were an oddity back then because you were one of the few people in the world making records at home. What was your home studio like?
It was based around an 8-track machine that I had rented, so that I could keep recording after I was done at I.D. Sound for the day. I'd record, come home and eat dinner, and then start recording again through the night.

Not much sleep, I take it.
I had a friend who was a psychiatrist and he gave me a bottle of Ritalin to try out and it was great. Time went by without a problem.

How does being a musician and songwriter influence you as a producer?


Todd Rundgren (left) in the studio circa 1975.

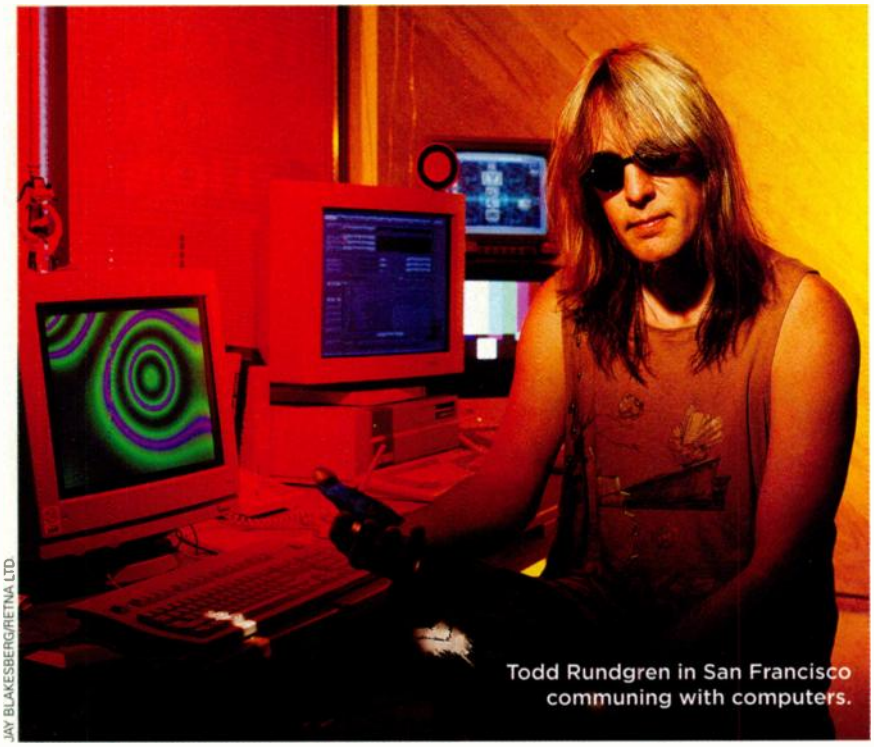
G. HANEKROOT/SUNSHINE/RETNA LTD.

Do you sit with bands and say, "Hey, this doesn't have a hook here?"
You don't have to be a musician to recognize when a song has weak points, but I've always had the advantage of having a musician's perspective. I can make suggestions in that regard, but the downside to that is that if a band has those shortcomings, I tend to start writing their music for them. For instance, when I produced the Tubes album, *Remote Control* [A&M], they had few songs, but a lot of ideas. I had to make good use of studio time, so I stepped in and started writing lyrics and stuff for the songs, just so it would get done. No one seemed to mind, and I always sort of looked at it as a production duty, so I never took credit for writing any of the songs.

Over those years, did you ever come across a console that, looking back, you think "Wow, that sounded great!"
I never really took to the SSLs like others did. I never really liked the way the EQ was designed. Everything seemed to get softened by the SSL. I'd crank up the dB and I couldn't seem to get much punch out of it. My favorite console was the second one I built, after the console I built before we recorded *A Wizard, A True Star* [Bearsville].

Was that the Secret Sound console?
Yeah. The faders went to a 12-band graphic EQ and they were "soundgraphed." They made these stereo EQs for home stereos, but I wanted the graphic EQ on every single channel. There was nothing on the console but faders, panners, and a 12-band graphic EQ for every single channel. That setup informed my style of recording at Secret Sound. If somebody came in to record, we weren't messing around all day trying to get drum sounds. We got the drum sounds done right off the bat, and everything else was relatively easy after that. As long as I was in my own environment, and was able to have microscopic control of the sound, everything was easy. Optimally I would want the perfect mic to match an instrument, but realistically I would be working with a collection of "utility" mics that work in many situations—[Shure] SM57s and [Neumann] U87s. Having the ability to hone in on one frequency and knock it out made so much of a difference in terms of the overall sound.

For your vocals, what is that "perfect mic?"
For years, I've used a U87. It became a question of having that graphic-y picture of how I wanted my voice to sound, which involved notching out the frequency somewhere between 200 and 500Hz—the upper midrange that makes the voice sound kind of woof-y. I like a nice clear bottom, not a



JAY BLAKESBERG/RETNA LTD.

Todd Rundgren in San Francisco communing with computers.

clear top, so I'm careful not to boost anything up around 1 or 2kHz because that's the honky part of my voice.

The U87 has plenty of 1kHz.
It's got plenty of it. I just go for some crystalline clarity on the top, usually putting a small boost at around 60 and 100Hz and cutting everything after that.

What about compression?
I always use an [Urei] 1176. I can make it sound invisible or really present.

Is there a specific method you use to get your vocal sound?
Some people think that each subsequent layering of the vocal tracks gives a perceptible qualitative difference, but I usually double up and then stop there. I remember working with the Rubinoos on *Party of Two*, and they insisted that any backup vocal had to be layered at least five times. I've approached those situations in a number of ways. One is to have everyone sing the same part and then just layer them, but that makes for a homogenous sound. It gives the part more character, in my opinion, if you assign everyone a slightly different part and then double them up. For my personal records, I'll sing every part twice. If that's not enough, I'll do one more track, but never more than three total. Frequencies seem to pile up, and that redundancy makes the song cloudy.

You were talking about playing with tape speed when you were a kid. I noticed on a lot of your records you seem to play with the VSO quite a bit.
You have to have the VSO for the flanging. You have to be able to control the capstan speed.

Or the old fashioned way, where you push on the reel to slow it down.
At I.D. Sound I had a Stephens machine, which essentially had no controls on it. It had a tape guide spindle and due to the way the motors were tensioned, you couldn't touch the reels or else the sensors in [the machine] would make it pull harder. You really had to control the capstan speed with a VSO. I had that machine available and used it on occasion to get those Hendrix-styled tape flanging effects. For as long as I was using analog tape I was working with Stephens and 3M machines, with the same kind of transport, so pushing on the reel never really worked for me.

It's hard to get people to use tape these days.
At a certain point, I was happy to get away from tape. I made the transition to ADAT, because it eliminated the noise factor. As a side note, I always preferred dbx noise reduction. Dolby B tended to screw everything up. We couldn't afford Dolby SR at Secret Sound. In some cases, the combination of compression and high frequency enhancement in the Dolby system could make a track sound great if you just turned the Dolby off once you recorded it. That was a trick we used to use on John Lennon's voice. The problem was whether or not you can switch the encoder and decoder on separately. It became a monitoring issue.

You were happy to switch to digital?
Well, I went to using ADATs because of something I gleaned from [Mark Lewisohn's book] *The Complete Beatles Recording Sessions*. The truth is that many of the songs we are familiar with are alternate versions that they had backed up. They would go off in one direction and then would decide that the previous week's version was better. EMI was very anal. They had every pre-bounced version backed up. They would never record over previous takes. Everything was saved, logged, and filed away. I thought the ADAT was a perfect match to that way of working. Each one was an 8-track machine. You could bounce back and forth between the machines, but you also had the advantage of the media being much more affordable than $200 tape reels. You could just stack up those [S-VHS video] cassettes, with every phase of the recording process in them, for fairly cheap.

Weren't you initially put off by the sound?
I had a couple of records that I did exclusively with ADATs and I had a pretty good experience on them. Then the "silver face" 20-bit versions came out and I used them on a project in the mid-'90s. We cut the basics on a regular old analog multitrack and then we started doing vocals on ADAT and it was just terrible. You had to clean the heads on every other pass of the tape. I don't know what they changed. The black ones were temperamental, but the silver ones were a nightmare. Sometimes they wouldn't sync up together. So when I got through that process I said, "I'm not going back to

tape." I adopted Pro Tools, and I've not used tape since.

You're clearly not techno-phobic. On the Bad Religion album you produced [The New America—Atlantic], you used [Line 6's] Amp Farm instead of real amps. On a punk album. In 1999.
Yeah, we took the guitars all direct into the console and got all the sounds they liked for tracking [with Amp Farm], and then we had all the latitude in the world afterwards to decide if we wanted to use a different amp with the program.

Do you find yourself using amp modelers on your own recordings?
Recently, I've tended to not use as much guitar in my songs. But I'm going to start a new project that is very guitar-based, and my last recording [*Arena*—HiFi] had a lot of guitar solos, and we used a lot of [modeling]. I use Line 6 amps live, so I'm using modeling at some point in time no matter what.
You've done a lot of synth stuff. On a song like "Breathless," was that material sequenced?
It was pre-sequencing, as we now know it. You could get a sequencer back then, but sequencers in those days were way different. You'd have a wall of synths, and the way you would get these instruments sequenced would be by patching everything through a trigger device. You'd have rows of devices that would trigger one synth after the other. It was complex, but this was 1972. There was no MIDI. You could only sequence and record a little chunk of music at a time and then you would have to splice it into the piece. I would have been manually sequencing with an EMS "Putney" [VCS3] with a little keyboard.

There's a strange guitar sound I hear in the beginning of some of your songs, such as "Determination." What is that?
On occasion I've used a [Univox] Uni-Vibe for that type of sound, but I think the sound on "Determination" was accidental, maybe from some dirt on the capstan. You could get an effect like that [on a tape machine] by taking a piece of splicing tape and putting it on half the radius on the spindle during an overdub. It would make everything warble. We did that on the second Nazz album [*Nazz Nazz*—SGC] and I've done it on home recordings as well.

The readers will kill me if I don't ask you about [XTC's] Skylarking [Caroline].
Everybody knows the basic gist of it, which was that Andy Partridge started to bristle at the level of my involvement. It was pretty much because Andy, due to stress, could not play on stage anymore—the only place he would play music was in the studio. He would wear producers down and the records would inevitably get finished by Andy and the engineer. As a result, the albums were getting progressively more difficult for the audience to keep up with. When you spend that much time in a studio, you get bored, and you start tinkering with things that don't need tinkering. By the time the records came out, they were wall-to-wall with detail.

BANG THE DRUM

There's no doubt that Andy's clever, but the fact is that nobody kept a firm hand on the tiller. Andy was essentially running the record through a distillery. I knew to expect this going in, and I warned the band that I would finish the record. I would not quit.

After the turmoil of the recording process, we went to Woodstock to mix. My mixing process is to go in alone, get a mix in the neighborhood of where it needs to be, and then invite everyone in to listen and make adjustments. By the time we got to the third song the band was so tired they just returned to London and I finished the record without them. It was the complete opposite of the process they had developed up until then. Andy was pissed that he had lost control of the project and started bad-mouthing the record before anyone had even heard it. Then, when the record came out, they did everything they could to sabotage it. They took "Dear God" off the record and threw it on the B-side of their first single.

You seem to have such a great love for R&B music. What do you think of the current state of popular R&B, both in terms of songwriting and sound?

Disappointing is kind of the least of it. Is it enough to put a drum machine on never changing, little "doot-doot" thing with somebody in hysterics on top of it? But there's a world of difference between those artists, like Missy Elliot, and some of the other artists, like Mary J. Blige, who can really sing and put feeling behind it. Yet they are lumped together in the same category. The basis of R&B was always a great song. None of these Justin Timberlakes, or the people who write for them, seem to have any connection with that, or realize how far away they are from Marvin Gaye or the Four Tops. A lot of it is hip-hop claiming R&B because of a sample or a guest artist. That's not to say that there is anything wrong with hip-hop or the pure strains of rap. It's the equivalent of punk music. It's not supposed to be sophisticated, that's not where it gets credibility. I think one of the greatest recordings of all time is [Public Enemy's] *Fear of a Black Planet*. It's an unbelievable record. But as we in the music industry know, 90 percent of the products are substandard. Most of these albums are manufactured as quickly and cheaply as possible. The remaining 10 percent are the industry standards, and about one percent of that are true, state-of-the-art products.

Any advice to musicians recording themselves? How do they put out a state-of-the-art product?

Music is a circular art form. Everything that was happens again. Things aren't too great right now. We have a lot of room for improvement. But if I was to give one piece of advice it would be this: Don't underestimate the value of woodshedding. It's not a stampede to the top of the charts.

J.J. Blair is a Grammy-winning producer and engineer based in Los Angeles. He moderates the Use Your Ears forum at www.eqmag.com. Visit the site and leave him feedback on this interview.

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Darwin, BEHRINGER Mechanical Engineering department did the B2031A computer-aided mechanical design. His photo should be next to Frank's but it looked more balanced over here.

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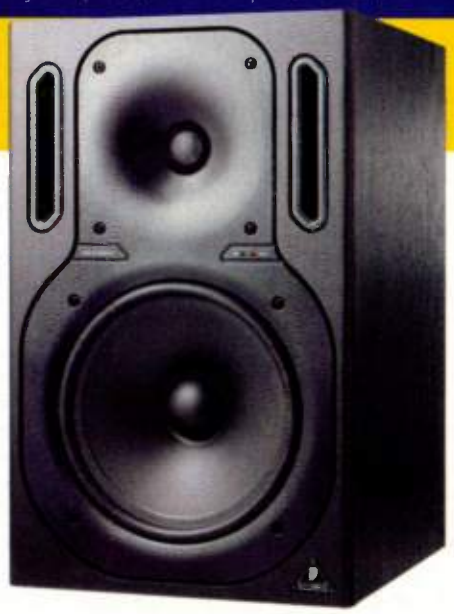

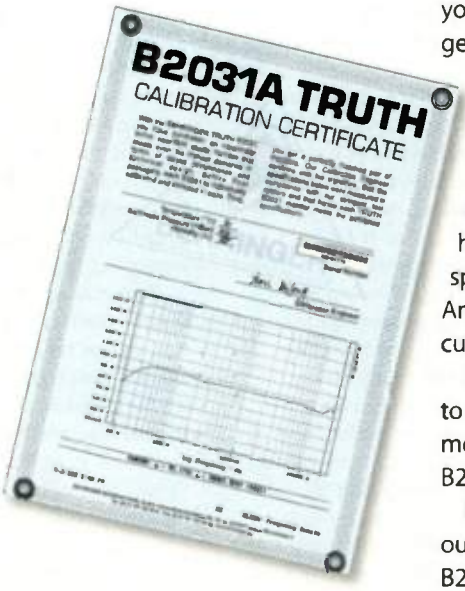

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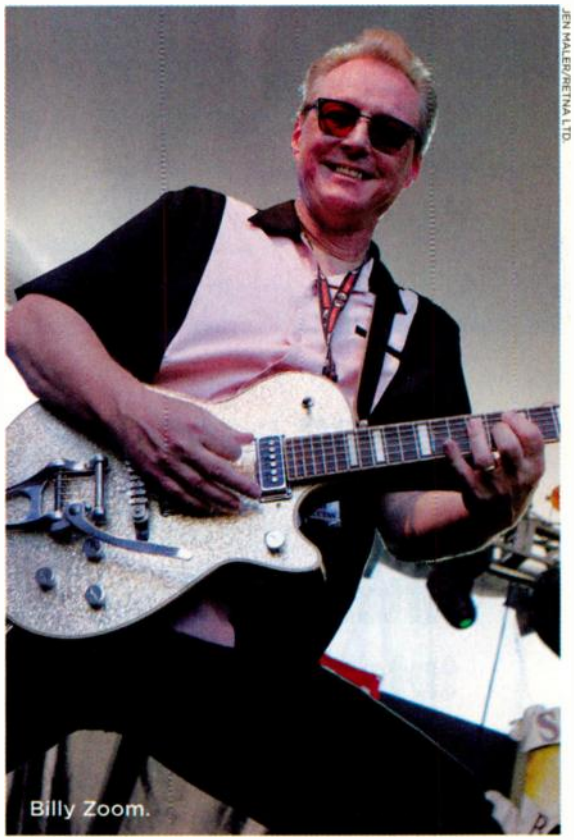
BILLY ZOOM ON FINDING YOUR STUDIO STYLE

by Michael Molenda


JEN MALER/RETNA LTD.

Billy Zoom.

As a founding member of X—which is currently touring to celebrate its 31st anniversary—guitarist Billy Zoom brought jazz and R&B chording to punk guitar without compromising one molecule of vicious energy or feral tone. He built his own amplifier around 1984—a near indestructible monster that he still brings on the road—and he continues to do amp modifications for scores of today's rockers. The perpetually smiling rockin' rebel was recently honored by Gretsch with a signature version of his iconic Silver Jet (the G6129BZ), and he produces acts in his own Studio A.

As a producer, how do you identify, expand, and document a guitarist's uniqueness?

I just try to get them comfortable. I designed my studio so bands can go in there and actually play like a band, instead of being locked up in little isolation cubicles. I think it's important for guitar players to just play, and play the way they're used to playing—which is with other people, and usually quite loud. We might try playing a song before I even start recording anything, or maybe we'll just do something straight to 2-track, and use it as a reference. The goal is that I *don't* want the player feeling like he or she is in a recording studio where every note has to be perfect, and it all has to be done in a hurry, and their entire career hinges on this one moment. In my studio, we don't even keep track of the hours, because I want the musicians to relax. If we don't get it today, we'll get it tomorrow—there's no rush. Also, the pre-production phase is where I can really get to understand the band, its material, and the musicians' strengths and weaknesses. I like to do a lot of rehearsing before we go into the studio.

Do you find that young guitarists want to emulate what's popular, rather than mine their individuality?

Not too much. I try to stay away from bands and players like that. I try to seek out musicians that I think have something special, and I try to help them bring that out. I don't tell them what to do. I just suggest better ways to get what they're trying to get. It's like, "I see what you're going for, but you're not quite getting it. Why don't you try *this*?" If they don't like what I suggest, they don't have to do it, but, usually, they like it.

How do you open up a guitarist's mind to visualize new approaches, new tones, and maybe even new parts?

You have to get them to realize that everything is a combination of everything. A recording isn't just a copy of what you do live. You have to trick people's ears into hearing something different than what their ears are hearing—that is, something bigger and more exciting. Playing something that sounds good live, and then just recording it as is, is sort of like making a movie from a Broadway play by setting up a camera on a tripod in the center of the action, and filming the actors playing their parts. That would be the most ridiculously boring film you've ever seen—even though it's exactly the same thing the audience sees when they see the play live. To make an interesting movie out of that play, you have to have all the lighting, camera angles, close-ups, long shots, two shots, and every other appropriate perspective. It's the same way with recording. You need to find the right sonic angles and perspectives to really make the recording jump out.

Any specifics?

Not really. You add little things. It could be using different amps and/or guitars for certain parts. It might be EQ and compression. It might be little counterpoint lines. It's different for every band, every player, and every song. It's the old "whatever works" approach.

The ability to listen to a performance openly and critically is essential, of course, but are there other ways a guitarist can develop a facility for coming up with more options to make something work better?

This is probably a really bad thing to say to a music journalist, but guitarists probably need to spend less time reading in magazines and on the Internet about *how* to play, and just spend more time playing. You have to experiment. Ultimately, that's the way you learn. EQ

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MIKE GORDON'S SELF-PRODUCTION STRATEGIES

by Shane Mehling

When bassist Mike Gordon—most famously known for holding down the low end for now-defunct Jam Band demigods Phish—began work on his second solo album, *The Green Sparrow* [Rounder], he knew that he didn't want to rush the recording process, but he also didn't want to indulge every production neurosis that may arise. "I vowed not to overthink anything," the bassist says.

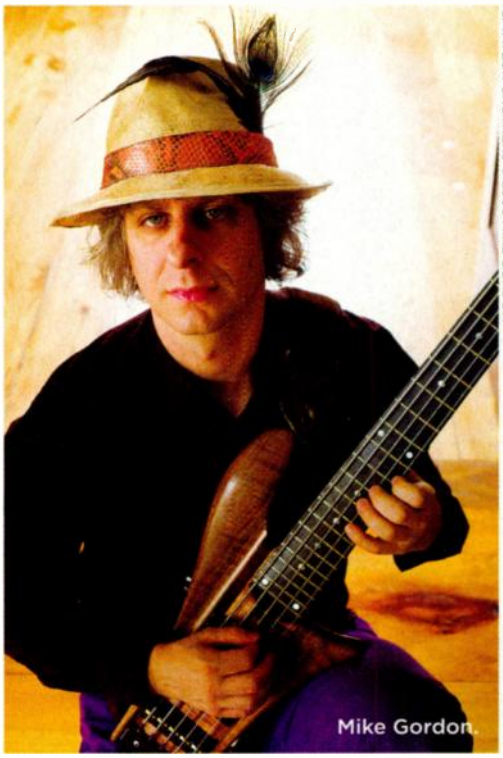
Recorded in his recently built home studio in rural Vermont, Gordon's newest album is truly an all-star offering (the album features ex-Grateful Dead drummer Bill Kreutzmann, keyboard king Chuck Leavell, and Phish alumni Page McConnell and Trey Anastasio). But when it all comes down to it, *The Green Sparrow* is no Phish-styled trade-off jam. As Gordon says, "This is a bass player's record . . . I followed my gut on it to make the best songs possible. That's what was important."

TRACKING

For *The Green Sparrow,* all of Gordon's bass parts were recorded using an SWR Workingman's 10 Bass Combo. "It only has a single ten-inch speaker and it creates a very focused, controlled, and punchy bass sound," Gordon explains. "I didn't record direct for this album, though I have on a lot of past releases. When going direct I'll use my [Retrospec] Juice Box DI into a [Universal Audio] 1176 compressor. For this album it was all amp."

Gordon says that his go-to mics for bass recording are the Sennheiser MD409 and the Electro-Voice RE20. "I'll put the mic about eight inches back from the cabinet and point it slightly off-center to the speaker, halfway between the cone and the rim," he says.

But this time around Gordon experimented with switching up dynamic micsand stumbled upon a new technique in the process that he quickly added to his repertoire. "I had a [Shure] SM-7 set up to record my amp on one song, and after I did my first take I noticed the track was clipping pretty hard," the bassist says. "I wasn't paying close attention to the levels and the entire track was just pegged. [Co-producers John Siket and Jared Slomoff] didn't want to re-record the part because they thought it had a strong vibe, so we just left it as it was. The track ended up sounding lo-fi but that's what the song needed. Sometimes the best thing you can do in the studio is let something that is 'wrong' stay as is."


Mike Gordon.

C. TAYLOR CROTHERS © 2008 MIKE GORDON

MIXING

When it came time to mix *The Green Sparrow,* Gordon moved from his home digs to another familiar locale: former Phish HQ the Barn. But settling into this old haunt wasn't enough to thrust Gordon back into old habits. "With Phish I recorded a lot of intricate parts and songs, and when you are recording intricate music it can seem logical to take a very scientific approach to mixing," Gordon says. "I stayed away from that for this album. I didn't pull everything apart. I've heard that Brian Eno doesn't allow you to solo every track when mixing, and that's a good thing because there is some stuff you don't really want to solo. It's all about how a track sounds in context to the rest of the instruments. I may spend a week writing one line in a song, but I don't need to spend a week recording it. A bassline with a little fret buzz can sound great when mixed in with everything else."

According to Gordon, processing his bass signal was an exercise in restraint. "I played this album with a pick and as a result I had to be careful with compression," he explains. "Too much compression kills the attack. I don't mind the 'felt instead of heard' bass sound, but I don't like it to sound distant."

Since preserving the bass's attack was of ultimate importance to Gordon, Siket, who handled mixing duties, broke out the EQ and applied some judicious boosting. "The bass was getting lost," Gordon says, "so we boosted the mids at 1.5kHz and also at 600–700Hz. I find that if a bassline is missing attack, boosting at 600–700Hz as well as around 1.5kHz really helps bridge the gap and fill in the middle. Just boosting the 1.5kHz range makes the bass sound artificial. You can hear it fine, but it's not very warm and swimmy—you just get an edginess with a low rumble." EQ

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Fig. 1. Reason's PH-90 Phaser showing the settings.

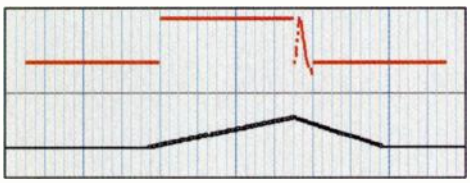


Fig. 4. Some MIDI notes and controller data.

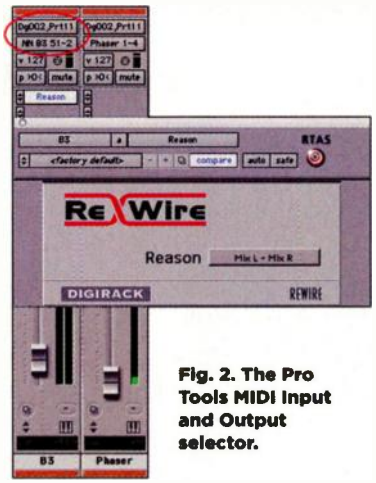


Fig. 2. The Pro Tools MIDI Input and Output selector.

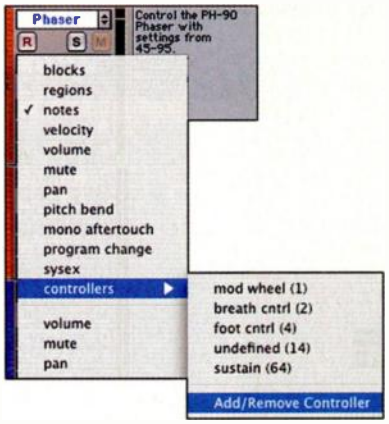


Fig. 3. The Track View selector.

SIMULATING A LESLIE

For more, go to eqmag.tv.

by Jonathan Stars

I do my musical projects in Pro Tools and use Reason for most of my software instruments. Every once in a while, I need the sound of a Hammond B3 with a Leslie. But the Reason B3 sounds always disappointed me because they use vibrato rather than that wonderful swirling speaker sound a Leslie provides. Recently, I was working on a project where the organ sound was just too exposed to get away with that cheesy vibrato. So I set about to solve the little problem, and I came up with a pretty good solution. It should work for any program that uses Reason as a sound source, and the concept should also work for other sound sources.

THE REAL THING

Many organ patches use vibrato to add movement to the sound. But vibrato is only a pitch change. Some even go as far as adding tremolo, which alternates between the loudness and softness of the sound. The wonderful texture of the Leslie speaker effect is the result of the *Doppler Effect* that occurs when the speakers rotate toward and away from the listener, and bounce off other surfaces.

The real Leslie also has two speeds, and it takes a few seconds to change from one speed to the other. So to recreate that part of the effect, you need to find a way to duplicate the ramping up and down of the motor in order to make a simulation sound believable.

DO IT YOURSELF

Let's start by building the B3 instrument in Reason. Go to the Create menu and choose NN-19 Digital Sampler. Then create a PH-90 Phaser. Route the left and right audio outputs from the NN-19 into the left and right inputs of the PH-90. Then, take the outputs from the PH-90 and send them into the Reason Hardware Interface—in this example I'll use inputs 1 and 2. (I don't use the Reason mixer because I prefer to do all my mixing in Pro Tools.) Make sure the PH-90 is switched to the On position, and use these settings:

FREQ: 58
SPLIT: 64
WIDTH: 127
RATE: 45
F.MOD: 44 (F. Mod)
FEEDBACK: 53

Leave the SYNC button off, and check out Figure 1 to ensure all is well. Now, go to the NN-19 and using the Patch Browser, find the ORGAN1.smp preset in the Organ folder. Click the Save Patch button (it looks like a floppy disk, and it's the third button to the right of the patch name), and name it B3 Leslie. Also, rename the NN-19 by clicking the little piece of tape that runs vertically on the left of the instrument and typing NN B3 in the little window. This will make it easier to find in Pro Tools.

THE PRO TOOLS INSTRUMENT

Back in Pro Tools, create a Stereo Instrument track, and name it B3. In the Instrument area of either the Mix or Edit window, go to the MIDI Input selector drop-down (marked Dg002,Prt11 in the red circle in Figure 2), and choose your interface. In my case, I'm choosing the Digi002 Port 1, Channel 1. In the MIDI Output selector drop-down (marked NN B3 51-2 in Figure 2), choose the NN B3 you just created. That will send your MIDI notes out to the NN B3.

In the Insert section, click the arrows to create a multichannel plug-in, Instrument, and choose Reason from the flyout menu. This should bring up the ReWire dialog (Figure 3). In the drop-down next to Reason, choose Mix L - Mix R, which come from inputs 1 and 2 of the Reason hardware Interface we set up earlier.

You could control the rate of the PH-90 on the B3 track in Pro Tools, but I've developed a method that allows me to both view and work with the controller modulation more easily by using a different track. To do that, create a new mono Instrument track and name it Phaser. From the MIDI Output selector drop-down, choose

Phaser 1. You won't need an instrument insert on this channel because you'll only be sending out MIDI controller information that will affect the sound you hear on the B3 track.

There's another reason to use a separate track for the controller. If you want to turn off the effect when the controller for the phaser is on the same track as the notes, you can't do it without switching it off in Reason. MIDI controllers are not the same as automation in Pro Tools. However, if the controller data is on its own track, you can mute the effect by clicking the Mute button in the Instrument section of the track. Just keep in mind that the effect will continue to play at the setting it was at when you last stopped playback.

LET'S HEAR IT FOR THE BOY

Okay, so now you should be able to play your MIDI keyboard and hear the organ sound. Go ahead and record a few notes or chords. Alternatively, you can just draw your notes onto the B3 track. To control the speed of the PH-90, go over to the Phaser track in Pro Tools and click the Track View selector as shown in Figure 3. Choose controllers, Add/Remove Controller. In the Automated MIDI Controllers dialog, select the radio button next to Controllers (1-31). Then, double-click undefined (14) to send it to the list on the right. That's the controller Reason uses to change the speed of the PH-90. Click OK. Now, just because you set up this controller doesn't mean that Pro Tools automatically switches from notes view to the controller. You have to click the Track View selector drop-down again, go to controllers and choose undefined (14).

Now, you can use the Pencil tool (set to Line) and draw in controller data. I used a range from 45 to 95. Anything more or less is either too extreme or too subtle. In Figure 4, you can see the MIDI notes I played, and the controller data on the track just beneath it. A real Leslie never stops completely, so you'll want to keep the speed line at 45 when it's "off." Of course, you can use a realtime outboard MIDI controller to change the rate, but you may find it hard to keep from going below 45 and above 95.

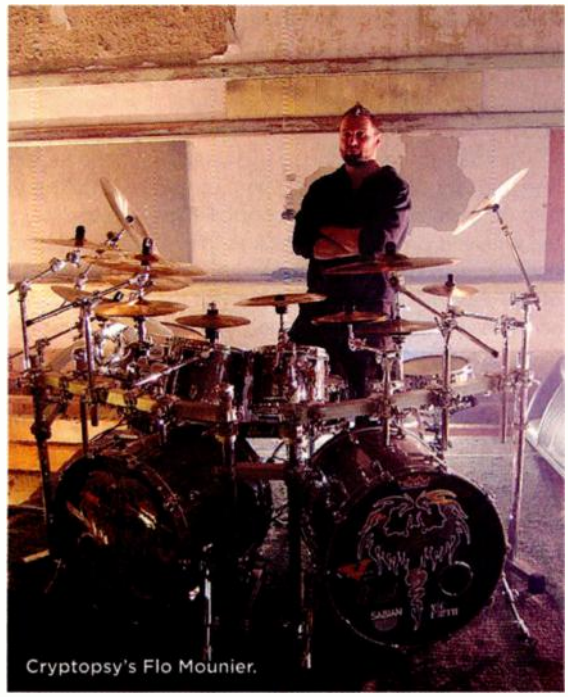
One other thing you might want to know is that sometimes organists will bring up the volume of the organ at the same time they switch to the high speed setting on the Leslie. You could also experiment with changing the Filter controls for the NN-19 to simulate pushing and pulling the stops on a B3.

GO CRAZY

What if you routed the left and right outputs separately to two Phasers? You might even try to separate the channels so that lower pitches come out of one Phaser, and higher pitches out of another in order to more accurately imitate the bass speaker and high-frequency drivers of the Leslie. Now that you have a handle on the process, it's up to you to decide how far you'll take it. As for me, I'm just happy to have that sound I've been missing all this time. EQ

TRACKING CRYPTOPSY'S RAPID-FIRE GROOVES

by Roberto Martinelli


Cryptopsy's Flo Mounier.

Montreal-based Cryptopsy is largely responsible for the boom in technical death metal the world over. Cryptopsy started in 1992, and ever since, they've been upping the bar in terms of extreme musicianship. At the forefront of the Cryptopsy mystique is drummer Flo Mounier—the band's only remaining founding member—whose style, skill, and ridiculous drum kit setups have earned him renown, as well as endorsements from Pearl and Roland. In June 2008, Cryptopsy released its sixth full-length album, *The Unspoken King* [Century Media]. We spoke to Mounier and engineer Chris Donaldson (who is also Cryptopsy's guitarist) about the monomaniacal approach they took to getting the sounds they wanted.

Flo, how much control did you have over the recording of the drums on *The Unspoken King*?

Mounier: We recorded the drums in my home studio. It's not a huge room, and the ceilings are pretty low, but I wanted to have the most comfortable situation possible. We recorded the drums in six days—even though we didn't practice as much as for *The Unspoken King* as we did for the other albums. It was more improv this time, and the tracks flowed a little more.

You didn't miss recording your drums at a commercial studio with a big room?

Mounier: No. Everything is sampled and replaced, so there's no necessity for a great-sounding room. And anyway, our music is so fast and busy that any natural drum reverb wouldn't be heard.

Did you trigger the drum samples?

Donaldson: Yes. After we recorded Flo's performances, we took tons of samples of him hitting his drums at different intensities: left and right hand hits, hits with low- and high-hand placement, rim shots, ghost notes, and every other kind of hit we could think of. Later on, I chose what samples to use based on what he played. I worked like a maniac to get the triggers to sound real. This is where the editing comes in. You check the tracks, and if there's anything wrong, you fix it.

You'd actually audition every individual drum hit and match each one dynamically with the right sample? Why didn't you just use an automatic program like Sound Replacer?

Donaldson: If I'm writing a MIDI track to Flo's playing, then I know precisely where he's using his right hand to hit a rim shot, or his left hand to perform a ghost note. A program that replaces hits automatically based on the intensity of the note played won't know what hand played what. If you do it yourself, it's more accurate.

How long did this process take?

Donaldson: A month.

Why not just record the drums, *not* use sample replacement, and be done with it?

Donaldson: Because everything is clearer, and there's no signal leakage. You get a huge drum sound.

What ratio of sample to acoustic sound did you use?

Donaldson: It was about 60 percent sample replacement against 40 percent original acoustic drum sound—except the bass drums, which are 100 percent samples.

Flo, did you play each song all the way through several times and pick the best bits for comping?

Mounier: I'm pretty big on perfection, so I didn't play any songs all the way through. We had a scratch guitar track recorded to a metronome, and I went through the parts on each song about ten different times. It's usually the easiest parts that give you the most problems, and the harder parts that get done in one take

How many channels were needed to get the drum tracks down?

Donaldson: One for the snare, four tom tracks, six overheads, one for a second snare, and one for a submix of his two kick drums—a total of 13 channels.

What gear was used to record the drums?

Donaldson: I used Pro Tools LE 6.4, and we rented an Apogee Rosetta 800 8-channel AD/DA converter into which I routed two API 7600 channel strips. The API compressor puts the snare sound right in your face. I also used two Vintech X73 preamps and a Vintech 473 preamp for the overheads. They're so crystal clear. As for mics, I used a Shure SM57 on the snare, Neumann KM184s for overheads—one mic for every three cymbals—and these beyerdynamic clip-on mics. My gear was very minimalist. My main gear was patience.

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MIC PREAMP BASICS

by Cliff Goldmacher

When it comes to the nuts-and-bolts of recording vocals, the signal path is everything. While microphone choice is an article in and of itself, a high-quality mic preamp is not only a valuable addition to your vocal mic, but to every microphone you own.

A good mic preamp takes the audio signal from your mic and adds the punch, warmth, clarity, and presence needed for the source sound to really stand out in a mix. In fact, one of the first things I noticed when I integrated a high-quality mic preamp/compressor into my vocal chain was that I had to do much less fiddling with EQ and compression in the actual mix. This was a very pleasant surprise, not only because of the time I saved, but also because the raw vocal actually sounded better than I was able to get with even my best efforts using plug-ins.

TO EQ OR NOT TO EQ

While it's fairly common practice to compress a vocal on the way in to your DAW, EQing the vocal at the mic preamp is a somewhat riskier proposition. The main reason for this has to do with the function of compression and EQ. At its simplest, compression brings up the soft sections of a vocal and tames the hot spots. Compression is something that, when used with discretion (I typically don't use more than 3dB of gain reduction when tracking a vocal), is almost inaudible upon playback.

EQ on the other hand, colors the sound in ways that *should* be audible. That's the point. The potential risk of EQing while you're tracking is that you most likely won't have the final mix together yet, and the EQ that sounds good while tracking might *not* be the EQ you need to sit the vocal in the mix. There are also whole schools of thought that recommend getting exactly the sound you want during tracking, so that mixing is essentially just bringing up the faders. While there is a certain freedom in doing things this way, you should really get to know your studio and your equipment before you EQ something during tracking.

AFTER THE FACT

Another valuable use for a high-end mic preamp/compressor/EQ is the ability to "re-amp" already recorded tracks by sending them out of your DAW into your preamp, and back into the DAW on another track. Now is the perfect time to try subtle—or even radical—EQ and compression because you've always got the original track to go back to if need be. More importantly, you can go back to any vocal track you've ever recorded, and add the sound of a great mic preamp.

READ THE MANUAL

This may sound obvious, but getting to know your preamp inside and out is the key to truly getting the most out of it. More often than not, the manuals offer not only the basics of the preamp, but also suggest ways to use it creatively. The manual for the Manley VoxBox—my mic pre/compressor/EQ of choice—made a suggestion I'll always be grateful for, and it's one I'd have never come up with on my own. The VoxBox includes a de-esser (a frequency-specific compressor), which I assumed was only for taking the sibilance out of vocals. Instead, Manley recommended setting the de-esser to 3kHz to tame some of the piercing brightness that some female singers exhibit in that part of their vocal range. The result was that vocals I recorded using that application ended up sounding fuller and more listenable, and could even be brought up to higher levels in the mix—all while maintaining their warmth and clarity. So be sure to learn all about your gear, and don't hesitate to experiment with atypical EQ and compression settings. You never know what you might get. EQ

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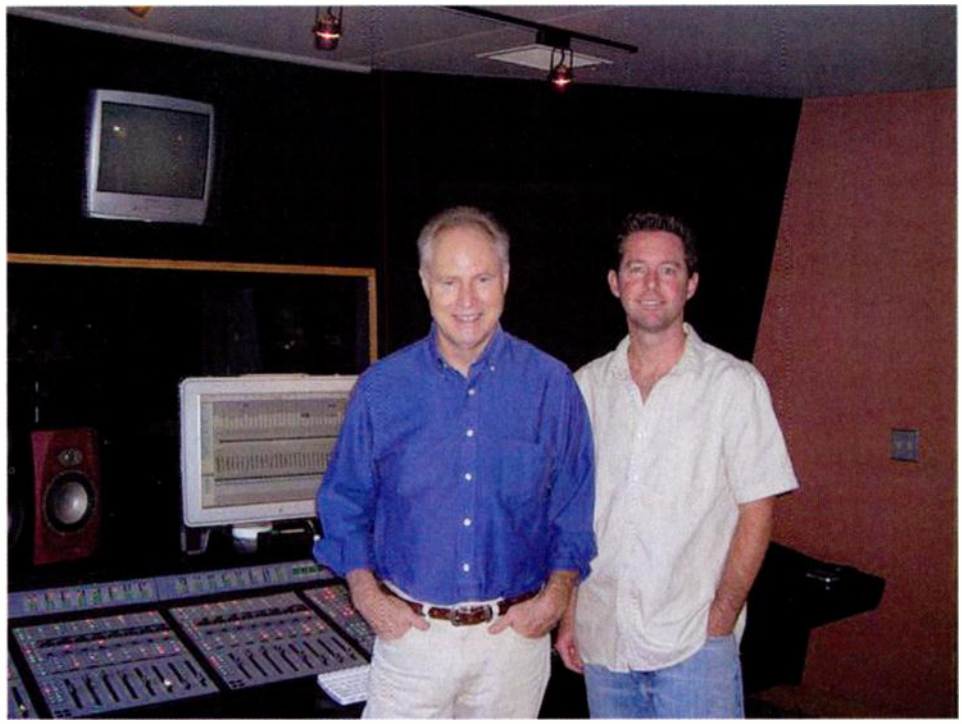

Ted Hewitt (left) and Billy Decker.

THE COUNTRY ROAD TO A GREAT MIX

by Chris Dunnet

Lately I've been concentrating my songwriting efforts in the country area, and, like any smart producer, I reference my mixes off great-sounding major releases. My CD of choice for country has been the latest release from Rodney Atkins, *If You're Going Through Hell* [Curb].

Why this album? Well, country albums are usually the combination of stellar producers, state-of-the-art studios, and Nashville's A-list session players. I recently had the honor of chatting with producer Ted Hewitt and engineer Billy Decker, and they shared some insights about mixing Atkins' recent big hit.

I heard Rodney did a lot of recording at his home studio.

Hewitt: This freaks out a lot of the engineers in town, but Rodney did all the lead vocals at his house with a Digidesign Mbox. He had a great mic—a Manley Gold—which has a lot of high mids. That mic really works for his voice.

Decker: He used the actual Mbox preamps with no compression. I usually use four compressors on his vocals, along with a de-esser and an EQ. I use a lot of compressors, but I just use a little bit of each one. One will catch the peaks, one will bring up the bottom, one will emphasize the voice, and one will really make the vocal pop to the front.

The CD has quite a bit of subtle layers and textures.

Hewitt: I try to make sure nothing is competing with Rodney's vocal in the midrange frequencies, so we tend to put a lot of things up high. On "If You're Going Through Hell," the Ullian bagpipes, the fiddle, and the B3 are all up above where the vocal is. The layering really comes about from keeping things out of Rodney's way.

I know a few engineers who have trouble getting the vocal up front and the snare right behind it. Are there any tricks you do to get them both sitting well in the mix?

Hewitt: One of the things we constantly battle with is getting something we think sounds great, and then hearing how different radio stations treat the mix.

Decker: On the last couple of mixes, we thought we were losing the snare on the radio. So I actually called about three radio stations, and asked the techs what they were doing as far as processing. As a result, we readjusted our radio mix for "Cleaning this Gun," coming up with a real obnoxious snare crack between 1kHz and 2kHz—as opposed to our usual boost between 5kHz and 6kHz—and we took the bass

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Mac

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INSTRUMENTS

THE COUNTRY ROAD TO A GREAT MIX

down about 2dB from the album mix. We also boosted the vocal by 2dB.

Hewitt: The main thing we agonize over is the level of the lead vocal. Rodney likes the vocals really loud, and, sometimes, I'm like, "Wow, that's *too* loud!" But he is the artist, so he has to be happy with it. Also, I'm really big on not being timid if you have a cool guitar lick. A lot of engineers go to a default move where you can hear the lick, but it's tucked into the background. But I say, "If you've got something great, turn it up!"

Do you go with the view that you should monitor at low levels to make sure everything is balanced?

Decker: I don't monitor real quiet. I monitor at a medium volume, and then I crank it up so I can feel the low end. I have a set of 18-inch Quested subs hooked up to Mackie 824 monitors. I'm a firm Mackie user. I've had everything in here, and I always go back to these Mackies. I also wired in a cruddy boom box, so we could easily reference that "lowest-common denominator" playback system. If it sounds good on the boom box, then we're probably okay.

How do you approach EQ?

Decker: There's an old saying I adhere to: "Find the pain, reduce the gain." So I jam the EQ at 24dB, find where a frequency sounds the nastiest, and then I cut it back. I cut way more than I boost. In fact, hardly boost at all—it's all cut. The main EQ plug-in I use is the Metric Halo Channel Strip. I pretty much use a lot of presets, and kind of change them from there. Everything I do is 100 percent in the box. No outboard gear, no summing—nothing like that.

What about compression?

Decker: I don't use stereo-bus compressors. I just compress the individual channels.

Do you think about the mastering phase when you're mixing?

Hewitt: The main thing I do is try to get Billy to leave us some headroom! Billy will mix things really hot sometimes, and if you give the mastering guy a mix that's too loud, there's not much he can do except compress the stereo mix and make it sound *smaller*.

Do you tend to agonize over the individual elements of the mix?

Decker: I mix really fast. Most of my mixes are finished in between two and three-and-a-half hours. To be able to do this, I use a lot of templates in Pro Tools. Instead of spending two hours EQing a kick drum, I can do it in 30 seconds, because I've set up templates for the album that outline all the basic parameters for each instrument. Then, I can focus on fine-tuning and bringing levels up and down—working on the entire mix, rather than focusing on individual adjustments. It's a good way to work. It's real fast, efficient, and, most importantly, it's *fun*. EQ

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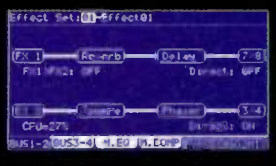

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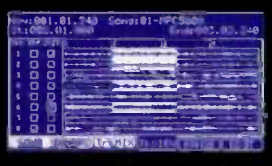

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CHEAT SHEET

MODULATION EFFECTS

by Craig Anderton

Cheat Sheet delivers concise, explicit information about specific recording/audio-related tasks or processes. This installment describes the parameters found in modulation effects such as flanging and chorusing.

INITIAL DELAY

Modulation effects vary the delay time around a particular initial delay time, usually specified in milliseconds. Shorter delay times (0–15ms) are common with flanging, longer delay times (10–20ms) with chorusing. Attempting to change this value in real time often causes zippering, so it's generally a set-and-forget parameter.

VOICES

Some chorusing processors have several delay lines, each with its own set of controls. This can create a more complex, evolving sound compared to using a single delay line. Each set of delay lines and controls is called a voice. Chorus units typically have 1, 2, 4, or 8 voices.

PAN

In modulation effects with multiple voices, you'll generally find a Pan control for each voice to place it as desired in the stereo field.

MODULATION SOURCE

There are many possible modulation sources. An LFO provides a cyclic change at a particular (usually slow) rate. Other sources include envelope follower (tracks the dynamics of the input signal), footpedal, MIDI continuous controller, etc.

MODULATION DEPTH

Also called Modulation Width. This sets the difference between the minimum and maximum delay time. With chorusing, this is usually a relatively small difference, such as between 12 and 15ms. Flanging covers a much wider range, such as 0–15ms. High depth settings coupled with high rate settings tend to give a "warped record" effect, with unwanted pitch changes. Either lower the depth, or slow the rate.

MODULATION LFO WAVEFORM

This determines how the Low Frequency Oscillator-induced modulation varies over time. *Examples:* A square wave switches between two different delay times. A triangle wave varies linearly from a maximum to minimum delay time, then back again. A random wave changes the delay time randomly.

MODULATION LFO RATE

Also called LFO Speed or LFO Frequency. The Rate sets the frequency of the modulation LFO. Typically, faster rates are used for chorusing, and slower ones for flanging.

MODULATION LFO PHASE

Choruses with multiple voices often have multiple LFOs (even a stereo chorus might have one LFO for each channel), and the Phase parameter varies the phase between the LFOs. *Example:* You might set two LFOs 180 degrees out of phase to modulate the channels in an equal and opposite manner. Increasing phase tends to increase the apparent stereo field width, as there's less correlation between the right and left channels.

MODULATION LFO RATE TEMPO SYNC

LFOs can usually be either free-running (the frequency is fixed at a user-set rate) or in the case of a software plug-in (or hardware unit with MIDI input), sync to the tempo of a host program or master clock. Tempo sync values are expressed as rhythmic values (1/4 note, 1/8 note, 1/8 note triplet, dotted 1/2 note, etc.).

MODULATION SMOOTHING

This provides a mathematical integration of the LFO waveform (rough translation: it rounds off square edges). It's used mainly with a random waveform to change the standard "stairstep" shape into a smoother curve, thus producing smoother delay time changes.

FEEDBACK

Sends audio from the output back to the input, creating a more resonant sound. There may be separate feedback controls for each channel or voice.

FEEDBACK PHASE

Also called Feedback Invert. Positive feedback feeds the audio back in-phase and creates a "sharper" sound. Negative feedback feeds back audio out-of-phase and creates a "hollower" type of sound, like a resonant tube.

CROSS-FEEDBACK

With stereo effects, this feature feeds back audio from one channel to the other channel's input. This can create a more complex effect than simply feeding back the output of one channel to its own input. Feedback and Cross-Feedback can sometimes both be present.

DAMPING

Also called High Cut, Rolloff, etc. This inserts a filter in the feedback path that reduces high frequencies, creating a somewhat more subdued feedback sound. Additional filtering may be available to tailor the low and mid frequencies as well.

BALANCE (WET/DRY MIX)

Sets the ratio of processed to unprocessed sound. Typically with flanging, these are mixed equally to provide the most dramatic flanging effect. With chorusing, the delayed signal is often mixed a bit lower than the dry signal to prevent the chorus effect from "taking over." When set for wet sound only, it may be possible to obtain vibrato effects by shifting pitch cyclically without mixing it with the dry signal.

MIX PHASE

In addition to feedback phase, a flanger might have a Mix Phase switch that allows throwing the wet signal out-of-phase. This produces a different type of tonality for flanging and to a less extent, chorusing.

THROUGH-ZERO FLANGING

Also called Tape mode. With through-zero flanging, the delayed sound is mixed with a very slightly delayed dry sound. This allows the delayed signal to pass through a point where there is zero delay time between the dry and processed signals. eq

Cut Along Dotted Line

POWER APP ALLEY

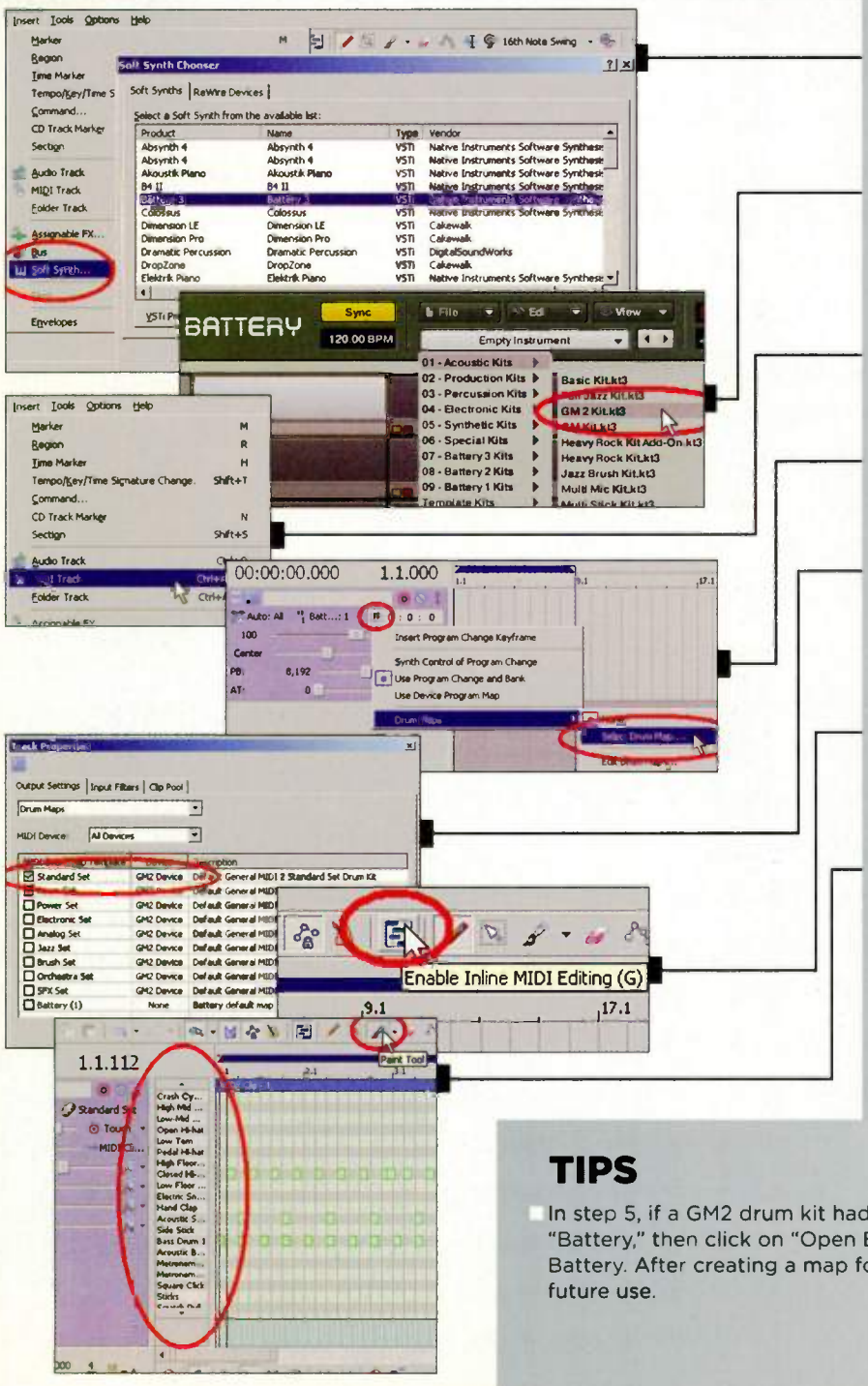
BY CRAIG ANDERTON

SONY ACID 6

Use drum maps to record MIDI drum parts quickly and easily

OBJECTIVE: When recording MIDI drum parts, use drum maps containing drum names instead of the usual keyboard-style piano roll note list.

BACKGROUND: Acid has gone from a basic DJ tool to a sophisticated DAW with looping, hard disk recording, and MIDI. The Drum Map feature makes it easier to create MIDI drum parts within Acid; we'll show how to do this using Native Instruments' Battery.



STEPS

1. Go *Insert > Soft Synth*, and from the window that pops up, choose a virtual drum synth (in this case, Battery 3).

2. Load a drum kit into your drum program. In this screen shot, a General MIDI 2 program is being loaded into Battery.

3. Insert a MIDI track to drive the drum synth.

4. In the MIDI track, click on the Program button (the keyboard icon) and go *Drum Maps > Select Drum Map.*

5. As we've loaded a GM2 drum set, you can choose the "Standard Set—GM2 Device" drum device. Then, close the window (don't click on "Open Editor").

6. Click on "Enable Inline MIDI Editing" so that the drum map names appear within the MIDI track itself.

7. The names for the various drums now appear along the left side of the MIDI track instead of note names. The up and down arrows at the top and bottom of the list respectively means there are more drums than are visible; click on these to show the other drums. Now grab your Paint Tool, and create a part!

TIPS

- In step 5, if a GM2 drum kit hadn't been selected, you would check the box "Battery," then click on "Open Editor" to create a drum map specific to Battery. After creating a map for a specific drum set, you can save it for future use.

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POWER APP ALLEY

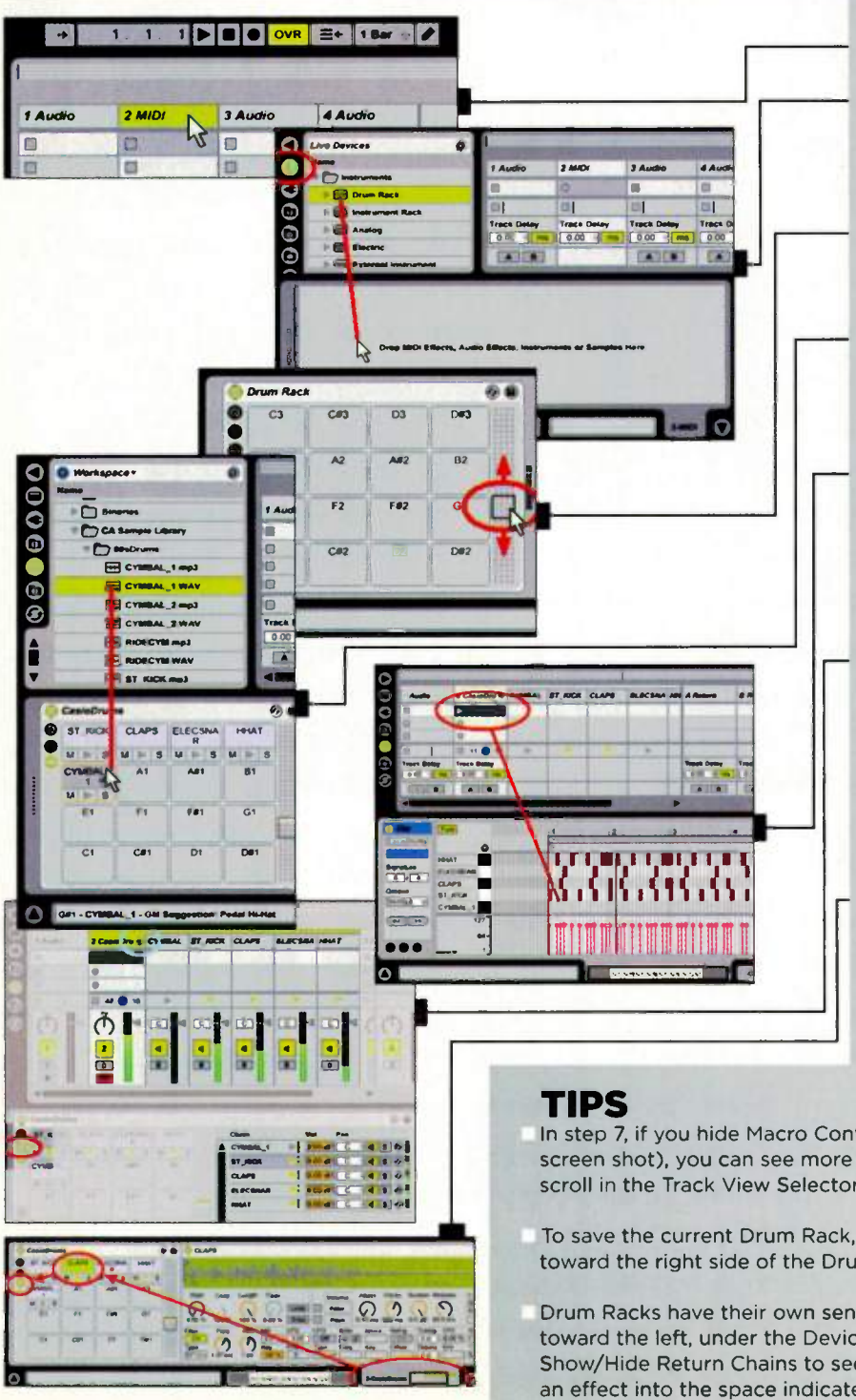
BY CRAIG ANDERTON

ABLETON LIVE 7

Get acquainted with Live 7's new way to create drum setups

OBJECTIVE: Create, sequence, and edit a drum set using Live 7's Drum Rack feature.

BACKGROUND: Live's Drum Rack makes it easy to assemble complete drum kits, with processing, transposition, different sound characteristics, and other options. Although a very deep feature, this introduction will get you started with the basic concepts.



STEPS

1. Select a MIDI Track.

2. In the Browser, click on the Live Devices button. Unfold the Instruments folder, select Drum Rack, and drag it into the "drop zone" section of the Track View Selector.

3. Use the Drum Rack note selector to show the full range of notes where you can assign drums.

4. In the Browser, locate the hits you want to collect into a drum kit. Drag the desired hits from the Browser into the Drum Rack device (one hit per "pad").

5. If a MIDI clip doesn't yet exist, double-click on a MIDI clip slot (not the slot's Record button), then program the desired drum part within the MIDI Clip Overview. If you want to work with an existing MIDI clip, single-click on its clip slot.

6. You can adjust rack chain parameters (volume, pan, MIDI note receive and play, choke for drum groups, solo, etc.) in the Chain List in the Track View Selector (click on the button shown circled in red), or the Session View Overview (click on the button shown circled in blue at the top of the "parent" drum track to "unfold" the additional mixer channels).

7. To edit an instrument's sound, click on the Track View Selector, then click on the "pad" with the instrument you want to edit. In the "mini toolbar" toward the left, under the Device Title Bar, enable Show/Hide Devices to see the drum sound parameters for editing.

TIPS

- In step 7, if you hide Macro Controls and Chain List (these are hidden in the screen shot), you can see more of the instrument editor without having to scroll in the Track View Selector.
- To save the current Drum Rack, click on the save button (floppy disk icon) toward the right side of the Drum Rack's Device Title Bar.
- Drum Racks have their own sends and return chains. In the "mini toolbar" toward the left, under the Device Title Bar, click on the Show/Hide Sends and Show/Hide Return Chains to see these. To create a return chain, simply drag an effect into the space indicated when showing Return Chains.

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PORTABLE RECORDER SHOWDOWN

THE WORLD IS YOUR WAVEFORM

by Craig Anderton

They're cute. They're little. They fit in your pocket. No, we're not talking about Smurfs, but the latest generation of portable recorders. This is one of the hottest segments of the recording world—and with good reason.

Portable recording isn't new, whether you're talking reel-to-reel Nagras from the late Bronze Age, Sony's Walkman Pro cassette deck or Minidisc, or portable DATs. But nothing kicked the concept up another notch more than cheap memory prices, because it became possible to stick a few GB of RAM in a recorder, and do several hours of recording (or even *days,* using data-compressed formats) with no moving parts . . . all in a package not much larger than a TV remote. Now *that's* progress.

I'm a *major* fan of portable recording. I've recorded airport announcements in the bathroom at the Atlanta airport while laying over during a hurricane, whales off the coast of Alaska, the testing room at Yamaha's piano factory in Japan (think John Cage on methedrine), a killer DJ set in Zürich, and much more. All in a day's work, right? Oh yes, and of course, band rehearsals, song ideas, and all the usual stuff.

So given that kind of background, it's a treat to sit down with virtually all the portable recorder products from the major players and compare. The first thing I noticed: There's an *extremely* tight correlation between price and features, because the competition is so fierce. The only big schism I did notice was a separation between units designed more as musician-oriented portable studios (incorporating features like a tuner, metronome, etc.) and those that seem more for journalism/podcasting/field recording.

Interestingly, if you check around web forums and user reviews, you'll find most people are very satisfied with their portable recorders, regardless of which model they bought. This further underscores that the various products have achieved a certain parity in terms of giving value received. Because of this parity, we'll cut to the chase and instead of presenting infinitely boring descriptions of all of a unit's features, we'll cover what each unit does best, as well as the most significant limitations. Units are described in the order that our layout artist thought fit best on a page. Ready . . . set . . . record!

ALL HAIL LO-FI!

Sometimes what sounds "good" and what sounds "right" can be mutually exclusive. Case in point: your raw, dirty, filthy and visceral music styles. Think garage punk, screamo, hardcore techno, and black metal. Even if you're not a fan, consider the early '90s recordings out of Norway, particularly black metal. The lo-fi atmosphere and vibe was there because that's all the dudes back then had access to—but that's also what cemented their sonic values into the permanent world-wide lexicon of the cult underground.

Nowadays, so many bands have it back asswards, trying to get their fancy plug-ins, expensive mics, and purty DAWS to make gnarly and visceral sounds. But it never sounds like you were actually in a dank concrete room with a bunch of maniacs playing music so fiercely it barely held together. It was the *vibe* that made it sound good.

Using a portable recorder (I favor Sony's PCM-D50) can open up a huge range of applications beyond getting some nice bytes of your cracker-loving parrot for your "wild kingdom" project: It can also provide a quick, easy, and effective way to document your super hard and/or evil band's practice sessions. You'll be glad you did when you hit it big in the global underground circuit, and your numbered-in-blood practice demos sell for $100 on eBay.

But when you have kinder, gentler intentions, like recording an opera recital of the stunning diva you somehow convinced to be in your rock band, or capturing the gentle lapping of ocean waves on the beach, a portable recorder will also give wonderful results. Besides, what's more rock and roll—setting up your laptop DAW, or whipping a shiny little recorder out of your pocket and pressing record?
—Roberto Martinelli

KORG MR-1

($899, WWW.KORG.COM)

Korg doesn't make me-too products, and the MR-1 is no exception. It does just about everything differently: Stores to a 20GB hard disk instead of RAM cards, records via 1-bit DSD-type techniques as well as BWF WAV PCM files, has a metal instead of plastic casing, and the AudioGate software that comes with it is extremely sophisticated, as it can take the 2.8MHz data stream and convert it into just about anything the "real world" uses. In fact, Korg touts the MR-1 as "future-proof" because although it stores signals with the highest possible fidelity available today, you can "downshift" into more common formats currently in use.

What it does best: Fidelity and storage. This is a significant, pro-oriented unit—with a price tag to match. Its sleek, shiny packaging is classy, as is the sound quality. The mics included with it are far better than just decent, and while it weighs a bit more than RAM-based units, it's still small enough to slip into your shirt pocket. What's more, the MR-1 is valuable in the studio; you can treat it like a two-track mastering deck, which is particularly helpful if you have an analog mastering chain—just record the analog out into the MR-1, then convert it to 16/44.1 or whatever your final delivery medium might be. I've also used it to sample the notes coming out of vintage keyboards, secure in the knowledge that I've preserved the essential sound of keyboards that are on their last legs.

Limitations: The battery is not user-replaceable, so if it runs out of juice, your only option is to plug in an AC adapter (and when the battery itself dies eventually, it will need to be returned to Korg). Also, due to using a hard drive, you can't upgrade the memory as you can with solid-state units by simply plugging in another memory card; what's more, the hard drive makes it more sensitive to vibration. Finally, it belongs to the camp that doesn't include specific musician-oriented features.

Bottom line: If you have the budget and plan to do seriously high-fidelity field recordings, and don't need to record for hours on end, this is about as good as it gets.

EDIROL BY ROLAND R-09HR

($450, WWW.ROLANDUS.COM/EDIROL)

This is a second-generation device, and the additional experience shows up first in terms of ergonomics. "Set-and-forget" switched functions like Hold, Limiter/AGC, Low Cut, and Mic Gain Lo/Hi are tucked away on the back, using switches that are hard to move accidentally but easy to move when wanted. You'll also find a monitor speaker on the back, and the case has a rubberized, no-slip type of surface that makes dropping it less likely. There are two internal mics, but these don't rotate. Although the unit comes with a 512MB SD card, it handles SD HC memory cards up to 32GB—the extra capacity is particularly handy if you choose to do 24-bit/96kHz recording. It runs off two AA batteries, and has basic I/O: 1/8" stereo mic with plug-in power switch, 1/8" line in, and 1/8" headphone out.

What it does best: The OLED (Organic LED display) is bright, clear, and the most readable of the bunch 1under just about any lighting conditions. You can change playback speed from 50% to 150% with sample rates below 88.2kHz, add reverb, or "split" a file when recording—sort of like adding markers, except these actually create separate files. And there's a big surprise: A wireless remote. When you consider how important placement is with a unit that has built-in mics, the remote lets you do something like hang the R-09HR from the ceiling and still control it from a convenient location. It can also let you split a file without having to press the R-09HR's buttons, which might otherwise produce noise when using the built-in mics. Finally, the documentation is excellent, and Cakewalk Pyro Audio Creator software is included.

Limitations: You can't charge rechargeable batteries sitting in the R-09HR via USB or its AC adapter—you need to charge them with a conventional outboard battery charger. So just carry a bunch of AA lithium batteries, which last for around 13–15 hours when recording (6.5 hours for alkalines). Splitting a file will produce a slight gap when playing back on the R-09HR, even though the recording itself is continuous, which you can verify by exporting the file into a computer.

Bottom line: This one says "workhorse": Rubberized case, monitor speaker, good ergonomics, wireless remote, and sound quality. While a review can't evaluate how these units will hold up in two years, I think this one would still be working just fine.

M-AUDIO MICROTRACK II

($499.95, WWW.M-AUDIO.COM)

M-Audio was one of the first companies with a small, portable recorder, and the MicroTrack II benefits from being a second-generation device. It's small and light, in a tough plastic case, and comes with a T-design stereo mic that's great for recording interviews—I have the person talk into one channel, and use the other channel for ambience, mixing in as much as I want. It comes well-accessorized, including an AC adapter but it can also recharge from any USB connection. This also means you can use some of those "instant power" accessories for cell phones to get extra juice if needed.

What it does best: The MicroTrack II is so small and convenient you won't hesitate to carry it around with you. And, the operating system is about as idiot-proof as it comes; you can definitely figure it out under pressure, and use it on a gig the day you get it. Although this unit doesn't have musician-oriented features, it does have additional goodies, like being able to record to files larger than 2GB—something most portable recorders can't do, because they use the FAT32 memory formatting system for memory cards (so does the MicroTrack II, but they've figured out a way around that). It's also easy to put in markers (Broadcast Wave Format) while recording, so when you bounce files into the computer, you can find what you want. It's also rich with I/O, including S/PDIF and RCA line outs, 1/4" balanced TRS mic/line ins with switchable phantom power, 1/8" stereo mic in, and headphone out.

Limitations: Like the Korg MR-1, the battery is not user-replaceable although you can send power through the USB in during an emergency. When the battery does die, it's about $70 to get it replaced by the factory. Storage is to Compact Flash cards; there's nothing wrong with that per se, but SD cards are more current and smaller/lighter.

Bottom line: The MicroTrack II's small size, sound quality, and low price definitely put it on the short list of portable recorders. It's ideal for general-purpose applications (field sampling, journalism, recording), and simple to use.

ZOOM H2

($334.99, WWW.SAMSONTECH.COM)

This is another second-generation device, following up Zoom's H4. It seems Zoom's forte is to include a feature set like "the other guys," throw in some innovative aspects, then cut the price to the bone—and the H2 is no exception. Clearly designed for musicians as opposed to, say, journalists, the H2's main claim to fame is an unusual approach to miking that allows for different miking configurations in a portable unit. It runs off alkaline/rechargeable batteries, or AC power.

What it does best: The H2 is the only device in this roundup that's intended to capture audio suitable for surround. It does this with two sets of mic pairs, one on the front and one on the rear, with each pair configured in a dual X/Y configuration (90 degrees front, 120 degrees rear). You can use the 90 degree mics when you want to record a narrow field, the 120 degree mics for recording something broader (like a full band), or record on all four channels. You can mix these to stereo, or if you have surround sound encoding software, the tracks can provide source material for 5.1 surround files. It's also compact, and comes with a 512MB SD memory card. Musician-oriented features include a metronome, tuner, three types of dynamics control, and the ability to use it as an audio interface via the USB connector. It also does time-stamping.

Limitations: The H2 can't record files bigger than 2GB (although it can handle 16GB SDHC cards), and while it can record the raw materials for surround, you'll need authoring software—try www.wavosaur.com. Also, sampling rates are limited to 44.1/48kHz for WAVs in 4-channel mode, although it can do 96kHz for stereo. Furthermore, while the built-in mics are convenient, you have to be careful with placement—if you rest it on a surface, then use the included tripod with rubberized feet to minimize vibrations. There's a maximum of 10 folders for stereo files, and one folder for 4-channel recordings.

Bottom line: This is one of the most cost-effective offerings, and exceeds expectations. However, the surround capabilities are unique—if that's something you want, this is the only game in town.

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TASCAM DR-1

($399, WWW.TASCAM.COM)

While a little bulkier than, say, the MicroTrack II or H2, the front panel buttons make for good targets, and there's plenty of room on the sides of the casing for connectors. I/O is one 1/8" stereo jack (with plug-in power) for external Mic 1, 1/4" jack for external Mic 2, 1/8" stereo line in, and 1/8" stereo line/headphones out. The battery is user-replaceable and you can buy several if you're concerned about running out of juice; the battery recharges via USB or an optional AC adapter. The mics can rotate 90 degrees as a pair, which is useful if you want to change the mic direction depending on whether the unit is standing up or lying down.

What it does best: For starters, the DR-1 comes with a 1GB SD cartridge, which saves you a few bucks but it also accepts up to 32GB SD HC cards—that's a lot of memory. It's very musician-oriented, with not just dynamics control while recording, but the ability to overdub onto an existing recording—this is a killer feature for songwriters who want to add, say, a harmony to a vocal or lead guitar part on top of a rhythm part. And because the original file is not overwritten, you can keep overdubbing; every time you overdub, it generates a new file with the mix of the original file and the overdub. Other musician-friendly features include time stretching (change speed while keeping pitch constant, or vice-versa), center-channel cancel to zap vocals, loop playback, effects you can apply while recording (seven reverbs, treble boost, chorus, autopan, lo-fi), tuner (chromatic and pitch), and metronome.

Limitations: As with units having built-in mics, placement is crucial although like the other units, you can use external mics if needed. And while only one other recorder has a high-impedance input for guitar, given the overdubbing capabilities I was hoping the DR-1 would have an instrument input; it doesn't. Finally, while the mics do rotate, they don't have the same flexibility as some other offerings.

Bottom line: TASCAM is synonymous with "musician-friendly," and that philosophy permeates the DR-1. Besides, if you want to do overdubs, it's your *only* choice; I'd consider this the top pick for songwriters.

YAMAHA POCKETRAK 2G

($450, WWW.YAMAHA.COM)

When you open up the box, you can't help but wonder where the rest of the recorder is—the Pocketrak 2G is the smallest, slickest, and lightest of all the recorders covered here. If you're going undercover and want to record something without anyone knowing it, this is the one to choose. But what do you give up in return? Well, not much. The 2GB of internal memory is non-removable/replaceable, and the I/O is limited. But that's pretty much it. It even has a retractable, full-size USB connector so that in a pinch, you can plug it directly into a computer and you don't need to carry an extra cable.

What it does best: Not only is it so portable there's no excuse not to carry it on you at all times, the battery will probably be up to the task as well: The Pocketrak 2G comes with an AAA "eneloop" rechargeable battery that gives about 19 hours of stereo recording time (assuming the backlight is off). That's phenomenal, but a standard AAA alkaline battery gives even longer recording time—about 25 hours. Yes, we definitely have a candidate here for the

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"Extremely Accurate"
-Pro Sound News

"Amazing"
-Tape Op

"Fabulous"
-Future Music

rupertneve.com

"power management of the year" award. Like the TASCAM, the built-in mics sit at the top of the unit, and rotate as a pair within a 90 degree range; unlike most other units, it has a speaker for monitoring. And if you want to use it as a portable music player, the Pocketrak 2G supports WMA as well as MP3 (you can record in those formats, as well as standard PCM). On top of all that, it's also super-easy to use, there are faster/slower playback options, the package includes a free copy of Cubase AI, and you can password-protect individual files.

Limitations: You can't expand/replace the memory, and there are no "musician" features like a tuner, metronome, etc. Also, the only I/O is an 1/8" mic/line input and 1/8" output—so don't expect to plug in your guitar. But with something this small, you'd probably want to use the

10 MORE WAYS TO USE YOUR PORTABLE RECORDER

1. Leave the iPod at home. Well, unless you're using one of those portable recorder thingies (*e.g.*, Alesis and Belkin) that's based on recording into an iPod. Thanks to removable media, you can store gigabytes of your favorite music, pop it into your recorder, and use it for listening.

2. Better pre-show music. Don't like what the FOH mixer is playing before you take the stage? Load up your portable recorder with suitable pre-show music, and ask (politely!) if that can be played instead.

3. Better live sound. Bring a studio recording of your band's music on your recorder, and pump the sound through the PA while setting up. This will give you valuable clues about how the venue will alter your sound, making it easier to "tweak" the PA.

4. Are your songs in order? Another playback application: Bounce over the cuts for your new album. Most recorders have an easy way to change the playback order, so you can determine what songs work well together. If all else fails, alter the song order in your computer, then bounce back into the recorder via USB.

5. Better than calling your answering machine and singing into it. Carry your portable recorder around with you at all times, the way a photographer always has a camera handy, so you can capture anything important that pops into your mind.

6. Recording rehearsals and performances. Hook a portable recorder to your mixer's recording outs or an aux out during rehearsals and performances. With even relatively small memory cards able to record several hours of music, just press Record, and go.

7. Record your audience. I learned this from Frank Heiss, the first guy to turn me on to using portable recorders live (back in the days of Minidisc). He would go out into the audience and record people saying things, then later on, while he was onstage, play back

OLYMPUS LS-10

($449.95, WWW.OLYMPUS.COM)

New kids on the block? In the music industry, yes . . . but when it comes to recording, no. The build quality grabs you immediately: The LS-10 has a solid, substantial feel, with an aluminum metal frame surrounded by a sturdy plastic body. Nothing about it feels cheap, or like any corners were cut. The mics are very good. They're in a fixed 90 degree pattern and can't be moved, but the LS-10 includes a function called "Zoom Mic" that provides four different spatial options, from a highly directional mono sound to seriously expansive stereo. This works well, but only with the internal mics, and only

built-in mics anyway to retain the small size advantage. And be careful not to misplace this little wonder box—the dog might eat it.

Bottom line: This is definitely a gear lust kinda item; once you hold it in your hand, you want it just because it's so darn cute and compact. While perhaps not as versatile as some of the other recorders, it packs serious punch in a Lilliputian package.

some of the more interesting fragments. Way cool.

8. The nearly infinite sampler. A portable recorder can be a sampler with hours of sampling time. While you can't play a melody on it, you mark where pieces of audio begin and name them, making it easy to cue up the right sample for either recording or live performance.

9. The audio-for-video helper. When I record soundtracks or narration for video, it seems the videos are much more effective if there's some ambience mixed in the background. But of course, it doesn't have to be the ambience of the place itself: For example, I have several recordings of people milling around at conventions, which comes in handy when I need a "you are there" vibe.

10. Tuning tones. Although some portable recorders are musician-oriented and include tuners, if not, then record some standard tones (*e.g.*, E-A-D-G-B-A if you're a guitarist) in your recorder. If possible, write-protect the file—that way you'll always have a "virtual pitch pipe." *—Craig Anderton*

when recording at 44/16 PCM. I/O is the standard set of options: 1/8" stereo mic in with switchable plug-in power, 1/8" stereo line in, and 1/8" stereo headphone out.

What it does best: Aside from the quality feel, the LS-10 not only includes 2GB of internal flash memory, but accommodates an additional SD card, from 512MB to 8GB while getting about 12 hours from two AA batteries—excellent. (Speaking of which, it also has the easiest battery cover to remove and replace of all the machines.)

Record/playback formats are WAV, MP3, and WMA; I like WMA, as it saves much space compared to WAV but sounds better than MP3. Surprisingly, the monitor speakers are stereo—but even more surprisingly, they actually sound reasonably good. The package is well-accessorized, with a free copy of Cubase LE4; aside from the expected USB cable, there's also an 1/8" stereo mini male-to-male extension cord, carrying case, strap, and wind screens for the mics. There are also several useful optional-at-extra cost accessories, like a wireless remote (although it isn't as complete as the one included with the Edirol, offering only record, play, and pause), noise-canceling mic and telephone recording device ($19.95 each), two-channel pro mic set with tripods (around $230), etc.

Limitations: File sizes are limited to 2GB for WAV and 4GB for MP3 and WMA. And while the battery life is good, you can't recharge batteries

ESSENTIAL ACCESSORIES

Additional recording media. With card-based solid-state recorders—by far the majority—carry plenty of memory cartridges, unless you've also brought a computer to which you can transfer files during down time.

Additional power. Bring batteries, or if you have compatible connectors, use the Energizer brand cell phone chargers with mini-USB outs to recharge on the go, or provide "auxiliary power."

Mics. The mics included with many recorders are surprisingly good, but it's worth taking some quality external mics. However, also bring a decent but really inexpensive mic you're not afraid to lose. Use it for recording explosions, going into an angry mob to grab some cool samples, etc.

Plastic freezer bag. If there's rain, ocean spray, or other environmental nastiness, put the recorder in the bag and seal it up. If you still need to record, use external mics and feed the mic cable out one corner of the bag; it's almost certain you'll be able to manipulate the buttons and work things while it's in the bag. Do watch out for heat buildup, though.

Notepad. Keep notes on what you've recorded, as most devices auto-name files. Unless you take the time to rename them on the spot, you might not remember which files are important.

Noise-canceling earphones, or in-ear earphones that block outside noise as much as possible. These make it easier to monitor what your recorder is recording.

SONY PCM-D50

($599.95, WWW.SONY.COM)

Sony shifted the flash-RAM-meets-portable-recording scene into high gear when they introduced the very successful PCM-D1; now we have the PCM-D50, which is less than a third as much. Limitations compared to its big brother are few: The mics and preamps aren't on quite the same level, there are no retro analog meters, and the frame is aluminum, not titanium. Functionality is quite similar, though, including the built-in 4GB of memory with a slot to add Sony's Memory Stick Pro-HG Duo for more recording time (a 4GB stick costs about $60–$65).

Although larger in size than the average portable recorder, the PCM-D50 feels more like a "field recorder" than a pocket-size "notebook recorder." It includes speed change from -75% to +100%, and a wired remote (to control recording) is optional. As with the MicroTrack II, the PCM-D50 can handle files larger than 2GB. Bonus: It includes Sound Forge Audio Studio LE for editing files.

What it does best: The mics rotate outward for a 120 degree pickup pattern, or inward for an X-Y type of pickup, or anywhere in between (they can also be parallel). This gives a lot of flexibility, and a small "roll bar"

via USB or with the LS-10's optional AC adapter; you have to use a separate charger. The solution is to always have some spare batteries sitting around, or buy the Olympus Quick Charger.

Bottom line: This is a class act, from the build quality to the features. You won't find "musician-specific" aspects (although you can loop a section of audio), but the sound quality, durability, and overall operation are impressive.

Lots of adapters. Be prepared to get signals from, or send signals to, anything from 1/8" mini-connectors to phono to whatever. In particular, bring an extension cord for any external mic you might be using.

Mini-USB cable. Or whatever your recorder likes; don't leave home without one. Or two.

Carrying case to hold all this stuff. Many recorders come with carrying pouches, but you'll also need something bigger for accessories. Small camera bags do the job just fine.

Digital audio editor, if you're carrying a laptop. It's helpful to be able to transfer sounds from your memory card to your computer and trim out the dross while any recording is still fresh in your mind.

—Craig Anderton

protects the mics from being hit—great idea. But if you prefer to use a different mic, there's the usual 1/8" jack with a plug-in power switch. As to power, the PCM-D50 requires four AA cells, which contributes to a record time of about 14 hours when also monitoring—about 20 hours for playback-only—which means a lot of music before you have to think about batteries. Another very cool feature is pre-recording, which lets you record up to five seconds of sound prior to the time recording started. There's an "intelligent" limiter than can banish distortion by seamlessly substituting a track recorded at a lower level (very cool!), and the record level control has a small shield over it to prevent accidental changes.

Limitations: The batteries can't be recharged while sitting in the unit; they need an external charger. And I'm never thrilled with non-standard formats, like using the Pro-HG Duo memory stick instead of the SD memory that most others have adopted. However, given 4GB of internal memory, there are few scenarios where that isn't enough.

Bottom line: It's a Sony, and they've been down this road before—the PCM-D50 is a serious, quality, pro piece of gear for real world recording.

AMERICAN AUDIO POCKET RECORD

($209.95, WWW.AMERICANAUDIO.US)

This is larger than average, doesn't look particularly sophisticated, and isn't exactly feature-packed compared to costlier models—but it's also the least expensive one in the roundup by far. In that context, there's definitely value for money. It's clearly designed to be a general-purpose device for such tasks as interviews and recording music, but nonetheless has a few features that are not expected with a product in this price range. It runs off two standard AA batteries (included) or rechargeables, but you can also run it from a USB 5V adapter.

What it does best: Not put a dent in your wallet would have to be the main thing it does best. But Pocket Record has some cool extra features. It includes two built-in mics and a built-in monitor speaker, but also has two audio inputs with associated level controls. These can use the two lavalier mics included with the player, but also, they can mix with the built-in mics so you could, say, rap over a drum machine that's also being recorded. It also has a switch to match the input to mic, line, or guitar-level signals (kudos for the instrument input). Furthermore, because there aren't a lot of bells and whistles, it's very easy to use: Once you've figured out the nine front panel buttons, you're pretty much covered. By the way, it records both WAV and MP3.

Limitations: It handles SD cards up to 4GB, but that's the upper limit. Audio quality is on the lower end of the scale compared to higher-priced units, but it's certainly acceptable for most applications. Due to its size (and input volume knobs) the Pocket Record isn't particularly ergonomic, but it can fit in a decent-sized shirt pocket. Subjectively it feels somewhat klunky rather than sleek—but of course, that doesn't really affect performance.

Bottom line: If I was a journalist doing interviews, this would be ideal; having two lavaliers included might indicate American Audio thinks the same way. Besides, it's really inexpensive, and more run time is just a couple AA batteries away. eq

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GADGETS & GOODIES
TIME TO HAVE HAPPY HEADPHONES

by Craig Anderton

Headphones are as vital a part of the average studio as a lava lamp and a big comfy couch. So this month, let's look at three different boxes into which you plug headphones—and what they do for those 'phones. (All prices are MSRP.)

PreSonus Monitor Station

($399.95, www.presonus.com)

This is designed to provide the monitor section of a large console for DAW-based studios that don't have a large console. In with the speaker selector switches (for picking among three pairs), level dimmer, LED meters, and phono preamp (really!), you'll also find a headphone distribution amp.

There are four headphone outs that are loud enough to rip your head off, so be careful. Each has its own level control, and a button that selects between the Main bus or Cue bus. These buses can select from three different stereo sources; the Cue and Main buses also have stereo outs. Furthermore, the Cue bus has an output control. If you needed more headphones, you could send this to another headphone amp, like the Aphex HeadPod.

The Monitor Station has been a great addition to my studio, as I can monitor from my digital mixer, an audio interface, or just switch over to a CD player to hear some tunes—as well as dim the volume when the phone rings, check for mono compatibility, and drive multiple headphones when cutting vocals in the control room. It's nice to be able to listen to vinyl again, too. And the box has a rugged feel: The headphone jacks are mounted with lockwashers, and the other jacks use locking nuts, so I suspect you can do a lot of plugging/unplugging before these babies loosen up—if ever. Overall, the Monitor Station is a *very* useful accessory.

Aphex Model 454 HeadPod

($249, www.aphex.com)

You want simple and good at a fair price? Well, meet the HeadPod. It's just a headphone distribution amp: no bells, whistles, or additional goodies. But it goes about this task with a laser-like focus.

The HeadPod accepts either individual left and right 1/4" TRS balanced line ins, or a stereo unbalanced 1/4" input, with a switch to choose between the two input options. The stereo input is ideal for taking a stereo headphone out and "expanding" it into four outs, but the HeadPod is also designed so that you can split a headphone out with a Y-adapter, and feed each Y into its own HeadPod, giving a total of eight headphone amps.

Each of the four headphone outs has its own volume control, and there's a master volume control which you can set so that the individual outs all work within a suitable range. Power is provided by an included AC adapter (12–16V AC—not DC—will do the job).

The HeadPod weighs only a pound, so Aphex offers a mic stand mounting bracket. This is convenient for when you're recording an ensemble; just run an out from the control run to the box, and four musicians can listen in comfort.

There's not really much else to say. The sound quality is excellent, there's plenty of level (it's very clean, but standard cautions apply about blowing your ears out), and the all-metal chassis passes the drop test. Like I said—simple and good.

Aviom Personal Mixing System

(A-16II $605, AN-16/i $1,180, www.aviom.com)

The drummer wants more guitar in the headphone mix. The vocalist wants more keyboards. So you hope you have enough aux buses and headphone amps, and set up a bunch of different mixes. But now the drummer wants more drums. . . .

Solution: Aviom's A-16II Personal Mixer and AN-16/i Input Module. The 1U rack AN-16/i accepts up to 16 line-level, balanced inputs and converts them to 24-bit, 48kHz audio that travels over Aviom's Pro16 A-Net network. While based on Ethernet (*e.g.*, it uses CAT-5 cable and RJ-45 connectors), A-Net is optimized for digital audio transfer up to 500 feet. The AN-16/i also has Thru jacks—you can leave it set up in-line—as well as front-panel four-position level switches and stereo link switches for each pair of inputs, and signal/clip LEDs for each input.

The A-16II hooks into the network (and can mount on a mic stand); the musician using it plugs in 'phones, and dials in a custom mix (volume and pan) of those 16 audio streams. There's also bass/treble controls, mute/solo, and the ability to create groups and store presets of specific mixes. Want more vocals? Hit the button for the vocals channel, and adjust the volume. Yes, each musician with an A-16II can have a custom mix.

It's not cheap to set up a system with, say, eight personal mixers. But this clever system works flawlessly—and the convenience factor is off the charts. EQ

SOUNDS

BIG FISH AUDIO: NU METAL CITY V2

I liked the original's rude, dark, intense vibe—in fact, soundtracks I created with it showed up on quite a few videos. Can lightning strike twice?

The format is the usual Big Fish formula: Construction kits (25 total) at various tempos and keys, as indicated in the file names; loop options are non-Acidized WAV, Apple Loops, Stylus RMX, and (where appropriate) REX2. All kits also have a mixed "audition" file containing the kit elements. Stylistically, V2 has more variation than the original, and a sound quality upgrade, but retains the sheer head-banging power even while branching out into wider territory.

One of the strongest points is having a dozen or more relatively short variations on drums and guitars, allowing you to put together convincing parts with interesting variations instead of just looping the same parts over and over and over . . . some of the guitar lines even make harmonies when layered. In fact, everything fits together like a somewhat anti-social jigsaw puzzle. Other standout features: nasty "atmosphere" effects, a few wicked synth and scratch parts, intense guitar one-shots, and a folder of "X-tra Hardcore Drum Loops" that sound like Keith Moon on black metal.

The audio example at www.eqmag.com doesn't show the variety, but shows the power. Check it out, and you'll see why this gets a major thumbs up. —*Craig Anderton*

Contact: Big Fish Audio, www.bigfishaudio.com
Format: DVD-ROM with 1,055 loops (1.36GB) in multiple formats; 84 guitar one-shots (99MB); 24-bit/44.1kHz
List price: $99.99

SONY: UNDERGROUND—UK HOUSE AND ELECTRO

The title tells the story: The loops offer much of the looseness of house, but instead of the "elastic," loping feel of classic house, it's rhythmically tighter, and with harder-edged sounds—that's the electro part checking in. Sometimes, it even starts approaching the techno world tonally, but not in terms of tempo; percussion and drums have folders of loops at 120, 125, 127, and 130BPM (although of course, Sony has the Acidization thing down, so these stretch very well). The net result stakes out new territory.

The CD-ROM includes synth bass (66 files), drums (186), electric guitar (16), FX (80), pads (34), percussion (128), synths (91) and drum one-shots (49 files). The drums, bass, and percussion are what'd you expect, while the guitar updates some of the jazz and "Shaft"-type sounds of the '70s. Don't expect string pads and sweet synth melody lines; the pads tend to be more like movie atmospheres crossed with effects, and the synths often feature bubbly, arpeggiated lines—think acid bass up an octave. However, there are also some more conventional options. As to the FX, they're way cool: Throw them behind, or even instead of, a breakbeat, or to add some musical punctuation.

Check out the example at www.eqmag.com—this is definitely the type of CD where the sum is greater than the parts, because everything fits together so well. —*Craig Anderton*

Contact: Sony Creative Software, www.sonycreativesoftware.com
Format: CD-ROM with 491MB of loops and 5MB of one-shots; demo song in Acid format; 16-bit/44.1kHz
List price: $59.95

EQUIPPED MUSIC: PREMIER BEATS

After Nu Metal and House/Electro, let's go to hip-hop/trip-hop land, where the tempos live between 85–95BPM. Premier Beats is a class act, from ace content to organization to packaging. One DVD has 1,414 loops in Apple Loops and non-Acidized WAV file formats; many are deconstructed versions of full musical selections, such as kick-snare loops, just chords, just hi-hats, full instrumentals, full beats, etc.

The second DVD-ROM has the same content as REX2/RMX files, and a Reason-specific ReFill (Combinator, ReDrum, and Dr. REX patches, along with samples). There's also a folder with 3,740 WAV samples—chords, bass, electric piano, kicks, snares, hats, percussion, scratches, vinyl noise, etc., with tonal ones often containing samples in three keys. Are 310 snare and 606 kick samples enough for you? Yeah, I thought so.

I didn't audition every single sample and loop—because I'd still be writing this review in 2009. But I listened to a ton of material, including Reason patches, and it's *all* good. The drums sound exceptionally solid, the instrumental parts are authentic, and I'll be using the samples in various soft synths.

For audio examples, go to www.equippedmusic.se, where you'll find lots of MP3 snippets. Other than not acidizing the WAV files, this set does everything right—and with so much good material, gives value for money. —*Craig Anderton*

Contact: Equipped Music, www.equippedmusic.se, dist. by www.bigfishaudio.com
Format: Two DVD-ROMs with Apple Loops, WAV files, REX2 files, Reason ReFill, and thousands of WAV samples; all 24-bit/44.1kHz
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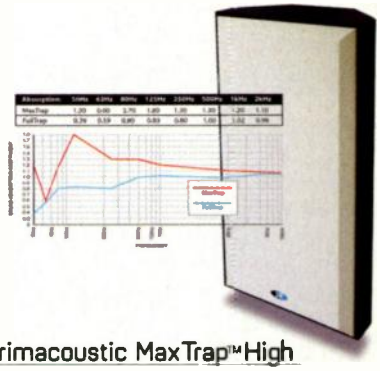

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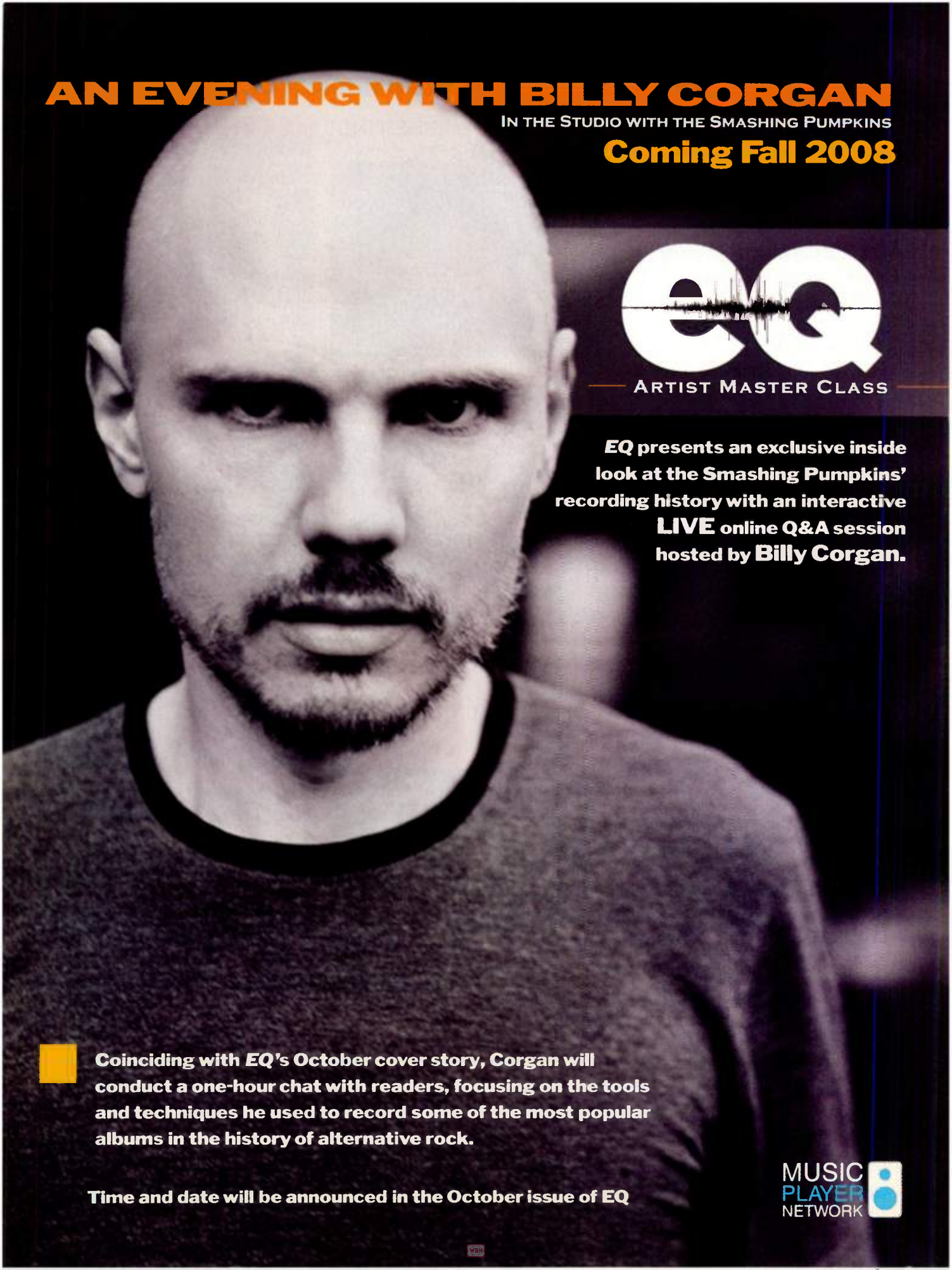
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Coinciding with EQ's October cover story, Corgan will conduct a one-hour chat with readers, focusing on the tools and techniques he used to record some of the most popular albums in the history of alternative rock.
Time and date will be announced in the October issue of EQ
MUSIC PLAYER NETWORK

CLASSIFIEDS

CATEGORIES

Buying or selling instruments through our Classified Ads offers you convenience, a big marketplace, and a wide range of instruments and prices. However, buying mail-order does have its drawbacks, too. EQ Magazine suggests the following guidelines to help the buyer and the seller in these transactions: 1) Get a written description of the instrument, which should include the serial number. 2) Get front and back photos of the instrument. 3) Get a written purchase agreement, with a 24-hour approval clause allowing the buyer to return the instrument for a full refund if it does not meet his/her reasonable expectations.

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DUPLICATION

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An ad in EQ's Classifieds reaches more than 34,500* serious musicians for only $2.40 per word plus $7.00 for an address. Minimum charge: $25.00. Please underline words to appear in bold type and add $0.50 per every bold word. Please indicate clearly any words to appear in all caps and add $0.25 per every cap word. Each phone number, e-mail address, or website address counts as one word. Call for display rates. 3 months minimum schedule required. Deadlines are the 8th of the month, 2 months prior to cover date (for example, April 8th for the June issue, on sale in early June. Businesses must list business name in ad. All ads must be received in writing, paid in full in advance. All ads must be music-related.

Retail advertisers may not list discounted prices or percentages on specific models, unless items are used or discontinued. Advertisers must provide us with complete name, street address, and phone number, whether or not included in the ad copy (you may list a PO Box address in your ad, however). Mail ads to: EQ Classifieds, Attn: Allison Smith, 1111 Bayhill Dr., Suite 125, San Bruno, CA 94066. FAX (if paying by MasterCard, or Visa): (650) 238-0263. For more information, call Allison Smith at (650) 238-0296; E-mail: asmith@musicplayer.com. (*Audited circulation; does not include pass-along rate.)

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(do not include address when counting words)

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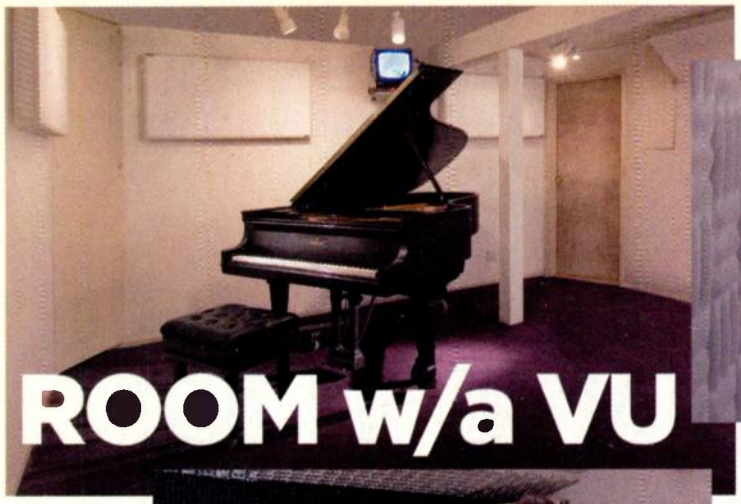

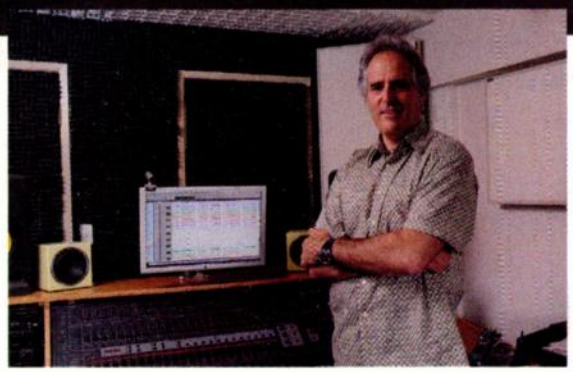

by Angelina Skowronski

STUDIO NAME: Deva Productions
LOCATION: Lafayette, CA
CONTACT: www.devaproductions.com
KEY PLAYERS: Bruce Mishkit
CONSOLE: Digidesign Control 24
DAW: Digidesign Pro Tools|HD Accel
PLUG-INS: Audio Ease Altiverb; Celemony Melodyne Studio; McDSP Emerald Pack; Waves Diamond Bundle
RECORDERS: Alesis ADAT M20, Masterlink; Otari MX-5050B; Panasonic SV3700; TASCAM MX-2424, CD-RW700, DA 78HR
MONITORING: Avantone MixCubes; Furman HDS-6; KRK V8, S12 subwoofer; PreSonus Central Station; Sennheiser HD 600
PRES/DIRECT BOXES: AEA TRP (2); Brent Averill 312A, 1272; DigiTech VTP-1; Millennia HV-3B, PreSonus M80; Studio Technologies Mic PreEminence (2); True Precision 8 (2)
MICS: AKG 414 B-ULS, 414 P48, C 451 B, C 460 B; Audio-Technica ATM 4047 (2); Audix D1, D2 (2), D3, D4, D6; Beyerdynamic M69 (3), M88 (2), M160 (2), M260, M380, M500; Earthworks QTC 1 (2), QTC 40 (2); Electro-Voice RE20; Neumann KM84 modified by Klaus Heyne (2), TLM 170 (2), TLM 103 (3), U87 modified by Klaus Heyne (3); Røde Classic II modified by Pat Morford (2); Royer R-121 (2), SF12; Sennheiser 421 (2), 441, MZH 504 (4); Shure SM57 (4), SM58 (2)
OUTBOARD: dbx 160 (2), 160XT (3); Kurzweil KSP8; Lexicon LXP-1 (2), PCM-80; Roland SDE-1000, SRV-2000; Symetrix 522; Universal Audio 1176LN, LA-4 (2)
INSTRUMENTS: E-mu Proteus/1; Kurzweil K2000; Roland JV-80, XV-3080; Slingerland Drums; Steinway B (1929); Yamaha RM50, TG77
NOTES: Seasoned jazz and classical flautist/saxophonist/pianist Bruce Mishkit built a home studio in the suburbs of San Francisco to focus on what he calls his "better than live" work. "The sound [when recording a live act] can get very muddled," he explains. "You can't control it enough when you are tracking in jazz clubs and concert halls. What the front-of-house engineer creates, in terms of good sound, doesn't always translate well to CD."

To have a more controlled recording environment, Mishkit converted his basement, family room, and garage into a four-room studio complete with a control room, live room, and two isolation booths (one of which hosts a pristine seven-foot 1929 Steinway B piano). To hear Mishkit tell it, the build was plagued with difficulties, particularly when it came to transform his basement into the main tracking room. "There was some serious noise echo from the floors above," Mishkit explains. "We had to drop the ceiling a few feet and install a series of insulation springs and sheet rock just to fix that."

Deva Productions' scattered layout also presented a unique set of challenges to the musician. While Mishkit didn't want to record with all the players in the same room—instead favoring a separation of signals when mixing—he nonetheless required an ease of communication from performer to performer, room to room. "I couldn't have Plexiglas windows between every room, so I set up a closed-circuit television monitoring system with talkback for each room. That way we can all see each other when recording, and we don't have to leave our posts to tell one another something."

Though Mishkit has optimized his home studio to suit a particular approach to recording—namely, total isolation of performers—he still likes to jump into the live room with all his buddies and capture a free jam from time to time. "Close-miking is key when you are all in one area and want some separation of the elements," he instructs. "After all, it's much easier to add ambience with reverbs to your close sound than it is to subtract ambience from room mics." EQ

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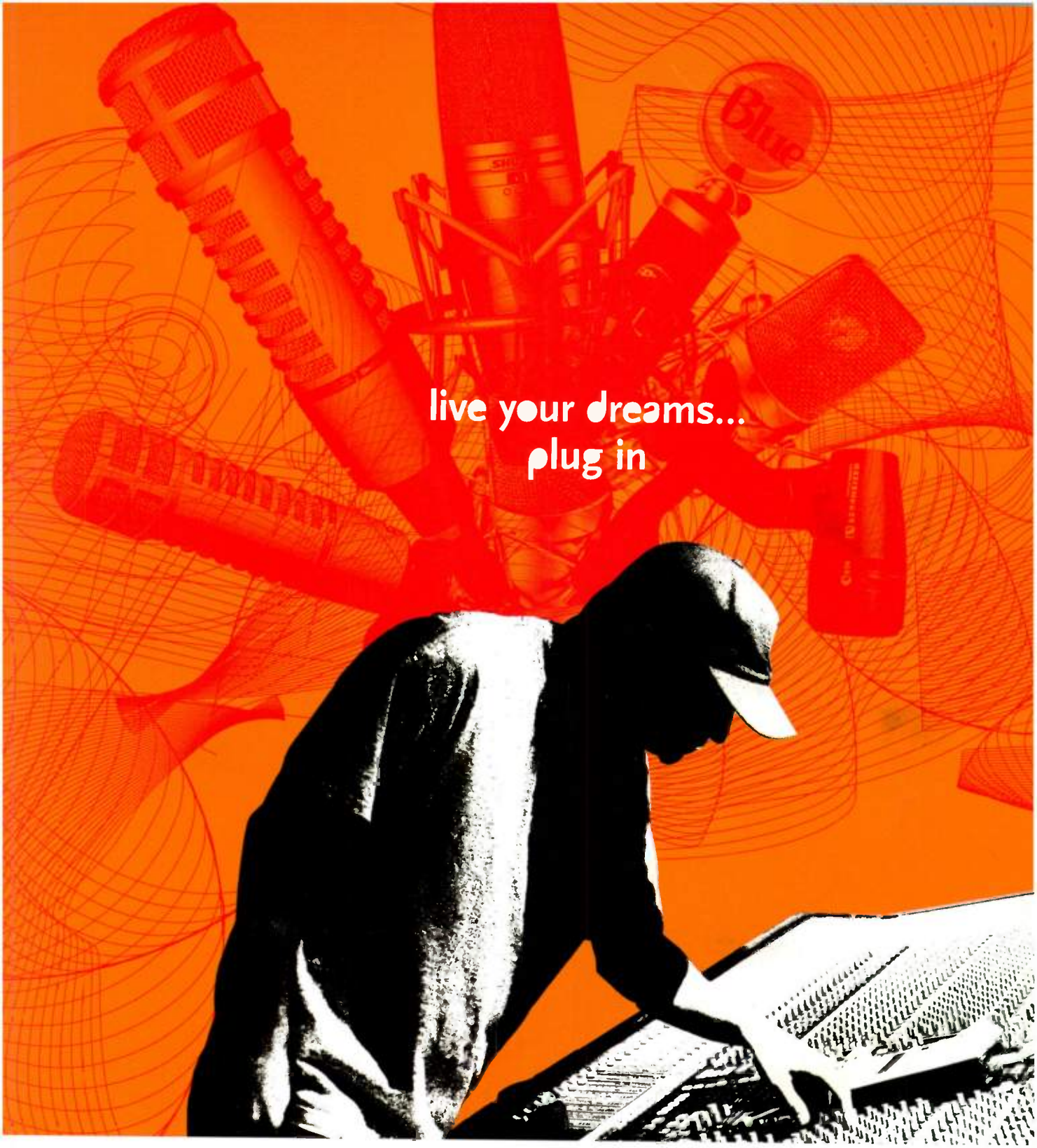

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