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GUITAR NOIR

**Smoking Joe Barresi on
QUEENS OF THE STONE AGE
THE MELVINS
& WEEZER?
YES. WEEZER.**

PLUS

**ANDY JOHNS, J MASCIS,
GLEN BALLARD, & BOB WESTON
...on RECORDING GITS FOR HITS**

**+ AMP PLUG-INS,
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07/05

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The Lost Art of Keeping Secrets
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Guitar: Yamaha AES1500B, Leather Coat: Agnes B,
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Sleep is for the weak

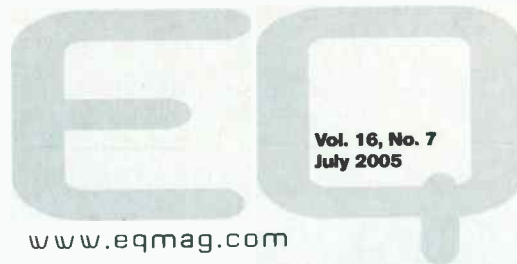
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Talk Box



YOU AXED FOR THE BEST . . . YOU GOT IT!

What about the tuba?

Yes, oh yes, what *about* the tuba? Relegated to OomPah bands, county fairs, and Swiss modern music festivals, the guffaw-producing megaphonesque, basso profundo piece of brass has got to be steamed right about now. Like Cain. Like Salieri. Like Carrot Top. A head-full of resentment, misplaced rage, and a belly full of booze might make Saturday night a little bit more manageable but it won't earn you that which you might most seek: the love of the people.

"And when you see me play my guitar and you see what my fingers can do, then you'll wish you were the one, I was doing it to." —Gene Simmons

Exactly.

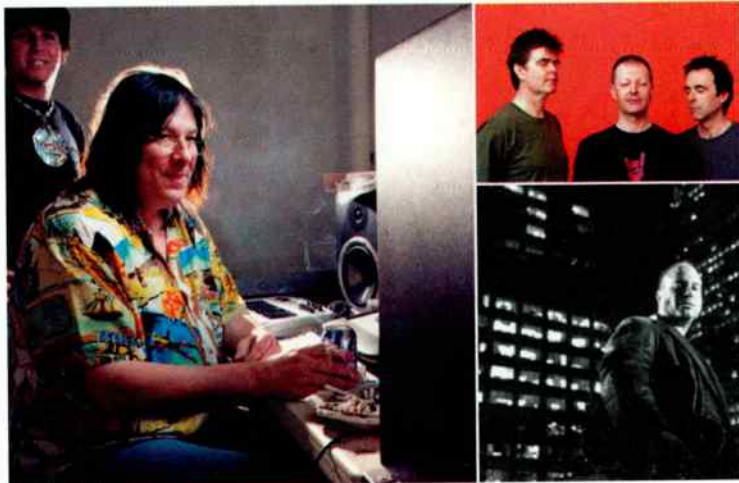
And if you're waiting for the tuba verse to come rolling along in Kiss' paean to instrument lust, well you just might be waiting longer than we have time to wait for you. And so it is that our love affair with the GUITAR reveals both its naked face and our desire to drive that magic stick through the soft rushes of our collective hunger TO desire. Because if you can tell me you never wanted to be a Guitar God, because if you can tell us that the tuba is sexy without qualification, well, we just ain't going to believe you.

And neither are they: the pantheons of those demiurges who have made the guitar make sense to the masses. Not the players, but the producers. Like ANDY JOHNS, JOE BARRESI, GLEN BALLARD, and a passel of others both forward and backward: RICK HARTE, BOB WESTON, J MASCIS, and JOSH HOMME from QUEENS OF THE STONE AGE. We have got the proverbial IT ALL. In this issue no less.

So while we know instinctively that without the tuba, marching bands just sort of cease to exist, we also know that the tuba never got anybody laid. Something that could almost never be said about this issue's featured star: The Guitar.

String it up, strap it on, play it like you mean it.

Cheers,



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Punch In

TIPS & NEWS YOU CAN USE
BY EQ STAFF

Daniel Anderson and Michael Harris. Idiot Pilot. Bedroom rock. Self-produced. 18-year-old whippers. Or snappers, we can't decide which. *Strange We Should Meet Here*. Great record title. Great hair. Great sounding record. Largely undecided as to whether they can kick Steely Dan's collective asses. 'Nuff small talk. Read on.

EQ: OK . . . the blurb that I got that was connected to you all sounded like a piece of unmitigated horse crap: "recorded their entire record with free software downloaded from the Web" . . . true? And if so, *what* software? And how the hell did y'all swing that?

IDIOT PILOT: We recorded everything ourselves save for the vocals on about 10 or so of the 14 tracks on Pro Tools Free, which we downloaded

around I am doing much more direct-in on everything. I have become a huge fan of AmpliTube and AmpFarm.

EQ: And now that you're on like this big label, are they insisting that you continue to work like this, the cheap bastards?

IP: Actually, the label would prefer that we *didn't* do it ourselves, but it's definitely the way we are most comfortable working so it is very possible we will continue to do so on future recordings. We have updated our equipment significantly since then, though. We're now working with a Pro Tools Digi 002 setup.

EQ: OK. Lightning round: producers whose stuff you like.

IP: Nigel Godrich is an amazing producer. We are also big fans of Ross Robinson. The tones that he can get on the drums are incredible. The RZA is amazing, just plain amazing. Terry Date is also really talented, the guitar tones on all those Deftones records are like mean double-edged swords. Butch Vig is pretty dope too.

EQ: Records no one in their right mind should ever, ever listen to. At all. At any time.

IP: Muse. Linkin Park.

EQ: You're a two-piece so, in a fight, you all versus Steely Dan.

IP: [Daniel] Well, Steely Dan are way more grizzled than I could ever hope to be so they are obviously pretty tough, however, I don't think they would *totally* beat our asses because we have the whole youth and speed thing going for us.

[Michael] I'm gonna have to say us, because I may be small but I'm crazy. And Daniel has the biggest guitar arms I've seen.

SAY WHAT?

off the Internet. Because of the lack of tracks (eight), we had to use our space as constructively as we could, so a lot of the tracks contain more than one element. We would have to put the guitar and background vocals on the same track, for example.

And we were running it on a piece of crap Windows 95 and recording whatever actual instruments were being used (guitar, bass, piano) through the mic input in the back of the computer. We used a microphone or a direct cable. Usually it would crash four or five times during each recording session. And all the programming was done using Fruity Loops, which we had a friend pirate off of Napster.

The mics that I used varied but they were generally all the same type of standard vocal mic. The kind you would use if you were performing live, nothing spectacular or professional in the least. We called them "K-Mart Mics," because honestly they were just beat up old microphones that were sitting on the floor. Whatever mic worked that day, worked that day. I have actually yet to upgrade my mic setup on the new recordings because we haven't started recording final vocals yet, and this time



Listen Hear

Since there's no accounting for taste, then there's probably no accounting for why we haven't been able to get this stuff out of our heads this past month.

DREDG: catch without arms (Produced by Terry Date)

God. Promo photos just ruin *everything*. Band as Actor. Band as James Dean retreat. Band as Avatars of Cool. Hateful. But we're learning. We got past with Interpol and we'll get through it with the horribly named Dredg, who have the aforementioned Mr. Date do them up right for this, their second release. Now we don't know about all of those big words that are thrown around in connection with them — art rock, experimental, Fugazi, Radiohead: label legitimizing lard designed to make it all go down smooth. But we DO know that Terry Date has made a record that doesn't stumble over itself, doesn't sound all compressed straight to hell, and doesn't *sound* like their main aspiration in today's life is to appear on TRL. With Paris Hilton.



KINSKI: Alpine Static (Recorded by Randall Dunn, Produced by Kinski)

Kinski — two guitars, one bass, one drum kit, no talking — is hailed for deftly balancing quiet tension and sonic explosiveness within single compositions. Though *Alpine Static* does get around to quiet moments, and slightly more intent listens reveal subtle but complex changes just barely hidden in the mix, the majority of this release is marked by heavy, driving riffage, compressed enough to unify the tone without flattening or attacking the music to death. Result: big rock with smarts.



JESU: JESU (Produced by Justin Broadrick)

Oh man. Man, oh, man, oh man. So mighty. Justin Broadrick's name keeps appearing in the unlikeliest of places. If you knew him from Head of David or Godflesh, you'd have been surprised to find him later in Techno Animal, or in studio with Swiss studio great Alex Buess. And here he is again. Like Waldo. This record is what every heavy, heavy record SHOULD sound like. In fact if you thought you were producing heavy music, this primer on heaviness should be on the top of your pops. Seriously. We can barely lift the CD. *That's* how heavy.



FORUM FEED

Surveying sage sonicists at our Sound, Studio, and Stage forum (www.eqmag.com), we asked POINT BLANK:

Loops (the ones you make, the ones that are commercially made, the free ones, whatever) . . . love 'em or hate 'em? Use 'em or lose 'em?

(1) I love 'em — almost all my music is loop-based 0%

(2) Most of my music is loop-based 3%

(3) I use loops quite a lot 32%

(4) I use loops sometimes 37%

(5) I use loops rarely 8%

(6) I haven't used loops but I expect to 2%

(7) I haven't used loops and don't expect to 9%

(8) I hate loops and just wish they would go away 9%

BUT, BUT, BUT. . .

"I sometimes use loops, but always my own (mostly rhythmic loops)." —Mats Olsson

"I sample acoustic drum breaks and the like and dump them in ReCycle to study their timing, but never use them in something later. If I want the sound of human-played acoustic drums, I hire a drummer! I do use loops with styles like breakbeat and drum 'n' bass, because they're all about sampling and slicing anyway." —Aeon

"I like using loops while creating a song, I'll use them instead of a metronome. Then when I can, I bring in a drummer to replace the loops. I like [Sony's] Mick Fleetwood CD, though I've used many other sources." —Marc

"I have thousands of free loops stored in BPM folders that I use only as source material to be twisted and perverted in a modular synthesis environment." —Alfonso

"I've not used loops, and I don't really expect to. I'm not really comfortable with the idea in general. But, to each his (or her) own." —Quize!

"We just did a CD and we used percussion loops, but they are mostly a background, friction-creating element. We used real players for real drums and real percussion, and none of the tonal material (guitar, keys, bass) was sequenced or looped." —Geekgurl

"I find commercial loops useful for inspiration sometimes, and, occasionally, I use one to add something to a piece I'm working on. If I use a loop as a significant element of a song, it's either one I've created, or a 'quasi-loop,' such as something I've generated in Stylus RMX . . . never (to date) a commercial loop." —Mark



YOU ARE CORDIALLY INVITED...

... to pat it, prick it, and mark it with an M. M for MUSIC PLAYER LIVE!, that is. The faboo confab where WE (EQ and sister pubs *Keyboard*, *Bass Player*, and *Guitar Player*) treat YOU to a cavalcade of clinicians, exhibitors, and performers that will writ large what every month we writ small: that making music is only half as important as making music great. Be there (October 21-23, 2005) or be square. And sad. And alone.



LOOK WHAT I FOUND

An OTARI MTR-90 MKII

I always figured if I bought a Pro Tools for my home studio, next week they'd come up with a better one and I'd be another 30K in the hole. I certainly don't care if I have life-sucking editing capability, so I started hoarding used tape and waited for the right 2' machine to come along. My good pal Stacey Dodds, chief tech at Chalice Studios in Hollywood, calls me one night saying a post house needs to get rid of an **OTARI MTR-90 MKII** fast. My lovely wife Christina actually *volunteered* to fly to L.A., rent a van, and wrangle it over the border from Los Angeles to our home in London, Canada. She loves me. My friend Matty Green rode shotgun. He must at least like me.

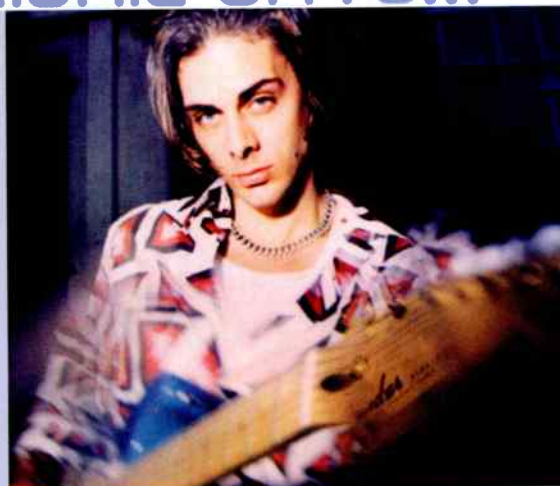
The studio tech helpfully informs them if they get in an accident they will most assuredly die, crushed between the 500 pound machine directly behind the seats and the steering wheel. "It's not too bad," he added, "at least it'll be quick." They have to sleep sitting bolt upright for a 56 hour drive with death a fender-bender away. When they get to the border, they're so tired they're using Visine so that they don't look stoned. The authentic receipt doesn't look even slightly commensurate with the payload. Somehow there was no problem. Does my wife rock or what?

The OTARI MTR-90 MKII is a pretty fine machine for a home studio. This puppy rode 3,000 miles, bounced down my stairs, and fired up no problem. Threading a machine and smelling that soft, baking smell as the tape passes over the heads, mixed with the home cooking upstairs in the kitchen . . . shoot me now.

I'm an instructor at The Ontario Institute of Audio Recording Technology, and thankfully we've got a pretty serious alumni network who take care of each other and show up on no notice to lug the machine down the stairs with me. And yes: No studio techs were hurt in the filming of this motion picture. —Robert Breen



RICHIE SAYS...



Well there was Poison. Then Mr. Big. And then finally no way to say NO when you got a GUITAR issue and Richie Kotzen, former guitar player for the aforementioned, wants in. Easy enough to dismiss the big hair bona fides, but Kotzen and beyond, Satriani, Vai, maybe Johnson, are adherents to the very much still breathing 1980s Guitar God Squad. Flash forward to now though and Kotzen's also got a studio in L.A., Headroom-Inc where, far from turning out Stepford stylists, he's in session with John Five.

"I've also had M'Shell N'Degeocello in here, Gene Simmons, Dave Navarro, Ricky Watters the football player," Kotzen says in full lounge at Headroom's front office. "It's just your basic Pro Tools studio. But typically what's worked for me, if you're asking, and what I like when it comes to guitar is the 57 The 1073, the Neves. And I like really good tube compressors. That's what I prefer. I put the mic on the guitar amp right in front of the cabinet on the outside of the cone. So yeah, just a basic studio," Kotzen continues, lying his ass off as we later peruse a very NOT basic palatial spread. Five's session thumps from the backrooms with Sid Riggs tossing mics behind doors, behind toilets, just about anywhere to "get John some really wacked out sounds." And all suddenly seems right with the world.

Trans Am revved, eyeliner on, and lighters held aloft, we salute you, brother.



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The Six Strings That Drew Blood

GLEN BALLARD & THE MYSTERY OF THE MAGIC GUITAR

HE BUILT IT BETTER THAN IT WAS BEFORE. BETTER. STRONGER. FASTER. AND LIKE ALFRED HITCHCOCK IT'S APPEARED IN EVERY ONE OF HIS PRODUCTIONS. WHY? HOW? WHAT? HIS MODIFIED '79 FENDER STRAT, NATCH.

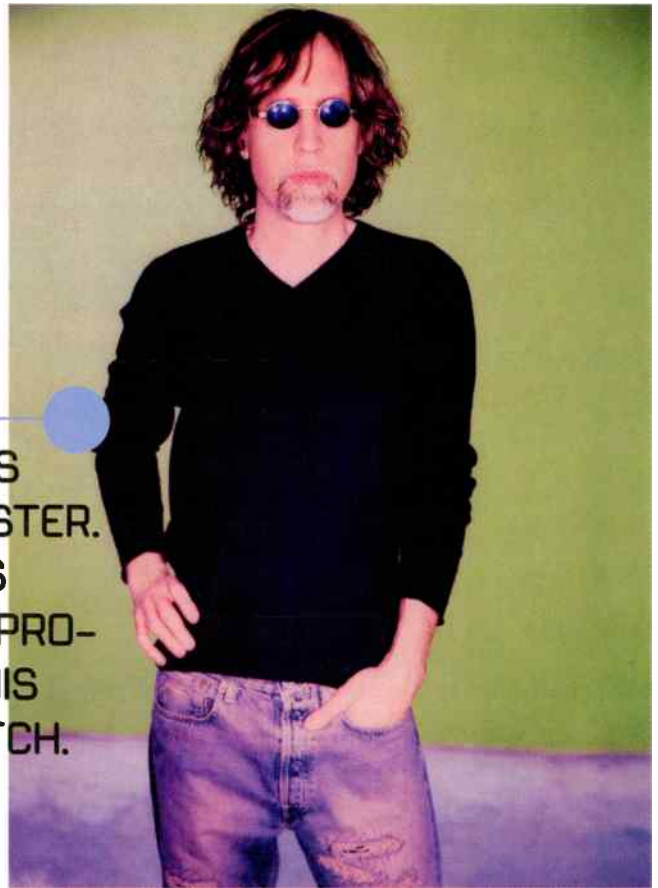
Back in '79, when Sunset Strip was all new wave strut and quality blow, young Glen Ballard had just scored his first chart single, "One Step," for sassy Brit soul-singer Kiki Dee. Back then — long before Ballard was an A-list producer who made multi-platinum, multi-million dollar records — he was making a hundred bucks a week to play piano in Dee's band and writing tunes for anyone who would take them. He saved up to buy a brand new 1979 Fender Stratocaster — a unique year for the iconic ax, as it was the last model to have the large headstock and, at a hefty eight pounds, one of the heaviest versions of the guitar ever made.

As a producer and writer, Ballard has always taken chances (who else would get behind a trio of harmonizing chicks calling themselves Wilson Philips during the reign of flannelled growlers?), and if there's an artifact that embodies that spirit, it's probably the chopped-up '79 Strat.

"When you start making modifications to an instrument you really love, you do it with some trepidation because you could ruin the thing so easily," Ballard says. "But I kind of went crazy on it, and it's still my favorite guitar."

Ballard tore out the first and third single coil pickups, and replaced them with humbuckers to beef up the classic Strat sound by toggling between the pickups with a five-position switch. Running it through a "surgically modified" AC 30 or a Matchless amp, he's used the guitar on almost everything he's produced.

"I have 30 guitars, but that's my baby," he says of the creation. "It performs with a lot of the Gibson feel but still has enough of the Fender sound. It's the hybrid sound that I go for, and it's amazingly



dynamic. You can get a heavy burn, or you can get a little bit of the Strat thing by going between the pickups. It's an enormously versatile guitar."

For Ballard — who's done time with everyone from Quincy Jones to Shakira — versatility is a central issue. While working with Aerosmith he learned one of his favorite tricks for getting total control electric guitars.

"In the studio we have these big Anvil cases that are padded on the inside," Ballard says, explaining a secret he learned from Joe Perry. "I have my heads back in the studio and have the cabinets in the troughs of the cases. We have a built-in microphone in there so you get no reflective information out of that cabinet at all. You only get what is coming out of the speaker. It was an amazing discovery for me, because of just how different that sound is."

But Ballard's latest project, an acoustic re-recording of Alanis Morissette's *Jagged Little Pill* required techniques a bit more delicate. Ballard's collaboration with Ms. Ironik on the original was both artists' biggest commercial success, and they commemorated the albums' 10th anniversary by revisiting the songs unplugged.

The acoustic instruments were captured at Westlake Audio Studios (where Ballard once jammed on the synth of Michael Jackson's *Bad*) with his cherished standbys — a vintage [AKG] D12, and a trio of Neumann mics — a 49, 47, and 67. These went through outboard Neve 1073 preamp, a classic Neve BCM-10 "sidecar" console. ►

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The Six Strings That Drew Blood

"There isn't one trick to getting that perfect guitar sound," Ballard says. "We audition the guitars as much as we audition the microphones and placements and players. Every single acoustic guitar is different from the next, so it was a matter of taking the time to do it right and getting a player who can articulate their instrument well. Once someone is playing well on the right instrument, capturing it is easy." —Nate Cavalieri

DINOSAUR JR.: THE 2nd SECOND COMING

J Mascis is a multi-instrumentalist, a skydiver, and well . . . basically a hippie.

J Mascis is also an alternative guitar rock god.

If you don't believe me, just pick up any of the first three Dinosaur Jr., CDs, which have recently been remastered and re-released; or pick up my personal favorite *Green Mind*. If acoustic music is your cup o' tea then try J's solo effort, *Martin and Me*. Then fast forward to his latest project, J Mascis And The Fog, which includes the albums *More Light* and *Free So Free*. These CDs herald a triumphant return to the loud-ass guitars and creaky vocals that made early Dinosaur Jr. so . . . so . . . genius.

Now, if after you have done your homework you are still not convinced of J's guitar divinity then . . . you suck, so shut up . . . dummy.

I recently had the opportunity to interview J. He sounded about as baked as a Deadhead on Haight St. . . . make that burnt as a Deadhead on Xmas. Or how about as fried as an onion ring dipped in mustard? In any case not all that thrilled to speak with me. But hey — he's a rock star and I work for the man, so I didn't take it personal or nothin'.

J Mascis: (underwater creaky frog voice) Hello?

EQ: Hello. This is Jason calling from *EQ* magazine. May I speak to J please?

JM: (*Really quiet*) Yeah.

EQ: Is this J?

JM: (*Even quieter*) Yeah.

EQ: Hey! This is Jason from *EQ* magazine.

JM: (*Waking up a little*) Hey, how's it going?

EQ: Great, thank you, and yourself?

JM: Well, not too bad . . . (Followed by silence)

EQ: Um, okay listen, I know that often you record much of the instrumentation on your recordings, so I was wondering if you play to a click track?

JM: (Barely above a whisper) No.

EQ: Ummm . . . okay, well then . . . When you start layering your tracks what do you record first?

JM: Drums, usually drums.



EQ: So how do you know that you're in the right time for the other instruments you'll be adding?

JM: Umm . . . (*Laughs*). Mental time code. I just kinda sing along and play the drums.

EQ: Wow. You're that good? That's just plain scary dude. Some of the drumming is way over the top, double kick drum and all!

JM: (*Silence*.)

EQ: What is your favorite platform to record on?

JM: (*More Silence*.)

EQ: Do you use Pro Tools?

JM: Yeah. I prefer tape, but I got Pro Tools right now. I'm trying to figure it out a little bit.

EQ: [Pro Tools is] a whole other world than tape. The one thing I've always loved is the way you layer and blend your guitars. Are you trying any Pro Tools plug ins? Or do you still rely fully on amp and guitar to get your tones?

JM: (*Laughs*) I usually use like a Vox and a Tweed Bassman or a Tweed Deluxe, that's kinda most of the sounds. And then some pedals and stuff.

EQ: What kind of stomp boxes do you prefer?



GOD SLOW YOU KHANATE

JAMES PLOTKIN CRUSHES, DETUNES AND DETUNINGLY CRUSHES KHANATE INTO THE MOST BEAUTI- FULLEST KIND OF SONIC SLUDGE THIS SIDE OF JOHN CAGE.

JM: Ah whatever, ya know, whatever. For every album I try and get some different ones.

EQ: What about live?

JM: Older Big Muff.

EQ: Okay, this is the 25 billion dollar question: You've recorded a great deal of acoustic guitars over the years. How do you get a good natural sound when recording acoustics?

JM: The easy answer is the Ribbon Mic*. I discovered that at some point. I was like, every acoustic sound I have ever heard sounded like Heart or something. I was going through some pile of mics at some studio and one of them sounded different, and it turned out that it was a Ribbon Mic and that kinda opened my eyes to recording acoustic. It makes them sound a lot more normal. Also, when you're recording, um . . . just kinda point it down at the sound hole. —Jason Lally

*Granddaddy of the ribbon microphone the 77A is among the rarest of the RCA ribbons microphones. Designed by Dr. Harry F. Olsen, RCA's lifelong resident audio genius, during the late '20s and early '30s, the 77A set the performance benchmarks for all RCA ribbons to follow for the next four decades.

How to classify NYC ultra-underground outfit Khanate? Even bassist/production guru James Plotkin has to hedge a bit. "It sort of, by default, belongs to this doom-metal genre, but Khanate's sort of outside of the boundaries of that," he says by phone from Hoboken, New Jersey. "It's not like our intention is to make this incredibly ugly music," he asserts with a small laugh. "It's just sort of the way it happens."

If your standards of musical beauty are confined to things like melodies, beats, tracks that are less than 10 minutes long and lyrics that aren't about sharp objects and their application to human flesh, bone, and other tissues, Khanate indeed is ugly. And slow. God, is it slow. As Julian Cope once said of Khanate, "Slow is the new loud." ►

Tool Box



09



10



12



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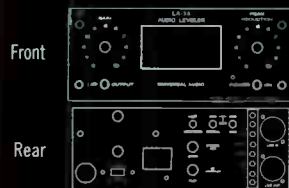
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SM Pro Audio, U.S. dist.

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Tool Box

BY KEVIN DWENS



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When fully loaded, this desktop workstation packs dual AMD Opteron 200 Series processors, dual-channel DDR registered memory, SATA II drive support, and "next-generation" acoustic dampening into a decidedly Darth Vader-esque chassis.

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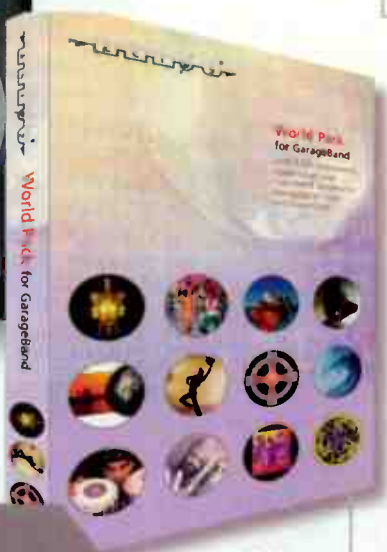
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05



06



07



08



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Tool Box



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ATTICUS ROSS

DATE: February 2003–
December 2004

STUDIOS: Nothing
Studios/Trent Reznor's
Home Studio

LOCATION: New Orleans, LA/
Los Angeles, CA

ARTIST: Nine Inch Nails

PROJECT: Recording Synths

ALBUM: *With Teeth*

PRODUCERS: Trent Reznor
and Alan Moulder

**PROGRAMMING AND
ADDITIONAL PRODUCTION:**

Atticus Ross

ENGINEERS: Alan Moulder,
Leo Herrera, Trent Reznor,

James Brown, and

Rich Costey

SOUND DESIGN: Trent
Reznor and Atticus Ross

Atticus Ross, like the Army, does more before noon (or midnight as the case might be) than most of us do in a year. Not only has he regularly spent the last two years — three weeks on, then three weeks off — recording, programming, and doing additional production and sound design on the new Nine Inch Nails album, *With Teeth*, but he's doubled that down with some Emmy-nominated compositions for The Hughes Brothers' *Touching Evil* TV series that aired last year, the Zach de la Rocha solo record, and Reznor's yet-to-be-released legendary Tapeworm project.

Add to that Ross' programming and instrumentation for bands like Bad Religion, Rancid, and Error, as well as remixes for The Transplants and Dillinger Escape Plan, and you have a man with a full dance card. So no surprise that right now, Ross is busy producing half of the next Korn record. What *is* surprising is that he took some time to explain to us the process used for recording the synths on *With Teeth*.

record was performance-based, this worked well with the theme.

One of the favorite hardware synths for *With Teeth* was the Vostok, which would often be hooked up to a huge modular wall with Doepfer, Analogue Solutions, and Metasonix pedals with various sequencers, drum machines, and other synths attached.

"We used a Kenton Pro 2000 for MIDI to CV with Trent's preferred controller for the modular being the French connection," says Ross. "Although this can be played as a regular keyboard, Trent performed many of the parts for *With Teeth* with the ring and thread."

"Even MIDIable instruments would be sent through external chains and recorded into the audio as performances," he says. A suitcase Synthi and 2 Sherman Filterbanks — chained together — were used as well.

In addition to the hardware synths, a lot of soft synths were deployed, including several from GForce: Ohm Force, ImpOSCar, Oddity, and the MTron. "Those would often be programmed in all sorts of different ways," says Ross. "Sometimes we would take that out through the modular, sometimes we would find stuff to do to it inside of the computer, or sometimes one synth would go into another synth just to get a different effect."

PROCESSING

The tracks were recorded to a Power Mac G5 running Pro Tools, but none of the modular tracks were further sound designed inside the computer. They'd be manipulated in terms of arrangement and such, but not sound design.

Reaktor was the most popular software synth and effects processor for *With Teeth*. "Everything in Reaktor is MIDI controllable," explains Ross. "So we would design patches using it as a processor where Trent could have a couple of controllers to manipulate the sound while he played. For instance, there is one Ebow effect that was achieved by Trent playing his guitar through an ensemble of strung together formant EQs while altering different parameters with two foot controllers."

MIC POSITION

Sometimes the Reaktor patches or other synths would be sent out through a cabinet like a Marshall, a Mesa, or a Vetta, or through a Diezel head. "But as neither I nor Trent are particularly well-versed on mic positions, the emphasis would always be on the source sound," explains Ross. "We usually just had a 58 close on the cabinet sometimes with another mic a bit further away."

TRACK NOTES

"Contrary to what people may think, there is very little beard scratching during a NIN session," says Ross. "We work fast with the music up loud and we have a good time. Decisions are made quickly with a simple philosophy: If it sounds cool — we record it. And if it sucks — we don't." EQ



"Contrary to what people may think, there is very little beard scratching during a NIN session," says Ross.

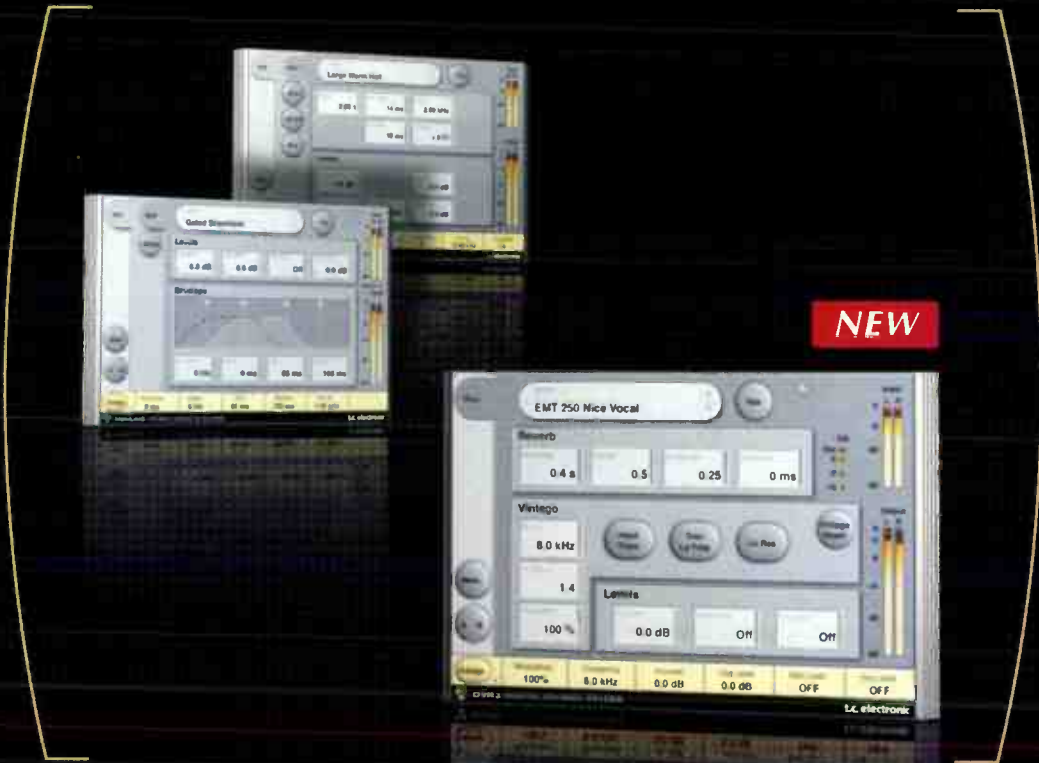
SIGNAL PATH

Most of the recording of the synths for *With Teeth* was done using an Avalon pre-amp, the Focusrite Liquid Channel, an SSL pre-amp or a Neve, going through a Lavy 2-channel A-to-D converter into Pro Tools HD.

For some of the tracks on *With Teeth*, Reznor played a Moog Voyager through a Fuzz Factory or a few other radical distortion guitar pedals. "And as he was playing, he'd be screwing with the guitar pedals," says Ross. "We'd record for a while and Trent would usually stumble into something that sounded pretty unique." Since the whole



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world radio history

KEN WALDEN: STEALING FROM THE PROS LIKE A PRO

COMPANY: Secrets of The Pros
CONTACT: www.secretsofthepros.com/
LOCATION: San Francisco, CA
KEY CREW: Engineer and Recording Specialist, Ken Walden.

Ken Walden beat the drums, played bass, and sang in bands for years before doing the musician-gets-a-day-job switch, landing himself a gig at a

recording studio in San Francisco. "We'd gotten to a point in my band where we needed to record our music, and so I got into the recording thing just because none of the other guys would," he says. "Plus, I was studying music in college and my instructor encouraged me to get a summer job doing engineering." Walden started working in studios south of San Francisco. Finally The Plant in Sausalito hired him, and he worked there for two years.

Before he knew it, Walden was engineering the greats of rock and roll — manhandling the knobs, faders, buttons, and switches, and finessing the cable connections as a first and second engineer for acts like Carlos Santana, Metallica, John Lee Hooker, and Sammy Hagar.

Secrets From The Pros

"I think the biggest thing you learn when you work with great producers and engineers is the stuff you hear: what tracks come in, where they take that to, and how to go about doing it," says Walden. "You take notes and you learn because you have to if you're expected to do recalls for these guys."

The hands-on experience taught Walden the essentials of old school recording and engineering. "When they say, 'I need this song up from last week,' you have to bring it up and make it sound exactly the same as it did from last week, with a pile full of gear in the room," he explains.

After two years at The Plant, Walden decided to launch another quest in search of a better audio education: the digital audio end of recording. He took on a gig doing tech support for Digidesign. He spent seven more years as a Product Specialist for Digidesign, training pros on how to use Pro Tools.

"While I was working in the field out at different studios, I realized that most people working on DAWs don't have a fundamental understanding of how — when you work in big studios — you do stuff in a very similar, functional manner," says Walden. "I realized a lot of people don't even know how to mic a drum or set up acoustics properly."

The Eureka Moment

After working with tons of top engineers in their studios, as well as new recordists just getting into their DAWs, Walden had his finger on the pulse of



the recording process. So he decided to write, film, and cut a DVD on *The Basics of Modern Recording and Mixing*, which he released in 2004, through his company Secrets of The Pros.

The first batch of DVDs quickly sold out, and distributors like American Music Supply, Sweetwater, and Sam Ash agreed to distribute the DVDs for him. Now there are over 80 stores carrying his DVDs.

The Basics of Modern Recording and Mixing DVD is also now endorsed by several A-list producers and engineers: Jason Stokes, Grammy-winning engineer for OutKast; Steve Duda, engineer for Nine Inch Nails, Sugar Ray, Rob Zombie, A Perfect Circle; and Mike Clink, producer and engineer for Guns N' Roses, Puff Daddy, and Metallica.

"With that DVD, if there are standards, I show them standards. And where there aren't standards, I say, 'There aren't standards,'" says Walden. "If you set up a good monitoring environment in a studio, then all you have to do is twist the knobs until what you hear sounds right and then you're good."

Preaching, Teaching

In February 2005, Walden released a second DVD, *Pro Tools DVD — Volume 1*. "There are some other Pro Tools videos out, but my DVD is primarily for music production," he says. "It's all the stuff you need to know about Pro Tools, shown in a way that if I was to show a friend how to use Pro Tools — this is how I would show them how to do it."

High quality gear is cheap and accessible, but the knowledge of how to use it isn't as readily available. "So knowing acoustics and how to set up a studio right is really important," says Walden. "Anybody could buy a DAW these days and have 32 or 100 tracks. But knowing what to do with it is a totally different game."

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MICROPHONE CARE

It's true. Almost more than true: Many of today's microphones can really take a licking *and* keep on ticking. But, surprise, surprise, they're *still* vulnerable to damage and failure. Investing a little more time and effort in the care of your microphones can help them live a longer, better sounding life. So if you're involved in setting up microphones for recording sessions? Yeah, you should keep these tips in mind.

Start by mounting your microphone securely. Select a mic stand that can handle the microphone's weight. A good rule of thumb is to behave as if the mic is 10 times heavier than it actually is. Double-check movable parts like booms and telescoping extensions to make sure they're tight and immobile. I like to weigh down the base of mic stands to help prevent tip-over. Objects like sandbags (or even those old barbells you never use anymore) are great for this application. Make sure the microphone's own mounting clip or

Show musicians where microphones are (even if they're, and this is important, in clear sight) to help their spatial memory and blast through possibly years of aggressive mic abuse habits.

shock mount is in good shape and securely mounted to its stand. While "quick release" clips are popular, I'd rather spend the extra 30 seconds to thread my mic clip to the stand. Perhaps the cause of this was witnessing a poorly mounted AKG C414 fall 10 feet from a boom stand onto concrete, thanks to a worn quick-release clip. (Kudos to AKG: the mic survived with only a dented grille.)

Microphone cables can also be a safety measure — though you shouldn't rely on them too much. A couple of loops of mic cable around a boom stand (not too tight) may be the only thing between your mic and the floor if something comes loose.

The XLR-type connection most microphones use employs a small clip, which secures the connection. Because these can wear out over time, be sure that your XLR cables still have this clip mechanism in place and that it works. Without these clips, mics can easily fall away from their lifeline. When connecting and disconnecting microphones with XLR connectors, use extra care to completely depress this clip before pulling the cable and mic apart. It doesn't seem like a big deal, but rushing and tugging through a simple process like this can slowly loosen the microphone's XLR connection. I've seen the "guts" of more than one mic yanked right out by their XLR connections.

Phantom power (48-volt DC) is another factor to consider when connecting and disconnecting microphones. While many dynamic mics can tolerate DC current,

phantom power should only be applied to condenser microphones that don't have their own power supply. When possible apply phantom power only after a condenser mic has been properly connected. Ribbon mics can be particularly vulnerable to damage from phantom power so this combination should be avoided.

Moisture can threaten the life and quality of a microphone. The most common cause of moisture accumulating on microphones is — you guessed it — people. Every time we breathe out, water vapor is released from our lungs. Add the act of singing or speaking, and tiny droplets of fluid can be included. Over a prolonged period of time, these tiny amounts can add up. Even with built-in screens, some of this moisture can make it onto the microphone's main transducer. The mere presence of moisture can cause a gradual decline in sound quality. There's also the possibility of microbes like mold and mildew growing on the element. Various forms of protection can be applied. Consider using windscreens around microphones (some users report that these can compromise tonal quality — judge for yourself). Although they're designed for a different reason, nylon pop-filters can also help deflect moisture. To further reduce accumulation of moisture, store your microphones in a dry environment.

On the subject of storage, consider how and where you're storing your microphones. Designate a place where all your mics can be placed at the end of the day. While Fort Knox would be nice, a sturdy road case or cabinet will do just as well. The best packaging for your mic is usually the box it came in.

Another cause of mic damage? Musicians. In studio, musicians often focus squarely on making great music. As a result, the ever-present microphone gets forgotten. Show musicians *where* microphones are (even if they're, and this is important, *in clear sight*) to help their spatial memory and blast through possibly years of aggressive mic abuse habits. If they're not already seasoned musicians, offer them a little tutorial on how to handle and treat microphones. Encourage vocalists to avoid grabbing microphones or stands while performing. While positioning is critical, be conscious of how musicians interact with their instruments. For example, watch a drummer play to see where he or she most commonly strikes, then try to position mics where they're least likely to get whacked by a stick.

While these tips are useful, also be sure to check the documentation for your microphone for the manufacturer's recommendation on care. Take just a little extra time when handling your microphones. After all, they're both a monetary and a sonic investment.

Todd G. Tatnall is the Senior Tech in Sweetwater's Technical Support department.



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THE MARA

The setup is simple: 25 bands. 25 hours. Straight. No sleep. OK, OK, maybe not so simple.

THE IDEA

It was one of those things that just "popped" into my head on the three-hour drive from Columbus, Ohio, to the Pittsburgh Ikea store. I kept it to myself. For awhile. But at a fellow musician's wedding, I brought it up to some other musicians and they loved the idea. So I figured I said it out loud, now I've got to make it happen.

ENGINEERS

At Workbook Studios, either Jon [Chinn] or I run 85% of sessions. There is usually one intern in place and we have several other engineers who run sessions out of Workbook. I called them all. We rotated on a two-hour basis, with everyone except the intern taking several shifts. The session basically ran in this order:

Videographer (take video) > **General Assistant** (help bands load in and out, run errands, keep place tidy) > **Stage Manager** (timekeeper, get the release form signed, discuss with bands what to expect, help arrange

gear) > **2nd Engineer** (be legs for 1st in setting up mics) > **1st Engineer** (run the session) > off

TIMESLOTS

I signed up bands on a first come/first pick-at-what-time-you-want-to-record basis. Everyone had a different reason for why they signed up for a particular time. One band requested the "worst" slot (THE SHATTERS, 7am), another wanted either the first or last (HOUSE OF HEROES, 4pm). Luckily, I had one band on standby in the event of a cancellation, which happened a day before the event. What I hadn't planned on was another band canceling after the event started, but after a flurry of phone calls, I managed to fill that slot (thanks THE CHEAT! 4am).

The bands chosen were mostly new clients. After having my daughter, I hadn't been out as often so I asked for input from two local music websites (www.cringe.com and www.donewaiting.com) and from the other engineers. This was a great opportunity to get some new people to see our studio. Other bands were



HONOR MEN

by Neal Schmitt

loyal clients to the studio and it was a great way to thank them for their support.

GROUND RULES

As a promotional tool for the studio, I needed the end product to look and sound good. But that kind of contradicted the parameter of "one hour per band" that I set up.

Bands were asked to keep their songs under three minutes. Without this parameter, the end result would have been a double CD or mp3s. Still, not all bands followed this rule, but it worked out OK without any editing.

Bands would not leave with their mix on CD. We figured the five minutes or so it might take to bounce and burn a disk was about 10% of their allotted time and thus, too valuable. MP3s were posted to the Web several days after the event.

Without establishing all of the sounds beforehand, we decided to have quality gear in place to eliminate:

- a) too much confusion
- b) questionable gear

Bands were told this gear would be available, but were also given the flexibility to bring their own if desired.

GEAR

DRUMS

Drummers could pick between a Premier Birch Drum Kit and a Ludwig Vistalite Bonham reissue kit (with its huge kick drum and rather crazy sound). Both were set up in the live room at the same time. Drummers brought their own snares, kick pedals, sticks, and cymbals.

Microphones on the drum kit included:

- 1) Kick -EV RE20 into dbx 160a
- 2) Snare Shure SM57 into silver 1176
- 3) EV 408 for hi tom
- 4) Senn 421 on med tom
- 5) Senn 421 for floor tom and all through our TASCAM 3700 modified by Audio Upgrades
- 6) AKG 414s were set up in X/Y into a Vintech 1272 into the Urei 1178 as overheads
- 7) AKG C4000 was the room mic

These mics stayed plugged in and were moved to the appropriate kit. It sounds like it should have stayed neat but over the course of the session, that certainly wasn't the case.



THE MARATHON MEN

GUITARS

A local guitar store loaned us a Marshall Plexi 100 watt and a Hi-Watt combo amp for guitar players to choose from. One engineer brought his Mesa Triple Rectifier for bands to use. Workbook also made available our amps, including a Fender Showman, Fender Super, and Sovtek Mic100. Mics on the guitars included a Sennheiser 609, SM57, and beta 57. Preamps included an Ampex tube pre and Studio Technologies Mic-Pre-eminence.



Tools that allowed the initial tracking to get started quickly. The idea was that as a band did vocals in the vocal booth and mixed, the next band could start getting their tracking gear in order (by picking guitar amps and putting it place, tuning guitars, arranging drums, and so on). With only a few exceptions, every session went right to the top of the hour. As soon as the mix was declared finished, the Pro Tools session was saved, the template was opened, and

we immediately started getting new sounds.

One band (GARNET & THE KLUMBIS LITERATI) was still figuring out the bass part and his session went maybe 10 minutes over. The next band started to panic, but stepped up and knocked the song out quickly. Ten minutes doesn't seem like a ton of time, but everyone was aware that there were only 60 to work with.

Three bands (EL JESUS DE MAGICO, THE CHEAT, and THE FGD'S) recorded their vocals live. So they were able to record several takes of their songs and pick the best. The

BASS


Bass was run through an Ampeg SVT Pro head and an Eden 4x10 cabinet. Tracks were recorded with a Tech 21 SansAmp Bass DI and Beyer m88. Preamps on the Digi 002 seem to work really well with the SansAmp.

SESSIONS

We use Pro Tools LE/002. A template was set up with Pro


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THE MARATHON MEN

FGD's used a 58 and just listened on headphones. For the other two vocalists, I ran a Shure Green Bullet into the Fender Super, miked with a Neumann u87.

And All The Bands Showed Up

I thought for sure we'd have some latecomers, but there was only one band that pushed it and only because the bass player had driven through the night returning to Columbus from Chicago. I thought for certain late, late night slots were in danger of not happening. 5am, 6am, 7am, 8am. Now, not all of the musicians were sober, and I didn't want to ask who had driven down to the studio, but dammit they all showed.

Jay from TUML (Fri 5pm) showed up on Saturday just to see how we were doing. While I thought I was holding it together pretty well, I was informed that we all "looked like crap!"

I was pretty proud of myself for not napping along the way, but during the mixdown of the last band, after everything had been cleaned up, I sat down. That was my mistake. I was told I had a huge smile on my sleeping face.



The Final Mile

I mastered the tracks in Wavelab. I was careful to not be too heavy handed. It needed to sound good but it also needed to sound honest. Mastering is sometimes to blame for killing dynamics.

But one song had a guitar solo drop out half way through. Another had some clipping in the guitar track that was pretty ugly. The biggest problem was on the GARNET track. When the session was brought up for the bounce, tracks were missing from

the session. They were recorded, just not in the last saved version of the session, so that song had to be tweaked a bit. Except for those three, nothing else was done to the tracks.

And stumbles? Well, there were a few: The computer had some hiccups about three hours in. About six restarts later we were up and running, but I had no backup computer in place. Thinking about it, I didn't have enough analog tape either. Ooops.

After the CD release show, one band member commented on how I'd raised the bar on "pot couch ideas". While I like the phrase, I can assure you, this was a sober idea. Crazy, but sober. EQ

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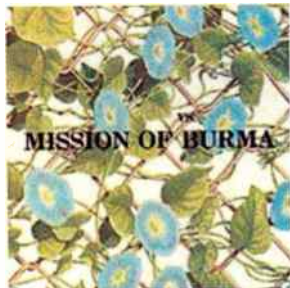
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Then & Now:

by Nick Blakey

There's no other rock band in the world that *sounds* like Mission of Burma. Abrasive yet melodic, loud *and* soothing, Burma were formed in Boston, 1979, by Roger Miller (guitar), Clint Conley (bass), and Peter Prescott (drums), and later joined by tape manipulator/soundman Martin Swope. The group released two 45s, an EP (*Signals, Calls, and Marches*), and an LP (*Vs.*) in their initial time together, all of which were produced by Richard W. (Rick) Harte and released on his own Ace of Hearts Records. Disbanding in 1983, mostly due to the tinnitus that had worsened in Miller's ears, the group inexplicably reformed in 2001 (with engineer and one time Prescott band mate and Albini familiar, Bob Weston stepping in for the absent Swope), releasing a new album, *ONoffON*, on Matador in 2004 while continuing to sporadically perform live.

In comparing *Vs.* with *ONoffON*, there are similar sets of circumstances in the recording process for both (24-track analog) and differences as well (22 years, the advent of digital technology). In discussions with Miller, Conley, Prescott, Harte, and Weston, an attempt was made to bridge the two albums and link the Burma of then with the Burma of now.



Vs.

Produced by Richard W. Harte. Recorded: January - April 1982, Normandy Sound, Warren, R.I.; Engineer: Phil Adler; Mixed: Soundtrack, Boston, MA. Engineer: John Kiehl; Mastered by Ted Jensen at Sterling Sound. Released: Summer 1982

Roger Miller: We tried to capture the live thing on *Vs.*, but, quite clearly, we captured something else.

Clint Conley: We were going for the Goldilocks approach: The 45 was overproduced, the *Signals* EP was underproduced. We were looking for something that would go well with oyster crackers.

Peter Prescott: That whole notion that something can't express a punk rock sentiment unless it sounds like lo-fi is the biggest pile of crap. I mean, the Sex Pistols record . . . that's one of the most produced records I've ever heard. No record that Burma ever made was particularly lo-fi, and I think what we were looking for was how to make it more intense.

Rick Harte: The band was very loud at this point. Not Blue Cheer loud, but loud. I wanted an environment where these tones could be recorded and where the ambient information would be available, so the idea was to record the room and to record the band, and the way to do this was in a big, accurate room. On every record, my first goal is to maintain as much low-end on the record as possible, because on the songs that I like, they have gigantic low-end and it's exciting to see the room shake when you play them. The idea is you want to feel the kick drum and feel the bass, not just hear it. I think I lost track of that goal a little on *Vs.*, but I gained everything else.

RM: With Rick fully in line with our thoughts, we all recorded in the same room with limited baffles between the instruments so there was plenty of bleed.

RH: Bleed is music, and bleed is a good thing.

RM: We recorded the songs in five-song sets, in a row like we did live, so sometimes songs would interconnect. After a couple of those five-song sets, we'd see what was a keeper. Then we'd do another five-song set until we either got keepers for everything we wanted, or got fed up with ourselves.

RH: The setup was basically everything. [The band] would be set up to simulate the live performance so that the band members would be in the same proximity to each other as they were live to create this comfort. [At] Normandy, I was told that it would not work, and I became angry because at that point no one would have dared say that to me. If I had brought zebras out in the room and put mics under them, people would go, "this would probably work." But Phil [Adler] didn't agree with it, and he was bucking the system all along. The floor tom did not get recorded. The machine showed the floor tom being recorded, with the levels, but it was probably the bleed. The bottom line was there wasn't a floor tom on there.

RM: When we mixed, Pete had to overdub some floor tom parts because they were inaudible. But, on the other hand, it gave the whole mess a certain edge.

RH: As time went on, I really respected what Martin Swope did, and I realized how revolutionary his work had been. But initially, I bucked it, because in the studio it was an overdub, an afterthought. He would put his loops on the records often during the mixes. I was not as open minded as I could have been or should have been about his role. If I had been, and had been embracing it more, I would have demanded or asked to find a way to have the loops generated during the recording process, which was more what happened on *ONoffON*. I wish Martin had said, "we should be doing these things while this goes down." It never came up. In the end, though, the recording was exactly what it should have been, and it was Phil and the other engineers that were working in the studio who came in and asked to take the pictures (of the setup) when they heard what it sounded like.



ONoffON

Produced by Mission of Burma. Production assistance by Richard W. Harte; Recorded and mixed October/December 2003 at Q Division, Somerville, MA, by Bob Weston; Mastered by Ted Jensen at Sterling Sound; Released: 2004

Bob Weston: We were just setting out to make a good record. There was no agenda to try and recreate or distance ourselves from the old recordings. It was the band (including me) and Rick in the studio. I was the engineer. We all produced it. Rick helped as an extra set of ears, and as a production link to the old recordings. We were just recording Burma . . . they sound how they sound. I suppose that both my

Mission of Burma





Missionary positions: MoB's rooftop redoubt circa 1982.

particular studio techniques and my having listened to the old Burma records millions of times influenced how *ONOFFON* came out.

RM: Bob is a fairly adamant analog guy, though he knows how to use digital technology very well. Digital or not is not an issue to me — as long as the A to D is good. I consider that it's getting less and less important. However, I support the analog-o-philes in their quest for quality.

RH: I was blown away by how good Bob was, engineer-wise. I didn't know if it was going to work out or if I would feel like an extra because of the situation, but he was the one that initially asked me to become involved. I felt really good about my contribution, and when I finished doing it, I felt I had really been on.

BW: I thought Rick's input would be valuable and would add some continuity to the band's recorded output. He wasn't there every minute, but he was there for a lot of it and his comments really helped: mixing comments, as well as helping to pick takes during basic tracking and vocal overdubbing. I made all technology decisions: amp locations, mics, preamps, routing, tape choice-speed-EQ-levels, control room monitors, drum tuning, etc.

RH: We worked as a team on it. I produced a lot of the vocals, and it was very, very aggressive. And the band permitted me to be very brutal, meaning that they seemed very open to it and I was able to push the envelope on making the vocals as good as possible.

RM: It's what it is, and it's good, as far as I can tell. There was nothing we could have done in a natural fashion that would have made it sell more or less copies. As usual, we didn't care that much. We had another agenda, and that was to bring Mission of Burma back to life on a recording as gracefully and accurately as possible. It seems that we didn't fail miserably.

CC: I finally got a good bass sound — I like the way Peter and I

toil together in the dark, sub-intelligent regions while Roger showcases his fabulousness.

PP: The least produced record we've done by a huge stretch is *ONOFFON*. I think the biggest fear Weston had was screwing with it, so his hands are off of that. So, Rick was there, but essentially it's not produced. I understand that to everybody else it does sound produced, but who knows, maybe the other records we made before weren't that produced either.

BURMESE MATERIEL

vs.



Roger Miller: Two Fender Lead I guitars, 50-watt Marshall combo amp. Vacu-Fuzz and Vacu-Trem. Cornet, Piano.

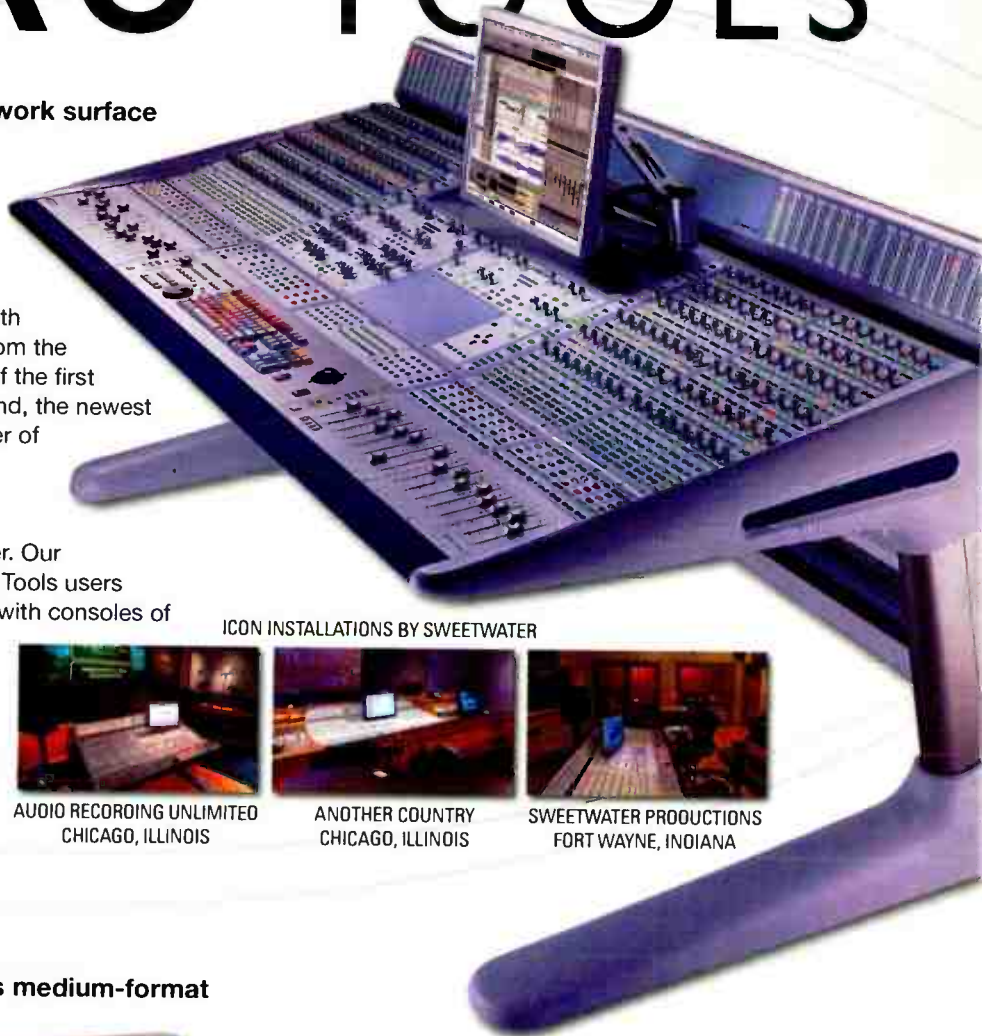
"I started off using a Big Muff Pi," says Roger Miller, "but, as is often common with Electro-Harmonix, their units' quality varies with time. Its volume didn't work for me around 1980, so (producer) Lou Giordano was recruited to build a better fuzztone mousetrap. He took apart the Big Muff Pi and proceeded to obliterate it with the "Vacu-Fuzz" (titled because Lou had played in a band called the Vacuum Heads). I also had been using a terrible Peavey Guitar amp (it's used on the first 45) that had tremelo. When Clint wrote "Tremelo" while I had that amp, the tremelo effect became a major part of the song. So when I bought the Marshall 50-watt and it didn't have tremelo, Lou was recruited again for the Vacu-Trem. He cranked that baby up to the max also — at slow tremelo it almost sounds like a delay ("Trem Two"). At all knobs on 11 it does a weird amplitude modulation that sounds like six or seven guitars all playing microtones apart. Truly bizarre. (When I was in No Man, I had Bob Weston modify the "speed" pot so that it could be run by a volume pedal — I use that effect on the Burma song "Max Ernst's Dream"). ➤

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Clint Conley: Fender Jazz bass. Rick Harte states that Conley was using a Sunn setup for his bass rig, but to quote Conley: "I hope I wasn't using that hideous fuzzy Ampeg solid-state thing that I used live... can't honestly tell."

Peter Prescott: 22" Slingerland drum kit (green), 22" kick, 12", 13", and 18" toms, Slingerland snare drum, Ludwig Ghost drum pedal, two Zildjian cymbals plus Zildjian hi-hat.

Martin Swope: Braun two-speed reel-to-reel tape deck.

"Martin used a Braun tape deck that had two speeds probably, says Miller. "During soundcheck, he would cut three or four tape loops, a couple feet or so in length (circular, of course, once he taped them together). They would always be blank. During a performance, he would record material while the band was playing a song — usually these bits would be pre-worked out (a vocal bit, drum hits, guitar noise, etc.). Then, while we went on playing, he would feed this back into the mix at the appropriate time: Sometimes he had twisted the tape half-over to make it play backward, or drop or raise the speed the tape was playing at, whatever was appropriate. Sometimes he would use the tape recorder as a slap-back echo. One nice feature of the Braun is that when you changed speeds on the fly, it would "glissando" down or up to the next chosen speed. Thus the slowing down of the vocal loop at the end of "Red". Sometimes the composer of the song would have an idea for Martin, and sometimes he'd come up with an idea and clear it with us. When we approached Bob Weston to fill Martin's position, we told him he could use current digital technology (which accomplishes Martin's antics in an easier fashion). However, Bob opted for maintaining the original integrity, and used a tape deck (an Otari MX-5050). Bob learned Martin's parts as a starting point, but has added a lot of his own gestures, especially in the new songs.

NORMANDY SOUND (RECORDING):

Rick Harte: "Normandy had a larger array of mics, plate reverb, a tile room, an LA2A, and good compressors."

Board: MCI

Tape machine: MCI 2" 24-track running Ampex 456 at 30 IPS, Pultech EQs.

Recording: Breakdown of the master reels and what microphone was used per track/instrument:

- 01: Kick drum in (Sennheiser 421)
- 02: Kick drum out (AKG D12)
- 03: Snare drum top (Shure SM81)
- 04: Snare drum bottom (Neumann KM84)
- 05: Hi-hat (AKG 414)
- 06: Toms (Sennheiser 421)
- 07: Toms (Sennheiser 421)
- 08: Overhead Left (AKG 414)
- 09: (Not used initially, but later for floor tom and other overdubs)
- 10: Overhead Right (AKG 414)
- 11: Bass (mic) (Neumann U84)
- 12: Bass DI
- 13: Guitar (Sennheiser 421 & Shure SM57)

14: Roger Miller vocal (Neumann KM84)

15: Peter Prescott vocal (Shure SM81)

16: Clint Conley vocal (Neumann KM84)

17: (Not used initially but used later for overdubs)

18: (Not used initially but used later for overdubs)

19: (Not used initially but used later for overdubs)

20: (Not used initially but used later for overdubs, often Martin Swope's tape loops)

21: (Not used initially but used later for overdubs)

22: Ambient (Neumann U87)

23: Ambient (Sony C500)

24: (Not used initially but used later for overdubs, often Martin Swope's tape loops)

SOUNDTRACK (MIXING):

Rick Harte: "We didn't mix at Normandy because it was too far from Boston. They wanted us to, but the idea of driving down there was like driving into a black hole. I still don't even know where the place is. I've been down there hundreds of times. It was out in the middle of nowhere, but the idea of going down there was kinda dreadful. It was hard to tell them that, I used to say it was too far."

Board: Neve with Neve modules.

Tape machine: Studer A800 2" 24-track running at 30 IPS to Studer 1/4" 2-track, Pultech EQ's.

Effects: 1176 compressors, DBX, slap reverb, spring reverb, and EMI plates.

Sterling Sound (Mastering):

Mastering: Ted Jensen's custom Neve board. Mastered to Studer A80RC 1/4" with convertible heads running at 30 IPS with no noise reduction.

BURMESE MATERIEL



ONoffON

Roger Miller: Fender Lead I guitar with a hotrails-type pickup. 1960's Kay guitar with a hotrails type pickup. (RM: "This guitar, named 'Mr. Science' after the gentleman in Madison, WI, who conjured it up for me, is tuned unorthodoxly: There are three low E strings (48's) tuned to low E, and three G strings (17's) tuned to G#."), Burns Steel guitar with two pickups, Brownsville Thug with two Alnico pickups, Danelectro baritone guitar (RM: "Both Clint and I used this, as a doubling instrument. Perhaps that's why the sound is too thick even for me at times!"), Marshall JCM 50 watt amp, Ampeg as a second amp (RM: "I didn't use the second amp much in the sound — it was mostly for subtle textural variations.") Vacu-Fuzz and Vacu-Trem. Piano.

Clint Conley: Fender Jazz bass, Danelectro baritone guitar, Sunn guitar head, SVT cabinet.

Peter Prescott: 22" Slingerland drum kit (green), 22" kick, 12", 13", and 18" toms, Slingerland snare drum, Ludwig Ghost drum pedal, two Zildjian cymbals plus Zildjian hi-hat. Casio SK5 sampling keyboard.

Bob Weston: Otari MX-5050 reel-to-reel tape deck.

BOB WESTON ON MISSION RECORDING

Board: Neve 8068 desk.

Tape machine: Studer A-820 2' 24-track running Emtec 900 at 15 IPS, CCIR EQ.

Recording: For microphones, I use whatever suits our needs and is available. I bring a case with a bunch of my own mics.

And Q had a real good selection, too. I'd need to look at the track sheets to know exactly what I used. A few things I remember: I probably used small diaphragm condensers on the toms: top and bottom heads bussed to a single track per drum. I think I remember using a pair of U67s as spaced overheads. Maybe.

I usually put a pair of B&K 4006 mics out in front of the drums taped to the floor to make fancy PZMs. But I don't think we used them that much in the mix on this record.

We had a different vocal mic setup for each guy. I think Peter



The difference between a porcupine and a rusted out Chevy: Bob Weston (standing, rear) with Mission of Burma.

was an RE-20. Roger was some old tube Neumann. And Clint was one of the Soundelux condenser mics. I really like those.

No DI on the bass. Probably two mics to separate the tracks. Two or three mics on the guitar to separate tracks.

Basic track guitar/bass/drums were all kept through to the final mix. Not replaced.

Q has a Neve 8068. I'm sure I used those mic pres for most everything. Along with some APi's

that were racked up by Alacronics (property of Carl Plaster).

I monitor through B&W Matrix 805 speakers.

I did string overdubs on two songs with my laptop while I was touring with the Rachel's in Port Townsend, WA. I used Digital Performer and a MOTU 828 Mk II. You can generate SMPTE with DP and the 828 and lock the computer to the 24-track. I dumped rough mixes of the songs into the computer for Christian and Eve to play along with.

Also, on "Wounded World", we ran out of tracks and so I used DP to buy us a few extra tracks for the children's chorus and some acoustic guitar. I think. ➤

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AURAL HISTORIES

Then & Now: Mission of Burma

Mixing: Mixed to the best tape recorder ever made: Ampex ATR-102. The stereo master was 1/2" 30IPS, Emtec 900 tape. Occasional plate reverb. They have a nice sounding plate at Q.

I did that drum bus-compression trick that lots of people seem to use. I almost never do that, but it worked for these mixes. You have your normal drum mix going to the stereo bus, but you also bus the drums to a compressor and bring the compressor output up on two channels of the console. So you add the compressed drum mix to the uncompressed drum mix. And you can

vary the balance between compressed and uncompressed. I used a Neve compressor.

Mastering: At Sterling, the mastering EQ and limiting was analog. When available, I prefer to use a 2" multitrack machine and to mix down to a 1/2" stereo master. The only time things went digital is at the mastering lab, after Ted Jensen did analog EQ and limiting, the analog signal went through the hot-shot A/D converters at Sterling for the CD and SACD production.

We even sequenced in analog with splicing blocks and tape. In fact, the LP version is an AAA production. Analog multitrack. Analog stereo master. All-analog mastering transfer. I'm not scared of digital, but analog is an extremely mature format, sounds great, and has excellent archival stability. Why change? SACD sounds pretty amazing, as far as digital goes. But, unfortunately, I think Sony just dumped it.

ROGER MILLER: FULL SPEED AHEAD

Perhaps the most instantly recognizable aspect of the unique sound of Mission of Burma is the whirlwind powerhouse guitar playing of Roger Miller. Wrenching complex and rather otherworldly sounds out of his decidedly unhip Fender Lead I, it is often hard to believe the sheer amount of sound Miller can get out of a single guitar and amp.

Miller states: "I chose the Lead I because it was a brand new model of guitar, and no one had 'made a mark' with it, so I could start off with a fresh slate to make my own marks. In actuality, Lead I's aren't particularly great guitars. I've put on new pickups (hotrails types) because the original pickup was kind of slack. I'd had trouble with the Stratocaster because Hendrix had already wrung so many amazing sounds out of it, and I was using a Marshall Amp, so even the sound of the feedback automatically sounded like Hendrix. I just wanted something of my own. I also had used a Telecaster — I still love Telecasters — but the sound wasn't quite right for the band."

When asked in conclusion what his favorite recording of himself is, Miller replied, "on five different days, quite possibly five different answers. If, at the Pearly Gates, someone was to ask me right now which guitar-based disc I'd pull out to prove that I shouldn't be roasted in hell, I'd pull out Burma's Vs."

Miller then added, "I'd probably end up being roasted. . . ." EQ

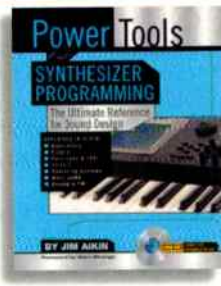
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THE LOST ART OF KEEPING SECRETS

Like some kind of Fritz Lang-like shadow skulker Joe Barresi fulfills the entire essence of the great-unwritten production canon for greater guitar-based rock, quietly and in one fell swoop: make no records that suck.

Let's assume, just for a second, that you're in a band. A really good band — with a particularly unique guitar sound — that happens to sell a few records here and there. And you don't necessarily want every gear fetishist and home-studio commando to know, exactly, how you got "that sound." If you're looking for a producer with tight lips and the skills to handle your very, uh, *specific* needs, Joe Barresi is your man. From the Melvins and Jesus Lizard to Weezer and Anthrax; from Kyuss and Queens of the Stone Age to Tomahawk and Monster Magnet, Barresi has engineered, mixed, and/or produced them all. Sometimes he multitasks and does all three jobs at once. He's good like that. Barresi's latest and most confidential contribution to the rock n' roll universe is Queens of the Stone Age's *Lullabies To Paralyze*, an album he engineered, mixed, and co-produced with Queens mastermind/guitarist/vocalist Josh Homme.

Back in 2002-03, while teenage girls were wetting themselves over million-dollar faux-punks like Good Charlotte, and 35-year old alt-rock holdouts were getting a little too excited about the underwhelming Jane's Addiction reunion, the Queens' third album, *Songs for the Deaf*, went platinum (quietly, confidently, and with Dave Grohl on drums) on the strength of three hot singles ("No One Knows," "Go With The Flow," "First It Giveth") and a globetrotting tour schedule that included a six-week stint on the main stage of Lollapalooza, where they exposed the headliners (Incubus, Audioslave, Jane's Addiction) as the preening corporate show-ponies that almost everyone with a modicum of taste suspected they were anyway. When Queens went home to peel off a follow-up — after the well-publicized firing of Homme's longtime co-conspirator/drinking buddy/bassist Nick Oliveri — Homme called in Barresi to record the aftermath. They'd worked together before, so that was a bonus, plus . . . well . . . Barresi knows how to keep his mouth shut.

Hence, the precise recording methods used for *Lullabies to Paralyze* are shrouded in secrecy, as are those of the first Queens of the Stone Age album (self-titled), which Barresi also engineered and co-produced. The information blackout even extends back to Homme's days with riff-rock druggernauts Kyuss, who recorded four thick, dizzying albums (Barresi worked on the last three) before going ass-up in 1996. Disinformation is occasionally the name of the game (most interviews Homme does with gear/tech publications are riddled with highly entertaining lies — see sidebar), but Barresi has apparently sworn some kind of blood oath. He

won't make stuff up, but if the question cuts a little too close to the bone, you (we) just won't get an answer. "The system has been in place since Josh has been playing music," Barresi explains. "He came out of the [Palm] Desert, and he had his own sound going on. He played through a certain kind of amp, and he was — and is — a very unique guitar player."

"Ever since [the first *Lullabies* single] 'Little Sister' came out, people have been asking me, 'What's with the guitar lead, dude—what is that?'" says Homme. "And I'm like, 'Oh, that's a none-of-your-business plugged into go-screw-yourself.' But that's part of what makes it cool — we have secrets, and we guard 'em. That's what makes it sound different. And it's fun to have a dirty little guild in the studio with someone you trust. Joe and I revel in the fact that we both speak the same language, and no one else does. It might be Pig Latin, but it's still Latin, you know?" Homme's elite sonic entourage extends to Queens' live performances — he's had the same sound man, Patrick "Hutch" Hutchinson, since the Kyuss days. "I haven't played a show without Hutch since I was 19," the now 31-year old Homme explains. "And, I mean, why would I? It's as intimate as it can get without being a gay bar."

HIGH ALCHEMY, WEIRD SCIENCE

Despite what little he can give by way of specifics, Barresi *will* speak in general terms about the Queens' formula — or lack thereof — and even the decidedly vague nature of his comments occasionally yields a fragment of insight into the studio philosophies of both Kyuss and Queens. "Besides up-front mics, we always had something to capture the ambience or the bigness of the sound," Barresi offers. "That's always been consistent. We never use conventional microphones, either — that's another big thing. It's always been about maintaining the uniqueness of the band by capturing them with unconventional mics. We'd *never* put a 57 in front of a cabinet — it was always, 'Let's try *this* mic — what does that sound like?' Even when it came down to tube mics, it was always the oddball tube mic that no one else liked that we ended up using." (Homme concurs: "Use the crappiest crap incorrectly," he suggests, "and you'll get the best sounds you've ever heard.")

Barresi does describe a session in which Kyuss actually did use a 57, if not in its traditional capacity. "On Kyuss' *Blues For the Red Sun*, I had the guy assisting me lay on the ground and swing a 57 in the air in front of Josh's rig to get a flanging guitar tone," he says. "I think it was on the song 'Thumb,' actually. I read about it in some old 'modern recording' book from 1960 or something—they have all kinds of stuff like that."

by J. Bennett
photography by Joe Toreno



"We never use conventional microphones, either . . . we'd never put a 57 in front of a cabinet. . . ."

Other unconventional recording methods Barresi employed in early Kyuss sessions have since become much more widespread. "[With Kyuss], we started using an Ns10 in front of the kick drum, which everybody does now," Barresi points out. "But Queens use it live as well. They also use a Blue Ball on the snare — we actually used quite a few of those on *Lullabies*. It's just a different sound, plus it looks weird. I actually just bought a red one, and I'm bringing it to them tonight, because [Queens drummer] Joey [Castillo, ex-Danzig] is using a red kit."

Tonight, Queens will bring both the rock and the roll to a packed house at the Henry Fonda Theatre in Los Angeles, giving some of the songs from *Lullabies* their Hollywood debut. They'll even haul out ZZ Top guitarist Billy Gibbons for a guest shot on "Burn the Witch" (Gibbons busts a solo — and a "beard harmonic" on the studio version) and a cover of ZZ Top's "Precious and Grace" sung by ex-Screaming Trees vocalist/longtime Queens collaborator Mark Lanegan.

According to Barresi, live is how Queens work best, even in the studio. At work in Sound City Studios in Van Nuys, CA ("near the In-N-Out Burger"), Barresi spent more time methodically dialing in the sounds than he did recording the music. "There were so many songs, so the only challenge was to make each song unique. We wanted to track it live, so we'd spend whatever it took to get the song right, and then we'd just cut it a couple of times and it'd be done. And then punch in on a guitar or a bass if there was a mistake or a change in plans or whatever." Barresi also spent a lot of time switching mics and amps around. "We used a lot of different mics, even for vocals," he confirms. "From weird, old mics to Leslie cabinets. We used a lot of different *places* for vocals, too — from the corner of a room or a bathroom to an actual proper vocal booth. At one point, we even had Josh singing in the control room about three feet away from me."

On at least one occasion, Barresi employed the old jazz technique of one mic, one room. "On the beginning of 'The Blood is Love,'

there wasn't very much close-mic stuff at all," he explains. "It was a mic in the middle of a circle of guys playing, so it was more about turning up each individual amp to balance it in the microphone. I've got a friend who works with Keith Richards and does a lot of blues records, and he's always telling me how they all play together without headphones in a circle, and if you don't hear enough bass, you just turn the bass player up a little, or move him closer to the microphone. I adopted a lot of that technique for this."

For *Lullabies*, Barresi and Homme also employed a peculiar method in which the drums and cymbals are recorded separately. "I've been recording drums without cymbals for a bunch of records now," Homme explains. "It sounds really scientific and super-anal, but it isn't. It's just part of a whole cache of doing things that aren't normally done, and it allows you to continue down that road. If there are no cymbals bleeding into all the drum mics, you can do things with the drum mics that would be impossible otherwise." (According to Barresi, they'd tape contact mics to the kick and snare, and add that to the drum sound.)

GUITARS THAT RULE THE WORLD

While details on *Lullabies* remain intentionally vague, Barresi is free and easy with the wisdom when it comes to other bands he's worked with. There have been plenty of them, mostly because it seems he's become the *de facto* producer for guitar bands. "It's all word of mouth," Barresi says. "I'm a guitar player, so I have a lot of gear. I think I end up working with a lot of guitar bands because I have a lot of guitar crap, and I spend a little more time on that stuff. Take a band like the Melvin's — even though there's only one guitar player, they're a very experimental band, guitar-wise, so you're able to do more weird stuff and it comes across as cool and unique, so they tell their friends and they tell two friends, and so on and so on and . . ."

Barresi worked on three Melvins albums in the nineties — engineering and mixing 1994's *Stoner Witch* and engineering, mixing,

When Queens of the Stone Age ringleader Josh Homme finds out he's being interviewed for *EQ*, he immediately goes into one of his favorite routines. "My favorite frequency? One point five. I like 700, too, though. But usually I just close my eyes and twist it 'til it hurts. And then I go to the studio."

Homme has stonewalled so many guitar and recording magazines that they don't even bother to pump him for specific information anymore. "I've actually gotten to the point where they know I won't tell them anything, so I just talk about the philosophy of it," Homme tells *EQ*, "or just lie." In fact, Homme has managed to wind up just about every publication that unwittingly takes his answers at face value. "We'd always tell them we used

the worst of all gear," he laughs. "Like Trace Elliot bass stuff, or Hartke, or Hamer guitars — crap that blows harder than working at a fan factory, where your hair's blowing like that *Lethal*

LIE DETECTOR!!!

Weapon mullet that Mel Gibson had in the first movie, you know, the fluffy one? Oh — and what are those guitars with no headstocks? Steinbergers. But we actually can't afford those, so we just cut the headstocks off our own guitars."

When an unnamed company published a Queens of the Stone Age tablature book, Homme told them a few of the songs were transcribed incorrectly. "I never even looked at it," Homme laughs. "But I said they were

wrong and told them they had to fix it. So they may have gone back and inadvertently made it wrong. I think it's funny because you're not supposed to know. I mean, when I listened to

Greg Ginn, I didn't go, 'Oh, man — I wanna play that!' It was more like, 'Wow, that guy's doing his own thing. I

wonder if I can swing that?' People get so fixated on an example of an idea. Like, 'I love Nine Inch Nails. My band's called Four Inch Nails.' I mean, isn't that smaller nails?"

Ultimately, Homme has given up proffering even vague allusions to what may or may not constitute the Queens' inimitable sound. "I try not to do those kinds of interviews," he says. "I'm just gonna pose for *Playgirl*, and that's it. People understand me better when my crank is in their face."

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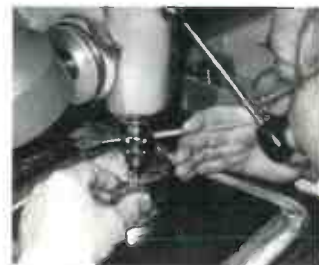
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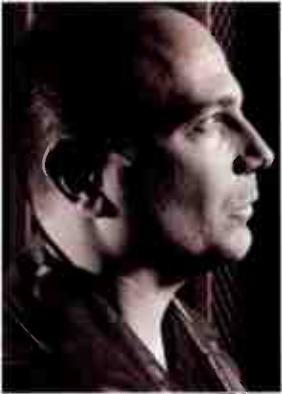


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The "weird stuff" he did on Stoner Witch includes holding a 57 to a dog's mouth while rubbing his belly (and putting it through a harmonizer) and recording guitars in the bathroom — with the mic in the toilet.

and co-producing 1996's *Stag* and 1997's *Honky*. The "weird stuff" he did on *Stoner Witch* includes holding a 57 to a dog's mouth while rubbing his belly (and putting it through a harmonizer) and recording guitars in the bathroom — with the mic

in the toilet. "We'd be doing guitars, and if there was a snare drum in the room with no head on it, we'd stick a mic in there and record it so it'd pick up the resonance from the drum," Barresi says. "I remember taping a crystal microphone to the pick-guard of a guitar and using that as the guitar tone as opposed to miking up the amp itself. We'd stick one in front of the fretboard occasionally, too, so it'd pick up the string noise — and then we'd run *that* through an amp, instead of the actual jack of the guitar with the pickup output."

Melvins guitarist Buzz Osborne liked Joe's anything-goes style so much, he recommended Barresi for an upcoming Tool gig. "Working with Joe is great, because he's not afraid," Osborne says. "There was nothing that we wanted him to do that he wouldn't do. He never advised us *not* to do something. And we always come up with a lot of wacky ideas, and he had no problem letting all that happen. *Honky* is a testament to how good he really is, because he did that record in six days, top to bottom."

Working quickly is one of Barresi's specialties. In addition to finishing *Lullabies* three weeks ahead of schedule, he produced, engineered, and mixed Fu Manchu's *King of the Road* in 11 days at Monkey Studios in Palm Springs. "Guitar-wise, it was Scott

[Hill] on the left and Bob [Balch] on the right," Barresi says. "Scott had this crazy old Univox fuzz pedal that broke, but I had a Supafuzz, which is what he ended up using on that whole record. He loved it so much, he went out and bought a couple for the road. Bob was using a Fuzzface. We put the guitar cabinets back-to-back in the kitchen, with a couple mics in front of each one, and they played in the same room together."

Barresi's work with space cowboys Powerman 5000 (he produced and engineered the band's 2003 album, *Transform*), was the ultimate in guitar excess. "I've got this guitar splitter than has one input and six outputs," Barresi explains. "I remember lining up six 4x12s with like three or four mics on each one, but each amp would be different. We'd have a Hiwatt half-stack, a Sound City half-stack, a Marshall half-stack, so you'd get a great sound on each one and then combine them to get the rhythm tone. I always keep the splitter around, because it's a convenient box to have — you can run a tuner or DI from it as well — I use it all the time."

Barresi's splitter got a workout during his recent sessions with The Special Goodness, a band fronted by Weezer drummer Pat Wilson. "They didn't want to use big amps at all, so we'd just use combos," Barresi says. "I'd break out my splitter, and send it out to three or four small amps. In this case, I just had them all going at the same time, because they weren't pushing too much air. I'd just mic them up all in the same room and tailor the sound to whatever worked for each song. We used some Silvertones (Twin 12) and Pat had a

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"I mean, somebody might give me crap about using a \$7000 tube mic on a vocal and then running it through a \$50 compressor, but if it sounds good, what's the difference?"

little Buddha amp and a Tone King. I even brought out this old National lap steel made out of aluminum or something. It basically looks like a baseball bat with a frying pan on the end. We did a lot of harmonics and slide stuff on that — the pickup on it is really high-gain. We'd run it through a Roland Space Echo and mic it up."

The Special Goodness gig wasn't a result of word of mouth so much as direct experience: Barresi also tracked most of Weezer's *Pinkerton*. "The cool thing about that record was the fact that they didn't wanna use headphones," Barresi says. "They had already done the blue record, and they felt it was a little too controlled, so I ended up bringing in a PA and a little monitor system, and each guy had a little headphone mixer that was hooked up to a monitor, so they could dial in their own monitor mix. They didn't want iso-booths, either, so we set up at Electric Lady in New York and cut everybody live in the same room with just some baffles. Rivers [Cuomo] was using a JCM 30th anniversary — the blue head — and Brian [Bell] ended up using a 50-watt Plexi, I believe it was, with a pedal in front of it, and Matt [Sharp] had a Matamp Orange bass amp that sounded phenomenal."

Of course, Barresi has his own ideas about the secret to the proverbial killer guitar sound. "I think the first secret is to establish that the guy *has* a sound," he deadpans. "You don't really screw with it, you just augment it. Even as an assistant on sessions, I've seen too many instances where somebody says, 'Okay,

that's great, put your guitar over there and plug in with my '59 Les Paul through my stack of shit. And then for the chorus, we're gonna plug in with *this* guitar and *this* amp . . . I don't believe in any of that. You can't approach recording with that kind of mentality. If the guitar player's good enough, it's not gonna matter. I mean, Van Halen playing through a Peavey 5150 or a Marshall still sounds like Van Halen. It doesn't really matter as far as that stuff goes. You wouldn't take a guy who's been playing a Strat his whole life and jam a Les Paul in his hand when he's making a record. It seems much more important to focus on techniques (or lack thereof) and their execution."

When it comes to recording *methods*, however, Barresi is obviously a firm believer in taking risks. "I think a lot of people don't like to experiment," he says, "and I think that mentality should be put to pasture. People are afraid to put the shittiest mic or the weirdest mic in the room in front of something, or they're afraid to EQ something differently so it'll stick out. I mean, somebody might give me crap about using a \$7000 tube mic on a vocal and then running it through a \$50 compressor, but if it sounds good, what's the difference?" **EQ**

When J. Bennett isn't writing bad copy or taking crappy photos for magazines like *Alternative Press*, *Decibel*, and *Rock Sound UK*, he can be found sitting in his underwear on his front porch, drinking heavily and yelling at traffic.

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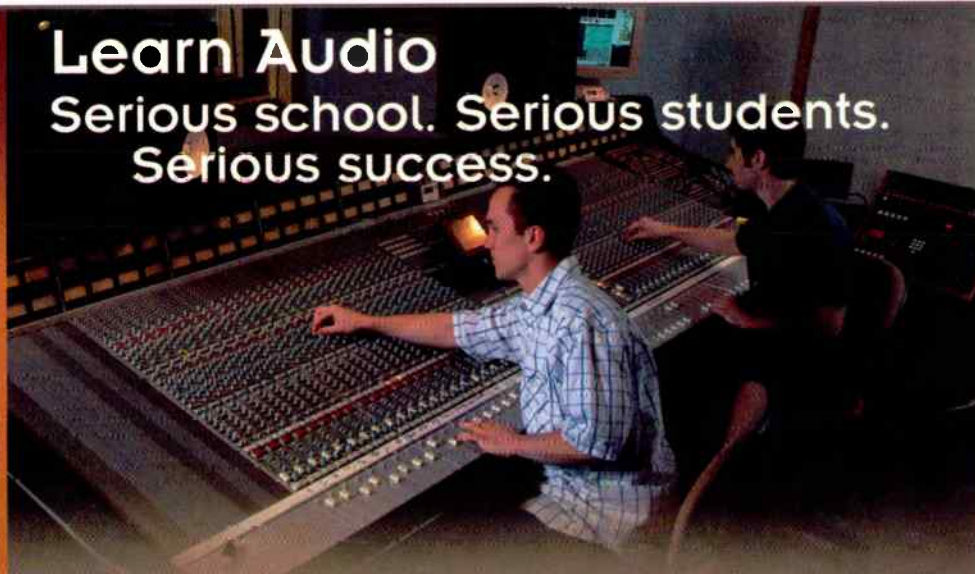
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Myths Revealed: GUITAR AMP PLUG-INS

Can a Plug-in Play the Blues?

by Craig Anderton

Next to the guitar itself, few subjects inspire as much passion among guitarists as amps.

There's something about the sound of an overdriven speaker pushing air that you just can't get any other way.

Or can you?

I used to play only through tube amps, but what I heard in my head also required things that tubes couldn't do. Although tubes gave a great sound, there was always a certain coloration I couldn't subtract. I figured I'd go for a neutral amplification system, and add a tube preamp if I wanted that sound . . . right?

Wrong. What makes a guitar amp special is a zillion factors. So, when amp modeling came along that promised to nail these variables, I was intrigued.

There's no question that for a huge number of pros, modeling does do the job. But are we *really* there yet? Can you ditch your amp, go with a plug-in, and duplicate the amp experience? We interviewed some of the major players behind amp modeling and plug-ins to share their thoughts - - misconceptions, where we need to go next, whether native processing does the job, and more.

GOT LIVE IF YOU WANT IT . . . MAYBE

First up: Can amp plug-ins hack it for live performance? Davide Barbi, head of R&D for IK Multimedia (makers of the AmpliTube series; see Figure 1), says, "Recently we've seen a 'bump' of guitar players using AmpliTube Live in a laptop, especially for small club gigs. But, with something like AmpliTube 2 that models a huge variety of amps and stomp boxes, it's reaching the point where it's not practical to carry around that amount of physical gear. For that level of versatility, economics virtually dictates using plug-ins live. But plug-ins will always remain a very popular studio piece, for reasons like easy re-amping."

Sascha Kubiak, Head of Product Management at Native Instruments and responsible for Guitar Rig (Figure 2) and Guitar Combos, still sees plug-ins used mainly in the studio. "But increasingly, people are using Guitar Rig on stage — for example, the upcoming live tours of U2 and



Fig. 1. IK Multimedia's AmpliTube. This collage of screenshots shows all three pages: Stompboxes, Amps, and Effects.

Megadeth/Fear Factory, where Christian from Fear Factory plans to use it live. We put a lot of emphasis on Guitar Rig's real-time MIDI control, which we feel is essential for expressive live performance."

However, Joe Bryan (VP Engineering of Universal Audio, whose Nigel guitar amp in Figure 3 runs on their UAD-1 DSP card) points out some of the limitations. "Suitability for live use depends on the system's audio through-latency (analog-to-analog signal delay through the digital converters and processing). For some, 5–10 milliseconds isn't too bad, but getting a DAW to perform well with ultra-low latency remains a challenge. So, a lot of people use amps and DIs for tracking, then reprocess the direct and miked signals later through the simulators for additional control during mixing.

"But for live stage work, nothing beats a real amp. It sounds and looks better, is easier to set up and control, has no added

latency, and doesn't have fiddly wires or connectors to break when you do that stage dive. And, if someone spills a beer on your amp, it just smokes a bit; spill it on your laptop, and you're playing air guitar."

Patrick O'Connor, Chief Product Designer for Line 6, definitely sees modeling moving into the live arena, although not necessarily with native plug-ins. "Amp Farm (Figure 4) supports Digidesign's new Venue live sound console. It'll be used live with in-ear monitors, in much the same way PODxt has been popular with people using in-ear monitoring live. Todd Rundgren's guitarist used GuitarPort live for Todd's last tour; Todd himself used a PODxt. Modeling has the potential to deliver tone-wise for live use, but that tone has to be part of a low-latency, accessible system."

NATIVE VS. HARDWARE

O'Connor isn't convinced that native is always the right answer. "Currently available

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Fig. 2. Guitar Rig is Native Instruments' flagship guitar processor.

native plug-ins give some great sounds, but consider that many users rely on multiple tracks, plug-ins, and soft synths running simultaneously. Unless they're savvy about minimizing latency, and sequencer functions like track freeze are implemented well enough not to blow the guitarist's creative flow, the latency and inconvenience can be a deal-breaker. One reason for the enduring popularity of hardware processors is that they provide processing and low-latency monitoring regardless of the recording application's buffer size."



Fig. 3. Nigel runs on Universal Audio's UAD-1 board.

Bryan agrees that hardware has advantages. "A/D and D/A converters still have millisecond-plus latencies, and small audio buffer sizes require more system resources than larger buffers. It's not just about plug-ins and tracks; guitarists who like higher sample rates invite bigger buffer sizes. DSP cards can help offload heavily loaded systems, which allows using smaller buffers to reduce through-latency for tracking."

Not surprisingly, given a company name like "Native Instruments," Kubiak has other thoughts. "A true

component-modeling-based amp emulation like Guitar Rig would not be possible without the computers we have now. Dedicated hardware has no advantages as far as the quality of sound is concerned; the processing power of today's computer processors is actually superior to typical DSP chips or hardware units. That's why it's possible to tweak extremely detailed amp settings in Guitar Rig, like the tube grid bias or the power supply voltage. The emulation algorithms have to be that complex to act with the same dynamic behavior as their real-world counterparts. But really, the



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Fig. 4. Amp Farm, from Line 6, is designed to work with TDM systems.

most important factor that drives the sound is the quality of the software.”

Barbi agrees. “The current crop of computers are absolutely good enough; you can run several AmpliTube on even average computers. Besides, the ultimate results depend more on how the product was made, what modeling techniques were used, and whose ears were judging the sounds during development. And a lot of the user experience depends on product concept — it’s important for guitarists to feel like they are in a virtual reality world that gives them what they expect in a simple, easy to use setup.

“However, dedicated hardware is still needed for near zero-latency performance. That’s why AmpliTube 2 will also be TDM — it has less than 1ms delay, which is, for all practical purposes, realtime operation.”

Personally, I used to find playing guitar in real time through plug-ins unbearable. But with my system now hitting latencies of between 3–6ms, that’s definitely more than good enough for a satisfying, “really-close-to-realtime” playing experience.

WHERE WE’VE BEEN, WHERE WE’RE GOING

So what’s the hardest part about modeling? O’Connor’s answer is revealing: “Honestly, the most difficult thing is having the finances, time, commitment, and quality focus that are required to really do it right. It’s taken us eight years to achieve the level of emulation that we offer today, with resources that come only from selling almost \$60 million worth of equipment last year. We also had the unique benefit that POD and Amp Farm opened the door to the top guitarists, engineers, and producers. We needed all their advice, as well as the expertise we’ve developed over the years, to achieve what we have with amp emulation.

“But as far as the particular bits of emulation technology — tubes, speakers, etc. — they’re all hard! Our initial years of R&D concentrated on the tubes, then the

full amp electronics, with a lesser focus on speaker/mic emulation. Next we focused on deepening the amp emulation detail, and the range of amp tones we could nail. Our most complete efforts in speaker/cab/mic emulation came only with our latest generation products (PODxt, GuitarPort, Vetta II, and Amp Farm 3.0).”

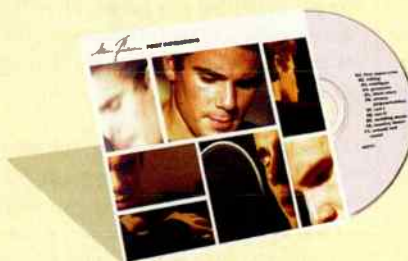
Barbi also stresses the benefits of getting into the game early. “To do it right at every stage is all difficult, because every system element has its own quirks. But, we’ve had many years to

perfect our methods and have developed new techniques to best emulate tubes, speakers, cabinets, and mic modeling. Some of this involves analyzing the schematics down to the component level; this detailed analysis occurs before the DSP model study actually starts. And the company consists mostly of musicians who use the products we make, so we have a personal stake in making it right.”

Kubiak notes that the reason why tubes are difficult to emulate isn’t so much the tube itself, but “because the

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way they distort undergoes subtle changes according to the dynamics of the signal and the load on the amp. You *have* to treat amp simulations more as a musical instrument than a 'signal processor'; as convincing emulations come only from meticulous attention to detail."

Bryan concurs: "Most 'tube simulators' just emulate the non-linearity of a single tube, but amps are much more complicated than that. There are several tubes, plus EQ and transformers, each with their own non-linearities, all wrapped with feedback. When this complex circuit is coupled with a speaker cab, it gets even more interesting because the speaker's dynamic impedance has a huge effect on the amp's non-linear response. Modeling transformers and how they affect the rest of the circuit is a pretty difficult task."

THE ACID TEST

Although some think that amp modeling companies put amps in anechoic chambers and crunch numbers to do emulations, that's not the whole story. Barbi is adamant that "Listening tests with great

guitar players is absolutely essential, and can make the difference between a product that just looks good on paper compared to a product that is going to have the character and response that a guitarist expects. This is a very delicate process, and we take it really seriously.

"After the initial instrumental comparisons, we fine tune the models with the help of musicians playing music (not just "testing"), most of the time together with other instruments in real mixes. It's time consuming, but we think this process is why users tell us that AmpliTube sounds 'musical!'"

Kubiak has a similar philosophy. "The emulation algorithms are compared to the original hardware in every way, from analytic measurements using test signals to extensive listening sessions with our 'expert group' of professional guitarists and producers." Bryan also sees evaluation as a two-part process: "Analytical tests match the system's response, but listening tests are always used for final qualification."

O'Connor adds, "The most important, and difficult, part is finding an absolutely

HOT PLUG-IN TIPS

Plug-ins benefit from higher sample rates; you can really hear the difference in the distortion of the NI Guitar Combo plug-ins. But this stresses out your computer more, so sometimes it's best to record guitar parts early, get the plug-in settings the way you want, then "freeze" or render them as hard disk tracks so the tone is captured early — before you start adding lots of other tracks and plugs. —SK

The point at which point latency becomes objectionable varies for different people, but we've found guitarists are really annoyed if latency approaches 20ms, and ideally, you want it well under 10ms. This includes the latency from your audio interface's converters, the USB or FireWire bus buffering, the recording application's sample buffer, and any additional latency introduced by any other factor. —POC

Using headphones can really help tighten up the feel, since each millisecond of delay corresponds to about a foot of air. If your amp's speaker is 10 feet away, that's 10ms of delay through the air; so if your digital simulator has 10ms of delay, listening to it through headphones gives about the same feel. —JB

Re-amping is one of the strongest points of

plug-ins like Guitar Rig and Guitar Combos, and one of their most popular applications. It doesn't get much more comfortable than re-amping completely within your host — no patch cords! —SK

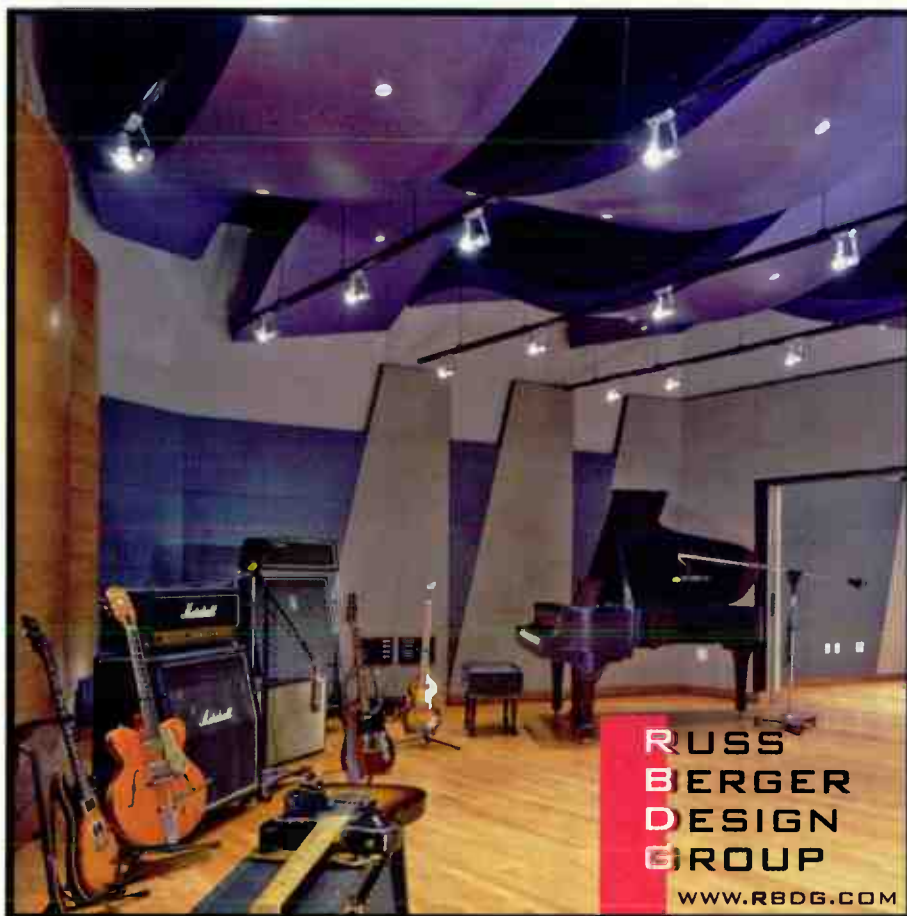
For re-amping, a lot of guitarists like hardware-based systems. They'll use Amp Farm to record a track unprocessed while hearing the plug-in live, then the amp modeling gets tweaked in the mix. —POC

One of the main difficulties with amp simulators is that the tone is defined by more than just the plug-in; the sound will be very different with different guitars/pickups, DIs, and converters. You can't just plug your guitar straight into the line in and expect it to sound good. It's not just impedance; a good converter with at least 24-bit conversion is necessary to provide enough dynamic range and a low noise floor. —JB

Some guitarists make the mistake of using a variation on ASIO, like ASIO DirectX or ASIO MME. They think they're using a low-latency driver, but they're not. Always use the driver that was supplied by the soundcard manufacturer for that particular piece of hardware, and check the

incredible example of the amp we want to model. If you model a mediocre amp, you get a mediocre emulation. For example, the AC 30 we modeled (and now own) was in use weeks before by both Lenny Kravitz and Brian May for their album recordings. Once our model is complete, we A-B it to this "Holy Grail" original, in real world situations with guitarists, until they're matched. We also probe the original's circuits electronically and compare them to our model, using audio analysis equipment."

It's refreshing that all four manufacturers represented here keep coming back to the sound and feel, because frankly, that's the only way that plug-ins will ever be able to compete with the amps that guitar players love. But zooming out, one thing is clear. Guitar amp emulations have improved dramatically, as technology has improved and the designers' ability to bend digits to their will has matured. Even those who aren't convinced we've reached perfection generally recognize that it's only a matter of time before we come so close any differences will be insignificant. And for many, we're already there. **EQ**



Web for updated drivers. —**SK**

Many users run Amp Farm on already processed tracks from an amp, PODxt, etc. to give the tone a bit more of a slant one way or another as part of a mix. —**PO'C**

Although people always talk about latency and drivers as the most important part of an interface, the input impedance is crucial. We even provided a dedicated hardware guitar interface with Guitar Rig. With our Guitar Combos, we recommend that people use interfaces with dedicated "instrument" inputs designed for guitar or bass. —**SK**

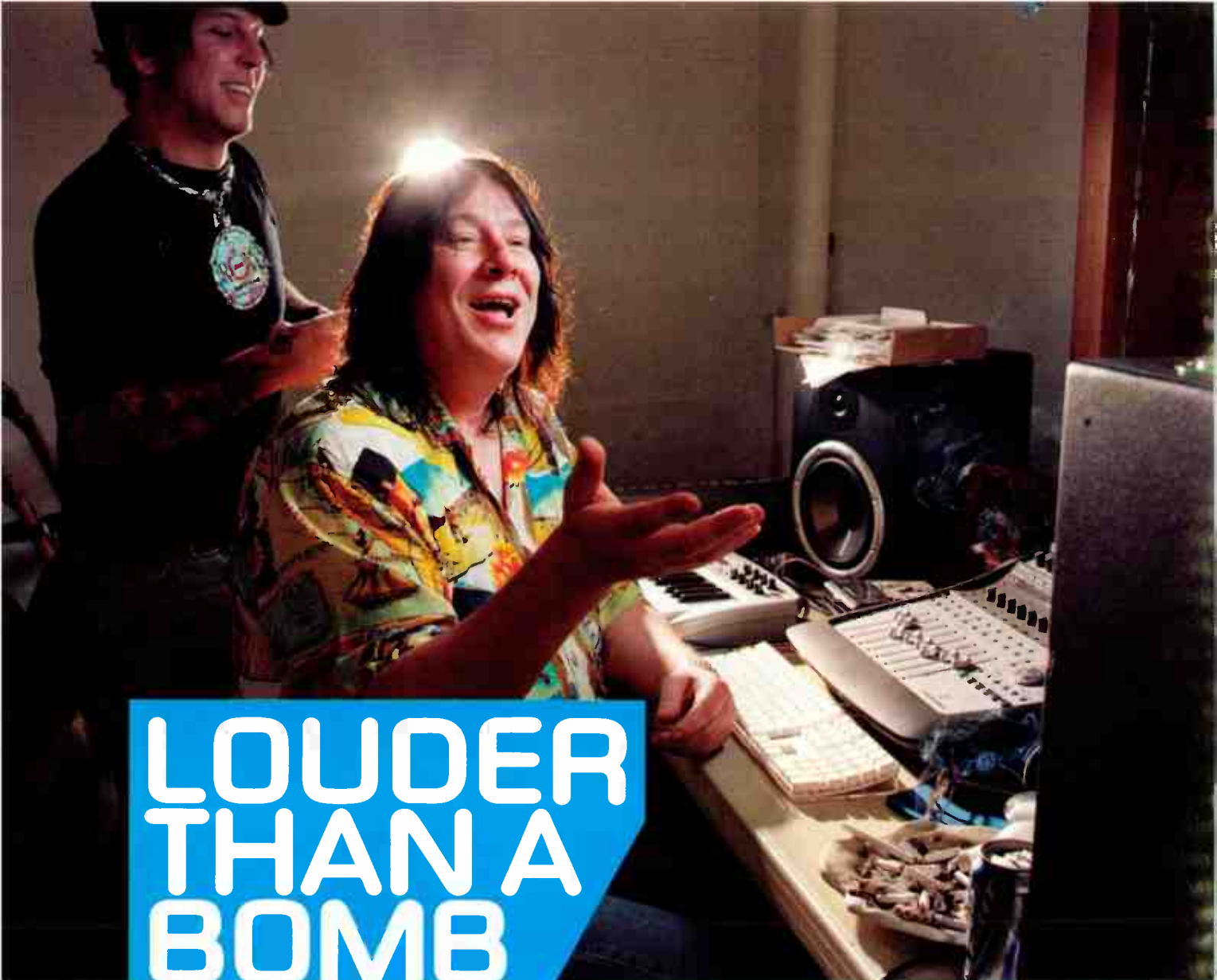
Amp plug-ins aren't just for guitarists. It seems about half of what's run through Amp Farm is non-guitar tracks — punching up and munching up drums, keyboards, vocals, and pretty much anything else. —**PO'C**

It's a misconception that latency relates to the microprocessor you're using. Through-latency is affected mostly by system architecture and the soundcard's design, *not* CPU power. It doesn't matter how fast a computer you have if the soundcard drivers are poorly written. —**JB**

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Andy Johns. That's it. No more explanation than that could or *should* be needed. And if you didn't know, well now you know.

by Dean Kuipers

Andy Johns has the best ears for guitar sound anywhere, and he came by them honestly. At one of his earliest sessions, working as an 18-year-old second engineer to Eddie Kramer on the Jimi Hendrix session that would become *Axis: Bold As Love*, he was fiddling with a microphone in front of Hendrix' amp when a chord drilled through him so loud that it wasn't so much a sound as a pain.

"I didn't feel anything, just that my feet hurt," he drawls in his animated English accent. "Jimi played through two 200-watt Marshalls, and he just came down with this enormous chord and I just went, 'Ouch!' And he was like, [mimicking Jimi's soft voice] 'Oh, man! Sorry, man, oh, wow, no, I didn't know you were there, man!'"

His laughter echoes around the hillsides where we sit, high up under the oaks in Malibu's Latigo Canyon. He's a physical giant of a man who's made a giant noise, having been behind the boards for 160 million albums' worth of blues-based rock including the Rolling Stones' *Exile on Main Street*, Led Zeppelin II, III, and IV, *Blind Faith*, Joe Cocker's "Little Help From My Friends," Van Halen's *For Unlawful Carnal Knowledge*, and loads of other classics. Imagine the roster: Hendrix, Jimmy Page, Eric

Clapton, Keith Richards, Jeff Beck, Eddie Van Halen, and on and on and so forth and so on. Brother to superproducer Glyn Johns (Kinks, Stones, Who, Beatles), uncle to producer Ethan Johns (Ryan Adams, Kings of Leon), Andy helped write the book on raw, white-hot guitars.

Now he's up in a kind of American Indian surf camp called Phoenix Ranch, working on an album with Tracii Guns and the Brides of Destruction, only slightly out of his element. They're working on Pro Tools, experimenting with different digital amp modeling.

"There is a basic sound that I like, which is a nice tube amp miked up," he says, mentioning a few classic Marshalls and Page's HiWatts. "But I don't go, 'Oh, let's make it sound like Jimmy Page,' because you can't. You have to have Jimmy Page for that. Or I might say we'll try and get that Hendrix 'Little Wing' sound, the bell-like sound, but it's just a guideline."

Notably, it's also not digital. He works in digital often now, when he "doesn't have the luxury" of having his preferred amp set-ups, and he's done three or four projects that were digital from end to end, he says, and they sound "pretty good." But not the best. The digital gear just doesn't deliver what the ear wants

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LOUDER THAN A BOMB

Andy Johns

to hear: real moving air. Drums that move acoustically, amps that throb. The human ear has no problem hearing the difference. Even when he records in Pro Tools, he likes to run it through an analog mixer, because it just gives it a little plump.

"If it's off, it's off," he shrugs. "Digital has a *sound* to it, it's kind of *electronic*."

Plus, Johns is trying to maintain the integrity of the performance. "When the Pro Tools thing came along, I'd go to other people's sessions, and I'd see two guys with typewriters typing up the music," he says, straight-faced. "They'd have the band play a verse, and then they'd fix that, and then they'd use that sound for everything. And I thought: *That's not music. It's Lego.*"

He and the Brides are trying to go all digital, but they're struggling, resorting often to a small Fender tube amp to sweeten the guitar sound. Johns can't help it he's attracted to the sound of moving air. After all, he invented the big drum sound everybody uses now, on a little Zeppelin tune called "When The Levee Breaks."

"I'd stand next to Bonham's kit and then I'd go in the control room, and I'd go, 'This is not translating,'" he recalls. "We were at this old sort of farmhouse mansion, which had a big hallway with stairs going up to landings. So I pulled Bonham out of the room with the rest of the band and I put him on his own in this hall. It hadn't ever been done before. I used two fairly directional mics, [Beyerdynamic] M160s, about 10 feet away.

You get much past 10 feet and it starts flammng. Then I just compressed the hell out of them, put on this Binson Echorec [analog delay unit] that Pagey had — that was his idea. It's a classic drum sound. And now, everybody uses room mics."

As for getting that huge rock guitar sound, he has fewer secrets or patented innovations. Miking up, he doesn't waste time looking for the amp's sweet spot. He puts one mic straight on and runs it bright, then another at 45 degrees so the phase isn't weird and uses that for the bottom end. The rest of the sound from, say, Clapton or Pete Townsend is loud tube amps, good arrangements, and brilliant musicianship.

Oh yeah, and those ears. There's no substitute. Johns sits up in his chair when he tells a story about working with Van Halen, with whom he said he got along famously. But at one point, Eddie decided he would mix their live record, *Van Halen Live: Right Here Right Now*, himself.

"They spent six months. Six months," he says. "And then, eventually, he broke down. I put it on, and in half an hour it's starting to sound like something. Now he's getting pissed off, because it's not fair. Wow, there it is. And I said, 'Come on boys, come in and listen.' So Eddie and Al come in to listen. I go to the kitchen, I come back in, and Eddie's crying. He's on the mixer, wah wah wah, and Al's going, 'It's alright, Eddie. He'll never be able to play guitar like you.' Ha ha ha! It's true!" **ED**

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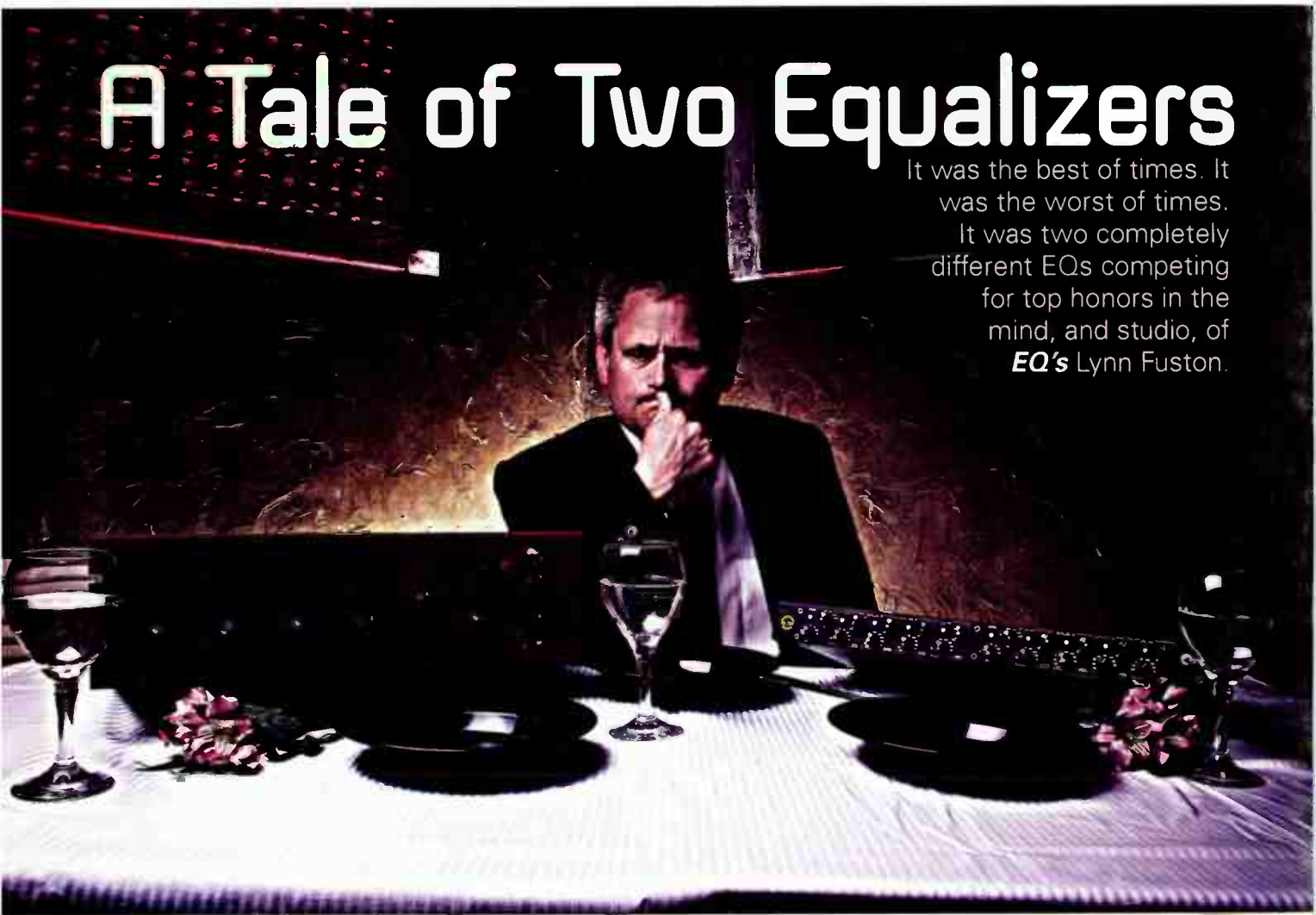
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Gearhead

A Tale of Two Equalizers

It was the best of times. It was the worst of times.

It was two completely different EQs competing for top honors in the mind, and studio, of *EQ's* Lynn Fuston.



I spent several months, several hot and bothered months, with the Great River EQ-2NV solid state EQ and quite frankly there are many things about it that I have come to absolutely lovingly love. Tenderly. Gently. But then Doug Fearn sent me a pair of his VT-4 vacuum tube equalizers to try. I . . . I . . . tried to resist, but ended up discovering lots to love about them, too. And though I love them the same, these two units are both incredibly different. Excepting one thing: They both sound great. Let me share with you the story of this incredible love.

THE FIRST TIME EVER I SAW THE GREAT RIVER EQ-2NV

The Great River EQ-2NV is the 2-channel sibling of the enormously popular MP-2NV

preamp. The kindred design goes beyond just design philosophy. Dan Kennedy (Great River designer) designed them to work hand in hand, with a TRS insert point on the EQ that allows using the input side of the MP (using the MPI setting) into the EQ and then the output section of either the EQ (with no transformer) or back through the output section of the MP for output gain and the output transformer. The two different outputs allow a broader range of sonic options. The EQ-2 draws its inspiration from the Neve 1083/1084 circuits (hence the NV suffix), just like the MP-2NV was inspired by the Neve 1073. The frequency selections are very nicely spaced and borrow numerical values from resistor values. (If you don't know what that means, don't admit it. Look it up.)

Each channel features a six position hi-pass filter (ranging from 17 to 270Hz) and four bands with a host of frequency selections (HIGH and LOW have 7, LO-MID and HI-MID have 10), which cover overlapping frequencies. Each band offers 15dB of boost or cut, with shelving or peaking available on the HIGH and LOW and three different Q's on the LO-MID and HI-MID. In addition to a master bypass for each channel, there are also OFF positions on each of the frequency select knobs, allowing each band to be bypassed individually. This is a nice feature, but it is difficult to quickly bypass an individual band because you have to sweep across the other frequency selections. The INPUT control offers a 28dB range of input settings, allowing for levels

from -20 to +8. While I originally didn't understand this feature, it comes in quite handy when dealing with very low or high level material. With a list price of \$3,250, this EQ is a great "if I can only buy one" equalizer at a very reasonable price.

AND THEN: D. W. FEARN VT-4

When you first see the VT-4, you might think it is based on the Pultec EQP-1A, just like I did. With its imposing physical size, big knobs and tubes, it's a common assumption. And in truth the sound *is* reminiscent of that desirable Pultec sound. But Doug Fearn told me it's a "clean sheet of paper" design. It offers his personal vision of what an equalizer should do. The active circuitry is nothing like a Pultec, using Russian 6N1P tubes. It also uses four tubes instead of the Pultec's two.

Now you likely know the Pultec name even if you've never heard one in person (and no, plug-in versions don't count), and you will be forgiven for not understanding what all the fuss is about if you haven't used one. For those who have, they understand why the vintage units command such enormous prices. The magic of a Pultec is a combination of the transformers, the tubes, the enormously broad frequency bands, and the inductor/capacitor (LC) frequency shaping circuits. I've never heard the Pultec magic from any tube EQ ever, even very expensive clones.

Until now.

The VT-4 is no clone, but it does manage to capture the magic of a Pultec. I know because I've owned a pair of EQP-1A3s for 12 years now.

Is it the VT-4's point-to-point wiring? Is it the Fearn spec'd custom-built Jensen inductors that it uses? Or the custom-made Jensen output transformer? Is it the big knobs? Is it the tubes?

I'd have to say that it is a combination of all the above (maybe not the big knobs), plus the fact that Doug Fearn just got it right. The frequency selections offer more options than a Pultec. Unlike the original EQP-1A, which only offers low boost and low cut at the same frequency, and high boost and high cut at different frequencies, the VT-4 has an extra mid band cut

Great River +:

Incredible price/performance ratio
Lots of control, great freq. selections
Sounds great
Takes up little rack space

Great River -:

Knobs are small and too close together
Inductors can be sensitive to EMF interference

D. W. Fearn VT-4 +:

Sounds great
Looks as impressive as it sounds
High-quality construction
Sounds like 40-year-old Pultec, works like new

Fearn VT-4 -:

Expensive, but worth it
Rear panel power switch
Very large

Is it the VT-4's point-to-point wiring? Is it the Fearn spec'd custom-built Jensen inductors that it uses? Or the custom-made Jensen output transformer? Is it the big knobs? Is it the tubes?

thrown in, which is very cool and opens up lots of sonic options. With limited frequency options (4 on the low cut, 5 on low boost, 6 on mid cut, 8 on high boost with variable Q and 4 on high cut) and in 2dB steps at that, you might think that the control limitations would prevent you from getting the sound you want. That wasn't my experience. The sweet

sound of this equalizer will let you dial in more EQ than you ever imagined possible. And if you close your eyes and just *turrrrrnnnn* the knobs, you may find yourself adding 14dB at 8k, a boost that would be intolerable from most EQs. But with the VT-4, you may find yourself smiling bigger and bigger the more you . . . turn the knob. When you're done, you'll be shocked at what your eyes tell you (the settings) and delighted by what your ears tell you. You can add enormous amounts of EQ and it all sounds good. Just decide how much "good" you want. The bottom end gets big without getting muddy. The top end gets sparkly without getting harsh. What more could you want?

Well, you might want all this at a lower price point. If you're looking for a cheaper alternative to a vintage Pultec, look somewhere else. At \$4,400 list for the single channel VT-4, you'll spend about the same as a vintage EQP-1A would cost. But with the vintage (old) unit, there will be repair issues and parts failure or replacement that you won't encounter with the Fearn, plus the Fearn has more control than a Pultec. So, if you want the Pultec magic, but can't find one or two (I hunted for eight years before I found my consecutive serial numbered pair),

D. W. Fearn VT-4 Vacuum Tube LC Equalizer

Low Cut: 0 to -18dB (2dB increments) at 30, 40, 100, 400Hz

Low Boost: 0 to +16 (2dB increments) at 20, 40, 60, 100, 140Hz

Mid Cut: 0 to -16 (2dB increments) at 200, 300, 400, 500, 600, 700Hz

High Boost: 0 to +14 (2dB increments) at 1.5k, 3k, 4k, 5k, 8k, 10k, 12k, 16kHz, bandwidth options .6, .8, 1, 1.4, 1.7

High Cut: 0 to -14 (2dB increments) at 1.7k, 4.0k, 10k, 28k

Gain switch: 3dB steps from -9 to +9

Great River EQ-2NV

HiPass: Off, 17, 27, 47, 82, 150, 270

Low: ±15dB at Off, 22, 33, 56, 100, 180, 330, 470

Lo-Mid: ±15dB at Off, 220, 270, 330, 390, 470, 560, 680, 820, 1K, 1K2

Hi-Mid: ±15dB at Off, 1K5, 1K8, 2K2, 2K7, 3K3, 3K9, 4K7, 5K6, 6K8, 8K2

High: ±15dB at Off, 2K2, 3K3, 4K7, 6K8, 10K, 15K, 18K

Gain switch: MPI, L+8, L+4, L-2, L-10, L-20



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Gearhead Gearhead Gearhead

So you're in the market for a great EQ, one that you can love like I, who have loved them both, love them, and you want to know which you should choose? Which? Who? What?

you can buy the Fearn and not have to worry about what you're missing. I dropped the VT-4 off at an extremely well equipped studio complex in Nashville. They already have about 20 Pultecs in their three rooms. What did they think of the VT-4? They liked it enough to buy four of them.

What does that tell you?

You can never have enough great equalizers.

TORN BETWEEN TWO LOVERS

So how do these units match up? First, the similarities: Both are built like brick houses, with solid chassis and high quality parts. Both sound wonderful, offering delightful results on everything I passed through them. Both use LC circuits for tone shaping.

In contrast, the first thing you might notice is that two channels of the VT-4 will eat up six rack spaces, while the EQ-2 will only take one. The VT-4 is bright red with yellow ochre lettering, while the EQ-2 features white lettering on a black panel. Though the Fearn makes a more impressive showing in a rack, the markings are difficult to read under low light. The EQ-2 is far more legible in dim studio light. The VT-4 has only one light on the front, an incandescent power indicator, but the EQ-2 has 22 LEDs and no power indicator. The Fearn has huge bakelite knobs, which make gratifying chunk sounds when you turn them. The EQ-2 has small knobs (one of my few complaints) that allow it to fit all its features into a single rack space. The Fearn features more limited control settings, but has a wonderful sweet sound that will allow extreme settings without

complaint. The EQ-2 has amazing amounts of control and will let you tame problems that the Fearn simply cannot fix, but it can get hard when pushed to extremes (like +15 at 15K!).

The Fearn features old-school build technique where the EQ-2 offers a blend of new technology with old, featuring digital-controlled analog circuitry. The Fearn lists at \$4,400 per channel, or \$8,800 for the stereo pair. The EQ-2 by comparison seems a steal at \$3,250 list price for the stereo unit.

WITH THIS CHOICE I THEE WED

The Fearn. The EQ-2. So you're in the market for a great EQ, one that you can love like I, who have loved them both, love them, and you want to know which you should choose? Which? Who? What?

For MP3 listening examples of the EQ-2, VT-4, and Pultec on identical sources, you can visit

http://www.3daudioinc.com/cgi-bin/ultimatebb.cgi?ubb=get_topic&f=14&t=002961

Well, that's easy: both.

They both offer amazing sounds and each does something the other will not. They make a great combination, allowing surgical precision from the EQ-2 and broad stroke sweetness from the VT-4. I would recommend these units to anyone. While the Great River is staying with me, however, I'm going to have to save up a while for the Fearn. But they'll be a great complement to my Pultecs, or a great Pultec for someone who doesn't have any yet. And they will likely be worth more in the future because, like the Pultecs, I don't think we can ever have enough great EQs.

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by Phil O'Keefe

AND THE WINNER IS...the Soundelux E250!

Type: Large diaphragm, cardioid condenser microphone.

Price: \$3,000

Contact: www.soundeluxmics.com

Acoustic operating principle:

Pressure gradient transducer.

Directional pattern: Cardioid only.

Frequency range: 20Hz – 18kHz.

Sensitivity: 27mV (-29dBm)/Pa (94dB SPL) @ 1kHz into 1kohm.

Rated impedance: 200 ohms.

Rated load impedance: 1200 ohms.

S/N ratio: 75dB, (relative to 1Pa@1kHz).

S/N ratio (A-weighted): 85dB.

Equivalent noise: 19dB (unweighted).

Self noise (A-weighted equivalent SPL due to inherent noise): 9dB.

Typical SPL into 1kohm: <0.5% THD: 109dB (-14dBm),

<5% THD: 129dB (+6dBm).

Dynamic Range: <0.5% THD: 100dB, <5% THD: 110dB.

Maximum output voltage into 1 kohm: +11dBm (2.6v).

Power Supply: Proprietary P251 psu, custom matched to each individual microphone.

Weight: 1 lb., 8.5 oz.

Dimensions: Diameter 2.04", length: 8".

If you had just ONE desert island pick, one *My House Is On Fire* It's Either This Or *The Dog* moment, just ONE monument to gear lusting *non pareil*, it'd probably be the vintage Telefunken ELA M251 (built for Telefunken by AKG). Yeah. That'd probably be it. But with excellent condition vintage examples getting harder and harder to find, and with prices that go well into the five figure range (that's five figures with a comma and not a decimal point), a lot of people have not been able to experience that magic mojo for themselves.

And while Soundelux and others have been selling versions of the 251 for some time now, the prices for most of them have remained fairly stratospheric. Moreover, while a 251 can be a spectacular sounding mic on some sources, they do have *some* drawbacks. The wonderfully open sounding top end can sometimes be a little too much on some singers, the

First and foremost, this is a vocal mic. A no-holds-barred, take no prisoners, make-no-excuses world class vocal mic.

cardioid pattern is fairly tight, and off-axis tonality is definitely different than the on-axis response. Additionally, like most classic condenser mics, the proximity effect boost of a vintage 251 is well below the fundamental frequencies of most singers' voices. In an effort to address some of these issues, Soundelux has designed and released . . . the E250.

BACKGROUND CHECK

The E250 can be thought of as a cardioid-only version of the ELUX 251, but with some significant changes. The proximity effect was moved upward to the 200 – 250Hz range, instead of below 100Hz (like on the ELUX). Instead of the 6072 tube used in the ELUX and the original ELA M251 Es, the E250 uses an EF732 tube. The capsule is similar, and is still based on the classic CK-12 design, but was modified somewhat to widen the cardioid pattern and raise the frequency of the proximity boost. The mic features the same basic color scheme as the ELUX — a

light mint green-tinted cream color — but lacks the chrome and visual sparkle of the ELUX, as well as the multi-pattern capabilities.

Nonetheless, it's still a classy looking, extremely well built and finished mic, and it vibes far more "vintage" and cool sitting in the included shockmount on a stand in front of you than it does in photos. The mic comes bundled with a nice spider style shock mount, a power supply that is custom tailored to each individual microphone, a multi-pin Tuchel style connecting cable, and a cherrywood storage box. I appreciated that Soundelux slightly modified the design of their shockmount as well, making it easier to tighten or loosen the adjustment screws without the elastic bands getting in your way.

SOUNDS LIKE TEEN SPIRIT

First and foremost, this is a vocal mic. A no-holds-barred, take no prisoners, make-no-excuses world class vocal mic. A good singer can work this mic almost like nothing else out there. Get closer and it doesn't get that ultra-low, below the singer's fundamental frequency range proximity boost — the singer just gets "larger." You can get HUGE vocals with this mic, and it's just a blast to sing into. The top end is open and sweet, but not as present as on the ELUX — making it a better choice for some singers with excessively bright or sibilant voices. And rockers will adore this mic for the sheer depth, weight, size, and detail it gives to vocals.



And while classic vintage vocal mics were never originally intended for use at the "up close and personal" distances favored by many producers and engineers these days, the E250 was designed and optimized for exactly that . . . it's not that you can't use it at greater distances, but it really shows its magic when the singer is within a few inches of it. In addition, the cardioid pattern is a little wider and more forgiving than on a vintage 251 or an ELUX, which is something you'll definitely appreciate if you're dealing with a singer who can't stay put in one place while performing.

SMELLS LIKE A WINNER

While many will consider the E250 as strictly a vocal mic, don't overlook the possibility of using it on other sources too. For example, for a cool aural treat, try it as a room mic on guitars or drums. Also, some of the same characteristics that make it work so well on vocals helps it to shine on saxophone.

You can get HUGE vocals with this mic, and it's just a blast to sing into.

Okay, okay, I know: It's hard not to sound like an ad for Soundlux here, BUT I'd be lying if I said that this mic does NOT kick ass and/or takes names. Sure, compared to an ELUX, it's not quite as present on the very top, but it carries a lot more weight in the lower midrange and is more forgiving with off-axis sounds. In the time I've had it in here for review, the E250 and ELUX have been the only mics I've needed to pull out in order to effectively capture any vocalist who walked in the door — if one wasn't quite right, the other was always perfect for what we were after. I

would be very hard pressed to pick only one of these two mics for inclusion in my mic locker, so I won't. I'll be begging, borrowing, or stealing whatever I need to, to own the review unit.

So, if you're in the market for a high-end vocal mic, you owe it to yourself to put the E250 on your audition list. For taking the best of a classic mic and making changes to it that actually improve things, and creating a truly world class vocal microphone at a price point that is actually affordable to any serious recordist, Soundlux earns an *EQ* Exceptional Quality award. **EQ**

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Improved shockmount.

Limitations:

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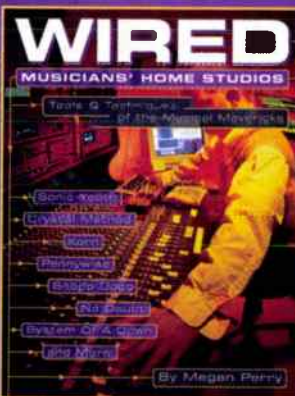


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A Day in the Life of the Variax 300

by Craig Anderton

10:55 AM

Fed Ex shows up with the Line 6 Variax 300, which promises "An entire guitar collection in one instrument." As a fan of the Variax 500 and 700, I figured my mission is to let *EQ*'s readers know whether the 300 (\$699.99 list) is the real deal for less bucks, or whether too many corners were cut to make it viable for serious studio work.

11:03 AM

Time to unpack. There's no gig bag or case, although the cardboard packaging seems sturdy enough. You get the guitar and a goodie bag with AC adapter ("line lump" instead of "wall wart" — yes!), Planet Waves stereo guitar cable, spare cover for the digital communications port, two Allen wrenches for setup, and a small box labeled "XPS-Mini."

Time to power up. You can run the Variax off six AA cells for 10–12 hours, or a 9V battery for an emergency 1–2 hours; with either, you just plug a mono cable into your amp. A better option is to plug the AC adapter into the XPS-Mini, which then distributes power to the Variax via a stereo cable, and also provides a pass-through from the Variax to your amp. Granted, it's an extra little box, a stereo instead of mono cable, and some more wires, but I prefer it to batteries.

11:25 AM

Time to check out the vibe, the feel, and the setup. Well, it ain't the high-end Variax 700; this is the low-end, made-in-Indonesia model. But I must say it's a very *playable* low-end model. Good stuff: surprisingly comfy maple neck and rosewood fingerboard with a flatter, 12"

Line 6 trims price, doesn't trim sounds. What gives?



radius fingerboard compared to the 10" of the 500 and 700. Nice guitar shape for standing or sitting, with an agathis body. The intonation was a bit off for the *D* string, but the neck relief was just right, and the string height setup was good to go. Overall, the 300 required virtually no tweaking (aside from tuning, of course) to be useable right out of the box — something I seldom find with any guitar. The knobs have a well-oiled feel with a bit of resistance, and the 5-way "pickup" switch snaps into position with authority.

I was pleasantly surprised to see the Variax digital port so that when used with the Vetta II or PODxt Live, changing presets can change guitar models. This is a cool feature and I'm glad they left it in.

Not so good stuff: The model selector knob had a bit of a wobble, but it didn't seem problematic; I also found the tuning pegs have a somewhat imprecise feel. Finally, string bashers might experience some "creep" in the bridge saddles until they settle into position. None of these are serious deal-breakers.

Now the acid test: how it sounded when played acoustically — because that truth can't hide behind a sexy model.

12:05 PM

Where does the time go? Seems I ended up enjoying just playing the guitar, and sort of forgot I was supposed to be writing about it, let alone plugging it in. For a comparatively inexpensive guitar, the 300 is surprisingly responsive and enjoyable. Okay, time to get serious. I plugged



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the XPS-Mini into my digital mixer, and ran into Sonar via a Creamware interface. Why the computer? Several reasons. First, while goofing around, I came up with some riffs I wanted to loop. Second, Sonar lets you hook up a virtual chromatic tuner, and I wanted to see if the Variax held its tuning over several hours. Third, I was curious how the 300 would sound running through amp emulation programs instead of the PODxt. Besides, it's just so cool to be able to set right next to a computer and get *no* interference because the 300's piezo pickups are physically incapable of responding to RF or magnetic fields.

My experience with the 300 was identical to the 500: The models don't come alive until you put them through an amp (real or virtual). For example, the Tele model didn't sound like a Tele until I put it through a Vox AC 30 model and pulled back a bit on the volume. Then there it was — that magical twang and bite that I know so well from my '66 paisley Tele. Ditto the '61 Les Paul custom, which was suitably chunky, and the Rickenbacker 360 six-string I've played on and off over the years, with that hard-to-describe special midrange. I still don't find the two electric Ric 12-string models totally convincing, but props that they sound as good

as they do, given the difficulty of the modeling task.

There are 50 models overall, arranged as 10 rotary switch positions with a five-position "pickup" (read: "model") selector. Two additional switch positions store your choice of 10 models for instant access. For triple-pickup guitars, these five positions correspond to standard pickup settings. For others, they offer variations of different models, or different guitars altogether... and of course, I auditioned them all. In addition to the usual favorites, you'll find a Gretsch 6120 and Silver Jet, an ES-335, a couple jazz models, five acoustic models (where the tone control basically affects "mic placement"), and some esoterica: Dobro, Coral Sitar, Danelectro 3021 with lipstick pickups, banjo, and the 1928 National Tricone, truly a rare bird. I could tell no significant difference between these models and those in the 500.

However, it's important to emphasize that the models affect *sound*. You're not going to get a maple fingerboard and different body shape when you call up the Tele, or an ebony fingerboard with the Les Paul. As a result, it takes a little getting used to when you try these guitars and they all *feel* the same, even though the sounds are dead on. Is

Here come the Models

The Variax 300 models the following types of guitars.

Fender	1956 Les Paul Junior	1966 Rickenbacker
1960 Telecaster Custom	1976 Firebird V	360-12
1968 Telecaster	1953 Super 400	1967 Epiphone Casino
1968 Telecaster	1955 Les Paul Special	1959 Martin D-28
Thinline	1957 ES-175	1970 Martin D 12-28
1959 Stratocaster	1961 ES-335	1967 Martin O-18
	1995 J-200	1966 Guild F212
Gibson	Mastertone Banjo	1935 Dobro Alumilite
1958 Les Paul Standard		Danelectro 3021
1952 Les Paul	Others	Coral/Danelectro
"Goldtop"	1959 Gretsch 6120	Electric Sitar
1961 Les Paul Custom	1956 Gretsch Silver Jet	1928 National Style 2
(3 PU)	1968 Rickenbacker 360	"Tricone"

and Gearhead Gearhead Gea

I figured my mission is to let *EQ*'s readers know whether the 300 (\$699.99 list) is the real deal for less bucks, or whether too many corners were cut to make it viable for serious studio work.

this a problem? Not for me, but some purists feel somewhat of a disconnect.

2:15 PM

Late lunch. Variax gets a break.

2:47 PM

Time to record those loops. Tuning was good, and stayed pretty much intact during an over three-hour recording session, notwithstanding the occasional touch up. I monitored through the program and when I bypassed the amp models, was reminded of how much these guitars want an amp to sound their best. This isn't a knock on the basic guitar sounds: How often do you listen to *any* guitar straight with no effects whatsoever from amplification?

6:34 PM

Time to knock off. Having worked extensively with the Variax 500, using the 300 confirmed that the only significant difference is in the guitar itself. In fact, there are only two real downers to the 300 — no vibrato tailpiece (you'll need a 700 for that), and no left-handed model (try a left-handed 500). I want to be careful not to mislead anyone into thinking the 300 is a top-drawer guitar, but I also don't want anyone to discount it based on price, because it is *very* playable. I never felt it was limiting me, and most of the time, the guitar became a non-issue because I was getting the music and tones I sought.

Having one axe that's this versatile in is a studio guitarist's dream come true. I would have killed for this in my days doing session work. And today, when recording, it's quite a buzz to think "gee, a Ric would be perfect for this part, sure wish I had one" — then realize that even though you don't have the Ric, you have its *sound*. Lay it into a track, and I'd wager that few people, if any, could tell the difference.

Sure, you can argue the models aren't exactly like the real thing. That it's weird having the sound, but not the look and feel. That *their* model doesn't sound like *your* guitar. If you feel this way, the Variax is not the droid you're looking for.

But as someone who doubles on guitar and keys, the Variax makes not only perfect sonic sense, but works conceptually. It's a controller for a bunch of different sounds, just like a keyboard that triggers different synth sounds . . . but without the limitations of MIDI, of course (the Variax is more like a super hex signal processor).

The Variax 500 is not my first-call guitar — the PRS still has that honor — but it's my second, third, fourth, fifth, sixth, seventh, etc. guitar. And the 300 brings that serious versatility and studio flexibility to a wider audience.

The guitar is good enough not to get in the way, and in fact, I *enjoyed* playing it. If you've been holding off on a Variax because of the cost, the 300 is the best argument yet for taking the plunge. **EQ**

EXCEPTIONAL QUALITY? WELL, YES...AND NO...

EQ stands for "Exceptional Quality," and the Variax 500 already picked up that honor for its, well, exceptional quality. But what about the Variax 300? It kind of wants its own category: maybe "Best Example of a Company Competing with Itself for Both the High and Low-End Markets"? The bottom line is that Line 6 managed to put Really Expensive Technology into an extremely affordable package. Good deal? You better believe it.



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Mindprint T.R.I.O. Total Recording Solution

Something tasty for your DAW in one wee box

by Monte Vallier

Is it a bird? A plane? A grown man in tighty tighties? A kick at the door and a delivery later and it is revealed: I'm the proud holder/temporary owner of a Mindprint T.R.I.O. Uh huh.

WHAT IS IT?

This box is a small desktop mixer-like box with an analog channel strip and mixer-like monitor section. On the input side it has a mic pre with phantom power and a 80Hz low cut button, hi Z instrument input, stereo line input, auxiliary input, channel insert, simple EQ for both the mic pre (Hi shelf at 7.5k, Low shelf at 100Hz) and the line input sections (Hi shelf at 9k, Low shelf at 120Hz), a compressor knob called "Fat", separate record input level knobs and mute buttons, and an overall gain knob. The meters are switchable between input levels and output.

On the monitor side there are two headphone outs with separate volumes, outputs for three sets of monitors with individual selector buttons, a button to switch your output to mono, a dim button, and a talkback section with built-in mic and level control. The recording monitor section, or the "zero-latency monitoring" section, features a 3-knob mixer for mic/inst, line, and aux-input levels.

The T.R.I.O. interfaces with your DAW via RCA plugs for the analog connection and an optical Toslink S/P-DIF for digital and supports up to 24bit/96k syncing.

There's a button for activating the connection to the DAW and a monitor on button.

WHAT DID I DO WITH IT?

I approached this test with the intention of recording a simple cue using only this box, a couple of instruments and microphones. I connected the T.R.I.O. to the DAW via the analog RCA ins and outs. I dropped a drum loop into my recording software, plugged in my headphones and everything so far was fine. I then plugged a bass into the instrument input, set the level, and was happily surprised to hear a nice, fat, clean direct tone. I tried the "Fat" compressor knob and it seemed to boost the gain but didn't really help the tone.

Next I tried an old Jaguar in the direct input. First off it was difficult to get enough level. I had everything cranked up. I even set the analog output adjustment screw on the back to +6dB and still couldn't get it to hit well. Hence the guitar sounded thin and brittle. With the high EQ cut at 7.5k, I was able to kill some of the brittleness but it also killed the overtones. The "Fat" knob boosted to gain and tended to hype the top and increase the brittleness even though it was audibly limiting the attack. I was able to make the box crap out and distort pretty easily. I decided to give up on the direct electric guitar sound and try miking the guitar through an amp. I stuck an Audio Technica 4033 in front of a Fender Deluxe and connected it to the T.R.I.O.'s mic pre. I engaged the phantom power and the 80Hz low cut and got a good level. The mic sounded flat — a bit thin, but for this demo-like purpose it worked fine. I used the insert send and return to hook up an old ADA delay to add some space. The test worked fine.

Next test was the mic pre on a vocal. I had a friend stop by to do some atmospheric *ooohs* and *aaahhs* on the



Type: Recording front end and mixer-style monitor
 Price: \$549
 Contact: www.mindprint.com

Digital I/O: 24-bit/96kHz S/P-DIF Resolution:
 24-bit

Dynamic Range: 105dB

Channel Strip: mic/instrument preamp; stereo
 line preamp, zero latency monitor

Manual: 56 pages, English and German

track. I used a Neumann TLM 103. We hooked up another set of phones to the second headphone input and I put her in another room so we could test the talkback system. I never have much need for this when I'm recording at home, but it was cool to have — I didn't have to yell directions through the door. The talkback was a cool feature. The vocals also sounded a bit thin and flat. But with all the delay inserted and the demo-purpose, it worked fine.

I then hooked up a set of Roland MA-12 powered multimedia speakers to the main speaker output and it all sounded good. I found the monitoring while in record and listening back to be very good with lots of options. The zero-latency monitoring section worked well also.

WHAT DID I THINK?

The Mindprint T.R.I.O. Total Recording Solution is a perfect little box if you need something to interface with a simple soundcard to get sound in and out of your computer in an easy and versatile way. This could also be a good portable solution for the laptop brigade. With all the input and output options, this box is definitely something to consider when looking for your recording solution. **EQ**

Strengths:

- Many input and output options including 24bit/96K optical S/P-DIF interface
- Versatile monitor section
- Zero latency monitoring
- Simple and straightforward to use
- Talkback system was cool

Limitations:

- EQ limited. More control would be good
- "Fat" compressor knob sounds very generic — tended to just boost gain and hype top end
- Dip switches a little confusing

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Look Ma, No Hands!

Controlling your Cakewalk host with DigiTech footswitches: An object lesson in *ease*

by Craig Anderton

You know that punch-in footswitch jack on recorders? You remember that? Well, that was me. Yup, when TEAC introduced the 3340 back in the 70s, I figured out how to wire up a footswitch. The guys at TEAC saw it and thought it was a good idea. From there on, their recorders added punch-in footswitches. Other manufacturers then followed suit.

So why'd I do this? I mean outside of my total inability to leave well enough alone?

Simple: I play guitar. Playing guitar requires two hands, and in the days before automated punching, you had to punch *exactly* where you wanted the punch to occur. So I really needed to, in the immortal words of James Brown, get on the good foot.

THE NEW HANDS-FREE RECORDING

Two years ago, I reviewed the DigiTech RPx400 guitar processor for *EQ*. It spun my crank because — when used with the bundled ProTracks software — you could use the footswitches not just to bring effects in and out, but to control recorder functions (and with more sophistication than just play, stop, and record). The RPx400 appeared just as I was recording the "AdrenaLinn Guitars" sample library, and it saved me an amazing amount of time. I've been a fan of the concept ever since, and later graduated to DigiTech's GNX4 — a more complete

implementation of the "guitar workstation" concept (I've since done several tutorials on it for the www.guitarworkstation.com website).

Until recently, though, you could use only Pro Tracks Plus (PTP) with the RPx400 or GNX4. But along with PTP, Cakewalk's Sonar 4 and Guitar Tracks Pro (GT Pro) use a plug-in architecture for control surface support, and it's possible to install the PTP hands-free plug-in with these other programs as well. (And note that as RPx400 owners trade up to the GNX4 or the GNX2000, the RPx400 is starting to show up used for prices that make it tempting to use as a control surface, even if you're not interested in its other features.)

Furthermore, the GNX4 also accepts the GNX FC remote footswitch unit, which parallels the existing footswitches but is used for recording only. This is helpful if you're using the GNX4 as a tabletop device (e.g., for convenient editing) yet still want to have footswitches on the floor. The GNX2000 works similarly and offer similar control capabilities for Cakewalk hosts.

THE SOFTWARE

If you've installed PTP, the required control surface DLL was already installed and will show up in Sonar 4 and GT Pro's Control Surface options. If you haven't installed PTP but use Sonar 4 or GT Pro, then install and register this DLL as follows:

- Go to <http://www.eqmag.com>.
- Download the file **DigiTechRPX.dll**.
- Locate the following folder on your computer: C:\Program Files\Cakewalk\Shared Surfaces.
- Copy the DLL into this folder.
- Go *Start > Run* in Windows.
- Type the following *exactly* as shown (but as a single line) into the Run field. (Note that there is a space between exe and "C:\ as well as between Program and Files, and also Shared and Surfaces; also, the quote symbols are required): **C:\WINDOWS\system32\vegsvr32.exe "C:\Program Files\Cakewalk\Shared Surfaces\DigiTechRPX.dll"**
- Click on OK; a screen should say the DLL was registered successfully.

THE HOST

You'll need to install the USB drivers included with the DigiTech device so it can communicate with your computer, and in your host, make sure DigiTech USB MIDI is selected under *Options > MIDI Devices*. Once that's done and the plug-in DLL has been registered:

- Go *Options > Control Surfaces* in Sonar, Guitar Tracks Pro, or ProTracks Plus.
- Choose DigiTech Hands Free as the Control Surface.
- Select the MIDI port connected to the DigiTech unit for the program's MIDI in field (USB for the GNX4 or GNX2000, your MIDI interface's MIDI port for the RPx400).

And now you can control your program from the footswitches. There are subtle differences between what the footswitches do with different programs. They work as expected, but note that with Sonar 4, if you press Record to stop recording and press Record again, you'll start recording in the same track but in a new layer. If you press Stop to stop recording and press Record again, recording begins in a new track.

For more information on using Sonar 4 with the GNX4, and details on what the footswitches do, check out the tutorial and video I did at <http://www.guitarworkstation.com/Tutorial17/tutorial17.htm>. *EQ*



Fig. 1. DigiTech Hands Free installed as a control surface within Sonar 4.



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- Lyric sheet typed or printed legibly (please include English translation if applicable). Sheets not required for instrumental compositions.
- Check or money order for \$30.00 per song (U.S. currency only) payable to John Lennon Songwriting Contest. If paying by credit card, \$30.00 per song will be charged to your account.

Entries must be postmarked no later than August 15, 2005.

Please read all rules carefully, and then sign your name in the space provided. If entrant is under 18 years old, the signature of a parent or guardian is required.

1. Each song submitted must be contestant's original work. Songs may not exceed five (5) minutes in length. Songs may have multiple co-writers, but please designate one name only on the application. Contestant may submit as many songs in as many categories as he/she wishes, but each entry requires a separate cassette, CD, or MP3 file, entry form, lyric sheet, and entrance fee. **One check or money order for multiple entries/categories is permitted.** (Entrance fee is non-refundable. JLSC is not responsible for late, lost, damaged, misdirected, postage due, stolen, or misappropriated entries. The JLSC is not responsible for faulty file uploads accompanying online entries.)
2. The John Lennon Songwriting Contest is conducting 2 separate Contests during 2005 - Session I and Session II. Twelve (12) Grand Prize winning songs from each Session (one from each category) will receive \$5,000 in project studio equipment from Roland/Edrol, Audio-Technica and Brian Moore Guitars and \$500 gift certificate from MusiciansFriend.com. The 12 Grand

- Prize Winners in each Session will go head-to-head in an online voting competition to become the Lennon Award Winner in their respective category. The 12 Lennon Award Winners will receive a \$5000 EMI Music Publishing Contract, and 1,000 CDs in full color, premium 4-panel Digipaks, worth \$1,990 courtesy of Discmakers. Thirty-six (36) Finalists from each Session will receive \$100 gift certificates from MusiciansFriend.com. One (1) Lennon Award winning song will receive \$20,000 for the "Song of the Year" courtesy of Maxell.
3. Contest is open to amateur and professional songwriters. Employees of JLSC, their families, subsidiaries, and affiliates are not eligible.
4. Winners will be chosen by a select panel of judges, comprised of noted songwriters, producers, and music industry professionals. Songs will be judged based on melody, composition and lyrics (when applicable). The quality of performance and production will not be considered. Prizes will be awarded jointly to all authors of any song. Division of prizes is responsibility of winners. Void where prohibited. All federal, state, and local laws and regulations apply.
5. One (1) band will be selected by WARPED TOUR '06 organizers to tour and perform for one week on WARPED TOUR '06. Performance will be considered.
6. Winners will be notified by mail and must sign and return an affidavit of eligibility/recording rights/publicity release within 14 days of notification date. The affidavit will state that winner's song is original work and he/she holds all rights to song. Failure to sign and return such affidavit within 14 days or provision of false/inaccurate information therein will result in immediate disqualification and an alternate winner will be selected. Affidavits of winners under 18 years of age at time of award must be countersigned by parent or legal guardian. Affidavits subject to verification by JLSC and its agents. Entry constitutes permission to use winner's names, likenesses, and voices for future advertising and publicity purposes without additional compensation.
7. CDs, cassettes, and lyrics will not be returned.
8. **Winner Announcements:** Winners of Session I will be announced on November 1, 2005. The Maxell "Song of the Year" will be announced on July 15, 2006. For more information contact info@jlsc.com.
9. **I have read and understand the rules of the John Lennon Songwriting Contest and I accept the terms and conditions of participation. (If entrant is under 18 years old, the signature of a parent or guardian is required.)**

SIGNATURE _____ DATE _____

www.jlsc.com



Doing the Combo Mambo

. . . Or why we stopped worrying and learned to love this amp collection

by Craig Anderton

Ever lusted for an amp collection? Of course you have. A big Marshall stack for that wall o' sound, a cute Fender Twin for blues or country, and hey, throw in a Vox AC30 when it's time for Brit Pop.

Apparently the developers at Native Instruments lusted after an amp collection too, so they created the Guitar Combo series of virtual amps, which work in stand-alone mode or as plug-ins (VST/DX12/RTAS/AU). The line consists of the Plexi Combo, Twang Combo, and AC Box Combo — available individually or as a Triple Pack.

So is this going to be a review? Naaahh, I helped write the manual so I'm recusing myself. But *because* I wrote the manual, well,

I've logged a *ton* of hours with these little guys. And as I've often said, the most frustrating part of writing manuals is all the

cool stuff you find out about *after* it went to the printers.

So, here's some of that cool stuff. But also note that these techniques apply to any guitar amp plug-ins, even though the Combos are obviously well suited to these applications.



Fig. 1: Native Instruments' Twang Combo and IK Multimedia's AmpliTube 2 are being treated like a guitar setup that splits into two different amps. Each plug-in is inserted into its own track, but fed by the same guitar signal.

SUPER STEREO, TAKE 1

Although adding reverb can create a stereo image, the main Guitar Combo sound remains centered. But just as guitarists split their guitar to two amps, you can get some great stereo textures by splitting your guitar to two sequencer tracks (or copying an existing guitar track to a second one if you're re-amping). Insert a different

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The newest addition to EQ's roster of monthly features is **THE ART OF RECORDING**

Everyone knows that in studios today, it seems to be all about computers, DAWs, and plug-ins. But that doesn't mean that producers, musicians, and engineers don't need to know "traditional" recording techniques and how to use hardware.

EQ IS FOR THE PROS

Each month, EQ's exclusive new Art of Recording section features hands-on guides to mic technique, hardware processing, interfacing hardware with software, acoustics, how to get the best performance from an artist, and much, much more.

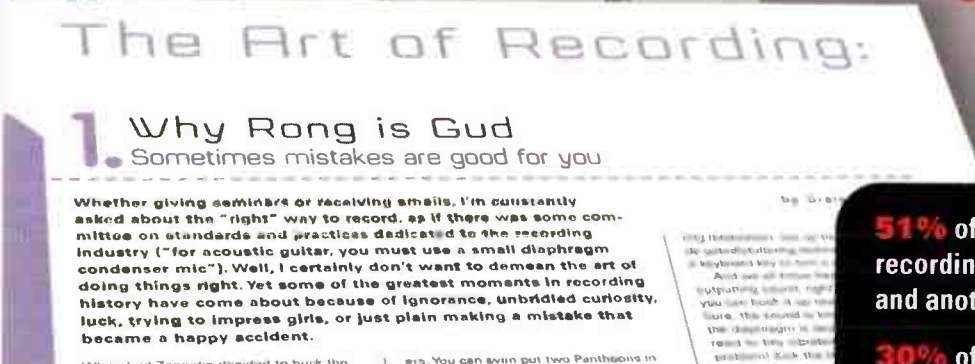
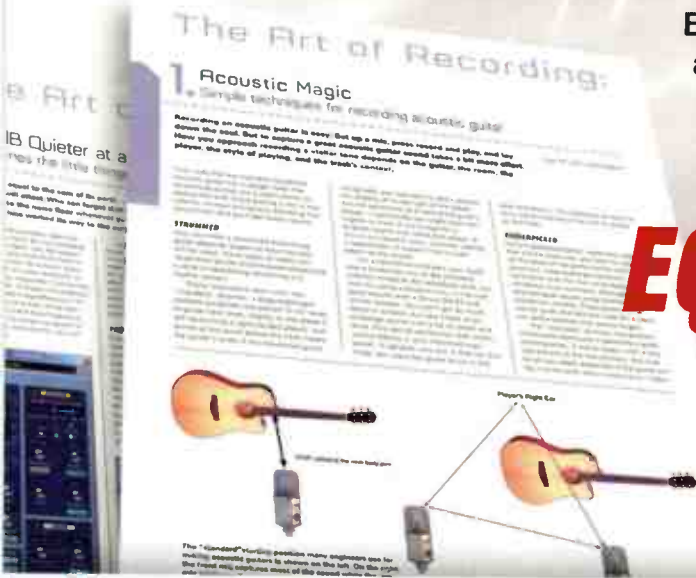
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When Led Zeppelin decided to buck the trend at that time of close-miking drums, the result was the Olympian drum sound in "When the Levee Breaks." Prince decided that sometimes a bass simply wasn't necessary in a rock tune, and the success of "When Doves Cry" proved he was right. Reverse tape, flanging, distortion—all at one point were considered "wrong."

A lot of today's gear locks out the chance to make mistakes. Feedback can't go above 99, while "normalized" patching reduces the odds of getting out of control. And virtual plug-ins typically lack access points, like insert and loop jacks, that provide a "back door" for creative weirdness. It's time to reclaim some of our heritage as sonic explorers, and screw up some of the recording process. Here are a few suggestions to get you started.

UNINTENDED FUNCTIONS
The Lexicon Pantheon reverb (included in Sonar, Lexicon Omega, and other products) can provide some really cool resonator effects as well as reverb. Try these settings:

- Reverb type: custom
- Pre-delay, Room Size, RT60, Damping: minimum settings
- Mix: 100% (wet only)
- Level: as desired
- Density Regen: +90%
- Density Delay: between 0 and 20ms
- Echo Level (Left and Right): off
- Spread, Diffusion: 0
- Bass boost: 1.0X

Vary the Regen and Delay controls, and feel free to experiment with the other

ers. You can even put two Pantheons in series set for highly resonant, totally quality sounds.

One of my favorite applications is using a vocoder "wrong." Sure, we're supposed to feed an instrument into the synthesis input, and a mic into the analysis input. But using drums, percussion, or even program material for analysis can "chop" the instrument signal in rhythmically interesting ways.

Got a synth, virtual or real, with an external input? Turn the filter up so that it self-oscillates (it'll lute you), and mix the external signal in with it. The sound will be dirty, rude, and somewhat like FM meets



It says it's a reverb, but here Pantheon is set up as a resonator.



amp in each track, select complementary presets, then pan them toward the left and right (Figure 1).

How you pan makes a huge difference. Extreme left and right creates a "hole" in the middle, and sounds almost like two guitar parts playing in unison (adding a short delay plug-in before one of the amps can heighten this effect). Another useful option is to pan one amp full left, and center the other one. This weights the image toward the left, which creates room in the mix for, say, a piano panned more toward the right — yet still gives a huge guitar sound.

After setting up the amps in stereo, you'll probably want to tweak their settings. For example, the image will be weighted toward whichever amp is "crunchier." If that's what you want, fine. Otherwise, crunch the other amp a bit more, or vary panning or levels.

SUPER STEREO, TAKE 2

Now try the same thing, but flip one channel's phase switch and vary the channel's level — you'll hear major tonal changes.

How you pan makes a huge difference. Extreme left and right creates a "hole" in the middle, and sounds almost like two guitar parts playing in unison (adding a short delay plug-in before one of the amps can heighten this effect).

With sounds panned left and right and full cancellation, you can drive a truck through the center of the stereo field. Just remember to check for mono compatibility at the master bus.

Tweaking settings is unpredictable, because boosting may cause an increase or decrease in level or frequency response, depending on what is or is not being thrown out of phase. Experiment!

SERIAL KILLER SOUNDS

Putting two hi-gain amps in series will likely give the same out of control crud you'd get with hardware devices. But if you use one amp to "condition" the sound and the other to ultra-crunch, the results can be

pretty cool. Interestingly, the results were never quite as expected — for example, one time there was a big midrange peak, yet neither amp by itself seemed to have this kind of peak. So what? It's all about more options.

RIDING THE BUS

The Twang and AC Box have reverbs. The Plexi instead has a delay module that produces standard delay effects, but can also do sweet "backwards tape" sounds that are *sooo* '60s.

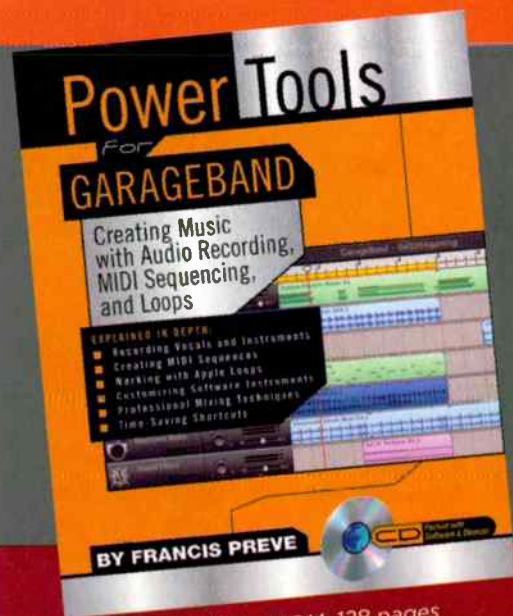
So there I was, with the perfect Twang sound. Yet I wanted to add the backward tape effect. Solution: Insert the Plexi Combo into an effects bus, set it for minimum crunch, turn up the delay big-time, and send some of the Twang signal to the bus. I ended up with mostly Twang crunch, and an overlay of light-the-incense echo effects.

SIGNING OFF

Sure, guitar amp plug-ins do a credible job of fulfilling their intended function. But in a virtual environment, they can pull off a few other tricks as well . . . just like these. **EQ**

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SONY Trance NRG2

Contact: Sony, www.sony.com/mediasoftware
Format: CD-ROM with acidized WAV
Price: \$59.95

I'm a trance fan, and want more than "junk" trance. So far, *Trance NRG2* comes closest to making me feel like I'm in a way too crowded club, pleasantly buzzed on Kölsch,

and wondering how this blond ended up on my arm.

The all-important beats shine. There are construction kit-type elements (snare, kick, hats, percussion, cymbals), as well as complete loops, including breaks. You get basses (lots of 303-type stuff, a few nice sub-basses, and some off-beat loops), filtered sweeps, leads, pads, trance synths (fat sounds doing chord progressions), techno synths (generally chopped, sequenced sounds favoring hard sync effects), progressive synths (highly rhythmic), atonal effects, filtered sweeps, and a few surprisingly creative snare rolls. You'll need to supply your own come-hither diva vocals, though; there are eight forgettable vocal clichés, which you might use once. Or not.

If you think "anyone can do trance," you're half-right: Anyone can do bad trance. A lot of the synths on this CD have jackhammer rhythms that could get really annoying in the wrong hands; trance is about continuously and subtly warping your sounds — mixing, filtering, adding tempo-synced delay, and doing both smooth and abrupt edits. *Trance NRG2* provides the source material, but expects you to supply the art. —Craig Anderton

SPECTRASONICS Backbeat (SAGE Xpander for Stylus RMX)

Contact: Spectrasonics, www.spectrasonics.net
Format: DVD-ROM
Price: \$99 each



Wow, this is a tough crowd. No sooner does Spectrasonics unleash the ultra-cool Stylus RMX, when some hecklers call out "Hey! This stuff sounds electronic! What about acoustic sounds?"

The Stylus RMX library works for me, but there's no denying that the five SAGE Xpanders (Backbeat, Retro Funk, Liquid Grooves, Burning Grooves, and Metamorphosis) bring an embarrassment of

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Karl Coryat (a.k.a. "Eddie Current") is a consulting editor for *Bass Player* magazine, where he was a staff editor for 14 years and wrote many articles and columns on recording and technology. He has been a prolific creator of original music since the mid 1980s.

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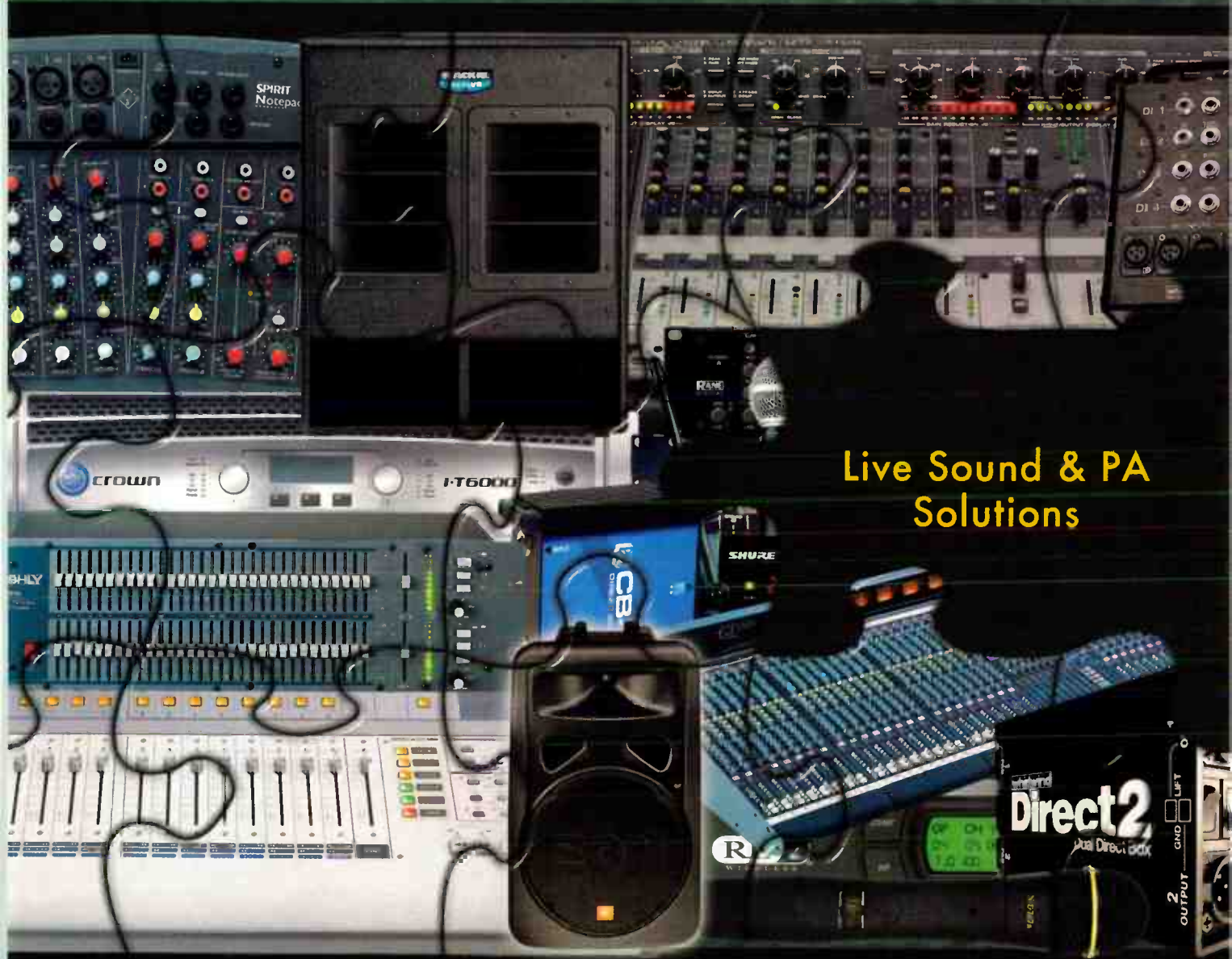
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Sounds

riches to the Stylus RMX platform. They've appeared before as sample libraries, but stuck 'em in Stylus RMX, and they take on lives of their own.

Backbeat is the Xpander of choice for acoustic, rock solid drum grooves. The sounds are a bit tame for my tastes — I generally like big, rude drums — so I slapped in the Tube Limiter, Parametric EQ, and Power Filter, then used Edit Group on a couple grooves to drop pitch on only the snare hits. And that's why I love Stylus RMX's extreme editability: The sounds ended up as heavy as Kirstie Alley on a donut binge.

Don't be misled by seeing only 39 grooves; there are a couple hundred distinct elements (variations, fills, etc. — it's a 1.1GB library), and 70

multi setups to get you started, so you can assemble very convincing drum parts. And, the grooves were recorded by different drummers on different kits in different studios, so you're not locked into one "sound." Hecklers, you can sit down now. —Craig Anderton

HARK PRODUCTIONS Atmospherix Vol. 2

Contact: Hark Productions,
www.harkloops.com
Format: Two CD-ROMs with WAV files
Price: \$49.95

The cover says "modern sound elements for music, film, and video," and that's on target. One CD-ROM has long, atonal pads and atmospherics. The other offers



various sounds: additional soundscapes (342MB), rhythmic loops (246MB), non-natural sound effects (52MB), 87 short "sound events" (3MB), and rhythmic pulses (15MB) — think "glitch music."

The sounds are solid, and the price is right. The pads are long enough that you can even carve out shorter segments. However, none are looped or acidized; most fade out, so you have to treat them as one shots. Sonically they're wonderful, but they should have at least been crossfade looped, even

though you can, of course, crossfade them manually. However, they're long enough that you probably won't need to loop most of them anyway.

Rhythmic loops are acidized, but appear to have had no editing of the acidization markers. So, deviating much from the original tempo (which is not documented) produces lots of flams. You can eliminate these by editing the markers in Acid, Sonar, or Sound Forge, but that should have been done for you.

So, mixed feelings: *Atmospherix* has great sounds, and there's enough good stuff to justify the price. It's fine for non-linear editing video types, but needs extra tech work to be a great sample CD for musicians. —Craig Anderton

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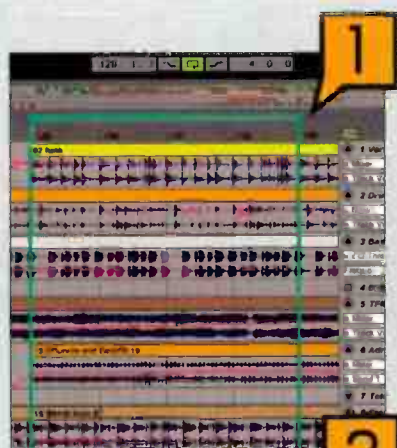


Ableton Live 4

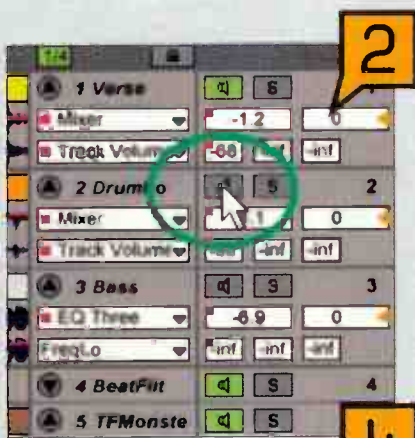
Turn Live 4 into a loop creation machine

Objective: Render loopable regions in Live 4 to disk.

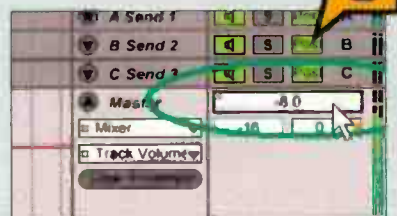
Background: Live is a fantastic program for creating/performing loop-based music, but it's also great for creating raw loops that can be imported into Live or other programs. It's possible to render loops from the Session or Arranger view; we'll describe the latter. (Note: You can turn these loops into REX files with Propellerheads' ReCycle, or convert to the "acidized" file format using Sony Acid, Sound Forge, or Cakewalk Sonar.)



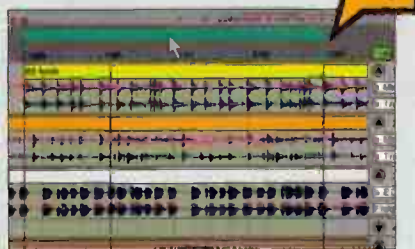
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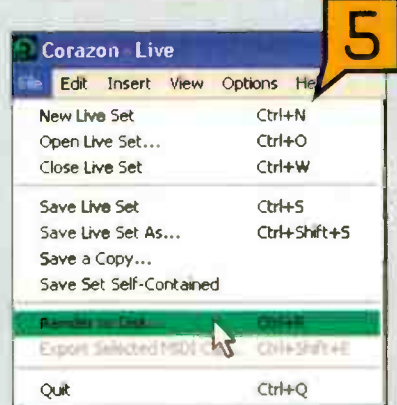
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3



4



5



6

- 1 Define the region you want to export (shown highlighted in green) by dragging the Loop Start/Punch In and Loop End/Punch Out markers to define the loop start and end.
- 2 Mute tracks to be excluded from the loop by clicking on the green speaker button (a gray speaker button indicates a muted track).
- 3 At the Master track, adjust the level parameter for the maximum meter reading short of distortion, then back off a bit to give some headroom.
- 4 To select the region you want to export, click on the loop/region "brace" (highlighted in green for clarity) or the left or right loop marker. The selected region becomes highlighted.
- 5 Go *File > Render to Disk* or type **Ctrl-R**.
- 6 Select the desired rendering options (WAV or AIFF format, bit depth, sample rate, etc.), then click OK to render the file.

tips

- The above technique can export an entire song to disk if you highlight the entire song.
- What you hear at the master is what you get. Choose tempo, effects, etc. as desired.
- In the Render to Disk options, leave "Normalize" off to preserve the headroom you created in Step 3, but turn on "Render as Loop" so that any "tails" (delay or reverb that decays beyond the loop end) wrap around to the beginning.
- If you plan to use the loop with Live, turn on "Create Analysis File." This helps Live determine optimal stretching.

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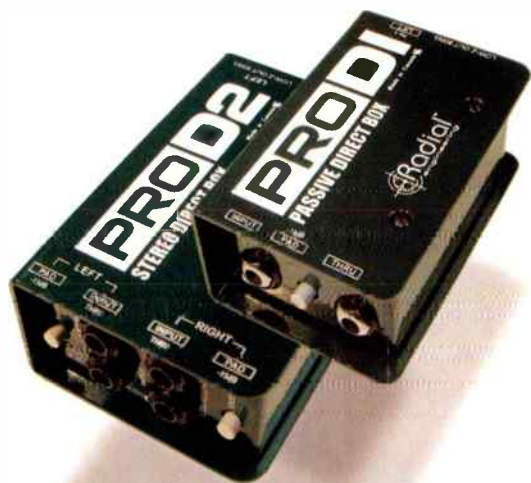
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Ableton Live 4

ReWiring Audio and MIDI into Live 4

Objective: Play software instruments and stream audio from a ReWire client through Live's mixer.

Background: With Live 4, Ableton added support for MIDI instruments (including soft synths). This extends to ReWire-capable clients such as Reason, which means it's possible to play and process any of Reason's synths and samplers from within Live. Essentially, you're able to run Live alongside another ReWire program to create an expanded virtual studio. (For demonstration purposes, I'll use Reason as the client, but this technique should work for any ReWire-compatible program.) Here's how to get it all set up.



1 Launch Live, then launch Reason. (To make ReWire host/client connections, the host application must be launched first.)

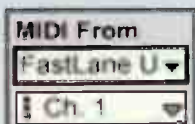
2 To stream an audio track from a ReWire client (say, a REX loop from Reason) into Live, choose the client audio channel source from the Audio From menus. In this example, I've selected channels 1 and 2 from Reason.

3 Next, enable the On button from the audio channel's Monitor section. Now, when you play a loop or sound from Reason assigned to output 1/2, you'll hear it play through Live. In addition, the two programs will play in sync.

4 The process of setting up MIDI input to a ReWire client is nearly identical. First, select a MIDI track, then choose the MIDI In port and receive channel from the track's MIDI From menu.

5 Next, specify the MIDI To destination, and turn on Monitoring on the selected channel within Live. (Here I've selected the first instance of Reason's NN-XT sampler.)

6 You're almost done — the final step is to set an audio track's input to receive the output from the selected ReWire client MIDI instrument. Here I've set NN-XT's output to channel 3/4, and assigned this stereo source as an input source for an audio track in Live.



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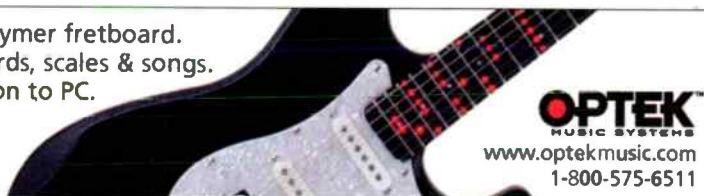
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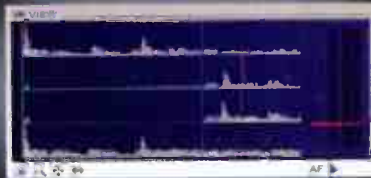
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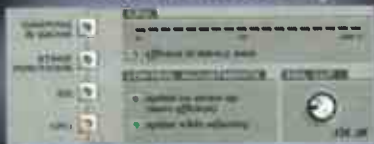
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Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MDTU Digital Performer engineering team. Mackie **Control Universal** brings large-console, Studio A prowess to your Digital Performer desktop studio, with a wide range of customized control features that go well beyond mixing. It's like putting your hands on DP itself.

The desk.

When you're on the road and looking to record a full band, the Mackie **Onyx** series of mixers from Mackie is the perfect complement to your MDTU Traveler. Whisper quiet and built like a tank, Onyx mixers feature an all-new mic preamp design capable of handling virtually any microphone. With the optional Firewire card, you can connect an Onyx mixer to your laptop with a single Firewire cable and have all the extra mic preamps and line inputs you need to capture every drum mic, vocal mic, individual synth output and DI the band throws at you. Since Digital Performer works seamlessly with multiple Core Audio devices, configuring a Traveler/Onyx system is a snap.



The monitors.

The Mackie **HR Series Active Studio Monitors** are considered some of the most loved and trusted nearfield studio monitors of all time, and with good reason. These award-winning bi-amplified monitors offer a performance that rivals monitors costing two or three times their price. Namely, a stereo field that's wide, deep and incredibly detailed. Low frequencies that are no more or less than what you've recorded. High and mid-range frequencies that are clean and articulated. Plus the sweetest of sweet spots. Whether it's the 6-inch HR-624, 8-inch HR-824 or dual 6-inch 626, there's an HR Series monitor that will tell you the truth, the whole truth, and nothing but the truth.



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World Radio History



Room with a VU

by Salvatore Russo

STUDIO NAME: Mavericks
LOCATION: NYC
CONTACT: Bobby Lurie
KEY CREW: Bobby Lurie, Dave Ares, Frank Swart
CONSOLE: Neotek Elan II 32-channel/24-buss, modded with Purple Audio Master section
RECORDERS: Otari MTR-90 Mk III, w/ 16- & 24-track heads, Studer A810 1/4" 2-track, Pro Tools HD 2, TASCAM DA-78, TASCAM cassette, TASCAM DAT
MONITORS: ProAc Studio 100's, NS-10's powered by Audio Research Amps
EFFECTS: Eventide Eclipse, PCM 41, PCM 42, SPL De-Esser, Drawmer S501 Gate, Demeter Real Verb, Eventide 2016, Line 6 Echo
OUTBOARD: (2) 1176, (2) DBX 160, (4) SPL Transient Sound Designer, (2) Distressors, (2) Purple Audio MC77, (2) Manley Elop, (2) Requisite Compressor, (4) Red Stripe, (2) Ridgefarm Boiler
MICROPHONE PREAMPS: (2) BA 1073, (2) BA 1272, (2) Manley Mic pre, (2) Chandler TG-2, (4) API 512, (4) Dredgetone, (2) Ridgefarm Gas Cooker, (2) V72s, (2) API 10-band EQ
MICROPHONES: (1) U87, (2) U87 w/Bradley Mod, (1) U67, (2) Soundelux 251, (2) Royer R-121, (2) Shure SM-7, (4) SM-57, (1) Royer Stereo SF-12, (1) Shure KSM-32, (1) AKG D112, (1) Audix D6, (2) Beyer M88, (2) KM84, (2) RE-20
COMPUTERS: Mac G4 Tower, PowerBook G4
BAND ACTION: Billy Nayer Show, The Color Scheme, Group Effort, Robbie Aceto, Matt Cowan, Alessandro Ricciarelli, The Fugue

Hidden one-half mile off the coast of Half Moon Bay lies the most hardcore surf destination in California: Mavericks. Given its name because of its unpredictable nature, Mavericks is a place where world-class surfers brave frigid shark-infested waters, jagged rocks, and fierce cross currents to pit their skills against man-eating waves that are bigger than most buildings.

Fast Forward: New York City, 2005.

Take the B or D train to Grand Street. Get off, go up the stairs and

you'll find yourself right smack in the middle of Chinatown. If you look up the street, you'll see the Manhattan Bridge leading off to Brooklyn. Walking toward the bridge you'll see a park where you notice some street ball underway: flashy moves, trash talkin', and big ballin'. You're at Christie Street. You enter an old brick building with metal shops and printing presses and directly next door to a very cool art gallery, behind a nondescript door, hidden, understated: Mavericks.

Enter Bobby Lurie, a West Coast transplant, studio guy, and a musician for the twisted Billy Nayer Show. I asked Bobby to do one thing for me and to do it two different ways: "Describe Mavericks first the way you would describe it to a studio guy; secondly, the way you'd do it if you were going to describe it to the average guy on the street."

"Mavericks was built with floated floors, pine treated walls in the style of Avatar's B room, and minimal parallel surfaces. Bass traps are in each corner, and numerous diffusers are strategically placed throughout the room and are used to maintain a live and natural sound. While the studio has one main room, the mix area is lightly deader than the rest of the room, and has several panels and clouds strategically placed to maintain a relatively flat response. The studio has tie lines to a main iso booth, and a machine room, as well as two additional rooms. The most striking feature of the main room is the versatility that you can get with a pretty minimal setup. Drums, for example, can sound tight and punchy or roomy and huge, depending on miking technique. Both digital and analog formats are featured, as well as a very healthy selection of outboard gear. While built primarily as a tracking facility, Mavericks is now often used as a mix room as well. Now, if I were to explain it to someone who knew nothing about studios I would describe it like this:

'Mavericks' is like that dream clubhouse you built with your friends when you were a kid. You didn't care if all the wood you had pulled off of some abandoned building matched, you just wanted a totally cool place to hang out and be creative and play pranks on each other. A place your folks could never find, that was all your own. It's like a beach house meets a spaceship."

Oh yeah.

HEY, EQ READERS. WANT US TO FEATURE YOUR STUDIO? SEND PICS AND INFO TO eq@musicplayer.com.



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Studiophile reference monitors have earned a great reputation with recording professionals around the world. The new 70-watt biamped **Studiophile BX5a** refines our highly acclaimed BX5 near-fields, already renowned for packing a lot of punch for their size. Get a reality check at your **M-Audio** dealer today.

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- high-temperature tolerant voice coils > longevity
- damped rubber surrounds > fidelity
- 1" drivers with natural silk domes > crisp, accurate, gentle on the ears
- integral cabinet and circuitry > extremely flat response
- rear-ported cabinet > enhanced low frequencies
- custom crossover and biamped design > optimal performance

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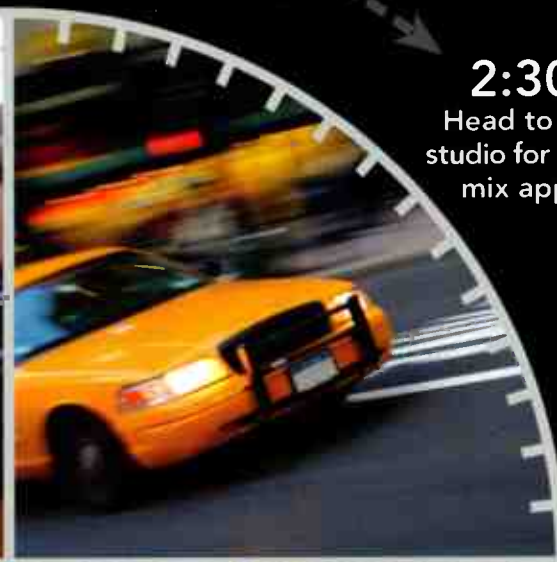
10:30am

Review last night's tracking session over coffee



2:30pm

Head to client's studio for surround mix approval



7:30pm

Record overdubs back in the studio for yet another project



4:30pm

On the way back, capture some fresh ideas, while they're hot



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