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on Beats That Break

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+

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BOB MOULD BACK: AGAIN
BOHO **BILLY BOB THORNTON**
GOING HOBO

plus

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NOISE ASSASSINS, PRO TOOLS SECRETS,
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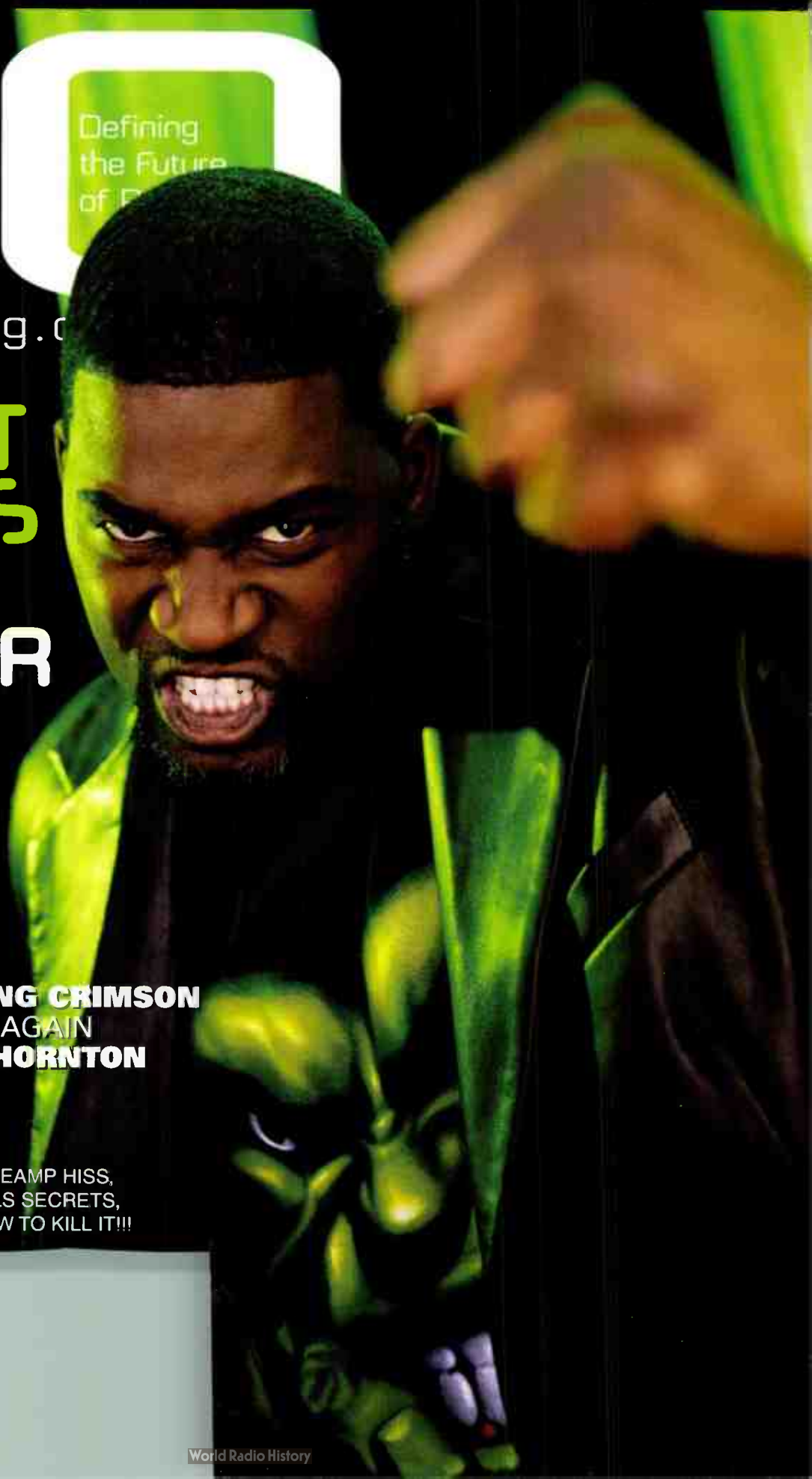
TOBER 2005



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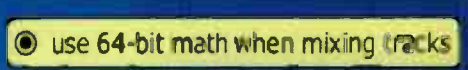

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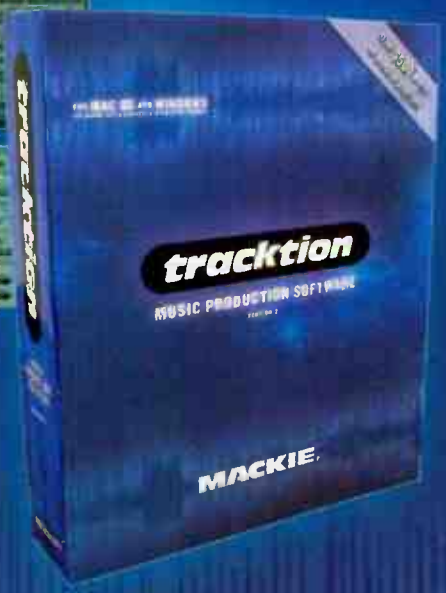

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Scott Burgess Pro Audio Review June 2005

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Nick Batzdorf MIX May 2005

"The AT2020 allows (and even begs) you to try it in applications that you might not consider optimal for a condenser. Since the mic delivers on all accounts, it's hard not to envision a few of these in the mic cabinet."

"You should be able to use this mic for everything from insect mating calls to jet propulsion testing."
Darwin Grosse Recording June 2005

"Judging by the price, (the AT2020) is aimed at project and budding home studios. But given the horizonlike frequency-response chart, this puppy may be aimed at more experienced studios, as well. Who couldn't use an extra studio condenser or, at this price, several?"
Doug Eisengrein Remix July 2005

"A $99 condenser that can deliver the goods."

"Simply put, the AT2020 is a fine mic at any price, but at $99 it's a value proposition you almost can't afford to refuse."
Michael Molenda
Guitar Player April 2005

"If the $100 price range is your budget, then rest assured that the AT2020 is as good as it gets in a condenser mic that can handle vocal and instrument duties."
Steve Langer mojopie.com April 9, 2005

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Chris Gill Future Music June 2005

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Talk Box

BLOOD SUCKING MONKEYS FROM NUTLEY, NEW JERSEY

Now that's scary. Fans of Count Floyd (or residents of Nutley) might know what we mean. The kind of fright that runs up your back like the kind of fright that runs up your back. Or losing an entire session. Or having the talkback mic on when you're on the blower talking trash to a friend about how badly the band you're recording plays and how if they even had some sort of rudimentary control over their craft maybe they might not suck so thoroughly hard like they do now.

Yeah. There's all manner of scary out there.

And going the other way with it, telescoping through a po-mo sensibility: The idea that scary is what happens when insanely talented people do whatever it is that they do. That is, scary as an attribute. As in what happens when KING CRIMSON go all King Crimson on you. Or when TREY GUNN dishes on what *that* means. Or when BOB MOULD goes deep into nuts, bolts, and the building blocks of whatever made HUSKER DU, SUGAR, SOUL ASYLUM, THE ZULUS, and a host of others he's touched come to life.

You see where we're going with this?

Straight down to Mississippi, just to show that it ain't all about the cities, where we find DAVID BANNER. And between catching him, Southern aristocrat that he is, and exhausting every Hulk reference we can think of, we cover what it is about him that made Nelly, Busta Rhymes, and Ludacris drop him a line.

Add to that the SUPER SPECIAL expanded GEARHEAD for our special TRICK or TREAT issue and you've got it all. Especially if by ALL you mean a Halloween that *doesn't* involve eggs on your car, toilet paper in your trees, and flaming bags of dog treats on your front porch.

Cheers,

P.S. We also just got lucky enough to get the great J.J. Blair running our Forums now (eqmag.com). Uncle Fester says "dig it."

EQ

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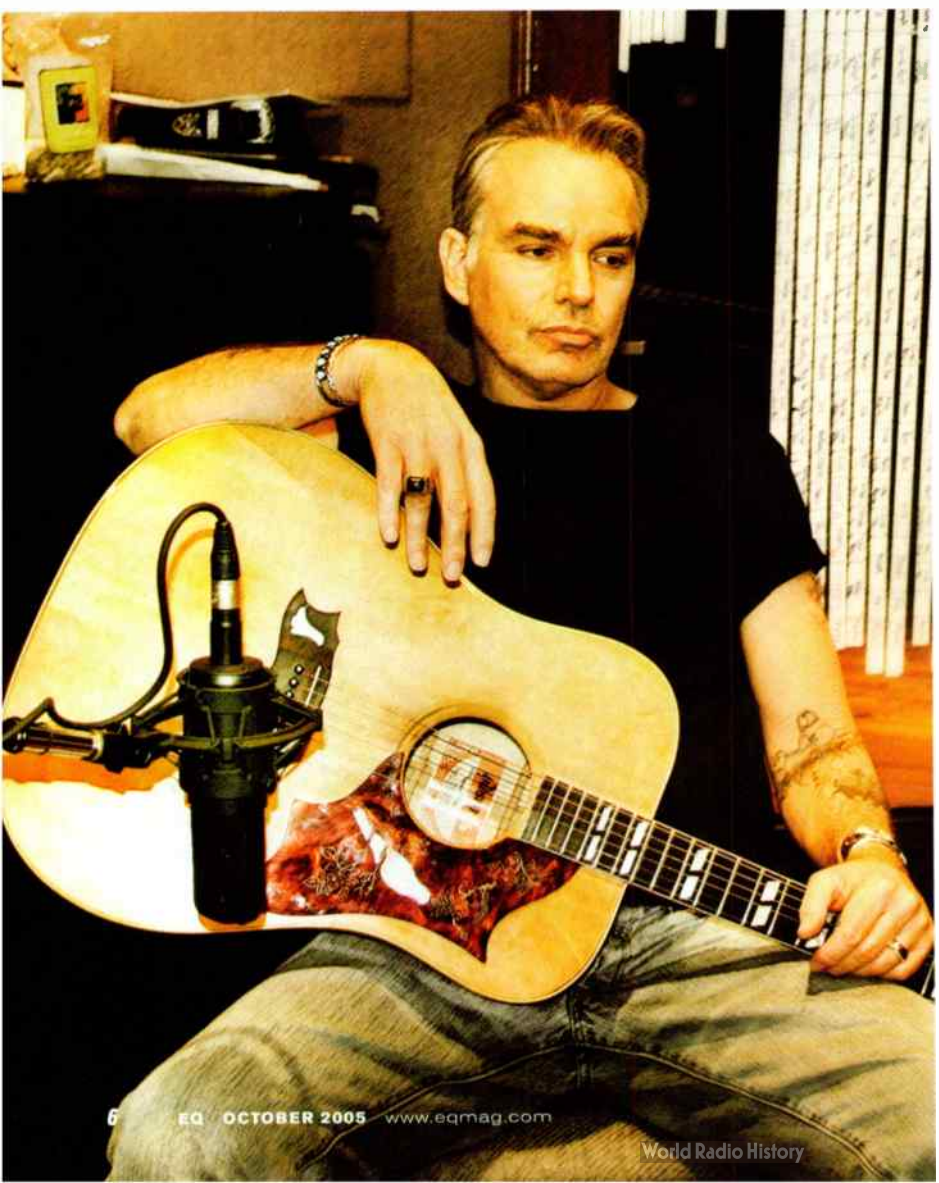
Punch In

TIPS & NEWS YOU CAN USE
BY THE *EQ* STAFF

I BLAME THE PRODUCERS!

Billy Bob Thornton doesn't live nearly so much in Hyphen Land as some of his near field contemporaries who've made it a punchline to a joke that no one seems to remember. So not so much a dancer-painter-landscape designer-tap dancer or a director-psychotherapist, Billy Bob "Actor-Musician" Thornton's love for and involvement IN music is the superset within which all of everything else about him should be understood. Before the movies and the whole star of silver screen slop, there was him onstage opening for BLACK OAK ARKANSAS, the MC5, and the EARL SCRUGGS REVUE, for chrissakes.

So no surprise then when the phone rings and we get the call to cameo appearance it over at Casa Billy.



The occasion? Him putting the final touches on his new record that leastways as we can tell is all about hobos and the California dream machine. And we find him in fine fettle and ensconced in the studio that Slash Built (*EQ*, March 2003), raconteuring about who's destroying Nashville, why music sucks, and his deep and abiding love for Fergie from The Black Eyed Peas (*EQ*, January 2005).

EQ: Music sucking these days? Yes or no: your reaction, sir!

Billy Bob Thornton: Well, originality has declined because I think what music is really about is not as important to the marketplace. I don't think we can blame The Suits now either because I think the public, once they get used to something, gets lulled into this hypnotherapy session and all of a sudden that becomes what they want to hear. But I think it's more Madison Avenue than anything else, because fashion is too closely tied to music and musical statements now are more fashion statements.

EQ: OK. And in *MY* day. . . .

BBT: OK, look, when I was growing up, and I'm 49 now, but when I was growing up you were *supposed* to be different. You were either a great lyricist or a guitar band with great guitar players or your thing was melodies, or like The Beatles, who had all of that. But now? Retro bands? It's sold more as a product than it ever was, and the product has to fit the marketplace and the marketplace wants this ONE thing and if you're going to sell five million records you damned well better sound like that one thing.

EQ: So it's The System?

BBT: Let's look at country music, OK? It doesn't exist anymore except for Dwight Yoakam or maybe Alan Jackson because right now all it is is just watered down pop music. And the problem with Nashville is the problem with all of music: Whatever vibe is IN in Nashville at the time, well everybody does it. You got two sets of studio musicians, and they play on everything. But beyond that I blame the producers, since the producers working in Nashville now were producing '80s hair bands in L.A., and when that

Photo: ©Miriam Santos/Kayte

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crashed for a lot of the same reasons that things are bad now they all moved to Nashville. So when you hear a ballad in Nashville now it's a big, heavy metal pop ballad with a Southern accent. And maybe they throw a steel guitar in there. And maybe the singer's from Connecticut. But you know, at least he's got a cowboy hat on.

EQ: Is it irredeemably broken, do you think?

BBT: Nah. Tony Brown's been a producer there for a long time even though he's more of a record guy now. But Tony's done great work. Randy Scruggs. Scruggs produces terrific records. And I want to hear records produced by Marty Stuart and Travis Tritt. Also I love what Rick Rubin did with Johnny Cash. But you know I'm not one of those guys shutting off new music with extreme prejudice. I just find that when I listen to it I don't like it as much when I hear crap in it. And if I don't hear authenticity in it, it's crap. So I listen to everything. I just bought some music. Some [pulling CDs out of a bag] Allman Brothers. The Shaggs. Seals & Croft. But you know I like The Cramps too. And I really like The Black Eyed Peas. When that girl in the group jumps up and starts doing that dance [starts doing some sort of wild watusi], man, that just really does it for me.

EQ: And your record?

BBT: Well my stuff is dictated by the mood I'm in. The record I just made I started in Chicago when I was working on a movie and was in a hotel and was talking to my mother about hobos and. . . .

EQ: Homos?

BBT: No, HOBOS. But it's in the vein of Tom Waits, John Prine, Kris Kristofferson. Real vocal-up mixes with a real rich sort of moody production. It's not a concept album like *Tommy* but it's as punk as anything The Who ever did. And if you don't think The Who were punk, well you're wrong about that.

THE NUTS, THE BOLTS, THE TOP TRICKS TO MAKING BILLY BOB SOUND *SUPER* by MR. RANDY MITCHELL

"I don't know that there was anything really earth shattering or unorthodox in the way that this CD [*Hobo*, Big Deal Records] was recorded, but I can tell you everything that was used (which isn't much) and maybe how some things were done.

Jim Mitchell [below, center] came in at the end of the project, after it was completed, and mixed. Billy decided to add real drums (Matt Laug) and that's where Jim came in because he's a master at getting great drum sounds. After Jim recorded the drums into Pro Tools, I came in to do the comps and editing. After the drums were done, Jim split the tracks out to individual channels on Billy's Trident 80B console, where the levels were set to unity gain so the Pro Tools mix was the same, just sonically better. Then, between the three of us, we blended the drums and brightened things up a bit to add a little more sparkle and zing.

So other than real drums, the whole thing was done mostly in Billy's studio (The Cave). Just Billy and I doing everything. Oh, most of the loops and synth parts were done at my studio (Akaoak)."

But here's the breakdown:

- Pro Tools HD3 accel using an Apogee Big Ben as the master clock.
- Billy and I tried some different mics and pres and settled on: an Audio-Technica 4060 tube mic, a BA Neve 1073, and a new UA 1176 for the vocal chain.
- All guitar parts and real (not synth) bass parts were recorded through: BA Neve 1272 and Line 6 AmpFarm.
- The guitars used were the usual Fenders, Gibsons, and some others: Les Paul, a Strat, a 345, a Gretsch, and a P-bass.
- The loops and synth parts were created in: Spectrasonics Stylus and Atmosphere, and Access Indigo.

Listen Hear

GAYLE RITT: *LIFE & LOVE* (Mixed & Mastered by Ed Tinley)

ED TINLEY is a grand cat. His name'll appear on everything from Liz Phair to the Smashing Pumpkins, and now? Well, Gayle Ritt's soon-to-be-most-recent record. Which, while bearing the Tinley-mark, also manages to let Ritt frame a space for herself that's beyond the usual singer-songwriter girl with a guitar schtick. Recording music that is simple and recording it simply is one of the most (more) complicated things that can be done, and both Tinley and Ritt rise to what's sounding like a grand occasion.

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Punch In

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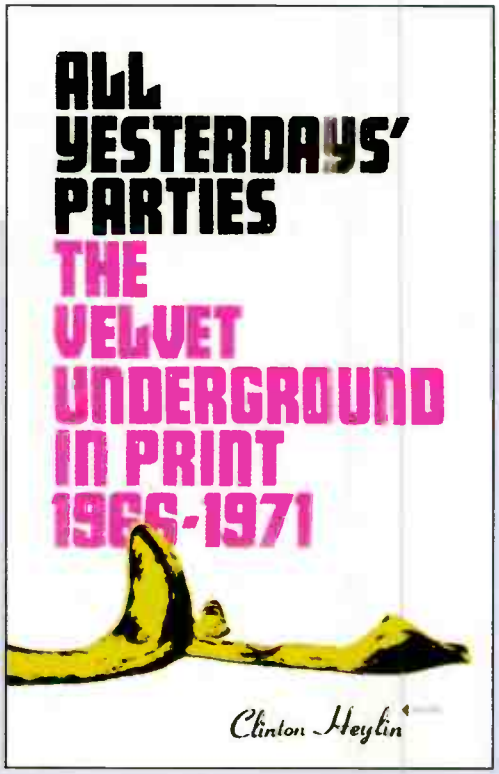

Clinton Heylin's recent book, **ALL YESTERDAYS' PARTIES: THE VELVET UNDERGROUND IN PRINT 1966-1971** (Da Capo Press), makes a pushy claim that the live version of "What Goes On" on 1969 LIVE (Mercury/1974) is in fact not only from 1968 but features John Cale on organ, whereas traditionally the track has been attributed to being from The Matrix, San Francisco, CA, November 1969 and featuring Doug Yule on organ, Cale's replacement (Cale was fired by Lou Reed in September of 1968). To quote: ". . . doubts remain as to the provenance of the version of 'What Goes On' as which came on a reel of its own, and sounds rather Calean to these ears."

While this theory would certainly bring to light one of the Holy Grails of Velvet Underground folklore (VU guitarist Sterling Morrison: "If you heard us play that in the summer of '68 with Cale on organ you would have known what it was all about"), with one listen to the virtually identical version of "What Goes On" on **THE BOOTLEG SERIES VOLUME 1: THE QUINE TAPES** (Universal/2001), recorded live at another San Francisco club, The Family Dog, in the same stretch of time (November 8, 1969), gives the truth to the myth that it is, very clearly, Yule playing organ on both versions. Yule even makes some of the same bum note mistakes on both versions (and, as we all know, John Cale never unintentionally hit a bum note until 1979). Also, in 1968, VU were playing "What Goes On" full-on through distortion pedals (check the live October 1968 version with Yule included on **PEEL SLOWLY AND SEE** [Polydor/1995]) but there aren't any in sight on the 1969 LIVE take.

Clearly Yule is still being pegged as the Yoko Ono of the VU, but Heylin's attempt at making history merely reveals itself to be yet another instance of a journalistic rock wet dream. —*Nick Blakey*

Listen Hear

KUDU: *PHYSICAL WORLD*
(Produced by Kudu)

Agghh!!!!! The greatest record we've heard this month. Bar none. One of those records where you just stop to listen and then it's over and you're still wondering what happened. Deantoni "D" Parks (John Cale, Lauryn Hill, DJ Logic) and Sylvia Gordon do this whole synth, wet keyboard, crazy drum thing that makes you think of MIA, ESG, and a bunch of other letters that spell out that we're presently tracking them down to make them explain the voodoo that they do.

PLAYERS CLUB: *COEXTINCTION* (Produced by Joel Hamilton, Players Club)

Sure. Call it by its real name. Cronyism. Nepotism. Blackmail. Whatever. Sure, Hamilton writes for us, but even more than that every time the Players Club comes up on the endless iTunes rondele of the favorite songs of your entire life, we sit up every time this stuff comes on. Hamilton's ethos, built largely on the idea that he wants the music in your head to be as disturbing as the music in *his* head, is achieved here to great effect. Don't know if it's like his stuff on the UNSANE record (with no EQ anywhere on the whole damned record), and can't tell by listening to it, but this is a mighty piece of work that puts the money where the mouth is from a production perspective. Fo' sho.

BILLY IDOL: *DEVIL'S PLAYGROUND*
(Produced by Keith Forsey, Mixed by Bill Reeves)

Plays almost like a best of Idol touching off in the late '70s, staying in the '80s just long enough, a quick moment in the '90s (thank god!), and just smattering of the "nu" millennium. The production is very good overall with Billy's voice sitting right next to your face where he is most comfortable, and Steve Stevens is back! The guitar is big and cuts like a razor. Remember when rock guitar was up front? Thankfully, so do these guys. The drums for the most part are solid although the snare sound was a little wimpy for my taste. The only downside for me was the somewhat baffling lack of bottom end. But Billy Idol has delivered a surprisingly kick ass CD that I will be listening to all weekend by the pool . . . piss off! 3 out of 5 rock Ons! —*Jason Lally*

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To restrict the artist is a crime.

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Punch In

LOVE LETTERS FROM FIGHT FANS

WHAT? YOU WERE NEVER WRONG BEFORE?

There's an error in the section on Elliot Scheiner in "Six on Six: Drums" (*EQ*, June 2005). Regarding Steely Dan's *Gaucho*, Dan Daley writes that Bernard Purdie played "most of the drum parts for the record." I haven't listened to that album in years, but as a big fan of Steely Dan in high school and college, I always read the liner notes and was curious about the musicians; I had a hunch that this wasn't correct. So I checked the liner credits on my vinyl copy of *Gaucho*, and it says Purdie played only on "Babylon Sisters." Steve Gadd played on three songs, Rick Marotta on two, and Jeff Porcaro on one.

Best,
Bob Karty, Oakland, CA

Dan Daley responds: *Elliot had a faulty recollection. After hundreds of albums over 30 years, it's forgivable. You, sir, are a sharp-eyed aficionado of music minutiae and we need more folks like you to help us beleaguered journalists keep the records straight. Seriously.*

WHAT? YOU WERE NEVER WRONG BEFORE? AGAIN?

From NICK BLAKEY: MISSION OF BURMA (*EQ*, July 2005) ERRATA

1) Missing Mission of Burma photo credits: Diane Bergamasco (black and white quartet), Josh Dalsimer (color trio) and Jon Strymish (color quartet).

2) Peter Prescott's drums are not green. They are black. The set he uses now is red.

3) From BOB WESTON: The correct tech sheet for *ONoffON*:

Roger Miller: Ampeg B-15 simultaneously as a second amp.

Clint Conley: Sunn Model T guitar head, Ampeg SBT 2x15 cabinet, not an SVT.

Bob Weston: Sony TC-580 3-speed 2-direction tape deck, not an Otari.

Recording: Maybe a Sennheiser 409 or 609 on one cone of the Marshall and some ribbon mic on the other . . . a Coles 4038? a guitar ambient mic in the corner. But they all went to separate tracks.

Additional APIs racked up by the Hardys and my Millennia HV-3B, in addition to the Alactronics.

Mixing: Other gear I brought along and used: a Distressor, a modified LA-4, and an LA-22. I'm sure we used Q's Pultec, Summit TLA-100, Neve 33609 comp, Dynamites, PCM-60, PCM-41, and the EMT Plate.

Mastering: For the all-analog mastering transfer, we used Sterling's Studer A-80 with the preview-head so that we could avoid using the DDL when feeding both the program signal and the preview signal to the cutting lathe. An ATR-102 was used for the CD and SACD transfer.

TUNE IN, TURN ON, LOCK DOWN

I was reading the article about Security (*EQ*, May 2005) and wanted to tell you that I worked at this studio (as manager) on the weekends while Andy Wallace was mixing the last Linkin Park album and I can tell you I have never seen security like that before. I kid you not when I say the hard drives for the project were watched by two armed guards 24 hours a day when they were not in use, and no CDs were allowed to be given out without consent by like four different people. It was crazy.

Peter Weis

WAIT. THE SKY REALLY *IS* FALLING!

Steven [Alvarado] (*EQ*, August 2005) says "MP3 is not proof positive" of recording quality indifference since "teenagers across America spend thousands of dollars on big sound systems in their cars." GET REAL!!! Most of what's spinning in these big systems is MP3 crap! I'm constantly amazed how bad most of these systems sound, regardless of what's playing in them: one-note bass reproduction, no mids, and a treble boost that's raw and harsh enough to cut the vehicle's glass. What hi-fi? The listener hasn't a clue what good sound is to begin with! And then they pop in their low-fi downloads . . . I can make better-sounding cassette tapes (except for the tape hiss) than what I hear coming from some of these download sites! The MP3 and its ear-bud listening environment is producing a generation of music listeners with pathetic hearing acuity. Having been in pro audio for over 25 years, I don't hold much in the way of expectations for high-end audio when we old geezers are gone.

Atom Shop

AND YES: AGAIN.

Your "Myths Revealed" article on phantom power (*EQ*, April 2005) inadvertently perpetuates a myth about why phantom power does not interfere with the audio signal. You say "when pins 2 and 3 are added, the +48V is cancelled out." Phantom power is not "cancelled out" as common mode noise is on a balanced line. It does not appear to the receiver as a signal but merely a DC offset that is usually filtered by blocking caps or a transformer. Therefore, it is not cancelled via common mode rejection; it is not a source of interference or noise to begin with.

I enjoyed the rest of your article quite a bit. I would love to see manufacturers design good +48V supplies and I am interested in this trend toward higher supply voltages.

How about an article on the ridiculous idea many folks have that you can eliminate background noise by taking a snippet of the noise, invert the polarity and add it back with the original signal. Or perhaps the silly idea of "microphone reach." Another idea, although not quite a "myth," is the cause of proximity effect, since so few people understand what really causes it. Just a few ideas.

Best regards,
Brad Duryea, Principal Consultant
DMG Systems

Lynn Fuston responds: *Good catch. I bet fewer people understand CMRR than they do Phantom power. But you are absolutely correct. And all the contributors to that article even proofread it. Pat yourself on the back for spotting that one.*

ASK & YOU SHALL RECEIVE

I have had a subscription to *EQ* magazine for several months now and there have been several how-to articles on using Cubase SX, Sonar, and Cakewalk. I used to use Cubase SX, but after switching to Pro Tools LE I haven't looked back. I find it strange that a magazine includes in almost every article something about the artist using Pro Tools in his/her studio yet there's nothing in your tech or tips

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sections about it. If Pro Tools is the industry standard, how come there are no articles in your magazine for us readers that use it?

Thank you,
Steve Crowley, Pioneer, CA

Check out this very issue. Pro Tools tips (page 74) from the cat that wrote the book, natch. —Editor

A-HEM.

I have a complaint regarding the August issue of *EQ*. Being a Southern woman of a musical inclination, and you know us Southern women are of a God-fearing nature, and take our 10 commandments very seriously, in so much as we post them in every available public location, including monuments on court house lawns, I most certainly object to the spinal reference, "Steal This Issue". I have never ever stolen anything in my entire life, and swear on my daddy's grave that I would not, but you declared right there on the cover in black and white, (no pun intended), that I should "steal this issue," and that is exactly what I did. No sooner had I pilfered said magazine than this little sassy clerk requested to look inside of my purse. Well to make a long story short, after Pedro had posted my bail, we went home to discuss the incident and a possible lawsuit. He explained to me that it was a thematic statement and you were making a point. . . . Well, encouraging the youth of our nation to steal ideas is bad. Your magazine has confused an entire generation of musicians. I, however, do believe that "judge not, lest ye be judged" and feel that although you have put me through a heinous day, all can be forgiven if I receive a lifetime subscription to *EQ*. And $436 to refund my court fees which will be due.

Thank you and God bless,
Betty Belle Sloan

A COMEDIAN? WHY YES, WHY DO YOU ASK?

I just finished reading the September issue of *EQ* on Microphone Madness. I must say it was quite interesting — *Tape Op* magazine look with ads from 1960's *Playboy*.

Oh, and the microphone stuff was interesting too.

Sincerely,
Barry Hufker

SAY WHAT

RUPERT NEVE & BILLY STULL

Rupert Neve? Most known for his legendary consoles. However, most recently he, in conjunction with mastering engineer Billy Stull, created a mastering box called "Masterpiece". The EQ? Has that classic Rupert Neve sound. If you don't know what that is (who is reading this to you?), it's an EQ that's more on the transparent side, however it gently adds warmth to the signal. This is especially useful since most engineers record to hard drives these days. Closest to the Focusrite Red series EQ (also Rupert influenced), the Masterpiece gives a similar character as this EQ. A project encompassing three years of development (with more circuitry than in one of the old large Neve consoles), Neve's Masterpiece is, well, if we had to guess: a masterpiece? ***EQ***'s Glenn Bucci aims to find out.

EQ: OK. How'd you come up with the Masterpiece?

Billy Stull: After many years and tons of mastering projects, I wished for more capabilities to deal with a diversity of incoming quality. The Masterpiece is a realization of my wish list and I am still blown away at the fortunate circumstances that allowed me to work with Mr. Neve to create this mastering and mixing instrument. It started out as a custom box for my own use, so there was no cost compromise on components. It's full of custom elements, hand work, old-school through-whole circuit assembly, and anything required for ultimate performance was designated. The only limitation was space, and the unit is jam-packed with circuits and components. Mr. Neve commented that there is more circuitry designed in the Masterpiece than his previous large consoles. All this is costly, but it's what's required for the performance level that we have achieved. It wasn't a bunch of guys in a boardroom saying "What can we build cheaply and make a bunch of money on?" This is the best that can be designed and built today and is made to take music to the next level, not please the bean counters. Stringing a bunch of boxes together has been the format for mixing and mastering, but now there is a system with one common power supply and an integrated work flow. And, the Masterpiece is not restricted and does allow for expansion by a carefully designed interface to other outboard gear with the bonus of being able to use that gear in a multiband application. We do sell the unit short-loaded if not all of the modules are required or as a way to get into the unit and purchase additional modules at a later time. An easy lease/purchase program is available as well.

EQ: What is the difference in the EQ in the Masterpiece and your previous designs?

Rupert Neve: For many years I've designed and manufactured equipment using a large variety of circuits and each new product is gone through carefully, measuring and listening, to see if I can squeeze some small new advantage from a proven favorite. If I were to provide detailed circuits they would not necessarily sound like mine if built by others because, mainly, of the context in which they are used. I've seen more than one alleged "copy" that claims it sounds the same as or better. Well, this sounds trite, but I firmly believe that every designer is a creative artist and creates the best he can. Whether he acknowledges it or not, he has talent, like a painter or musician, that are gifts from his or her creator. His/her handwriting is on it. Indeed, the very personality of the designer is reflected in the design. If someone copies that design, it is a forgery. What does that reflect? To the bank manager looking at a forged check, it is easily recognized as such. To the normal person who trusted in the value of that check, it is real until he tries to cash it and the bank informs him otherwise.

However, in recent years I have had the privilege of knowing Billy Stull. Billy has the most amazing gift of sound perception. Not only can he tell the difference between two very similar circuits, transformers, or components, he can articulate the difference in terms that are meaningful to a circuit designer. When Billy describes what he hears, I return to the design bench to adjust anything of which he may have been critical. In a nutshell, differences between the new EQ and other circuits from my past are due to Billy's special gift.

Glenn Bucci owns Revelation Sound Studio, where he engineers and produces for clients and works on his own original blues/jazz material.

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* CD recording is at 44.1 kHz/16-bit (Red Book spec) only.

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Tool Box

BY KEVIN OWENS

01 DISCSOX DVD PRO SET ($59.95)

Although we're proponents of the good ol' "piling" system, this appears to be a slightly more efficient way to store, protect, and access your DVDs. The Pro Set comes with 50 textured-vinyl Pro Sleeves, dividers, and labels, and lets you organize up to 75 DVDs and their accompanying literature in a single 12" flip-tray.

discsox.com

02 PSP MASTERQ 1.2.1 ($149)

This parametric EQ plug-in (VST and DirectX for PC; AudioUnit, VST, RTAS for OS X) boasts seven filters with adjustable frequency and Q, and a precision EQ graph that shows an overall curve and individual curves for each active filter. Supports sample rates that range from 44.1kHz to 192kHz, and comes with a set of example presets.

pspaudioware.com

03 NADY DSM-1 ($129.95) AND ASM-2 (59.95)

Both of these handheld SPL meters boast an array of sound testing and evaluation tools. The digital DSM-1 features an omni-directional condenser mic, while the analog ASM-2 features seven sound-level ranges that provide measurements from 50–126dB. Both feature selectable A or C weighting and fast/slow response settings.

nady.com

04 LEXICON MX200 ($299.95)

This single-rackspace, two-channel reverb/effects processor, in addition to analog and MIDI I/O, features a USB interface with a cross-platform VST/AudioUnit window that lets it function as a "hardware plug-in" within any VST or AU compatible environment. Lexicon's MX-Edit editor/librarian software is included. The kitchen sink, however, is not.

lexiconpro.com

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05 CAD DRUM MIC TOURING PACK ($149.99)
This bundle of stage- and studio-ready drum mics consists of one KM212 kick drum mic, whose capsule design specializes in capturing high SPL sources with frequencies extending below 100Hz; two TM211 dynamic mics designed for toms, bongos, and other percussion instruments; and one supercardioid-pattern SN210 snare mic.
cadmics.com

06 M-AUDIO STUDIOPHILE BX8A ($599.95 per pair)
The next generation of M-Audio's BX8 nearfield reference monitor features an 8" Kevlar low-frequency drive cone, a natural silk high-frequency dome, rounded corners to reduce edge diffraction, a bass-extending rear-port design, high-temperature voice coils, and magnetic shielding for desktop use.
m-audio.com

07 REALTRAPS SOFFITTRAPS ($50 per linear foot)
Unlike conventional bass traps, these are designed to mount in ceiling corners, vertically in wall-wall corners, or under small tabletops. And they look like a built-in soffit. What the hell is a soffit, you ask? Well, we don't really know, but we're guessing the folks at RealTraps do.
realtraps.com

08 MOJAVE MA-200 ($995)
This tube condenser mic was designed by David Royer — of the ribbon microphone Royers — to warmly reproduce vocals and acoustic instruments without artifacts. It features hand-selected 3-micron capsules, Jensen transformers, and JAN 5840 vacuum tubes. Ships with a carrying case, power supply, shock mount, and cables.
mojaveaudio.com

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Tool Box

09 AUDIO DAMAGE DIGITALIS: DISCORD V1.5 ($39; free upgrade from v1.0)

This updated plug-in features a new interface, a rewritten pitch-shifting algorithm, a routable variable waveform LFO, high- and lowpass filters, and three times the delay of the original version. Currently available as an AudioUnit, with a VST version for OS X and Windows coming soon.

audiodamage.com

10 ROAD READY COOL CASES ($TBA)

From the *What Will They Think of Next?* file comes this series of cases designed for DJs, production companies, and engineers who do the do in high-humidity environments. Featuring built-in electric cooling and venting fans, Cool Cases claim to chill gear by an average of 12 degrees Fahrenheit when plugged in.

roadreadycases.com

11 ABLETON LIVE 5 ($499; various upgrade plans available)

Ableton says Live 5 "strengthens every aspect of Live while making the program easier to use." Well, of course they'd say that but highlights are cool and include Clip Freeze, plug-in delay compensation, launchable arrangement locators, MP3 support, automatic tempo matching, a new clip transport system, new effects, and more.

ableton.com

12 TC ELECTRONIC DVR2 ($495)

With an algorithm ported directly from TC's System 6000, this "digital vintage" reverb was designed to emulate the celebrated EMT 250 reverb. Features include customizable presets, focus fields for tweaking and navigation, and a preset converter that allows the import of DVR2 p esets from System 6000. (VST, AU, RTAS)

tcelectronic.com

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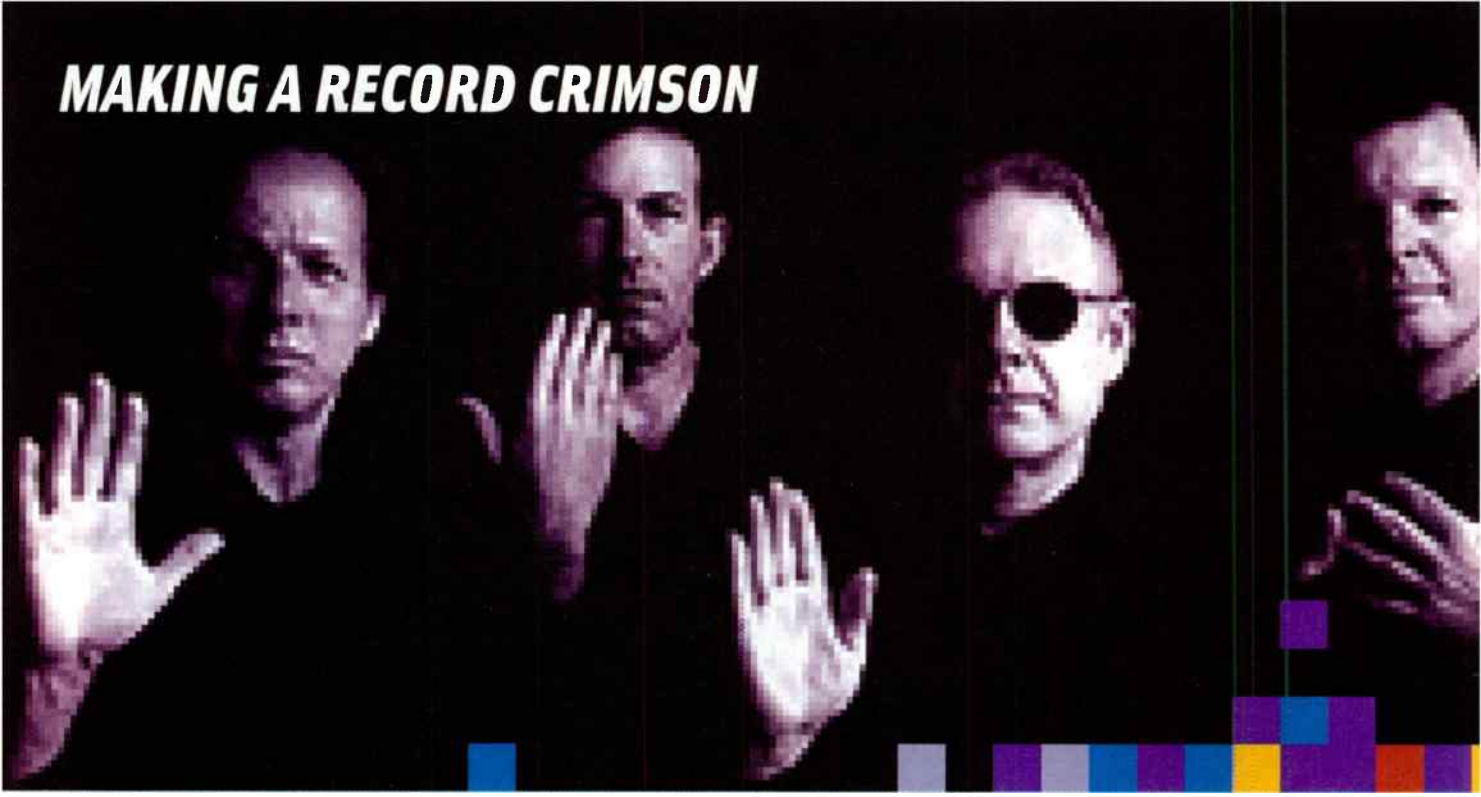

THE KING IS DEAD, LONG LIVE THE KING

Trey Gunn, King Crimson's multi-instrumental prodigy, briefs us on the process and philosophy underpinning the production of their most recent whirlwind of cacophony The Power to Believe *and why, chances are, the band you're tracking is going about it the wrong way.*

by Matt Harper

"There's something about knocking it out very quickly, desperately, and dangerously," Trey Gunn declares one afternoon. "When there's a certain level of desperation, you just go to a higher level. We miss that so much today with Pro Tools and related means of recording. If you know that you can do 30 takes then you don't necessarily pour 100% into each one of them. When the Beatles were recording albums, they would be bouncing tracks while John and Paul were doing backing vocals, bouncing a tambourine performance or such, and they only had two shots to nail it. There was an aura of desperation that translated onto the tape. One of the odd things about today's world is that you don't have to enter a studio to make a good recording. So many bands have the tendency to bring their material in ill-prepared. You can tweak things as you go along, which is cool, but there's really something special about having a band that is well-prepared and can just go in and record quickly."

So it goes for prog mindbenders King Crimson, whom Trey has been a member of since their 1995 return-to-form release *Thrak*. Crimson (rounded out by ringleader, lead guitarist, and prog-rock icon Robert Fripp, guitarist/vocalist Adrian Belew, and percussionist Pat Mastelotto) have been in existence (numerous hiatuses notwithstanding) for nearly 35 years; and their approach to the recording studio certainly demonstrates the classic ethic of writing/rehearsing material for extended periods of time before entering the studio realm as opposed to using the spoils of technology as creative crutch.

According to Trey, one week for recording and one week for mixing is the general protocol. "Generally the strategies that Robert has taken to recording the band is: to capture the performance, get the heat of the performance — not unlike a Duke Ellington recording. Robert very calculatedly, and very wisely, does not employ the usual strategy where bands get together, write the material, go into the studio, make the record, and then go on tour behind it. He thinks that is ridiculous and I would agree with him. What you want to do is write the material, go on the road, play it a lot, and then make the records. Therefore you are going to be able to perform the material much better, after having gelled it with the audience, and it's going to make tracking the record go so much quicker because everyone is going to know how to actually perform the songs. When you go out and play music on stage it changes, in subtle ways, just having the energy of the audience combining with energy of the musicians. After playing a piece live numerous times, we may change the tempo quite a bit; which can mean reworking some parts or changing the structure of the pieces. So you just learn a lot about the material once you've played it live and then when it's time to make the record you go in, find great sounds, play it, and then you're done. There's really no need to diddle about in the studio."

For the *Power to Believe* sessions, Trey and drummer Pat Mastelotto scoured the streets of Nashville looking for a proper recording environment and an engineer that could digitally capture Crimson while still allowing them to retain their trademark visceral "live" edge. After an extensive search they settled with

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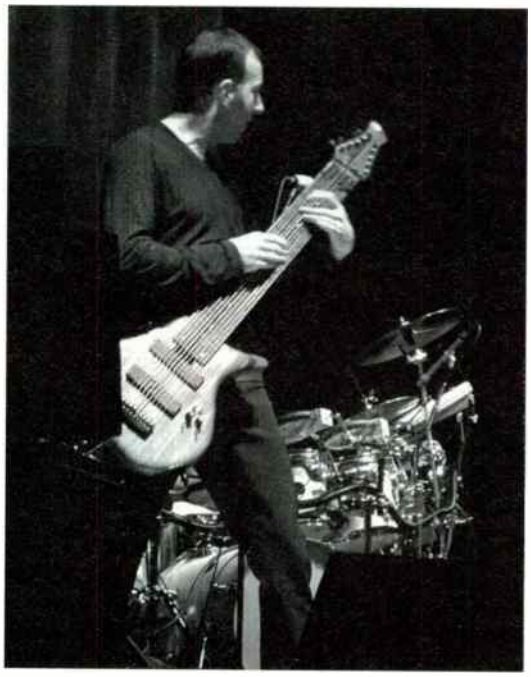
MAKING A RECORD CRIMSON



engineer Machine — who sat in on the band's pre-production sessions and started a pre-emptive problem solving process. "We needed to have our technical options planned before we went into the studio," Trey explains. "The problem with the studio is that there's a lot of sitting around and waiting and when the vibe is right, you're ready to record, and you have to stop and do something technical you can ruin the whole vibe. One little rift can ruin the whole day."

"It was Machine's job to figure out what in the world we were doing, how to do it, and leave as many options open as possible while doing everything fast. I suppose that is the role of the producer, less in arranging, but figuring out what a band is doing musically.

It's a chore. We've had some engineers pull their hair out trying to record us. Crimson uses all this weird vocabulary to describe the sections, the counter-rhythms, everything that's happening. For a lot of people they come to it and they don't know how to unlock it, even musicians, so Machine's job was to get as educated as possible."

"King Crimson is not an easy band to get to sound good on record. There's so much sound, so much musical information. The instruments are loud and there is only so much the ear can take in sequence. There was a great onslaught of sound and noise that needed to be organized." To combat this potentially problematic scenario, the band tracks live, generally picking from a maximum of three takes. Afterward they would oftentimes employ a technique that manager David Singleton calls "backward improvisation." If unhappy with the initial takes, the rhythm would completely re-write their respective parts under the guitar work — a unique approach even for a band as left of center as King Crimson. "Crimson has an underlying philosophy that the rhythm section is not there to hold everyone together. If you take that normal rule of rock and roll,

Sony Music Studios Mastering

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concerning what the rhythm section does, you find a different kind of freedom."

In regards to Trey's role in King Crimson as multi-instrumentalist extraordinaire, showcasing non-traditional instruments (particularly the Warr guitar), he comments, "The role within King Crimson is a specific role for the Warr guitar, and also the role within a rock band is a specific one for the instrument; at least how I see it. Other contexts would require a different approach. The instrument, basically, is designed to tap. However that's not always the appropriate sound so I pluck it a lot also. The tap brings out these really intense high frequencies that aren't always appropriate for this particular material. So what I've found over a period of time is that, for recording, a combination of direct and miked approaches is ideal. Generally the topside of the instrument goes direct; and I don't usually use much effects. For the past record I used the Eventide Eclipse, the TC Electronics G Force Dimension Beam, and the Line 6 Pod. For the bass side I generally go direct with the best DI that we can get, then I mic some cabinets — usually the Euphoric Audio 3x10's; but for the *Power to Believe* I was using SWR's. The end result is really a combination of those and the engineer setting the EQ to fit around the drums."

"When there's a certain level of desperation, you just go to a higher level. We miss that so much today with Pro Tools and related means of recording. If you know that you can do 30 takes then you don't necessarily pour 100% into each one of them."

The band is also not strangers to live recording, as they have quite an extensive back catalog of live albums they release for die-hard fans. Trey describes the process as "fairly guerilla"; consisting of two ADATs being brought out on the road to capture each of the band's live performances. Because of the meticulous nature of the band, concerning the extensive preparations undertaken before they even hit the road, oftentimes they capture house mixes straight from the board and into the ADAT's. The results serve as sonic testament to the stripped-down take Crimson uses when approaching their music from the recording stance.

"Crimson is such a live process that no matter what we record you can be sure that it's going to end up somewhere else in four months. That's one of the reasons we release so many live albums. Crimson is generally an okay 'record making' band, but its real life is on stage. We are constantly reworking material — even the stuff from 30 years ago, so there's nothing definitive about a recording anyway. It's just a snapshot of where we were at a certain point in time. For us, the studio itself is not the instrument. It's the musicians and their instruments that are ultimately important." EQ

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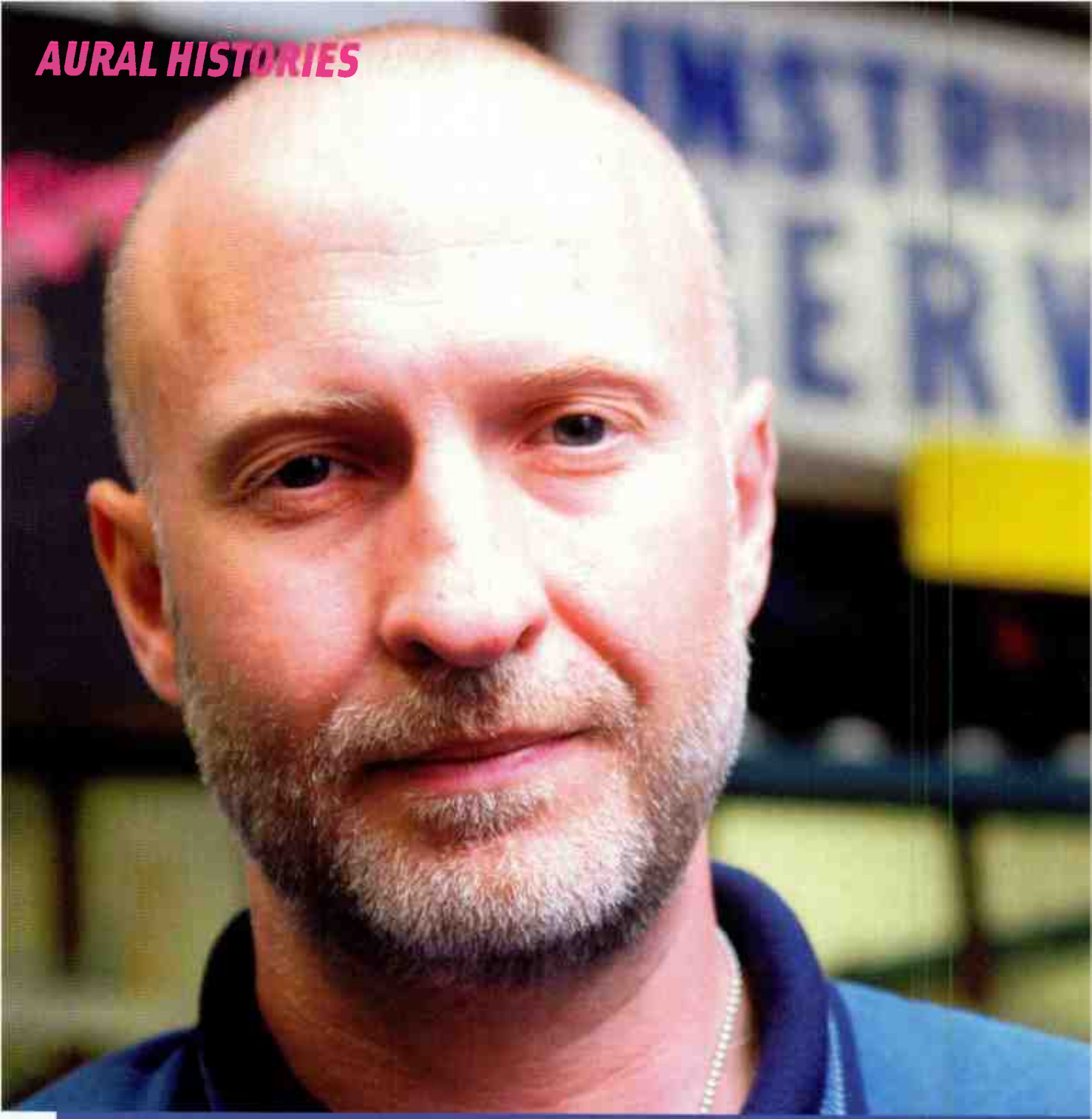

Back from Som

"People don't care about anything anymore. Let's be real.

Bob Mould is speaking via telephone from his home in Washington, D.C., early one morning. Mould is referring to two websites that had illegally posted the entirety of his new album, *Body of Song*, for download two months before it was due to be released.

"They don't understand. I'm talking about people who don't use their brain and put a whole record up on the Internet. That's not trading with a friend at that point, you're distributing a finished product in its entirety, basically doing the same thing that Amazon.com or iTunes without the advertising. I don't know why anybody would do that because it's a real insult to the artist. And I know people think, 'I'm doing you a favor by exposing people to

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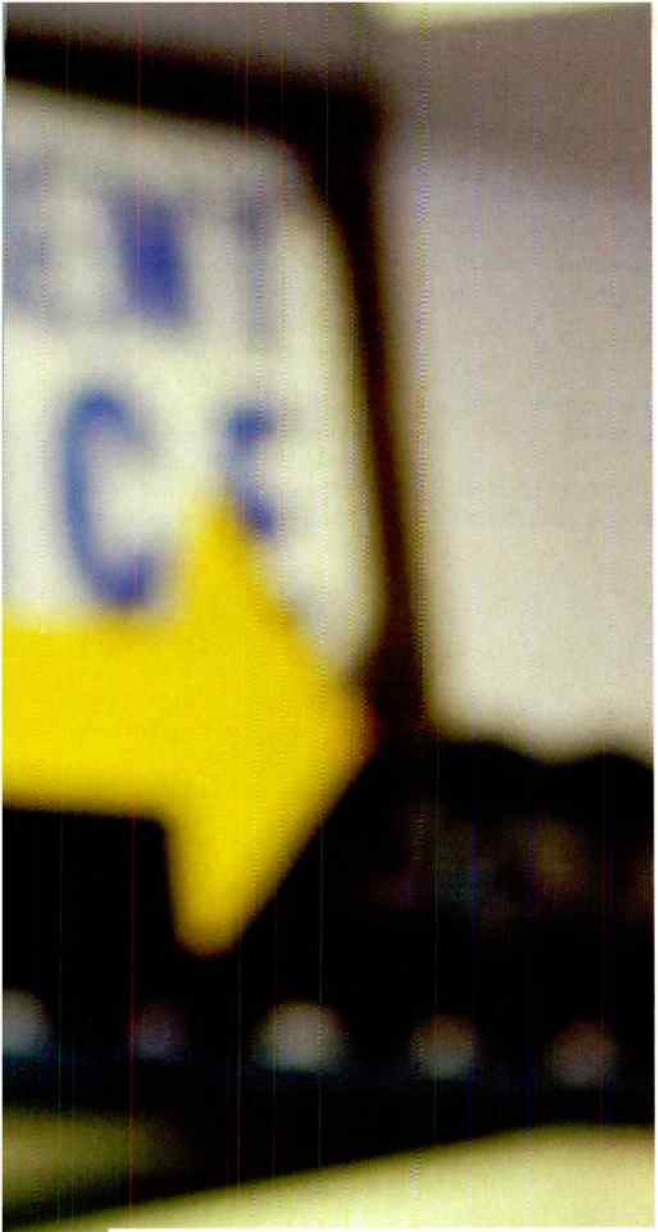

Like some sort of seasonal return – think the swallows and Capistrano – BOB MOULD's reinvented the art of reinventing with his newest *Body of Song* and a trip of the light fantastic down a lane that includes stops at Husker Du, Sugar, and pro wrestling. *EQ*'s Nick Blakey presses play.

pwhere

your music.' It's like, well, why don't you take the two or three songs that you think are good and start with that? Why are you giving them the whole thing? I guess I am an old man. It makes me scratch my head. I'm like, 'what's that about?'"

Bob Mould is not a man who could ever be accused of living in the past, old or not. For the 25 years that he's been producing and releasing records, Mould has constantly defied expectation. He followed his iconic pop-punk trio Hüsker Dü's seven studio and two live albums of explosive fury with the quiet, restrained, and mostly acoustic *Workbook* (Virgin/1988). And after turning the volume back up for *Black Sheets Of Rain* (Virgin/1990), Mould then formed the intense wall-of-melodic-sound trio Sugar in 1992, putting out three albums on Rykodisc. Following Sugar's disbandment in 1995, Mould released two similarly structured solo albums (*Bob Mould* [Rykodisc/1996] and *The Last Dog And Pony Show* [Rykodisc/1998]), plus a live album (*LiveDog98*) with the Bob Mould Band. After this, deciding that he needed a break, Mould pulled a 180 and took up a position writing for television on World Championship Wrestling (WCW), a job which lasted seven months:

"I was exhausted from touring for years and years and years with bands with the slow sort of the monolithic tour where the tour is only as fast as the slowest person. I guess I didn't want to carry the responsibility of several or dozens of people, and it was just that I wanted to have a little bit of freedom. I sort of resumed my normal life, when I put all of that stuff on hold, except for the time at WCW, which was completely surreal and another story in itself. I went home after the craziest seven months I can remember, just sort of let my head cool off, and you know, got back in the gym, got myself back balanced out to be able to get my work done, and just sat down to writing those three records."

After four years of musical silence, Mould then unleashed the bold electro/techno/industrial/dance noisefest *Modulate* (Granary Music/2002) and, later on, the even more extreme *LoudBomb: Long Playing Grooves* (Granary Music/2002). [*Body of Song* (Yep Roc Records/2005), conceived as the third entry in this trilogy, wouldn't get completed and released until 2005.] *Modulate* was released to generally confused and mixed reviews, being that it was such a radical departure from anything else Mould had attempted before and, like *Workbook* before it, it also thoroughly confused his fans.

In context, though, while not as extreme a reactionary statement as, say, Lou Reed's *Metal Machine Music*, *Modulate* was an intrepid statement of purpose. Though superseded by the debut release from the Postal Service, which seemed to receive much of the praise that was due *Modulate*, Mould's take on electronica was a radical departure, plus, you could dance to it.

"*Modulate* was a pretty far gone record and was really a direct result of spending a lot more time in the gay life in NYC, and for people who haven't been in Manhattan lately, most of it's gay, just lettin' you know. In the late '90's, that big club sound was really in full effect. Sasha & Digweed, Paul Van Dyk, Deep Dish, all those guys were totally on fire at that time, and

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that stuff really sort of ruled the town. It was before The Strokes and Interpol and all that stuff started to come back around. So, that was what I was hearing all the time and there would be things that would catch my ear and sort of lead me to explore that. I sat in a room for the better part of two years and tried to learn how to make a style of music from scratch. At the end of it I was sort of going 'well, this is about the best I could do at the time. . . .'"

"In the late '90's, that big club sound was really in full effect. Sasha & Digweed, Paul Van Dyk, Deep Dish, all those guys were totally on fire at that time and that stuff really sort of ruled the town. . . . [So] I sat in a room for the better part of two years and tried to learn how to make a style of music from scratch. At the end of it I was sort of going 'well, this is about the best I could do at the time. . . .'"

Mould's latest effort, *Body of Song*, is certainly a more "traditional" Bob Mould record (featuring Fugazi drummer Brendan

MOULD ON!!!

MURDERING THE MASTER

"[Sugar's third album] *File Under: Easy Listening* [Rykodisc-Granary Music/1994] got put together ass-backward. We spent like six weeks at Cyclops in Atlanta, GA, and never got a sound. Lou [Giordano] had already moved on to other stuff. I loved working with Lou, but that was when he was doing The GooGoo Dolls and making his fortune. Malcolm [Travis, drummer of Sugar] was having a hard time with everything, you know, the room was so crazy sounding to the three of us, and he was having a really hard time finding the groove. I was out of my skull because I couldn't find a sound that I liked out of anything and David (Barbe, bassist of Sugar) and I were just pulling our hair out. I was just driving David crazy and the engineers there crazy, and it was one of those things where I went home and I listened to it and I said 'you know, this just needs to be erased.' (So), I erased the masters.

"After that I spent a week with Jim Wilson down at Meridian Studio (Leon Springs, TX) recording everything to drum machines. I liked working with Jim at that home studio. It was a weird room . . . I mean, I say home studio . . . it was like a $2,000,000 setup. It was pretty blown out with gear. That was really fun just 'cause it was so bizarre and isolated. And then I brought David in and he got his bass parts done in a day and a half, and then we went to Cedar Creek Recording, which is the little house in Austin with the old Elvis board, the Neve Ballantine that used to be at Graceland. We brought Malcolm in, and we put him in a living room, tight miked everything, and he walked right through it like it was nothing. And I went 'Aha!'"

SUPERTRAMP v. KRAFTWERK

"I think a good producer, and it's becoming a lost art because everybody can record at home and there's a beauty to that, but when I'm called upon to work with people I still try to do the same things: go look at their record collection, see what they like, see what kind of aesthetic. Because if you go to somebody's house and their entire record collection is Supertramp you're like 'oh, OK, so they sort of like that. OK.'

But if you go and everything is Kraftwerk, well, it helps. People are like, 'I just have that for whatever,' no, it's like: You *have* it. It's part of who you are."

SPOT, BLACK FLAG, & HUSKER DU

"[Working with producer/engineer] Spot was really good. Spot brought a lot of fun to the sessions. He had done the Black Flag records, and he was a musician too, so I think everybody could trust Spot, and watch and learn. As time went on, you know, the dynamic changed, and by [Husker Du's] *New Day Rising* (SST/1984), I think Grant [Hart, drummer/vocalist of Husker Du] and I were looking at each other going, 'Uh, is this getting sort of weird, or is it just that we know what we want now?' And we just sort of grew out of it. There's little idiosyncrasies, you know, Spot doing this or Spot doing that, but we all can say that about everybody, so that's not the point. I like Spot. When I lived in Texas he used to come over and play ping-pong."

SOUL ASYLUM

"[Producing] Soul Asylum fit into that template of 'just got to get it done quick and just capture the essence.' Don't worry too much about where the microphones are, let's just get it done because there's not a lot of time and money. It's one step up from a live album. There are so many bands that never have [their live sound] translated [properly to tape], which is why you play shows to make yourself look better."

ZEPPELIN v. THROWING MUSES = THE ZULUS

"With [producing] The Zulus, that was working at Normandy Sound [Warren, RI], which was where the New Kids On The Block did all their stuff at the time. It was a hot studio, and we just sort of went for that big, classic sound. You know I think it really actually fit The Zulus well. I'm sure if you ask Rich Gilbert [guitarist of The Zulus], he may have thought it was a horrifying experience, but at the end of the day, they were probably better off sounding like Led Zeppelin than Throwing Muses."

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Canty, former Bob Mould Band drummer Matt Hammon, and former Sugar bassist David Barbe), if there could be such a thing, that not only condenses and expands upon much of Mould's past work, but also shows the strong influence of Blowoff, his current club DJ and remixing project with Rich Morel. With this new album, though, Mould has returned to mostly guitar-based compositions, with a continued and more integrated use of electronics and effects. It also continues his ongoing love affair with AutoTune (begun on *Modulate*), used more for its capabilities to turn voice into synthesizer.

"The first two Daft Punk records are, you know, production-wise and idea-wise, pretty incredible, and the second record in particular is a great pop record. And you listen to what those two guys did with that stuff, and then you put that up against another Bush album? I mean, you know, I'm really not going to listen to the Bush album, because I've sort of heard it for 35, 40 years."

"Well, it was a funny device. Working with Rich (Morel) on the Blowoff stuff, he would pull that up from time to time, and he used it on one of his songs on *Queen Of The Highway*, this song called 'Meantime', which was sort of a down ballad. And it was just really haunting because he did something to like one spot in the song where he like hit a vocal note that fractured into three or four notes and it was very, very dissonant, it was just really haunting and I thought, 'this thing is not so bad.' I like the effect of it, and I think what Daft Punk was doing with it was really fun as well. It's being able to take your voice and play it like an

WHAT'S HE GOT (& WHY)

GUITARS: Fender Stratocaster an old Gibson J50 acoustic/electric, Yamaha APX series plastic-backed acoustic 12 String ("I've been playing for 15 years and I can't remember which one it is"), and a 1966 Fender Mustang Short Scale Bass. In regards to his old signature Ibanez Flying V's: "I'm not even sure where those are right now."

AMPS: Roland JC120 heads, Top Hat Emplexidor class A tube amp, mid-80's Fender Concertamps, Marshall 412 cabinets ("Jerry-rigged with various speakers . . . just the stuff that's been sitting in them for years but I still like the way they sound, so why change it?").

EFFECTS: MXR Distortion Plus, TC Electronics Boost pedal, Roger Mayer Octavia pedal, Danelectro Fish & Chips EQ (for the acoustics), and Line 6 POD's.

HOME STUDIO: Granary WDC. "I have a very minimal setup, I use very few preamps. I've got some old Daking mic pres and EQs that I use. I've got one of those Focusrite Voicemaster Pro's. I've got a Tony Larkin tube compressor that I run a lot of stuff through. At home I'll use Line 6 PODs, I'll use an AKG 414 TL2. The 414 TL2 is the workhorse for everything."

ANTARES AUTOTUNE 4 PLUG-IN (MAS): "You know, with '(Shine Your) Light Love Hope' [on *Body of Song*], that vocal is spotty, but the emotion and the way I was swinging notes around, I was going to get it again and I tried and tried and tried. I was like 'this is not working,' and I keep coming back to this one. I just spent like a day and half really, starting at the beginning of the song using it rather smooth and then as I kept going forward I kept sort of accelerating the visibility of the effect. It's not like I sat there and went 'oh I'm gonna push this button.' It was a pretty conscientious effort to continually expand on the use of the effect as the track went on."

RECORDING *Body of Song*: "With the drums, those were all done out of house. For the Brendan (Canty) drums, those were all done with Don Zientara at Inner Ear (Studio, Arlington, VA). David Barbe engineered the stuff that he and I and Matt (Hammon, the other drummer on *Body of Song*) did down (at Chase Park Transduction) in Athens, GA. A lot of times I'll do some of the big guitars live in the studio through my amps, or at home I'll use pods and small optical compressors."

MIXING *Body of Song*: "I went and got an Apple dual 2gig G5 tower, you know, tons of memory, tons of hard drives. My main palette that I use is Digital Performer, and MOTU finally stabilized at 4.52, except for their hardware drivers. I have been using one of their FireWire interfaces. Besides Digital Performer, I use Ableton Live and Propellerhead Reason. Those are the three apps I use for most everything."

DIGITAL VS. ANALOG: "I think whatever you like, whatever gets the job done, really. I think analog arranges the information differently. At the end of the day when you mix, you can do so much, even when you're working in digital. Even at the late stage, if you run everything through a real high quality tube limiter at the end you're going to pick up a lot of the harmonics, and you're going to shift the whole image. You know, with *Body of Song*, there's not a ton of dynamics, it's all pretty in your face stuff, except 'High Fidelity' (and) 'Gauze of Friendship,' those are both to 2" 16 analog, done down at David Barbe's place (Chase Park Transduction) in Athens, GA. 'Circles' is 2" 16 analog, [though] it definitely has a different sound.

"I like working 16-bit digital right now. I am very like old school hip-hop about the sound. I do not work 48K 24-bit or any of that crap. I'm 16-bit 44.1, 'cause at the end of the day it's an mp3 that you're stealing off of the Internet, so what's the big worry (*laughs*)?"

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music, music has come and gone as the main form of media. Now that it's beginning to recede or it's becoming integrated into other new media — *i.e.* soundtracks for video games, soundtracks for beer commercial — music has become a soundtrack for other visual representations of life as opposed to a standalone art form that creates a movie, or accompanies a movie, if you like. I've seen it happen, you know, when *Entertainment Weekly* pushes music behind every other art form in order of importance at their magazine, that tells you something."

And for an old punk who's still learning and using new tricks, where does Mould see his place in this kind of future?

"I sort of know my place is as a legacy artist, I don't think I'm going to be an emerging new artist for the rest of my life. That time has come and gone. These days the things that are more intriguing to me are, like, to hand off a track to a remixer and see what they can come up with. There's people who I'd love to see what they could do with some of the stuff that I've been working on lately. I don't think a collaboration with Kevin Shields is out of the question. I would just like to sit with him for week and work just to see what he thinks and what he does. I think Sasha's been doing great stuff, Junkie XL's been doing great stuff, Full Intention has been doing great stuff. I love their pop sensibility, it's so off the hook. That song 'The Weekend', which is Michael Gray, one of the two guys, I'm like: "How good a pop song is this?" Even somebody like Jason Nevins, who everybody detests, I've got Eminem remixes he did that are like so slamming, I'm like, I would love to hear him take 'I Am Vision, I Am Sound' and just pound that thing into the ground and turn it into like a huge club hit."

"I sort of know my place is as a legacy artist, I don't think I'm going to be like an emerging new artist for the rest of my life. That time has come and gone. These days the things that are more intriguing to me are, like, now that I have learned it's okay to hand off a track to a remixer and see what they can come up with, there's people who I'd love to see what they could do with some of the stuff that I've been working on lately. I don't think a collaboration with Kevin Shields is still out of the question. I would just like to sit with him for week and work just to see what he thinks and what he does.

"I mean, I think that is still where my sort of aesthetic is at, I'm more intrigued with the idea of getting with Junkie XL and seeing what could happen because he's pushing sound so much further I'm gonna learn something."

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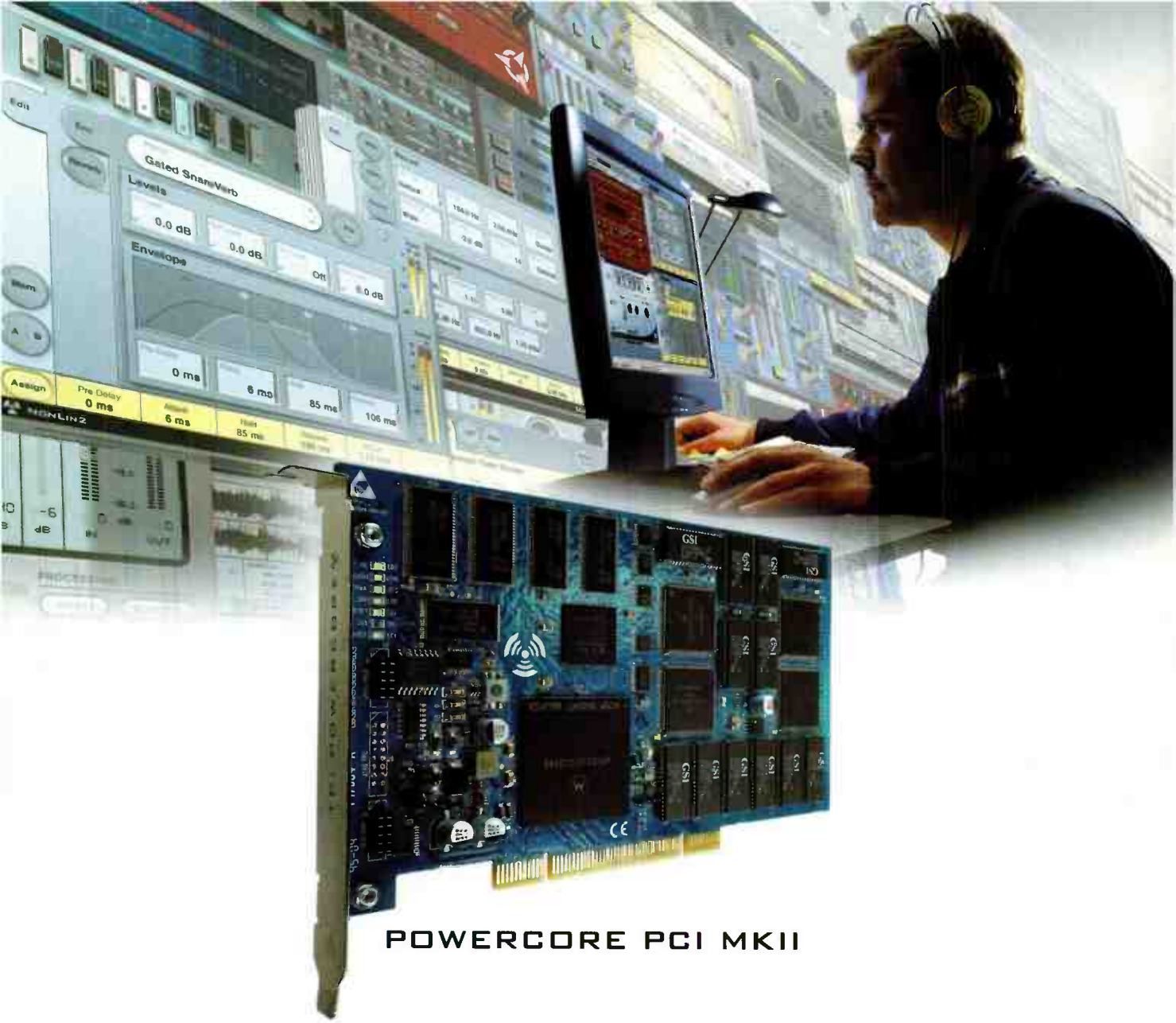

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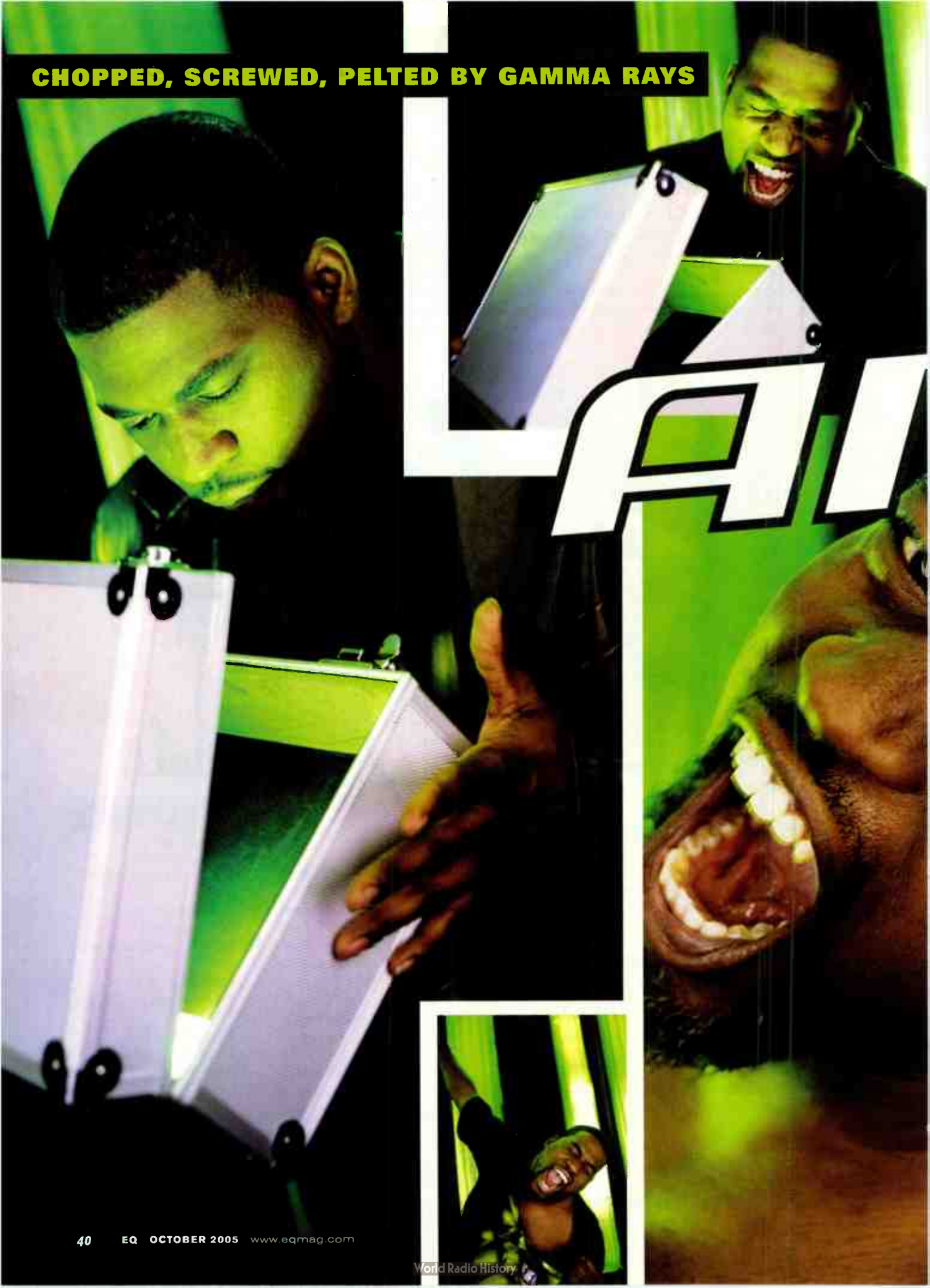

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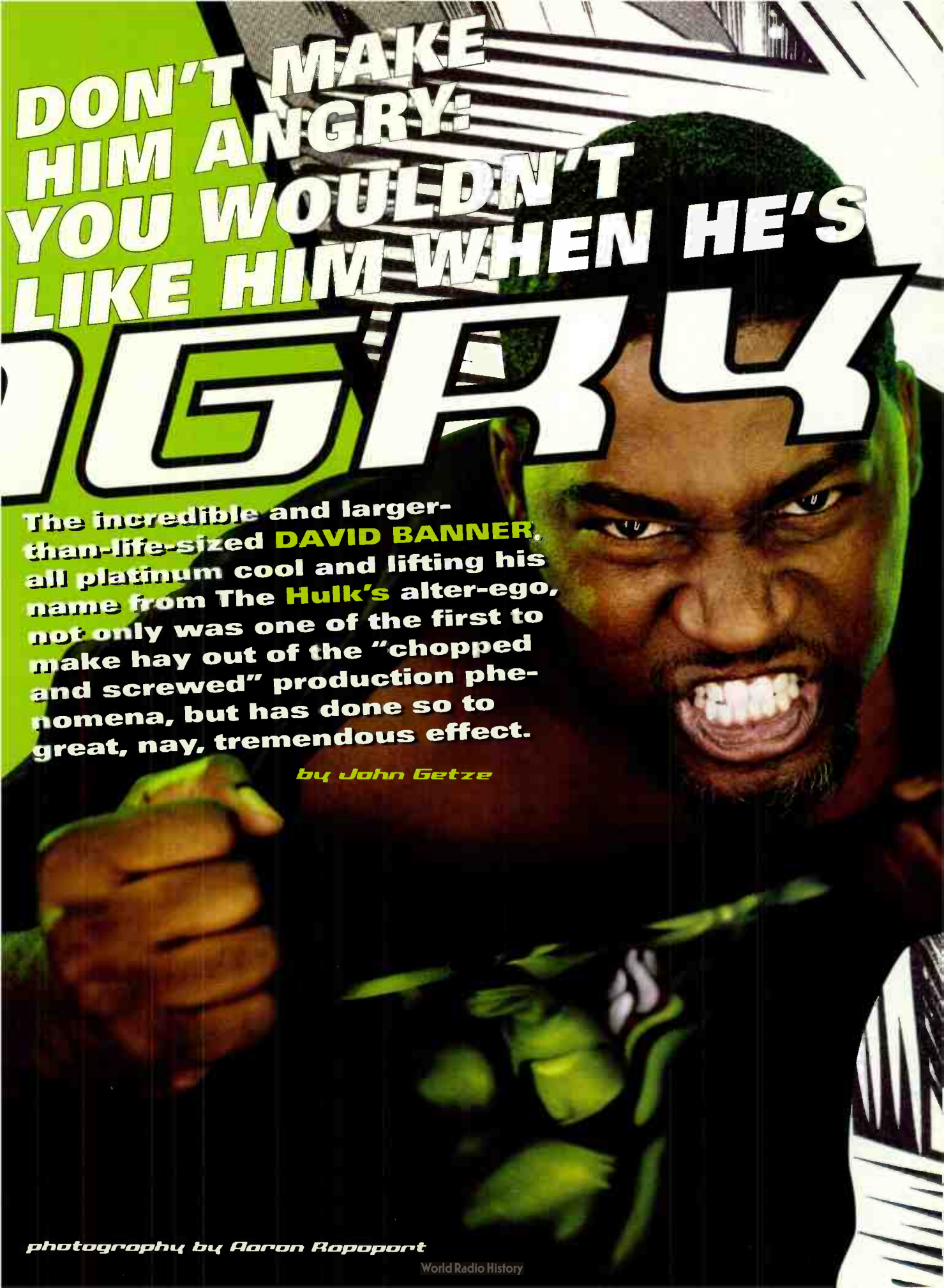
DON'T MAKE HIM ANGRY: YOU WOULDN'T LIKE HIM WHEN HE'S

ANGRY



The incredible and larger-than-life-sized DAVID BANNER, all platinum cool and lifting his name from The Hulk's alter-ego, not only was one of the first to make hay out of the "chopped and screwed" production phenomena, but has done so to great, nay, tremendous effect.

by John Getze

photography by Aaron Rapoport

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"I never wanted to be a producer." The speaker? David Banner, platinum-selling rapper/producer, mere minutes into our conversation. "Being from Mississippi, there wasn't a thriving music scene with an abundance of producers. I couldn't get the beats I wanted, and if I did find a producer with a beat I wanted, I didn't have the money to pay for it. Even when I did have the money to pay for a few beats, I found that the producers would generally keep the best music for their own artists."

So the next logical step: doing it your damn self.

Banner, frustrated with the lack of available producer tutors, learned his way around the recording studio under the tutelage of a gospel musician who, despite playing piano in the church every Sunday, had developed an interest in hip-hop music. "He said if you teach me about hip-hop music, I'll teach you how to produce. So when I was a teenager, I started going to the studio at night and learning how to work the board and produce music."

After spending a few years muscling up his production chops, David went on to become a member of the Mississippi rap duo Crooked Lettaz, which included fellow rapper Kamikaze. The duo released the album *Grey Skies* in 1999, before Banner dropped his first solo album *Them Firewater Boys Vol. 1* a year later. After a bidding war to rival the Civil War, Banner exploded on the scene in 2003 with the release of *Mississippi: The Album* (SRC Records), which featured the mega-hit "Like A Pimp."

Currently traveling around the country on a bus promoting his new album *Certified*, David is keen on bringing the ability to record and produce music with him wherever he goes. "We've got Pharrell from The Neptunes on the bus, along with a mixing board, a recording booth . . . we have everything we have in the studio

DAVID BANNER's Hip-Hop How To: Make A Million Dollars

YAMAHA MOTIF ES8

Once a foundation for a track has been laid down, nothing adds color like the YAMAHA MOTIF ES8 synthesizer. Sure, it features the largest wave ROM of any workstation keyboard available (175MB in 16-bit linear format), but with its "Keyboard Mega Voices" technology, simulated instruments like bass and guitar contain all the nuances of the real thing (without having to deal with broken strings, exploding amps, or musicians that just aren't "feeling the vibe, man").

ROLAND TR-808

The granddaddy of all drum machines, the "808" features 16 analog drum sounds (BD, SD, Low, Mid, Hi Tom/Conga, Claves, Rim, Maracas, HC, Cowbell, Cymbal, O/C Hit) and gives tracks that infamous, ultra-bassy kick drum (heard coming from a Cadillac near you).

AKAI MPC2000XL

The must-have item for any hip-hop producer, the MPC2000XL is a sampler, drum machine, and MIDI sequencer all rolled into one. With its durability and size, not to mention its monster sampling capacity (expandable to 32MB), the MPC2000XL travels well and provides an excellent canvas for spur of the moment creativity.

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"It doesn't matter how progressive and experimental your beats are, the A&Rs always want a track like the one that's on the radio. Rather than having something that is truly musically inclined, they [A&R] always want that microwaved, right now, quick shit."

on the bus with us." Although his favorite piece of equipment is the old-school Roland SR-10 sampler, David currently uses a MPC2000XL sampler (inscribed with the words "God first") and Motif ES6 and Korg Triton Extreme 61 synthesizers, because "it's just too hard to try and find parts to maintain the SR-10."

Although using samplers like these to build loops and melodies for a track is common practice in hip-hop and dance music, using samples is still as much of a drag as it's ever been because of the legal licensing minefield. "I learned how to play keyboards out of necessity, because dealing with the logistics of using samples is so hard. I had 40 percent of my publishing credit taken away from me for using an eight-second sample on a song one time. Which is ridiculous. Non-musical people have no business trying to judge how big of an impact a sample has on a song. The government passes laws about sampling, but doesn't understand the difference between sampling an entire melody and sampling a soundbyte for an intro. It stunts the creative process dramatically because you're always worried that you may not get the samples cleared or they will be too expensive to use."

It was this frustration with using samples, however, that led to one of David's most successful production credits. "Rubber Band Man," which David produced for fellow southern rapper T.I., features an infectious melody line played on an organ and mirrored by synthesizer horns and a chorus of vocals. The song went on to become one of the biggest hits of the winter of 2003-2004, was played incessantly during NBA games, and made Banner one of the most sought after producers in hip-hop.

Of course *being* one of hip-hop's hottest producers has its downside as well. "Once I made 'Rubber Band Man' for T.I., people started wanting tracks that sounded like that. Which is true throughout the music industry. It doesn't matter how progressive and experimental your beats are, the A&Rs always want a track like the one that's on the radio. Rather than having something that is truly musically inclined, they [A&R] always want that microwaved, right now, quick shit."

Banner mentions that one way he likes to stay focused on making consistently great music is to have people with him in the studio that aren't necessarily musicians or producers. "I used to hate to have a lot of people in the studio with me while I was recording. However, recently I've learned from Jazze Pha that it's good to have people with you in the studio to see how they react. If I do something and they all go "oh yeah," then I keep it. Usually, I like to have a cat that is straight off the block in the studio with me. Some one who just hangs out and drinks. Because he doesn't have any aspirations about being involved in the music business, he is going to be the most honest about how things sound. He is not going to kiss my ass. If he's not feeling the beat he's going to be like, 'I don't like it' or 'that's jammin.' They're almost like [a more authentic version] of your own A&R."

When I ask Banner if he follows a particular formula when he's producing music, he informs me that his formula changes every time he creates a new track. "I never try and follow a set formula. I wait for things to happen spontaneously and let my creativity flow. I think that's why there's such a difference in the way my songs sound. I remember before I did 'Cadillac on 22's,' one of my mentors said, 'you don't have any songs about God on your record.' And when I wrote that song, I never sat down and tried to consciously write a song about God. It just happened.

And having traveled to New York in the late '90s to "make it" in the music business, Banner is inherently skeptical of the recent money-stinking surge of interest in Southern hip-hop. Unlike the more traditional break beat influenced hip-hop from New York, Southern and West Coast hip-hop is created with the mindset that the music will be played outdoors. Whether it is played in cars or in parks, the drumbeat's kick drum generally has more bass and less punch. David says this is because of the Roland TR-808 that is often used in Southern hip-hop. "One of the reasons that Southern hip-hop isn't as popular in New York is because headphones don't register the low-end kick drums of an 808. So what I do is layer my beats with an 808, as well as a more traditional high-end kick." This allows the drumbeats to sound good no matter where the song is being played: in the car or in the club.

Differences in kick drums aside, however, music from the "Dirty South" is the hottest subgenre of hip-hop at the moment. With more than half of the *Billboard* Top 20 hip-hop singles chart being comprised of artists from the south, and radio playlists filled to the gills with songs that feature the word "crunk", labels are clamoring to sign artists from the region. Even New York hip-hop record mogul Diddy got into the act by signing Atlanta rap group "Boyz N The Hood" to his Bad Boy imprint. Though, when I ask Banner about the "southern sound," he shrugs off the suggestion that a "defining sound" exists for the region. "'Like A Pimp' was successful because it had a little bit of everything. It was considered Crunk music, but it also had some Atlanta Swing and some New Orleans Bounce, as well as an aggressive beat like New York hip-hop."

However, according to David Banner, the key element to Southern hip-hop (and all Southern music for that matter) is not a particular drum sound or production style, it's the raw emotion of Southern people and the hardships they've endured that make it "Southern." "Regardless of the sound of a song, whether it features an 808 drum sound or not, the only thing that makes a Southern hip-hop record Southern is that the people making it are from the south." EQ

"'Like A Pimp' was successful because it had a little bit of everything. It was considered Crunk music, but it also had some Atlanta Swing and some New Orleans Bounce, as well as an aggressive beat like New York hip-hop."

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Gearhead

MR. MANLEY, TO YOU

Peavey PV 10 + Phonic PAA

by Phil Manley

Up for review here are the Peavey PV 10 ten-channel mixer and the Phonic PAA3 Personal Audio Analyzer.

Powered by Peavey, made with pride in America. That's a claim few large-scale consumer audio manufacturers can make these days.

But Peavey has always kind of been a brand that people have used mostly out of necessity, not by aesthetic choice, (unless you're **Black Flag**, or the **Pixies**, or **Sonic Youth**, to name a few unabashed Peavey users). Peavey builds bulletproof amps and some really high quality studio tube preamps, but there's something consistently cheesy about the graphic design of all things Peavey, all the way down to it's funny pseudo-metal style logo. This mixer is no exception to this aesthetic. The knobs are garishly colored, royal blue EQ knobs, blood-red monitor knobs, and bright tangerine EFX knobs really jump off the top of the mixer. To the touch, the knobs feel a little on the chauncy side. Not as solid as say a Mackie, but I'll tell you what, I'd take this mixer any day over a Behringer. At least the Peavey isn't stained with the sweat of underpaid labor.

Anyways, this 10-channel mixer seems best suited for home use. Its compactness makes it portable, perhaps useful in a mobile studio setup. There are six mic pres and two stereo line inputs all summing to stereo left and right. There are inserts on all six mono inputs. Each channel, from top to bottom: Gain (60dB for mic inputs), 80Hz low cut, high EQ, mid EQ, low EQ, monitor send, EFX send, pan, mute and clip/mute LED, signal LED, and a fader.

My main concern when first plugging this little guy in was how to set the gain. There is no PFL. Well, alright, this is a very stripped down mixer. I guess the clip LED will alert me to a signal that's pushing the red.

My second concern was what the EQ points are. Let's look next to the knobs. Nothing there. Just +/-15dB. +/-15dB of what? Alright, again, this is a consumer grade home studio unit. I'll just trust my ears to hear that the EQ is boosting or attenuating in that general frequency range. Remember, Peavey, not Neve.

So now it's time to fire up this mixer. I plug in my **Roland Juno 60** to give this little guy a full frequency sound source to deal with. The line amp can handle all the low end of my synth. This mixer boasts a frequency response of 14Hz to 25kHz +0dB/-1dB. I could actually hear the lowest sine wave on my Juno, which has always been a test for any piece of gear of mine. This is a good sine. (Urgh. Sorry.)

Next the mic pre amp. With 60dB of gain, this amp has enough headroom to handle most anything. Using an **Audio-Technica 4041** small-diaphragm condenser on my acoustic guitar, the amp sounded basically transparent. The frequency response is pretty flat. On voice there's enough highs and lows without being too bright or muddy. This is good because the EQs are not particularly powerful.

Now the fun part.

Let's try out this wacky multi-effects thing. A single rotary knob selects the desired digital effect. Sixteen possible effects include eight different reverbs, six delays, and two "vocal enhancement" settings. I liked the analog delay and the cathedral reverb settings most of all. Overall, the reverbs sound preposterously digital. These could be used to a certain effect. The "vocal enhancement" setting is the most dubious, however. Each setting has a small room reverb, which reminded me of how it might sound in a jail cell somewhere — cold and wet.

So now let's try the EQs. Back to the Juno. I set the keyboard to generate noise and adjusted the EQs, trying to notice the EQ points. My ears, however are overwhelmed

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by the ferocity of the noise and I'm at a loss for what these points are. They seem to do what they say they should do. The high and low EQs are shelving and the mid is a peak dip. I wish I knew the points . . . oh wait. I'll just use my **PAA3 Personal Audio Assistant**.

The Phonic PAA3 is a handheld multi-purpose audio analyzer and tone generator — a veritable audio Swiss army knife. I plugged it in with reckless abandon, not even glancing at the manual. The default screen is the RTA and SPL measurement. Within seconds of turning on this little sucker, I've identified the EQ points on the PV 10. The low-frequency shelf starts at 250Hz. The mid EQ is centered at 800Hz and the high EQ shelf starts at 4kHz. Wow, that was easy. This PAA3 is very intuitive and this is a good thing, because I normally balk at a lot of multi-function digital-scroll-through-lots-of-parameters-until-you've-lost-the-cursor-and-can't-find-your-way-out-of-digital-space-units.

Now to test this analyzer in the field.

I used the PAA3 to tune the PA system at a club where I work here on Mission St. in San Francisco. Using the XLR output jack on the bottom of the analyzer, I routed the tone generator into a mic pre on the board. I blasted the room with pink noise, 108dB, as the meter read. Again, I was a little phased by the sound of the noise. This time I put in my earplugs and tried to keep it together long enough to test the frequency response of the system. Wow, no wonder this system sounds so weird. There are all kinds of EQ dips and peaks.

After 10 minutes of adjusting the house graph, I've got really great sounding pink noise. Alright, let's try something a little more musical. I throw on *Zep IV* and it sounds great. Now all we have to do is get Zeppelin to play our club.

So now that I've adjusted the house EQs, I move on to ringing out the monitors. Again, the PAA3 is really easy to use and intuitive. In no time, I've got the monitors wrung out and sounding better than ever. No joke. So now I sit waiting around for the bands to arrive for soundcheck.

No one yet. Still no one. Still waiting.

Alright, what else does this little analyzer guy do? Not only can it check A, C, and flat-weighted SPL, realtime frequency analysis (and frequency specific SPL measurement), it also can test reverb time. I knew that the reverb time in this club has always been a problem, but I've never known how long the decay was. Using the pink noise again, I set the PAA3 to measure the reverb time, once the pink noise is muted, a measurement of 6.6 second reverb time is taken. Acoustical treatment is an obvious necessity at this club. I've told the owners that from the get go. But that's another story.

But Peavey has always kind of been a brand that people have used mostly out of necessity, not by aesthetic choice. . . .

The PAA3 also comes with an audio CD of test signals for spec'ing out your system. As well, you can use the PAA3 in conjunction with your PC using the program provided on the included CD. This allows you to save and print data stored on the PAA3. Also, it can be useful when taking measurements that require the absence of any individuals.

All in all, this is a really handy little unit that would serve any audio engineer well, either live or in the studio. The one disadvantage is its size. It's slightly reminiscent of an early cell phone — a little bit clunky — and certainly too large to fit in your pocket. Unless you've got very big pockets. Which is probably another story entirely. EQ

Phil Manley is a recording engineer at both Louder and Lucky Cat Studios, as well as a guitar player in both The Fucking Champs and Trans Am.

QUICK PICK

ESOTERIC AUDIO RESEARCH: EAR660 LIMITER/ COMPRESSOR AMPLIFIER

($5,675, independentaudio.com)

What they say:
(from the website)
"The EAR 660 Fairchild-type valve limiter-compressor is designed to limit or compress the signal with the barest minimum of interference below threshold, and give the most subjectively satisfying operation on high-level signals."

What we found:
You've heard that the Fairchild Limiter was the Holy Grail of equipment at Abbey Road. The reason that this compressor or any other "classic" (1176, LA-2A, and so on) compressor is drooled over is because they do their jobs well and the results are pleasing. I was not much of a compression fan until I had access to some of the classics. It was only then that I appreciated what others had told me was sweet.

But what I look for in a compressor is transparency. I do not want to hear it working. I want the compressor to tame that dynamic range but I don't want to hear it. The EAR 660 does just that and does it extremely well. Independent Audio loaned me this unit for the Cerberus Shoal sessions in January 2005. It's typical to compress an electric bass, so this was the first stop for the 660. Wow! . . . is all I can say! That bass never sounded so good. It was tight, defined, sat well in the mix and had the attack I wanted and lows I expect. All this with no effort at all. We then moved it to lead vocals. Wow! . . . is all I can say! The nuances of the voice were intact, no pumping, no artifacts — just giving me back exactly what I wanted with no effort.

The specs on this unit are fairly straight forward: attack times from .2ms to .8ms, release times from .3s to 5s, ratios from 1:1 to 10:1.

The price may make you gulp at first but it's a fair price for a piece of gear that makes your life so much easier and actually improves the sound. In addition, these units are currently in production and the "classics" are not. I mean good luck finding a Fairchild. In the mean time, consider this beauty. —*Scott Colburn*

World Radio History

Tranzport: The Final Frontier

by Phil O'keefe

EQ EXCEPTIONAL QUALITY AWARD

People love gadgets. Just look at the success of the Apple iPod. And engineers, being the techno geeks that we are, are among the biggest gadget nuts on the planet. So when Frontier announced their new Tranzport wireless DAW remote control at last year's AES convention in San Francisco, it created quite a buzz. I put my dibs in early and was rewarded with one of the very first review units. Let's check it out.

OK, the Tranzport is a wireless DAW remote control unit. Unlike the infrared remotes you're probably already familiar with, the Tranzport uses 2.4GHz RF to transmit control signals, which means it doesn't have "line of sight" limitations — you can control various DAW functions from the other room. And it works with a wide range of software — Mac or PC — right out of the box, including all of the "big five" DAW programs. I personally tested it in my own studio with Pro Tools LE, Sonar, and Cubase SX, and it worked great with all three. Setup was simple — connect the receiver's USB cable to your host computer, install the drivers, stick the included alkaline batteries into the remote unit, and tell your DAW software that you have a controller attached.

And all the basics are there, and all functioned perfectly — transport control, record arming, track muting, solo, panning, levels, inserting markers, looping. I wouldn't consider it as a substitute for a more fully featured control surface, but it does have one major advantage over any other controller that I'm aware of: You can use it just about anywhere, with no tether. Frontier claims a 10-meter "typical range", and my tests bore that out. Actually, I was often able to go nearly twice that distance before it would drop out, and even when you're near the range limit, a small position adjustment of a few inches in any direction will usually get you back in sync. Even when going through multiple walls (including two concrete- and rebar-filled cinderblock walls) the unit worked without hassles. Interference from microwave ovens or wireless telephones was never a problem either — the Tranzport automatically finds an appropriate frequency, even in heavy RF environments, and I never noticed any audible noise in my signal paths when the Tranzport was running.

Wondering about battery life?

Frontier *claims* about 100 hours of use when running it without the backlight feature, and so I drove it for over a week, working 10-12 hours per day, before the batteries finally died. A battery strength indicator gives you plenty of advance notice, and you can use NiMH rechargeable batteries if you wish. (I'd highly recommend that.) The Tranzport has no power button, but instead goes into an ultra-low power consumption "sleep mode" when not used for 15 minutes. You can adjust the default time before the sleep mode kicks in, which can also help increase battery life when it is set to a lower value. The display is also a winner. You get visual feedback of levels, song position, panning and more, and the backlight feature, while lowering battery life, makes viewing the display much easier in low light situations. Another recommendation is to spring for the optional mic stand mount that uses two hooks and a magnet to hold the unit firmly in place on the stand, but still allows you to remove it quickly.

So what are some reasons you might want something like this? It opens up a whole new world to single-room recording setups, allowing you to easily track from another room. Do you have a piano in the living room? Run a headphone cable and a couple of mic lines out there from your bedroom studio and control your DAW from there. It allows you to experiment with playing in different acoustical environments, or to just get a little distance away from that noisy computer. Even people like me, with multiple room facilities, can benefit. Recording by myself has always been a hassle, and I've had to either put up with it or track in the control room. I used to have to set a long pre-roll, start recording, run from the control room to the studio, get situated, and then play. If I made a mistake, I had to run back into the control

---

Product type: 2.4GHz wireless DAW remote controller
Supported platforms: Mac: OSX 10.2.8 or higher, PC: Windows 2000 or XP
System Requirements: One available USB port
MSRP: $249.99, Optional Stand Mount: $20
Contact: frontierdesign.com

Supported programs: Pro Tools, Sonar, Logic, DP, Cubase/Nuendo, Audition; will work with any program that supports the HUI or Mackie Universal controller protocols. Native mode may allow for customized control via MIDI controller mapping in other programs
Operating range limit: 10 meters "typical"
Indicators: Record-Arm, Mute, Solo, Any-Solo, Punch, Loop, Record, Link Status, backlit multifunction LCD display
Buttons/Controls: Rew, Fwd, Stop, Play, Record, Chan Left/Right, Record-Arm, Mute, Solo, Undo, In, Out, Punch, Loop, Shift, Prev, Add, Next, Battery, Backlight, Data Wheel (24 pulse/rev)
Power Requirements: 4 x AA batteries
Dimensions: 7" x 5.5" x 2"
Weight: 1 lb.

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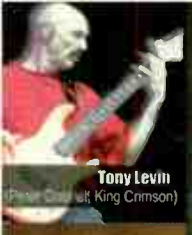

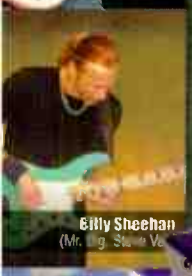

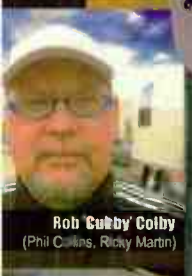

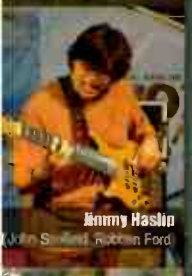

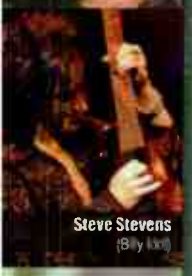

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Radial JD7 Injector - **suggested list $849 US**
Guitar freaks rejoice! Drive up to 7 amplifiers at the same time without changing the original tone of the guitar and do it without buzz or hum caused by ground loops. Record a dry track with the built-in DI and send the signal back to the JD7 and re-amplify it to 7 amps and effect pedals. Addictive.

Radial J48 Active DI - **suggested list $199 US**
For great sound without choking, look no further than the Radial J48. Features a 48V phantom supplied active drive circuit with a unique DC-to-DC transformer isolated switching power supply to provide amazing headroom while eliminating hum and buzz caused ground loops. Radical.

Radial JDI Passive DI - **suggested list $199 US**
Jensen Transformer equipped, the Radial JDI has become the standard passive DI in the business. Exceptional noise rejection eliminates troublesome ground loops and virtually zero phase distortion at any level makes the JDI a must have for studio and stage. Available in single, stereo or 6-pack. Magic.

Radial X-Amp Re-Amplifier - **suggested list $199 US**
Ever wish you could go back and change the sound of a pre-recorded guitar track? Now you can with X-Amp. When tracking, record a spare dry track and play it back through the X-amp after the guitarist has gone home. Two outputs lets you drive amps and pedals to create thick new textures. X-plosive.

Radial JPC Stereo DI - **suggested list $199 US**
Designed specifically for PC sound cards, DVD players and all those cool consumer devices that cause nothing but havoc, the JPC is 100% transformer isolated to eliminate nasty ground loops and equipped with a 48V active drive circuit for long cables. Easy to use. Great sounding. Indispensable.

Radial JDV Super DI - **suggested list $449 US**
There is no finer DI than the Radial JDV. 100% discreet Class-A topology with a feed forward design that sounds so true, it'll make the hair on your arms twitch. Drag™ Control pick-up load correction, A or B inputs, 4 instrument amp outputs, hi-lo filters and amazing headroom combine for the most powerful DI ever made. Unbeatable.

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room, reset things, run back to the studio and try again. Not much fun, and a real vibe killer.

Another use would be as a "more me" monitor controller for a performer. Set it up and allow them to control their own monitoring level in the cans. Control your DAW from the couch at the back of the room, or listen from the other room to get a different perspective on your mix. While it supports various controller protocols such as the HUI protocol, Frontier also includes a "native" mode, and if your DAW supports remapping of MIDI control data, you can program it to do just about whatever you'd like. Kudos to Frontier for publishing the MIDI data — I imagine a lot of people will hack their own layouts.

Beefs?

Not many. I wish it had a lanyard attachment point. I wish it could control plug-in parameters. Native mode and remapping of MIDI commands in your DAW may let you do so, but time constraints prevented me from experimenting with that. And while the shift key allows you to use all the keys for secondary function controls, indication of what those shifted functions are is not listed on the front panel. To be fair, the functions differ slightly from DAW to DAW, but a plastic "overlay" that listed the shift-key functions for each protocol would be nice to have. But seriously, these are very minor quibbles, and none of them detract from the unit's rock solid functionality as a remote transport control.

Bottom line: This box is a must have.

If you use a DAW, this is one gadget that is going to make your life a whole lot easier. I predict it's going to be as popular for studio owners as the iPod is for music listeners. Nothing else out there does what the Tranzport does, and it sells at a price anyone can justify. A lot of thought obviously went into designing it, and someone should have thought of this a long time ago. That makes it a no-brainer for the *EQ* Exceptional Quality Award. EQ

Extras:

I've really only scratched the surface of the features and creative possibilities of the Tranzport, so be sure to check out some of the discussions on the forums at musicplayer.com for more suggestions and tips.

Strengths:

Remote DAW control *sans* wires or line of sight limitations.
Works with most DAW applications.
Optional stand adapter.
Very interference resistant.
Great bang for the bucks.

Limitations:

Only one unit per computer, although multiple units can run in the same area.
No lanyard attachment point.
No overlay sheets listing shift-key functions.

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Driving Out the Dreaded Demons of Mic Preamp Hiss

EQ BEST BUY

Devil in the details? Haunted by low-level noise? Well, fear no more, we *have* the technology. And the solutions. Five silver bullets' worth.

by Craig Anderton

Electrons are noisy little guys. As they rub against each other and frolic within their subatomic superhighways, they generate hiss. No, not a lot of noise. But amplify it by 60dB or so, and unavoidably, the Curse of the Mic Preamp (or other high gain stage) appears. And even a little bit of hiss can be annoying.

You can't eliminate all noise, but you can *reduce* it — often to inaudibility. So, we've chosen five low- and mid-priced noise reducers (under $1,000 list) to see if they're up to the task: Adobe Audition, BIAS SoundSoap Pro, Creamware Osiris, Enhanced Audio Diamond Cut 6, and Sony Noise Reduction 2.0.

HOW TO PERFORM SONIC SURGERY

The most popular DSP technology for reducing noise is *spectral subtraction*. The process has three steps:

1. Isolate a part of the signal that contains *only* the noise you want to reduce (usually at the head or tail of a file).
2. Sample this noise, and optionally save it as a noise profile.
3. Use the noise reduction plug-in/program to subtract anything in the file that fits the noise profile. Poof! Noise gone!

The technique is effective, but if you need to remove a lot of noise, the overall sound may take on a "warbling" or "robotic" quality. (Sonic pervert alert: "Wrong" settings can make some *great* special effects.) Although the subtraction process is standard, each company takes their own approach to minimizing these artifacts. Another difference between programs is the roster of noise-reducing tools (just spectral subtraction, click and pop removal, clip restoration, etc.), and whether they're stand-alone programs or plug-ins.

All the programs were surprisingly effective at nuking normal hiss levels with spectral subtraction. I figured I'd up the ante, so I turned up the mic pre gain all the way, talked very softly, and turned the air conditioning on full blast in the background. I also processed a piano recital by Janet Montgomery, which had been recorded live under less than optimum conditions. Surprisingly, all the products still did a credible job — even the lower-cost programs gave the higher-priced ones a run for their money.

Let's look at the five contenders.

ADOBE AUDITION

(adobe.com, $299)

Yes, it's an outstanding editor and fine multitrack recorder — but the suite of noise reduction tools (Auto Click/Pop Eliminator, Click/Pop Eliminator, Clip Restoration, Hiss Reduction, and Noise Reduction) truly overachieves for this price point. For preamp hiss, Noise Reduction

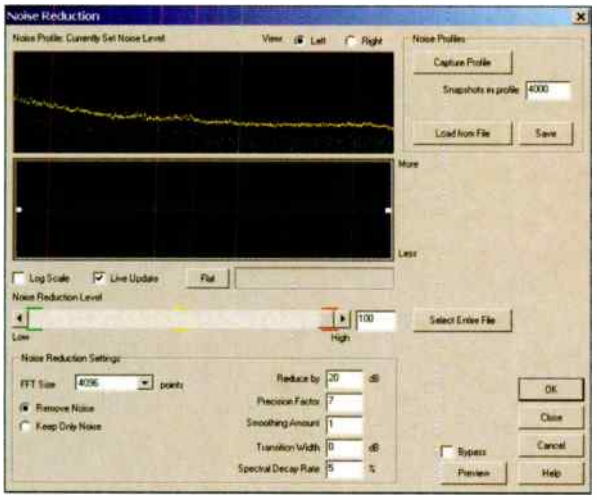

Fig. 1: Audition gives a useful display of the noise profile, as well as many adjustable parameters.

Fig. 2: SoundSoap Pro, with the broadband noise reduction module selected, is being used with Wavelab.

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Fig. 3: The OsirisXP noise reduction module is being called up by itself; the background Scope routing window shows it patched into the system.

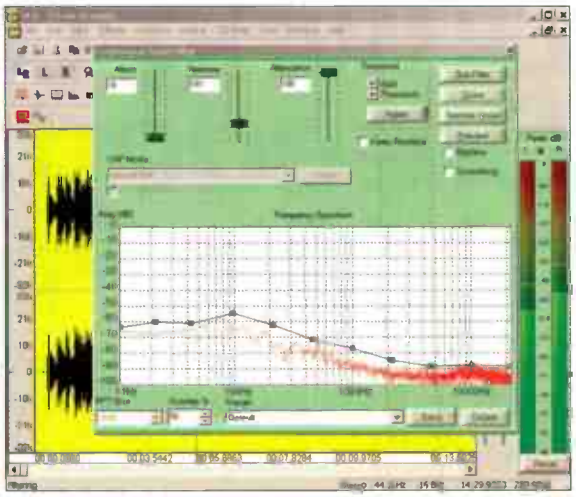

Fig. 4: DC6's noise reduction uses a slider-based interface, along with numeric fields for less commonly used parameters.

(Figure 1) beats Hiss Reduction: More natural, less artifacts, more effective. Audition also offers Frequency Space Editing, a goodie that lets you do things like remove a single cough from a concert, or only the kick drum from a drum loop.

Ease of Use: It's neither particularly difficult nor easy. The interface is the usual Audition "scientific-looking" type of window, with a bunch of parameters and boxes. Confused by field names like "Precision Factor" and "Transition Width"? Just go with the defaults. However, the help file explains what these do in a straightforward manner, and a little tweaking can be beneficial.

Distinguishing characteristics: Audition is a complete stand-alone recording, processing, mastering, noise reducing, and

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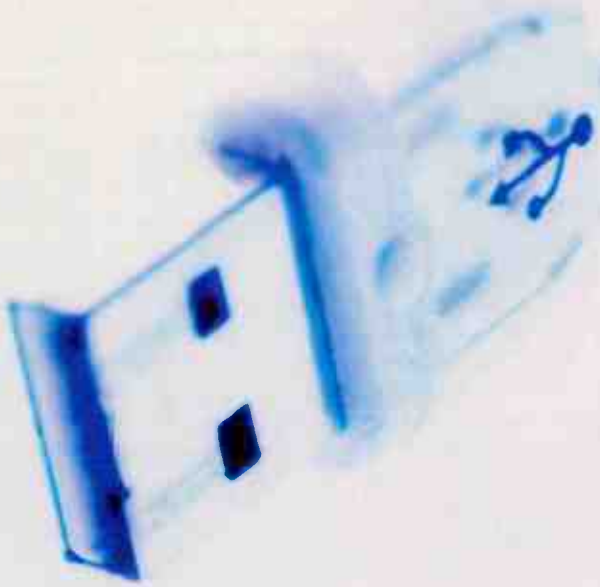
think inside the box



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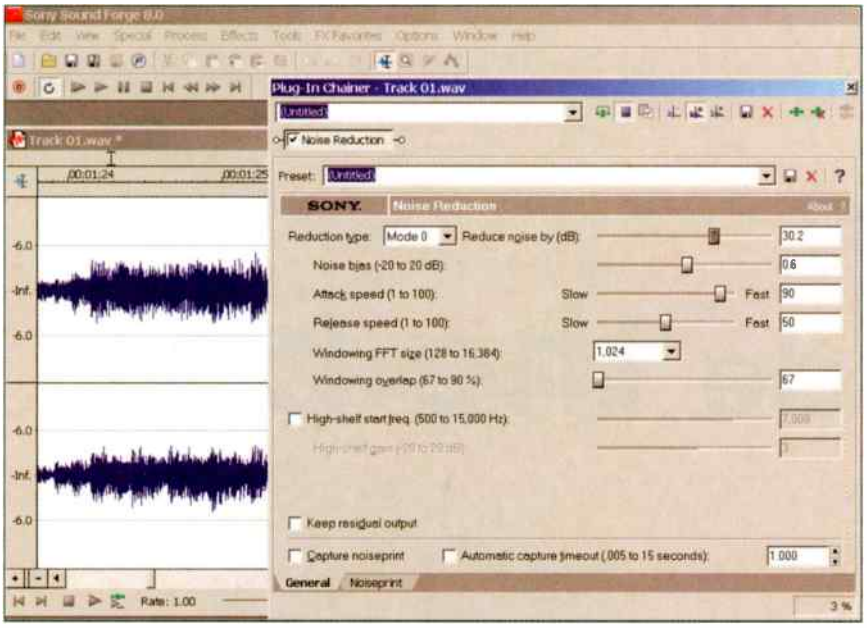

Fig. 5: Noise Reduction 2 is being used as a DirectX plug-in for Sound Forge 8. The interface is simple, but effective.

editing solution. It's the most feature-laden and versatile software covered here.

Downside: Although you can make adjustments in real time using a preview mode, you can't navigate the file while you do this. Also, the noise reduction seems a teeny bit less transparent than OsirisXP; but this is a subtle difference that came into play only with certain material.

Upside: Some people buy Audition just for the noise reduction tools, and when you use them, you'll see why. This is about as cost-effective as it gets, the defaults hit the spot 95% of the time, and perfectionists can do lots of tweaking.

BIAS SOUNDSOAP PRO
(bias-inc.com, $599)

This versatile plug-in works with VST, AU, RTAS, AudioSuite, and DirectX. It's also cross-platform. As befits BIAS's strong Mac background, SoundSoap Pro has the slickest interface and graphics (Figure 2). But it's not just a pretty face; its modules (hum and rumble, click and crackle, broadband noise, and a noise gate) work individually or connected together in series.

Ease of use: SoundSoap Pro is extremely easy to use, despite its sophistication. It's 100% real time, and you can navigate, loop, or otherwise check out any part of the waveform being processed. There's a helpful spectrum display (it also impresses clients!), and you can set up presets for easy comparisons of different settings.

Distinguishing characteristics: The software has a great "feel" — looks good, easy to use, works well. Although it can't run stand-alone, the compatibility with so many different platforms on Mac and Windows is unique among these five programs.

Downside: It's the second most expensive option here, although in the world of noise reduction software, it's still in the mid-price range. However, SoundSoap, a stripped-down version that still does excellent hiss reduction, lists for $99.

Upside: This and OsirisXP are the easiest programs to use, although I'd give SoundSoap Pro the advantage in terms of graphic feedback and number of adjustable parameters. While it lacks Audition and DC6's complement of tools, it provides the ones you'll use 95% of the time.

DOES IT REALLY MATTER?

Okay, so maybe there's a hiss level at -86dB. Does it really matter? After all, few CDs players have a noise floor that low anyway.

Well, if you have several tracks with a bit of noise in a multitrack host, they add up. And hiss on a two-track can be annoying. When you get rid of this "low-level" noise, the soundstage opens up, the stereo becomes more pronounced (noise tends to add a mono component to the sound), and the sound has more definition. Once you start cleaning up tracks with noise reduction, it will become an important tool in your quest for sonic quality. —CA

CREAMWARE OSIRISXP
(creamware.com, $730)

Osiris was the Egyptian god of the dead, which I suppose is a fitting name for a product that kills noise. Algorithmix supplies the algorithms, as they do for their own products and other companies (*e.g.*, Magix Samplitude and Sequoia). Many consider their algorithms some of the best available, and for getting rid of noise, OsirisXP delivered big-time. The package includes DeClick, DeCrackle, and DeNoise modules, useable individually (Figure 3) or as a single, integrated plug-in. (Note: OsirisXP, the Creamware PSY-Q enhancer, and a sound card are also available as the REstore bundle for restoration work.)

Ease of use: You move the sliders in a specific order until the noise goes away. These are somewhat interactive, so you may need to go back and forth. Being part of Creamware's Scope platform, Osiris "patches" into your signal connections. I found it easiest to bring the file into a host, patch the host out to Osiris, then patch the Osiris out to a host track input. This also allowed easy comparison between the original and processed sounds.

OsirisXP can be used in "XTC" mode, where the Creamware processors become available as VST effects. However, not all programs work well with XTC (*e.g.*, Cubase SX does, Wavelab does not); so I preferred using it with the Scope platform, which I think is fabulous anyway.

Distinguishing characteristics: The Algorithmix algorithms seem particularly adept at minimizing artifacts when using large amounts of noise reduction.

Downside: It works only with Creamware hardware, and it's not cheap — especially given the weak dollar.

Upside: It makes the Scope platform even more powerful; better yet, the software is effective and easy to use. Furthermore, OsirisXP uses very little power from the Scope DSP card, so you could easily use it on several sequencer tracks. And it's realtime — tweak while the signal plays.

ENHANCED AUDIO DC6
(enhancedaudio.com, $199)

This stand-alone program incorporates a big-time processing toolset: Spectral subtraction noise reduction (Figure 4), various filters (including brickwall filtering and a dynamic

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Eight combo jacks (XLR or ¼") all with phantom power let you connect 8 mics

Each mixer channel has 4 bands of parametric EQ and compression

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noise filter), sample rate conversion, CD preparation (but not burning), CD audio track ripping, the ability to put multiple processes in series, de-clipping, and even effects (reverb, echo, tube simulation, standard and multiband dynamics, time compression/expansion, and more).

Ease of Use: DC6 is reasonably user-friendly, and its separate preview mode accommodates realtime adjustments. But to exploit the program's full capabilities, expect to spend some time experimenting and reading the help file; there's a lot to chew on here.

Distinguishing characteristics: DC6 is nothing less than an all-in-one mastering/noise reduction solution — and given the $199 list price, its low profile is a bit of a mystery.

Downside: The interface is somewhat clumsy. For example, you can't just drop the cursor where you want to play and hit the space bar; you have to right-click and select "Play from Here." Uh . . . okay.

Upside: There's an eclectic collection of all kinds of noise reduction tools, not just the usual ones. It's the least expensive option here, but provides tons of features. If you're on a tight budget and handle a wide variety of noise types (impulse, continuous, etc.), this is a fantastic deal.

SONY NOISE REDUCTION 2

(sonymediasoftware.com, $279.97)

The original Sonic Foundry Noise Reduction package brought affordable noise reduction to the masses. This update is a suite of DirectX plug-ins for vinyl restoration, noise reduction, clipped peak restoration, and click and crackle removal. For noise reduction, version 2 has updated, natural-sounding algorithms.

Ease of use: The user interface is nothing fancy — just the usual sliders, check boxes, and numeric value fields (Figure 5). While the defaults will take you where you want to go, a little tweaking can improve results. For example, there are four noise reduction modes that trade off less noise removal for fewer artifacts. And because it's a plug-in, you can navigate the waveform in real time while tweaking parameters.

Distinguishing characteristics: These plugs will run on just about any computer with a pulse; the noise reduction has very low system and CPU requirements, making it useable on multiple tracks of a DX-compatible sequencer.

Downside: The price is almost the same as Audition, which includes the same tools as Noise Reduction 2 but also adds a bunch of processors and doesn't require a separate digital audio editor. However, you can't use Audition as a plug-in.

Upside: The program looks plain; the results are anything but. The modules are all highly effective, and the noise reduction also includes a high-shelf filter for hiss. And of course, realtime tweaking is great.

AND YOUR POINT IS?

All these program do the job of removing hiss. It's your particular needs that would favor one over the other.

For the most generalized, cost-effective noise reduction tool, it's a tossup between DC6 and Audition. Clearly, if you need editing and

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multitrack recording options, Audition would get the nod. But if you already have a host you like, don't care about the Frequency Space Editing, and need some of the tools that Audition doesn't provide (brickwall filter, dynamic noise filter), then DC6 would be a solid choice.

However, neither of these work as plug-ins. This is fine if you just want to import stereo material, but to reduce noise with several tracks of a multitrack, you'd need to render each track, apply noise reduction, then import the cleaned up version into the host. For this, the plug-ins (BIAS SoundSoap Pro and Sony Noise Reduction 2) are a better choice. Noise Reduction 2 is less than half the price of SoundSoap Pro, but works only as a DirectX plug-in. If you need multiple plug-in formats, SoundSoap Pro justifies the extra bucks.

For Creamware Scope system users, OsirisXP is the logical choice. It's easy to patch into the system, simple to adjust, and the Algorithmix algorithms are excellent. But you pay for these amenities. Those on a tight budget will likely render files and bring them into Audition or DC6.

The bottom line is that regardless of which software best fits your needs, it will get the job of exorcising preamp hiss done without killing your budget — and that's a truly welcome development when you want the cleanest possible sound from your tracks. EQ

QUICK PICK

SOUNDTOYS ECHOBOY

For those Pro Tools users searching for the ultimate echo-based effects, your dreams may have come true. Soundtools Echoboy is a Mac-based plug-in running RTAS, AudioSuite and TDM (HD and Accel only) on OSX systems. Currently, its 48K only but 96K support is reportedly around the corner.

Admittedly, I used to think of echo as a simple thing. But with this plug-in, the options extend beyond expectations, which is always a good thing. The first place to begin is with any of the 300 presets organized into a collection of folders: Bass, Chorus, Classics, Drums, Effects, Extreme, Feedbackers, Guitar, Reverbs, Rhythmic, Solo, Style Tour, Vocal and Vocal FX. Choosing a preset will then set the plug-in into one of four modes: Dual Echo, Ping Pong, Single Echo, or Rhythm Echo. Accordingly, the GUI will change to reflect this choice.

Various knobs such as Feedback, Mix, and Rhythm are presented along with small drop menus, many offering additional submenus of options. For example, "Pattern" offers bars, notes, dotted, triplet, and some cool presets as well. For ease of use, just click on the MIDI lever to lock the plug-in to your song's tempo (you can also set whatever tempo you want), grab a preset, and start tweaking. Experiment with the Groove knob, which flows between Shuffle and Swing feels, and the Feel knob, which offers Rushin or Draggin tempos.

The STYLE submenu offers 32 options, such as Studio Tape, Echoplex, and Analog Chorus. By selecting one, the Parameters in the Style Edit page change "underneath" the main GUI. To access this submenu, simply click on the Style Edit Button and a GUI within GUI appears. Now you can control EQ Low, Mid and High, Decay, and Gain for each band – along with a Mid Res knob for some cool resonant sounds. Next to this section sits Diffusion, Wobble, Decay Sat, Size, Rate, Sync, and Output Sat knobs. There are FB, OUT, and Loop/Post switches and several additional submenus for such things as Square and Dirt – each with its own group of settings. Also, by pressing either the TWEAK or STYLE EDIT BUTTONS, additional small drop menus appear, allowing for extra parameter choices. As you can tell, there is NO shortage of options on this plug-in.

So far, I've used it on drum loops, percussion grooves, a vintage fender Rhodes, an Oberheim OB-8, and vocals, and it truly shined on electric guitar parts. All parameters are automate-able except for the sub menus – which supposedly will be available in the near future. Overall, it's become my first reach echo/delay.

The only negative is that it uses up a full chip per stereo instance. However, I use this plug-in so much now that it's unquestionably worth the power requirements. It's so diverse in its applications, that sometimes I've got three or four in a session — in a session — in a session — in a session. Echoboy rocks, plain and simple. (soundtoys.com)
— Rich Tozzoli

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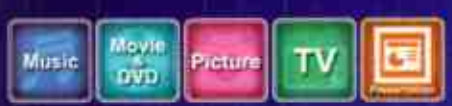
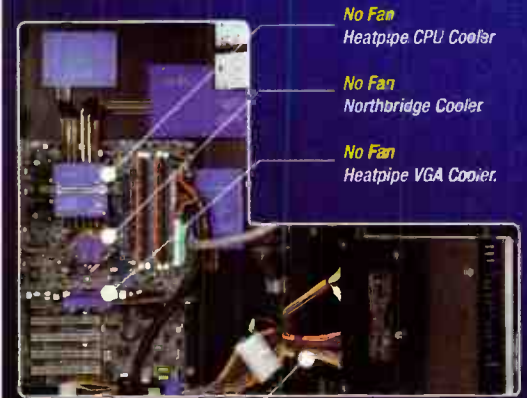


The remote control and multimedia software allow convenient web browsing, access to music, videos, movies, photos, and TV access (with a TV card installed).

TNN500AF is a new addition to the TNN (Totally No Noise) series noiseless systems renowed for its completely silent fanless cooling solutions, developed with heatpipe technology, HSC(Heat Source Contact) power technology, High Capacity Extrusion technique, and FMS (Flexible Mounting Structure) design technology by ZALMAN. The TNN 500AF package contains a high performance aluminum computer enclosure with an absolutely noiseless cooling solution for the CPU, VGA Card, Power Supply, and Northbridge free of fans, making it ideal for storage servers, workstations, high-end home systems, and sound studio computer systems.



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No Fan
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WHEN SO-SO THINGS HAPPEN TO GOOD PEOPLE

TFPRO 2-Channel EQ

by Joel Hamilton

I met Ted Fletcher when he was showing off this EQ and a new compressor at a conference I was speaking at in New Orleans a few months ago. I was really impressed with the design philosophies and interesting nature of this man. The compressor seemed really cool . . . I got the EQ for review here at Studio G Brooklyn, and I immediately put it across a mix I had finished the day before, just to experiment on program material.

First impression: it is an EQ. Nothing really amazing going on.

The unit works, and is doing EQ type stuff just fine. But I am spoiled with 26 channels of custom EQ in a completely custom console. I also have a pair of Pultec EQP1-Rs and some Neumann PEV's. . . . All great choices.

In any case the TFpro 2-channel EQ seems to be the kind of thing that would come in really handy if you don't have any really good EQs already in your arsenal. It is an EQ, and it does well as an EQ, but it doesn't really do anything that a good console EQ won't do. I actually think it is kind of cumbersome, and the sonics aren't amazing enough to warrant going outboard. It is a perfectly good piece of gear, built pretty well, and pretty intuitive in its operation and layout. If this EQ would get more drastic, or get more ANYTHING than a decent console EQ, I would say it was totally worth the price of admission. Sadly, I can't imagine this EQ really being needed under any circumstance. And I am a huge fan of cool gear, and collect pieces that do good things, but this EQ seems to sit squarely in the middle of the road, and is therefore not really worth its ticket price. I really want to try out the new compressor, as that looks like a lot of fun. This EQ, though, is just kind of boring. . . it's like the khaki pants of EQs.

I guess the real reason I'm unimpressed with this EQ is because it seems to me that it lives squarely in the "why do we need this product?" zone. I am not in the business of slamming gear, I love gear that makes my life more fun, but there are SO many EQs out there, and many that do great things in the price range this unit lives in. This EQ sounds like a 1200 dollar EQ to me, nothing more, nothing less. It certainly sounds like a good EQ, but not a GREAT EQ, and certainly not a great enough to warrant the price.

So assuming you have ANY decent outboard EQ in your rack, this one would be an expensive wallflower that doesn't say or do much for your mixes. Lots of EQs have boost or cut, at a variety of frequencies. Lots of EQs have high and lowpass filters, this one included. The sonic properties when boosting or cutting make an EQ either great or just another EQ. When boosting with this EQ, you get EQ'd source, rather than "air" or "punch" or "more fangs." But however you describe it: this EQ just EQs stuff, rather than that magic ability of a great EQ to add life and sparkle and *oomph* to an otherwise less than exciting source.

And, again, this EQ costs enough to warrant a certain "wow" factor that it lacks. For something over $2500 (of which this FULLY qualifies), I want a little excitement, or at least something unique, very robust build quality, or sparks to shoot out of my head every time I touch the thing. This doesn't do any of those things for me. This EQ is safe and I don't like "safe." I like crazy and outlandish and the ability to sound broken OR beautiful. I like elegant, simple circuits that have big, discrete-and-transformer-*oomph*.

So if you think the airport bar at the Dallas airport is "crazy" then this EQ might be for you. Summary: not very useful or exciting and therefore not worth the high dollars. I think Ted Fletcher is a really neat guy, and I can't for the life of me figure out what his name is doing on the front of this bland, overpriced piece of gear. EQ

Joel Hamilton is an engineer/producer/musician in NYC. Joel has worked with Elvis Costello, Sparklehorse, Tom Waits, Dub Trio, Unsane, and is an avowed excitement junkie.

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SUMMER SHOWERS

Rain Audio + Presonus + Sonar 4 + BenQ

by Monte Vallier

I've been using Macs since the mid-'80s. I've rarely used a PC. I've done a few projects recently where the client brought his Windows/Pro Tools rig into the studio for outputting for mixing. But that was minimal interaction with the platform. I admit I've never really given Windows a chance as a platform for serious audio production.

So why am I reviewing a product like this?

Because I think that I'm uniquely qualified to experience the whole package with a fresh outlook. I've been noticing how many great recording/mastering/sampling/soft-synth tools there are out there that are PC only. I've also noticed how inexpensive and powerful PC hardware has become. It was time to put my biases aside and learn something new.

The Rain Element is a customizable, pre-configured audio production PC (see sidebar for specs). According to the press release it's been optimized for high performance applications and each component has been handpicked, matched, and tested for peak efficiency in the recording and mixing environments. I cannot dispute this claim since I did not take the box apart and test each component, so I'll take their word for it.

The first thing that I did notice was that the unit ran cool and super quiet. I had the attractive brushed aluminum alloy tower on my desk inches away and could barely tell it was booted up — except for the cool blue light glowing behind the Rain logo panel on the front.

The front panel on the standard tower-sized Element has a door that conceals the CD/DVD drive, an 1/8" mic input, 1/8" headphone output, a FireWire port, two USB ports, and a floppy drive. I cannot remember the last time I needed a floppy drive, but maybe there are PC applications that still require them. It is a nice convenience to have easily accessible ports on the front but the door opened the opposite way that I needed it to. Not so convenient. I guess I needed to specify the "left-handed" model.

But back to putting my biases on hold and learning something new.

The first thing I learned was that the learning curve for figuring everything out was a bit steeper than I had imagined. I needed to work out some basic Windows navigation issues before I could dig into the preloaded software goodies. The Rain Element that I received for review was custom loaded with **Cakewalk Sonar 4 Producer Edition** and **Cakewalk Project 5**.

I had never seen Cakewalk's Sonar (any version) in person. I've only read about it. In fact, Craig Anderton wrote an excellent, detailed review of the software in the January 2005 issue of this magazine. (You can find it at eqmag.com.) Since I was reviewing a demo

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Rain Recording Element Audio PC (starting at $2295)
Presonus Firepod FireWire interface/mic pre ($599)
Cakewalk Sonar 4 Producer Edition ($959)
BenQ 937s 19" Flat panel LCD monitor ($359)

model, no manuals came in the box. The Sonar representative was kind enough to send me a thick, comprehensive tome that came in very handy. Thank you.

Sonar 4 was actually pretty easy to figure out on a simple level. As soon as I stopped trying to get it to behave like Pro Tools, the logic revealed itself to me. I really only wanted to get sound in and out in a clean and efficient manner to put the Rain PC to task. For this exercise Sonar 4 worked like a charm. And the main reason I got sound in and out so charmingly: the **Presonus Firepod FireWire** interface!

The Rain team bundled three 8-channel Firepods with my review package. Smart move. I took these 8-channel mic pres out of their boxes, stacked them in a rack, daisy chained them together into one of the many Rain FireWire ports, and they were immediately recognized and ready to go. The Rain guys had already loaded the drivers.

My life suddenly seemed simple.

The Firepods are one of the many interfaces that Rain can customize your package with. These FireWire interfaces are not only easy to deal with, they also sound great. I must plug another review that the esteemed Mr. Anderton wrote in the May 2005 issue of this magazine. (You can search Presonus Firepod on eqmag.com.) I stand behind everything that he wrote. The Firepods sound good and clean and for the price, simplicity, and portability you may not be able to beat them.

But I needed to put the Rain Element package to the test: multitrack recording.

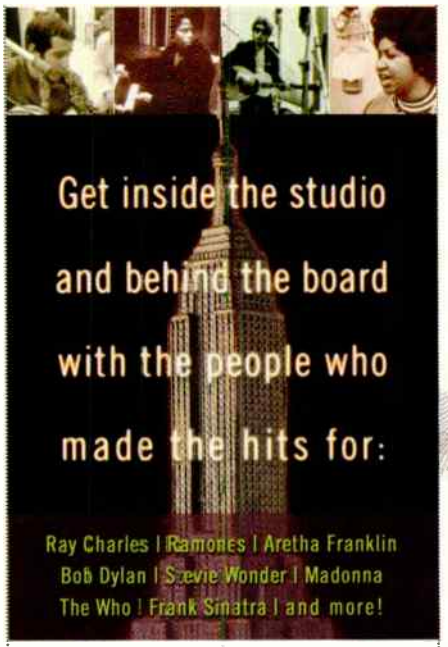
I took the rack of Firepods, the Rain Element tower, and one of the beautiful **19" BenQ 937s LCD monitors** that Rain had bundled with the package for this trial. As a side note, I need to plug the BenQ monitors. They are crisp and clean and so easy on the eyes that I would recommend that you check them out if you are in the market for a new monitor. They are PC/Mac compatible with analog and digital inputs and they only run about $350. It was also very easy to put in its box and bring to my buddy's rehearsal space with all the other stuff.

Anyway I needed a quick and painless way to test this gear. My friend's band is an instrumental avant-garbage improv outfit with some rather traditional instrumentation of two guitars, bass, and drums, and everyone has pedals and cables and odd boxes all over the place. They set up this impromptu session for me with the hopes that we might actually capture something interesting. Though I wanted to stretch the limits of the Rain/Sonar and the Firepod system, I was hard pressed to get 12 mics up. It would have to do. We hooked up a FireWire drive just in case the most amazing thing happened or in case something went wrong we would have the files saved separately from the internal hard drive in the Element.

After what seemed like days of futzing with the mics and checking levels by recording small snippets and listening back with headphones, we got relatively decent

SPECIFICATIONS

- Intel Pentium 4 Processor 530J LGA775 1MB L2 3.0GHz 800MHz
- 915 PBLL MB with integrated 1394 FireWire, Audio, and 10/100 LAN
- 1GB OF DDR-2 RAM (533MHz)
- 200GB ultra 150 ATA Hard Drive with 8MB buffer
- 1.44 floppy drive
- Dual Layer DVD±RW/CD-RW Combo Optical Drive
- 8 USB 2.0 Ports (6 Rear/2 Front)
- 6 FireWire Ports (3x3 independent IEEE 1394 chipsets/6 pin/External/ 5 Rear/1 Front)
- Dual PCI Express Video Ports
- Microsoft Windows XP Professional
- SONAR LE
- 10/100 On-Board Network Adaptor
- Silent 300 watt power supply
- Intel Precision Cooling Technology
- Zalman CNPS Computer Noise Prevention System
- Four PCI bus add-in card connectors
  - Intel High Definition 8-Channel Line-Level Audio Card; 24/96 S/PDIF 2 digital audio out connectors
  - (1 coaxial, 1 optical)
  - Premium USB keyboard and mouse



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sounds. The band played for a couple hours and the Rain box and Sonar never broke a sweat. Nothing blew up. But the recording didn't sound that good. Oh well. Not the equipment's fault. It was a fine document of the moment but maybe no one should ever be subjected to listening to it. The point was made though: The system worked like a champ — right out of the box.

And the portability aspect of this setup was very appealing. I can imagine that using the Firepod rack with a laptop for live/mobile recording would be a breeze. This is something to seriously consider since Rain also does custom laptop configurations.

So if you need a stable system but don't have the time to shop around for custom components, or the time to remove unnecessary non-audio apps and features from an off-the-shelf PC that could bog your system down, or the patience to load software and drivers, or do the research that it takes to get exactly what you need, you should talk to the people at Rain Recording. The Rain team stands behind every one of their products. The service desk was extremely prompt and helpful. They provide free tech service and encourage their customers to use them as a resource for anything relating to digital audio production.

That being said: I am still a die-hard Mac/ProTools user. I started using ProTools professionally when it was 4-track, and probably won't be switching anytime soon. I understand Sonar 4 but I don't love it. And I still don't like Windows. But ultimately, these are just tools. However and whatever you use to get your sonic point across doesn't matter. The point is to get it across. Many years ago in my first computer class in college the professor said on the first day, "Don't be intimidated by the computer. It's just an expensive pencil."

Indeed. EQ

RAIN ELEMENT

Strengths:

- Quiet operation
- Many input/output options
- Stable
- Excellent support team

Weaknesses:

- Inputs and outputs on back panel not labeled well. Confusing.
- Even though it was a demo model I needed more literature. A manual would have been nice.

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FOR MOST FOLKS, ANY FIREWIRE INTERFACE WILL DO.

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Ordinary FireWire audio interfaces are fine for capturing your musical ideas on the go. But if you're the type of musician or engineer who won't compromise quality, then you need to audition the Onyx 400F Studio Recording Preamp with 192kHz FireWire I/O.

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QUICK PICK

THE WAVES L3 MULTIMAXIMIZER plug-in is called the "world's first multi-band auto-summing limiter." Designed from the lineage of Waves' popular L1 and L2 limiters, the L3 takes the best of its predecessors and throws in a serious left hook. You might even say the "L" in L3 stands for LOUD.

Used on the last insert of your session's Master Fader, it takes a stereo mix and divides it into five bands with selectable frequency points — using linear phase crossover filters. Next, a new technology called "Peak Limiting Mixer" (PLMixer) uses psychoacoustic criteria to "intelligently" choose how much attenuation is applied to each band — making sure all available headroom is used. What this means is that with a single master control, you can kick the s#%& out of your mix. Just set the Out Ceiling to -.2dBfs and drag the Threshold down until you see it attenuating. Drag it down a bit further until it's too much, and then bring it back up for a nice punchy sound. Then, simply set the IDR Quantize to 16-bit for CDs or 24bit for most everything else. Done — print it.

Also by choosing some of the well thought-out presets, you can make your life simple. But if you're like me, and want to dig deeper, there are several options that let you do so. First there are individual "Priority Controls", offering control over the limiting of each of the five bands. This can help to adjust the overall tonal character of your mix, while still maintaining that hard limiting.

The L3 also offers 12dB of boost or cut per band, placed before the limiting section. This is basically like having Waves' Linear Phase EQ in-line, allowing for additional tweaking. Since everything is (of course) automatable, I even got some cool effects on the outro of a tune by turning on (soloing) the Band 2 and 3 Solo buttons, providing a nice filter effect. Note that there is 80ms of constant delay on this plug-in, so it's for final mixing only — don't track with it or you'll be playing to a delay. Running on all supported Waves platforms, the L3 comes in two versions: the Multimaximizer, which has complete control over all parameters, and the Ultramaximizer, which uses the same PLMixer but with limited controls.

"It's an incredibly powerful tool — I use it all the time now," notes Sterling Sound's Chris Athens. A mastering/mix engineer with credits such as the Beastie Boys' *To the 5 Boroughs*, Erykah Badu's *World Wide Underground*, and NERD's *Fly or Die*, he tends to combine the best of both analog and digital to pump out the hits. The L3 has just become another digital tool in his arsenal, but I have to remember to remove it from my stereo mix before sending him any tracks. Without delving into the political battles of the "loudness" wars, the L3 truly delivers as promised. (waves.com)
—Rich Tozzoli

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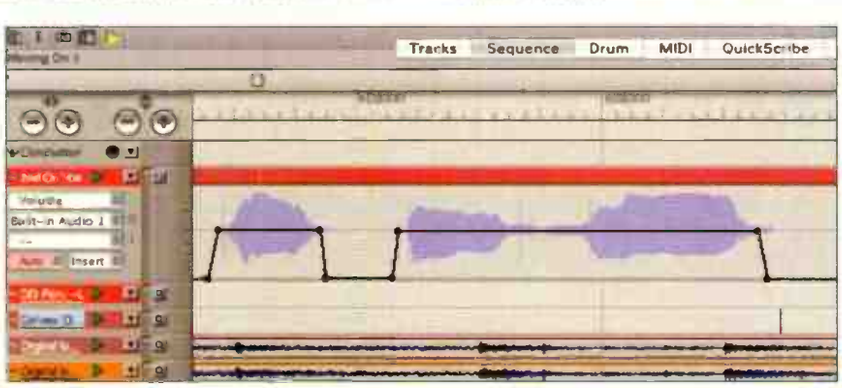

Fig. 4: Here's a volume automation envelope being added in MOTU's Digital Performer 4.5. Note the slight fade times to ease the transition from silence to signal.

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The 7 Samurai of Noise Assassination

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ART OF RECORDING Gear

Nasty stuff: Removing highs may also remove some of a sound's "sparkle," and reducing lows can thin the sound.

Mitigating factors: You probably have an equalizer that can provide decent filtering, so no extra investment is required. Also, there are variations on this theme, such as adding envelope control to filtering. This is somewhat like gating (see next), as the amount of processing depends on the input signal. With a high input level, the filter kicks open and lets through high frequencies. With low input levels, the filter frequency closes down, removing high frequencies and presumably, some hiss along with it.

GATING

How it works: With this old school technique, you set a threshold level just above the hiss level. For any signal below this threshold, the "gate" closes and doesn't let *any* signal, including hiss, through to the output. Once the input signal exceeds this threshold, the gate opens and lets the signal through. The noise is still there, but with sufficiently high signal levels, the desired signal will likely mask the hiss. Some noise gates (Figure 2) include bells and whistles like frequency selectivity, "lookahead" option so that the gating occurs just *before* a transient, and a "hold" parameter to set a guaranteed gate open time.

How you do it: Place a noise gate at the output of the signal you want to clean up. If your signal source feeds something like a high-gain preamp or compressor, you might also consider putting a gate *before* the high-gain stage so that any crud doesn't get amplified.

Nasty stuff: As the signal transitions between gate open/closed conditions, there can be an abrupt, noticeable change in sound. If the signal criss-crosses over the threshold, there can even be "chattering" between the gate's two states.

Mitigating factors: Adding an attack time smoothes the transition from off to on, and a decay time does the same when going from on to off (and also discourages chattering). Another option is not to close the gate fully, but to apply perhaps 10dB of reduction. The gate then transitions from the existing noise to a smaller amount of noise, which is not as blatant a change.

EXPANSION

How it works: Expansion is the reverse of compression. Below a certain threshold, amplifier response becomes non-linear so that a small decrease in input level results in a large decrease in output level. For noise, the result is similar to gating, as small amounts of hiss are "pushed down" toward the bottom of the dynamic range.

How you do it: Expansion is usually part of a dynamics control processor that also does compression. To reduce hiss, you set an expansion threshold level just above the hiss, then add a really steep ratio, like 10:1 or higher. This causes the output level to drop dramatically for relatively small input level decreases (Figure 3).

Nasty stuff: If the noise level is fairly high, expansion gives problems similar to gating.

Mitigating factors: Expansion typically includes attack and decay controls, which can provide a more natural effect.

COMPANSION

How it works: Ah, how soon they forget. During the days of analog tape, compansion (compression/expansion) was the Holy Grail of noise reduction. It worked by compressing the signal going into a noisy signal path (like tape). At the tape output, the signal would be expanded to restore the original dynamic range. However, any hiss added by the tape would be expanded downward (see "Expansion"), thus reducing the hiss. For example, dbx noise reduction added 2:1 compression and a high frequency treble boost to the incoming signal. At the output, there was 1:2 expansion and a high-frequency treble cut equal and opposite to the original treble boost.

How you do it: Patch the compressor at the input, and the expander at the output. You also need to calibrate levels carefully, otherwise the compression and expansion might not be exactly complementary.

Nasty stuff: Sometimes you could hear "modulation noise" riding along with the signal, and with poor level calibration, the sound would tend to "flutter" or waver. And if a tape had been encoded with a particular type of noise reduction system, you had to have the same type to play it back.

Mitigating factors: Digital recording pretty much eliminated the need for compansion-based noise reduction, although the principle lives on in some guitar effects and other noisy analog systems.

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AUTOMATION

How it works: This DAW-specific way to reduce noise works similarly to gating. But unlike gating, which is an automatic process, automation lets you "customize" when to mute and unmute (as well as fade in/fade out) noisy passages, and can give very good results (Figure 4).

How you do it: You visually inspect a waveform, and create automation moves. When the "signal" ends and the "noise" begins, you draw the automation curve so that it fades out into silence, remains silent during the noisy part, then fades back in again when the signal reappears.

Nasty stuff: If you have lots of tracks that need to have noisy passages turned into silence, it can take a long time to do this manually.

Mitigating factors: Some programs automate the process, essentially by adding noise gate-like options where signals below a certain level are converted to silence. But this has the same limitations as using a noise gate. Another time-saving option is to automate mute moves in real time as a track plays, but this won't be as precise as drawing in curves.

DSP

How it works: Companies like Algorithmix, Waves, Sony, BIAS, Creamware, Steinberg, Enhanced Audio, and others make software-based solutions (stand-alone and/or plug-in) that uses sophisticated algorithms to analyze, and remove, noise. This can include not just hiss but crackles, pops, vinyl scratches, hum, and rumble.

How you do it: Open the program, load the file you need to process, tweak the parameter values for best results, and save the cleaned version. Or, insert a plug-in, and render the cleaned file.

Nasty stuff: Cost. Although some digital audio editing programs (*e.g.*, Adobe Audition, Wavelab) include noise reduction, separate versions can cost up to several hundred dollars. Also, extreme cleaning can produce audible artifacts.

Mitigating factors: When these programs work, the results can be miraculous.

And how well do they work? Check out the article "The Curse of the Mic Preamp" in this issue's Gearhead section, where we put four noise reduction programs to the test.

Which of these seven techniques (or combination thereof) will work best for a given situation comes down to trial and error. But persevere, and you may be *very* surprised at how much you can clean up a signal these days by using the right tools.

QUICK PICK

COLOSSUS If it sounds big, well, it is. This 32-Gigabyte monster from East West puts 160 virtual instruments at your fingertips. The library is quite diverse; drums/percussion, guitars and basses, ethnic, keyboards/mallets/vintage organs, orchestral, piano/electric piano, pop brass, choir, ethereal new age ensembles, synth leads, pads, and basses, and even 3G's of dark atmospheres with morphing.

As I've discovered with other releases from this company, great care and detail go into the capture of these samples. There are 15 Gigs of 24-bit sounds recorded at Ocean Way Studio B, a nice 2 G Steinway from Europe and 15 G's from the Quantum Leap and East West titles. I like the fact that there's no crap in this package, it's hi-end sampling all the way – whether you choose to use the instruments or not.

And based on the Native Instruments Kontakt audio engine platform, it couldn't be easier to use. Simply call up the desired preset and get busy. The Kontakt GUI displays all relevant info on one page; CPU usage, Sample Size, Keyrange, Transpose, and so on. Users have control over a bevy of useful filters, LFO's, Microtuners, and even Reverb, Chorus, and Delay effects.

Colossus offers Direct-from-Disk playback for Mac and PC (using a required free DFD extension). When DFD is on and the instrument is loaded, the beginning of each sample is loaded into Ram — necessary to start playing the sound immediately when the note is pressed. As the samples beginning is played from Ram, the DFD system has time to grab the next batch of samples from the disc. This allows for the instantaneous playback of large files.

And while I'll be the first to try to record an actual instrument before using samples, I not only have a hard time finding a shakuhachi — but good players are a bit tough to come by around here. Speaking of shakuhachi — try taking the tuning on the Kompakt sampler down –12, playing a full chord, and adding the Memoryman Delay preset with the Sync option enabled. Working on some cues for an upcoming Discovery Channel show called *Blood Red*, this alone created a wicked ethereal vibe that *moved* without drums — and the producer loved it.

I put "Mens Choir AH-MM" into a fine European Church in Altiverb and got a lush, beautiful sound. This is a good example of not using the provided effects and calling up your own to enhance the sound. The "Church Organ" was perfect for an Xmas record im co-writing (yes, in the summer), plus it's just fun to play. Try automating the tuning from 0 to –12 while playing the lowest note — it creates an emotive guttural vibe somewhere between a synth and a detuned piano. Point is, Colossus is not only a highly versatile plug-in for composers, it's a deep well of inspiration for sound designers and music makers.

However, not everything is peachy in this world we live in. Don't even THINK of running this on a slow system. Recommended systems are Mac OSX 10.3 and up with a 1.8GHz G5, 1G of RAM and a DVD drive. For you PC users, its Win XP, a Pentium IV/Athlon 3Ghz, 1G of RAM and the DVD drive. I keep my samples streaming off a LaCie FW 800 drive and it's worked out fine. Supported interfaces include VST, AU, Core Audio, ASIO, DXI, DirectSound and RTAS. Even with its high processor requirements, Colossus comes highly recommended. (soundsonline.com) —*Rich Tozzoli*

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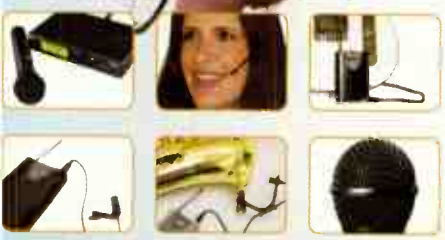

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The Best 3 Pro Tools Tips Ever

by Matt Donner

You want tips? Pro Tools production chops ONLY? Shortcuts and best practices, application triumphs and tragedies, how to make sure you keep the client happy and other goodies? OK, then, buy my book (*Pro Tools Overdrive!*, Thomson). But for now, I'm listing THREE here so you can get a sense of what the book is like. Use these all day if you like them or store them in the mental Rolodex for use later if you're not doing this work now. I've tried to spread them across multiple production processes. Enjoy.

TIP 1
Creating Discrete Headphone Mixes (Single Artist)

When recording, you and your artist will likely want different mixes. She'll want plenty of piano and voice, but you'll want to hear everything as it'll be in final mix state. That means you'll be fighting her every step of the way and you'll *never* get the performance you want out of her. And we both know who's going to win, don't we?

So, you'll need a discrete pair of outputs and a free SEND tab. For Pro Tools users other than Mbox users, try sending a separate set of outputs to her headphone amp so you can each get what you want. In the I/O labels section (*setups>I/O labels*) click to the OUTPUT tab and choose a pair of outs that are not in use (use 7-8 as they are not likely to be confused with your 1-2 stereo outs). Label the pair something creative like "Artist Headphone Mix" (Figure 1).

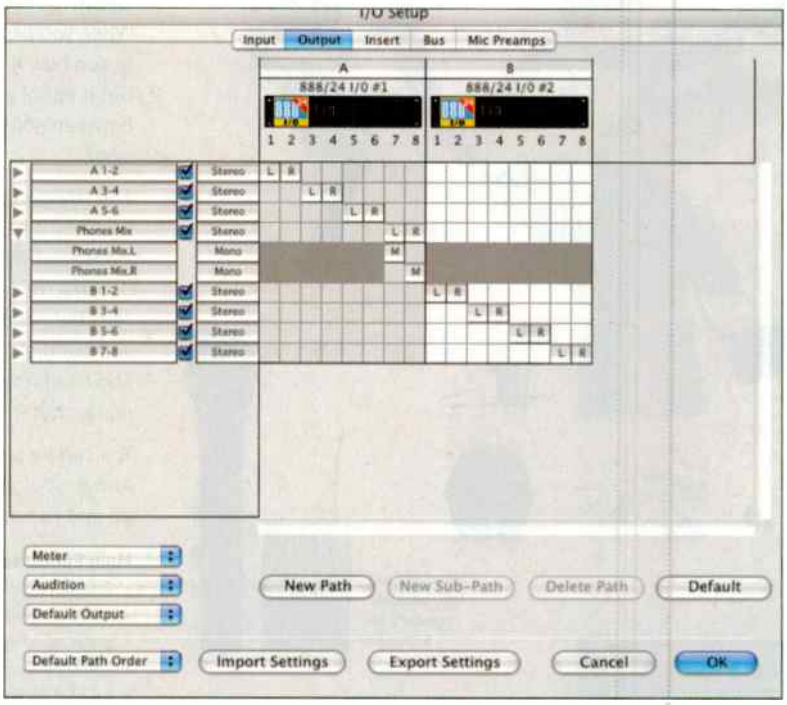

Fig. 1

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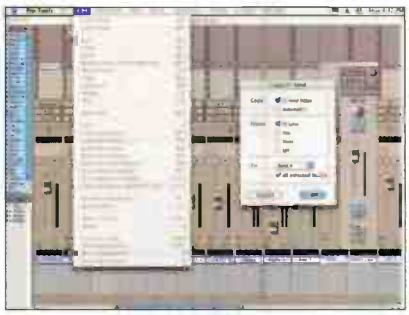

Fig. 2

On the MIX page (or EDIT page if you prefer, but it's easier to see on the MIX page), select every channel (option + channel select) and show the Sends view to make sure you have a free send to use (*Display>Sends View shows>Assignments*). Create a send to the newly labeled "Artist Headphone Mix" pair of outputs on all channels (option + create Send on free assignment tab).

Once you've selected all the channels and create the Send, choose *Edit>Copy to Send* and choose the "Artist Headphone Mix" send (Figure 2). Check the boxes next to any info you'd like to send to the artist (be careful of automation as it'll be difficult to change values later for her if the automation is carried to the send). If you switch your display to Sends show individual sends (*Display>Sends view shows> Send to "Artist Headphone Mix"*), you'll see that your fader mix is copied to your Send mix going to the Artist. Let her tell you what she wants more or less of and simply turn up or down the value of that track until she's happy. And then hope that she knows what she wants and knows how to *be* happy. If not, I can't help you!

TIP II
Using Track Edits from Other Sessions

How often have you wanted to take the edits from one session and play with them in another? Want the first half of the first chorus from the other song in this one as an effect? Wish you could get to that perfect guitar hit from two songs ago? If you've tried, you've probably found that you need to close your current song, re-open the other song, find the parts, Export them as files as seen in Figure 3 (or bounce them if you need the effects too), then re-close this song, re-open the current song and import the parts. Lord help you if you make a mistake or want to go back for more!

Next time, if you think you might want to get to these edits in other sessions (and not

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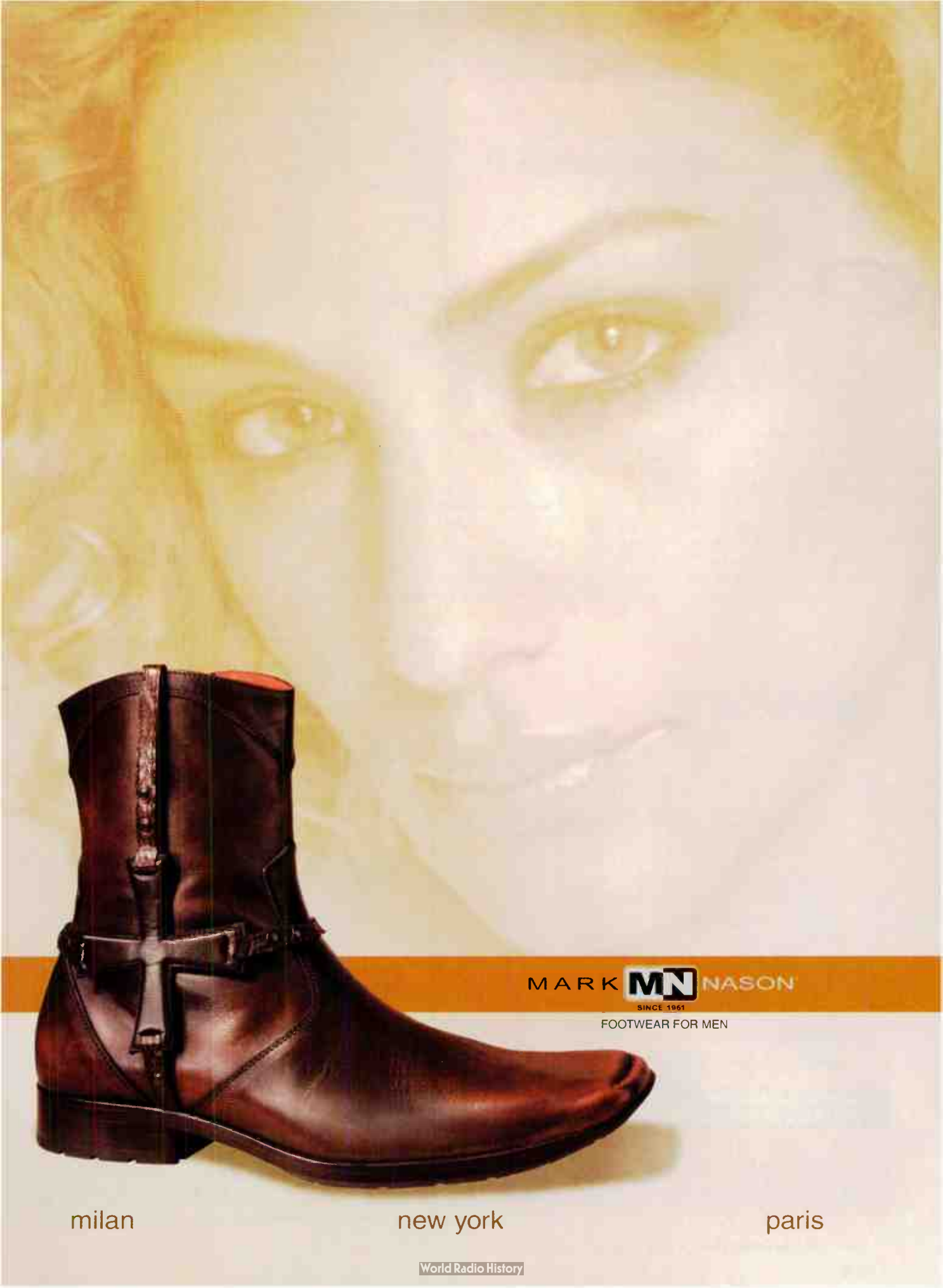

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Fig. 3

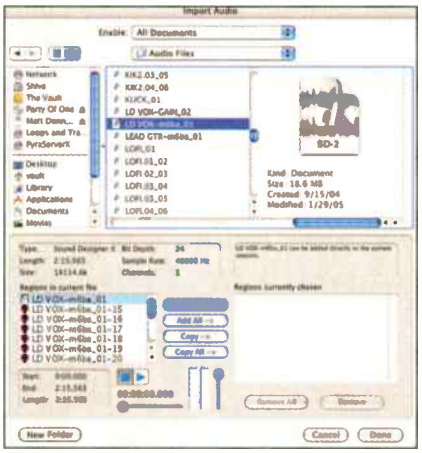

Fig. 4

import the whole parent file and re-edit because you're too lazy/rushed to close and open songs all day long!) try to Export Regions as Definitions (Audio bin menu drop-down>Export Region Definitions). Pro Tools normally keeps the Region definitions in the session and the audio on the drive, but Exporting Region Definitions exports the timing of edits to the audio files themselves. Once done, you can import the original audio file and you will now see all the regions in the import audio bin as well (Figure 4).

TIP III

Thickening Reason's Dr. Rex Loops

For those of you using Reason or Reason Adapted, a common technique is to take the performance of the Dr. Rex loop and thicken the sound with other drums from other instruments. The challenge is in identifying the individual sounds in the Dr. Rex loop. Since the .rex files play MIDI notes in chromatic increments, all you'll ever see in the MIDI piano roll is a 45-degree line as seen in Figure 5. This will not work when the MIDI is applied to another sound — even drums.

Import the MIDI file of the Dr. Rex loop onto a MIDI track in Pro Tools (*File>Import MIDI to Track*). Copy the track to a second MIDI track and assign both outputs to the same Dr. Rex part in Reason shown in Figure 6. On the duplicate track, identify the sound played by each MIDI note as either kick, snare, hat, and so on. As you go up the Dr. Rex line, drag the notes down to the same line as the first note that plays the same sound, (*i.e.* if the first note (*c0*) is a kick and the 7th note (*f#0*) is also a kick, drag the 7th note down to c0). Continue this process until all kicks are on one note, all hats are on one note, etc. (Figure 7).

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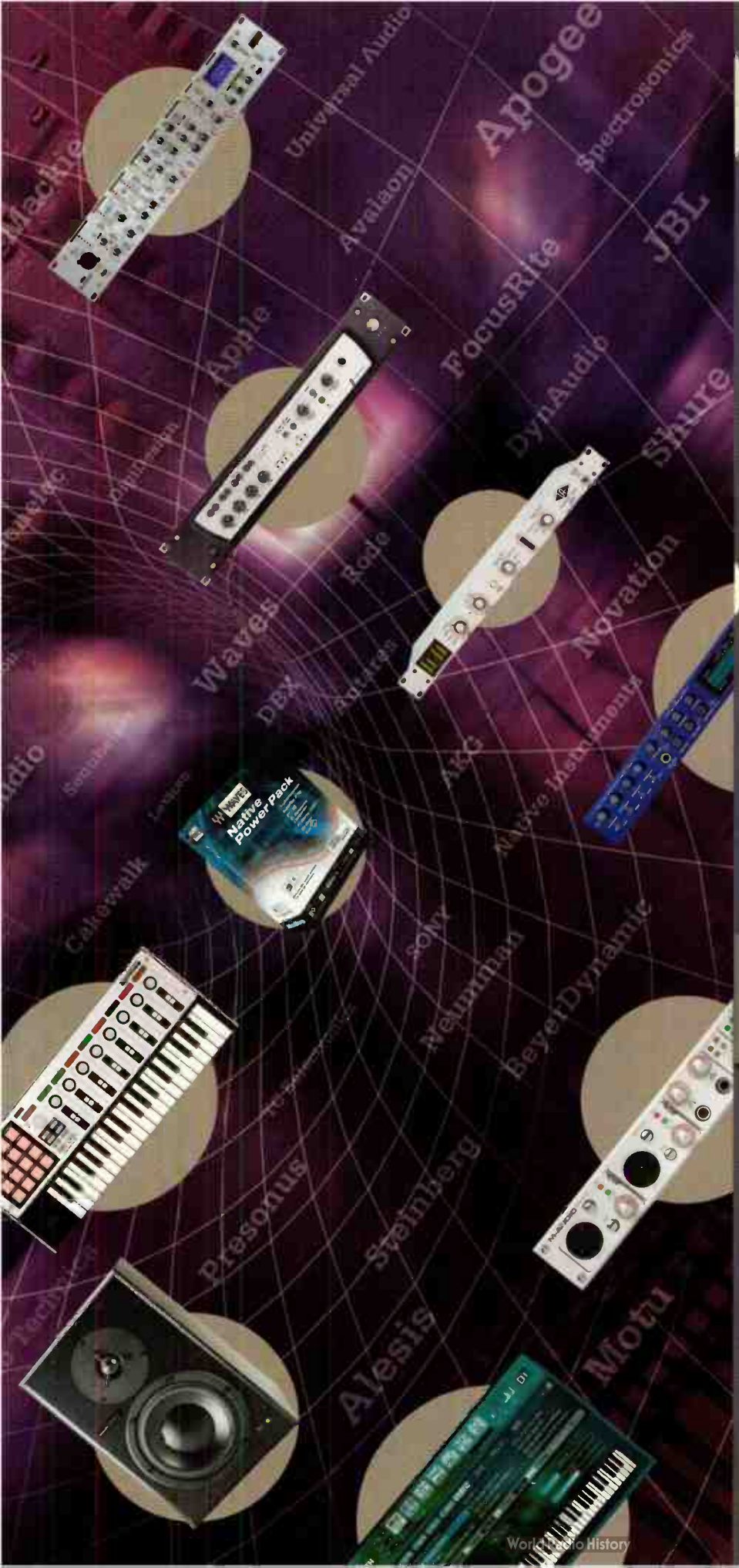

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Fig. 5

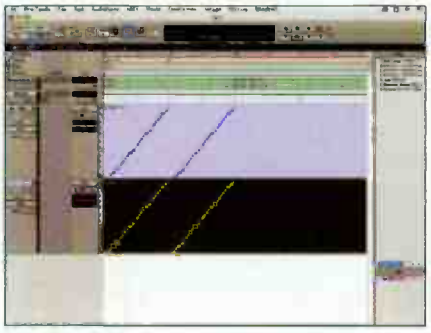

Fig. 6

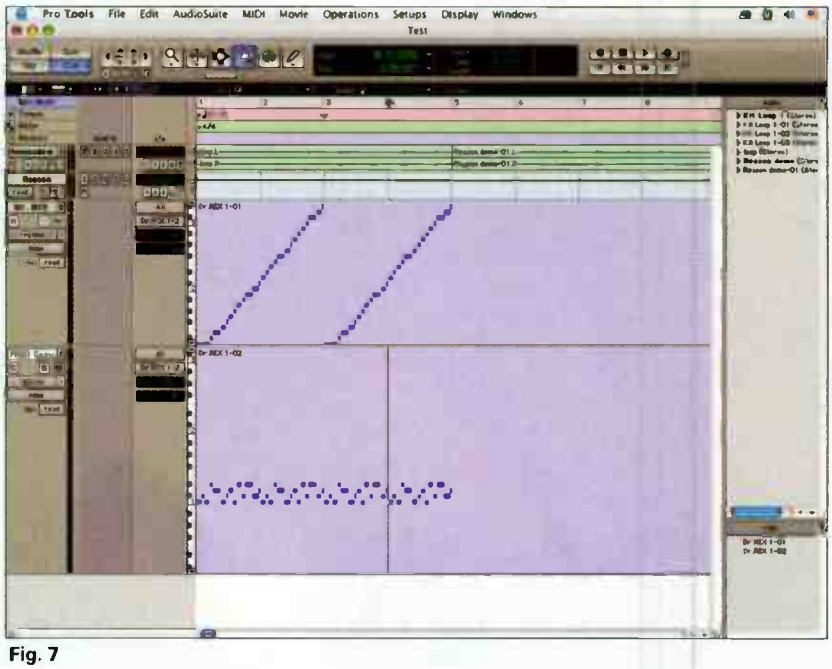

Fig. 7

Now, when you re-assign the second MIDI track to another drum module like Redrum, the timing and feel of the Dr. Rex part will play the sounds from Redrum, thickening the sound and feel of the Dr. Rex loop. EQ

Matt Donner is co-founder of San Francisco's Pyramind Institute For Advanced Digital Audio Training, pyramind.com, and recently wrote the Pro Tools Overdrive! *book published by Thomson Course Technology. He has used Pro Tools professionally since version 1.0. His Kung Fu is very good.*

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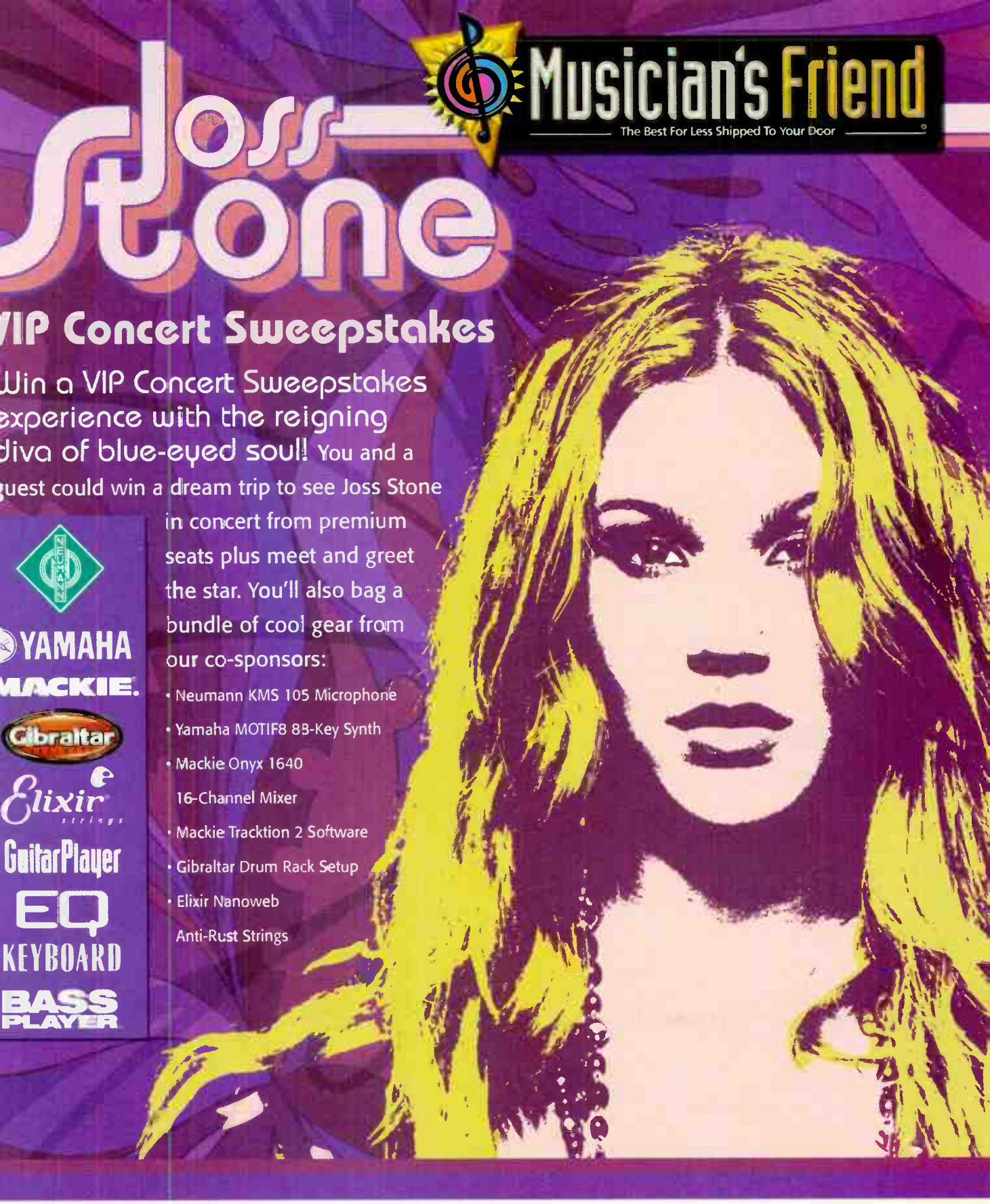

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ADOBE AUDITION 1.5

Turn percussive sounds into melodic lines

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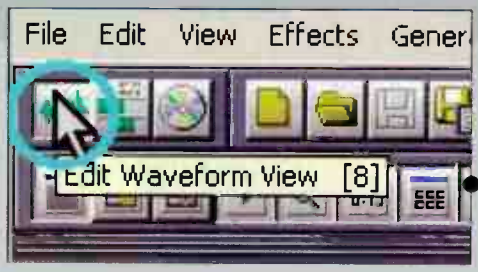

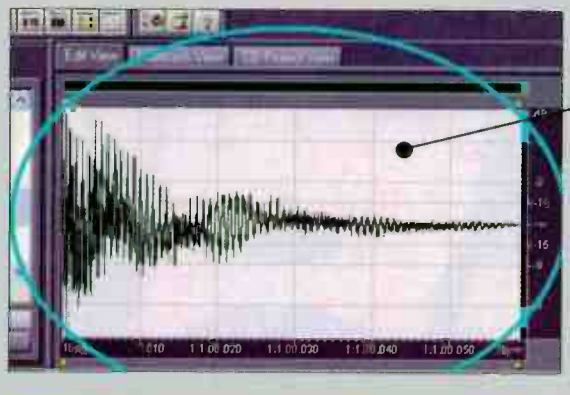

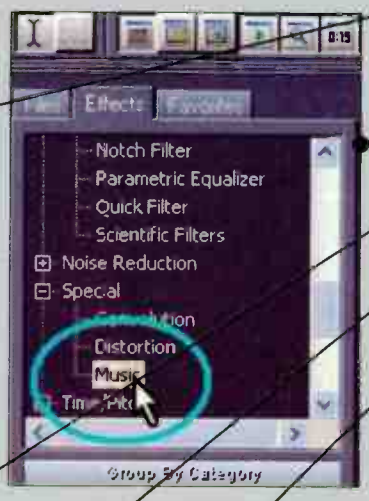

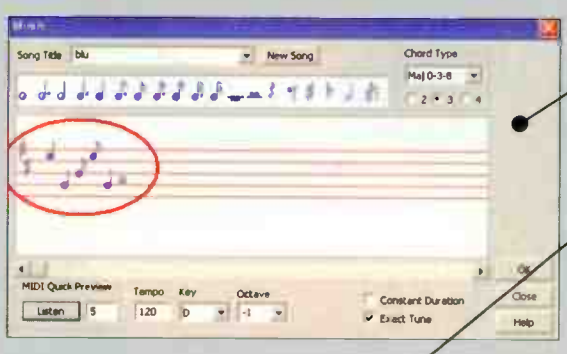

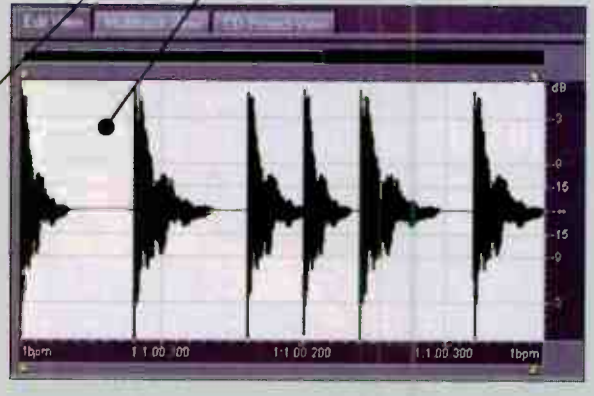

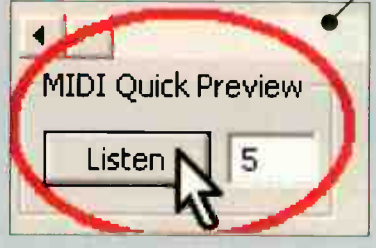

steps

Select Edit Waveform View.

Load a short percussive file (timbale, clave, etc.). Select it as a region; this becomes a quarter note that will be used as the basis of the music.

Click on the Effects tab, open the Special menu, and double-click on Music.

Drag notes onto the staff to create the phrase you want.

Specify other variables as desired (Tempo, Transposition, etc.).

Click the Listen button, which previews the melody using a default MIDI sound.

Click on OK, and the single hit is rendered as the melodic line you created.

tips

- In the Music window, drag the chord symbol (the three stacked notes) on top of a note to create a chord. The Chord Type parameter sets the chord voicing; you can also specify 2-, 3-, or 4-note chords.
- Checking "Constant Duration" stretches time as well as pitch, so that higher-pitched notes and lower-pitched notes have the same duration. Otherwise, notes higher than the original sample are shorter, and notes lower than the original are longer.

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CAKEWALK SONAR 4
Create tablature from a score

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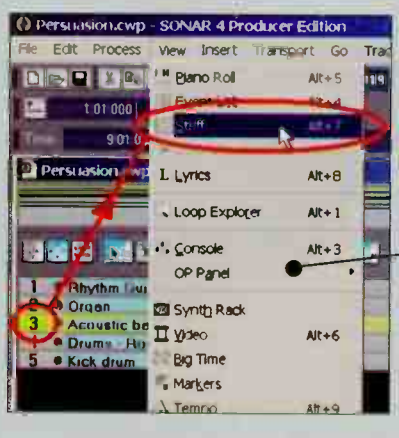
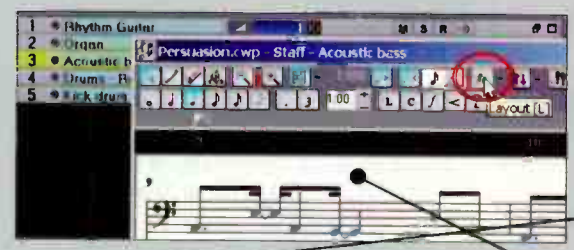
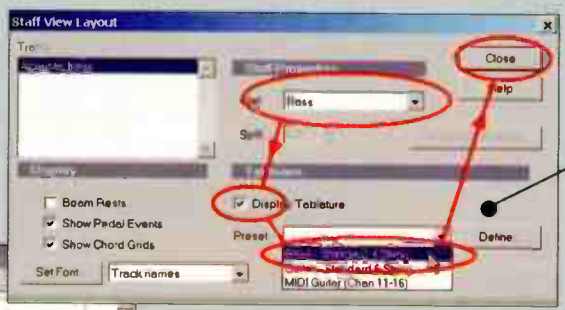
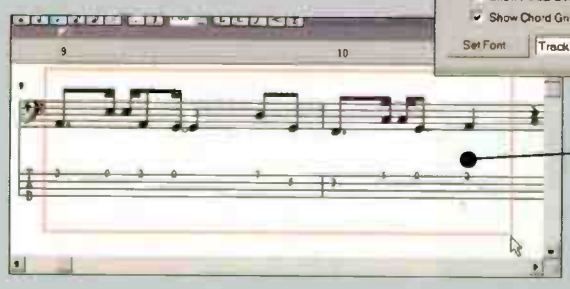
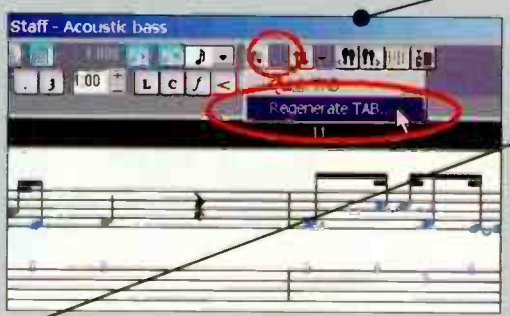
BACKGROUND: Which maybe explains why ***tablature***, which shows note fingerings on a symbolic guitar neck rather than standard notation, is popular with guitarists. Sonar 4 can generate tablature from MIDI data; here's how.

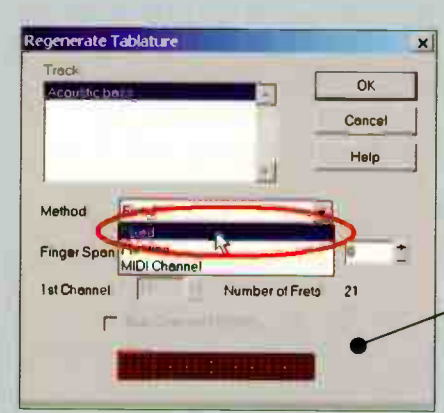












steps

Select a MIDI track (click on its track number), then go *View* > *Staff* (Alt-7).

After the notation appears, click on the Layout icon (or type "L").

In the Staff View Layout window, choose the clef (Bass or Treble), then check the "Display Tablature" box, and choose a preset. As this is a bass part, we'll choose "Bass — Standard 4-String." When you've entered all the values, click on "Close."

Although tablature appears under the staff notation, the fingering may not work with real-world instruments and players. To fix this, first select (*i.e.*, draw a marquee around) all the notes in the track to select them.

Click on the drop-down menu to the right of the Staff Layout icon, and select "Regenerate Tab."

Choose "Fixed," and specify the "Finger Span" (the total number of frets your fingers may need to stretch) as 4. "Lowest Fret" is 0 if you're playing on the lower part of the neck. A small red outline appears around the section of the neck where the notes will be played. Click on "OK," and the tab should be properly regenerated.

tips

- Between Step 1 and 2, type "V" if you also want to see a virtual guitar neck.
- To voice notes higher on the neck, set "Lowest Fret" (in Step 6) to a higher number.
- If there are problems in translating to tab, check for doubled notes. Sonar knows a guitar string plays only one note at a time, so it will try to play the same note on two different strings.

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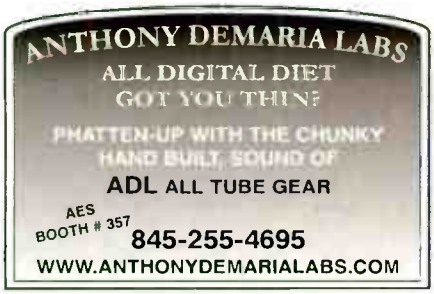
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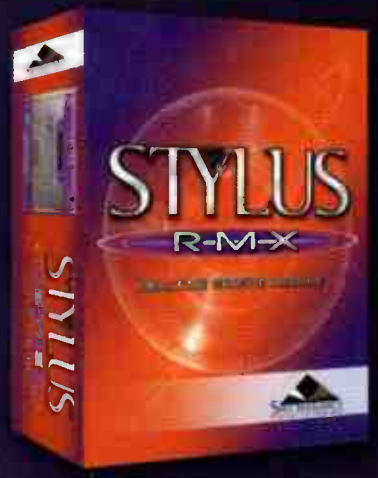

The controller.

Digital Performer captures every nuance of your MIDI performance. The M-Audio [illegible] is an 88-key hammer-action USB powered MIDI controller delivers fine-tuned response to satisfy even the most demanding players. Add four zones, a stunning set of MIDI-assignable controllers all in a compact 40 pound package, and you have the most comprehensive product of its kind!

The control room.

The PreSonus [illegible] is the missing link between your MOTU recording interface, studio monitors, input sources and the artist. Featuring 5 sets of stereo inputs (3 analog and 2 digital with 192kHz D/A conversion), the Central Station allows you to switch between 3 different sets of studio monitor outputs while maintaining a purely passive signal path. The main audio path uses no amplifier stages including op amps, active IC's or chips. This eliminates coloration, noise and distortion, enabling you to hear your mixes more clearly and minimize ear fatigue. In addition, the Central Station features a complete studio communication solution with built-in condenser talkback microphone, MUTE, DIM, two separate headphone outputs plus a cue output to enhance the creative process. A fast-acting 30 segment LED is also supplied for flawless visual metering of levels both in dBu and dBfs mode. Communicate with the artist via talkback. Send a headphone mix to the artist while listening to the main mix in the control room and more. The Central Station brings all of your inputs and outputs together to work in harmony to enhance the creative process and ease mixing and music production.

Mastering & restoration.

Your DP mastering and processing lab awaits you: BIAS [illegible] delivers award winning editing and sound design tools, plus the world's very best native mastering solution for Mac OS X. With advanced playlisting. Superb final-stage processing. Disc burning. Plus PQ subcodes, DDP export (optional add-on), and other 100% Redbook compliant features. Need even more power? Check out our Peak Pro XT 5 bundle with over $1,000 worth of additional tools, including our acclaimed SoundSoap Pro, SoundSoap 2 (noise reduction and restoration), Squeez-3 & 5 (linear phase multiband compression/limiter/upward expander), Reveal (precision analysis suite), PitchCraft (super natural pitch correction/transformation), Repli-Q (linear phase EQ matching), SuperFreq (4,6,8, & 10 band parametric EQ) and GateEx (advanced noise gate with downward expander) — all at an amazing price. So, when you're ready to master, Peak Pro 5 has everything you need. It's the perfect complement to DP. Or, perhaps we should say, it's the perfect finishing touch.

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Call the MOTU system experts.

The faders.

Imagine the feeling of touch-sensitive, automated Penny & Giles faders under your hands, and the fine-tuned twist of a V-Pot™ between your fingers. You adjust plug-in settings, automate filter sweeps in real-time, and trim individual track levels. Your hands fly over responsive controls, perfecting your mix — free from the solitary confinement of your mouse. Mackie Control delivers all this in an expandable, compact, desktop-style design forged by the combined talents of Mackie manufacturing and the MOTU Digital Performer engineering team. Mackie [redacted] 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 monitors.

The Mackie [redacted] 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.

Your personal Sweetwater Sales Engineer offers much more than just a great price. They do the research, day in and day out, to ensure that you'll fine-tune your system to fit your exact needs.

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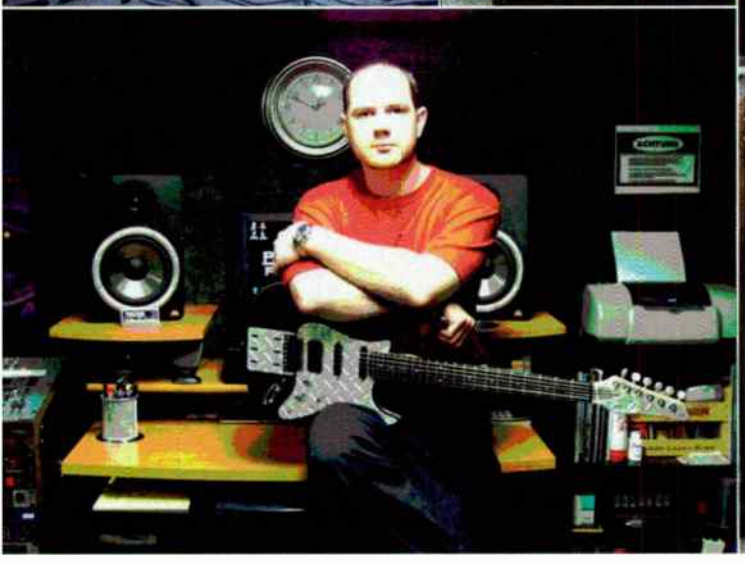

Room with a VU

by Eugene Robinson

STUDIO NAME: Phat Funk Productions
LOCATION: Marshalltown, IA
KEY CREW: Matt Roelsgard
MIXER: Behringer Eurorack MX1804X
MONITORS: M-Audio BX8S
EFFECTS: Digitech RP7 valve guitar effects processor, Kurzweil PC2R keyboard/synth effects rack, Morley Mark Tremonti power wah
EQs: DOD SR430QXLR
MICROPHONE PREAMPS: Behringer VX2496 Ultra Voice Digital, SM Pro Audio PR8
MICROPHONES: AKG C-1000S condensers (2), Nady DMK7 drum microphone set, Studio Projects C1 condenser, CAD 25A dynamic, Nady SP5's (6), Audio-Technica ATR55 shotgun mic
COMPUTERS: Dell Dimension 8200 Desktop 2.0GHz, Dell Inspiron 5100 Laptop 2.6GHz — both Pentium IV running Windows XP
DAW: Terratec MT8, TASCAM US-122
SOFTWARE: Adobe Audition 1.5, miscellaneous Direct-X plug-ins, including BBE's Sonic Maximizer plug-in
ACOUSTIC TREATMENT: Indoor/outdoor carpet — glued directly to the sheetrock. The BEST!
INSTRUMENTS: Carvin Lb75 5-string electric bass guitar, Carvin AC175 acoustic/electric guitar, ESP M-1000 electric guitar, Jackson DR7 7-string electric guitar, Yamaha Fg312ii 12-string acoustic guitar, Yamaha Cg150 classical acoustic/electric guitar, Rogue 4-string fretless electric bass guitar, custom-built Phat Funk electric guitar, Studiologic 88 Key Controller — fully weighted keys

STUDIO NOTES: We were going to intro Matt's bit with a, well not a disclaimer, but something sort of explaining, once again, that studios are, as studios do, and that exercising trade passion, though not the same as yielding to tech lust, has a place too. But then we figured we'd let Mr. Matt do all the heavy lifting and so here he is ladies and gent (yes, singular. We know our audience): "Hey, *EQ!* How about giving up a spot for a down-to-earth, real life mid-western boy making great recordings without using all of the fancy 5- and 6-figure price-tagged gear everyone drools over and insists we need for a decent sound? Well, I'd say my studio fits that bill . . . or budget . . . a small budget . . . a teeny tiny budget. You won't find brand-name acoustic treatment, and you won't find a closet full of astronomically priced mics here. You won't find 100% soundproof walls or mic pre-amps that cost more than a good quality used car. You won't find a million software plug-ins or 10 different host applications to commute sessions to-and-from and back-and-forth. Nor will you find anyone relying exclusively on gear and equipment to do the work that only a good pair of ears can accomplish.

We're in our third year of business and we offer the following services: full service audio recording, mixing and mastering, audio restoration, transferring video to DVD, custom digital photo slide show creation, and various other multimedia audio/video tasks. Because of limited space (12' x 18' recording/control room), recording full bands using live takes can prove to be 'a bit close for comfort' in some instances, but that's ok. Some of the biggest sounds have come from studio rooms no bigger than a 4-foot-wide walk-in closet.

Bottom line is: I love the music, I love the trade. I wouldn't be doing this if I didn't."

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

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— Dave Natale

FOH mixer for the Rolling Stones

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