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Tracktion 2 features a fully revamped MIDI editor with faster note entry, quicker editing, more intuitive keyboard control, and improved viewing of notes and controllers simultaneously.

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INSTANT INFO

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QuickTime

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⦿ use 64-bit math when mixing tracks

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SampleTank SE -

RMIV -

Final Mix -

Amplitube LE, SampleTank SE Linplug RMIV and Final Mix: just four of over 30 plug-ins included with Tracktion 2

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With bundled Amplitube™ LE Guitar Amp Simulator and Sampletank™ SE Sample Player, the LinPlug RMIV™ drum machine, the reFX Slayer 2™ guitar and bass plug-in, and a full suite of Mackie Mixing and Mastering tools, you'll never lack the right software for the job at hand.

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08/05

FEATURES

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Shoes: Puma, Watch: Rolex Daytona, Powder Coated Steel Top: Numark

Talk Box

CRIME: THE *ULTIMATE* HIGH!!!

From the slapdash, sonically slipshod journal of yesteryear, *Angling & Audio For Fishing Musicians* (circa 1927) we pull this recently uncovered gem:

"In praising the brazen criminal it is noted that we, curiously enough, reserve our most aggressive contempt for the common sneak thief, the pilferer, the scamp and scalawag. Those whom in the exercise of their disreputable craft, manage to take what they do by guile and deceit. THESE are the scurvy dogs that we chase away from the table, whipping stick held high. Chasing. Ever chasing. And beating. Beating and chasing. But mostly just beating. Because they deserve nothing less. Unless we're talking about beating."

And so it goes that while the world loves a winner what the world really loves is a winner who steals BIG. Pressing the philosophical premise that it's not stealing if it's done widely, soundly, publicly — ANDY WARHOL is a genius, HUEY P. LONG has an airport named after him, and Clifford Irving — well, you get the point. Hence, the *EQ* tribute to thievery in all of its various disguises: borrowing, appropriating, requisitioning, remixing, by any other name probably still smells as sweet, because the real point here is that the accretion of information that forms the body sonic of our world is for everybody to share and it's only really stolen if there's a gun and a lack of payment involved.

So from BT's breakdown on what he stole and from whom to BARRY "LORD" CONLEY'S take on what he took and why, *EQ's* felony medley raves up and out with JIMMY EAT WORLD, the WU-TANG'S CARLOS BESS, GOLDIE LOOKIN' CHAINS *et al.* Bundle that with a FANTASTIC FIXERS: FABULOUS FIXERS programmer's feature and a GEARHEAD that sees amps and monitors locked in a death struggle, the much-loved tale of The Three Fabulous Frequency Felons and gear, glorious, gear and you have yourself an August to remember.

Dig it.

Cheers,

MEMBER MMA · WPA · BPA INTERNATIONAL · KEYBOARD prosound surround

World Radio History

Punch In

LOVE LETTERS FROM FIGHT FANS

THE CHECK HAS CLEARED

EQ already has a record of presenting ground-breaking perspectives but it surpassed itself with the interview with Montreal-based Howard Bilerman [June 2005] on the nature of the creative process and the increasingly troublesome possibility that quality music is not exactly correlating easily with technology. Frankly, I was stunned by the clarity and common sense of Bilerman's critique. His observations about imperfections-as-character, and the unexamined pitfalls of the search for imagined "perfection," were more than refreshing — they were unambiguously accurate.

It's become so easy to do *anything* with technology that the actual aspect of artistic creativity has become almost an adjunct to Pro Tools proficiency. And the results are a far, far cry from what George Martin and the Beatles accomplished with a four-track. We all know this, and yet we risk spending more time hungering for the latest software offering than simply honing chops.

Something has gone amiss when we reach an era where the gear is arguably better and the music is arguably worse. *EQ* and Bilerman have made a genuine contribution to an unavoidable and necessary dialogue.

David Flitner, New Hampshire

I'LL TELL *YOU* WHAT'S OVERRATED

Dear sirs,

Do you know what's overrated? Every interview with any engineer that says they use NEVE (enter any number here) preamps, SM57, U47, Royer, 421, D112, and similar usual suspects going through . . . you know it . . . a UREI 1176 or LA2A.

Seriously, either these engineers should be required to report only on the UNUSUAL stuff they use or just say in one sentence that they used tried-and-true techniques. It's really tiresome to go through every interview and the engineer is explaining for a page or so that he ended up with the same techniques we all use. In the end, it's just not interesting and I've been seeing this trend for the last 10 years or so.

Oh, and I don't have any problems with standard techniques. They are standard for a reason and sound beautiful most of the time. But who wants to read about that?

Sincerely,
Richard Furch
www.richardfurch.com
www.emixing.com

EQ responds:

In the spirit of you putting your mojo where your mouth is please: show us the money.

Furch responds:

MY DARE

OK. You're not allowed to mention any of the following in more than a sentence, if at all, UNLESS it is used for something different and then by all means, go ahead.

THE BLACK LIST

U47, 251(guitars/snare)
SM57
421 (toms)
D112 (kick/bass)
KM84 (hats/ guitar)
Royer 121 (guitar)
Neve preamps of all numbers (clones too)
LA2A
1176
Distressors (tough call there)
ProTools

Now describe a session without those pieces. I dare you.

EXAMPLE. . . .

After giving you the dare, this is what I came up with via a couple of pieces that are different from the black list.

1. *SPL Transient Designer: For mixing and tracking, sounds great on toms and to give a little bit more smack for all kinds of drums. Also great for lifting up drums in a two-track mix. Can be used as a specialized gate as well. Very useful.*

2. *Prism Sound OverKillers: Great passive brickwall limiters that are totally transparent. Great for vocal tracking.*

3. *Shure KSM 32: Just used them on a session with Shawn Pelton on drums. We used them on toms and I really liked them for their warm yet clear sound. Shawn made a note on what they were, that was a first.*

And of course, I used a M147-Brent Averill-Neve Clone-LA2A Combo for vocals recently. See? One sentence.

Your turn.

CRAIG KUDOS

As a mastering engineer and writer of articles about Mac and audio applications, I receive a lot of free magazines. I only have two paid subscriptions: *MacWorld* and . . . *EQ*.

I really loved your article about the hemispheres [Keeping the Art in State of the Art, December 2004]. It was an eye opener for me.

It really will help me to get more out of my own mastering and production sessions.

Kind regards,
Sander van der Heide

Listen Hear

BAR ROUGE: *URBAN LOUNGE SUITE* (Mixed/Engineered By David Larkin)

A few of us here have been known to, you know, *imbibe* a bit. By this we mean *tipple*. You know, *snatch a quick bracer*? In any case a CD that has every single song on it named after a martini at the Bar Rouge is complete and unbridled marketing genius, even for the non-drunks among us. Is it lounge music? Why, yes, it is. Is it well-produced lounge music? We think so. Will we have another? Why yes we will.

SURFBOARD

As we peruse and cruise the inner recesses, nooks, and crannies of the Web, we're constantly flagging sites, news items, and useful tidbits that have almost *nothing* to do with porn, a-hem, and that we feel will be of interest to you.

■ http://www.nch.com.au/switch

A free program that converts stuff to MP3 or WAV. Download the ZIP (rather than the EXE file) and go wild converting WMA to WAV.

■ http://www.di.fm/edmguide/edmguide.html

Ishkur's Guide to Electronic Music? Precisely the kind of lunacy the web was invented for.

■ http://snobsite.com/excerpts.php

Like a car accident. You don't want to look, but you do. Again and again. I mean what self-respecting recordists' home library is without a copy of the Rock Snob's Dictionary?

FORUM FEED

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

Which Operating System Do You Use for Music?

POLL: Which Operating Systems Do You Use? Choose 3	
Earlier than Mac OS 9.x	2% (2)
Mac OS 9.x	12% (12)
Mac OS X earlier than OS X 10.3	5% (5)
Mac OS X 10.3.x or above	31% (31)
Windows 95	2% (2)
Windows 98	2% (2)
Windows 98SE	10% (10)
Windows ME	3% (3)
Windows NT	0% (0)
Windows 2000	10% (10)
Windows XP or XP SP1	31% (31)
Windows XP SP2	42% (42)
Windows 64-bit	0% (0)
Linux	6% (6)
Unix	1% (1)
Atari (any)	2% (2)
Amiga (any)	0% (0)
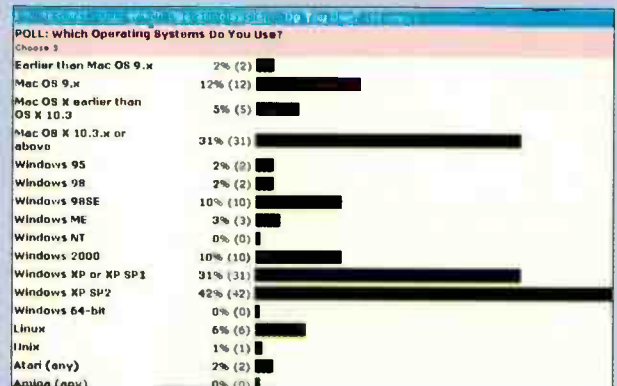
Analysis: Those answering the poll could check up to three options, as many use more than one OS. That's why the percentages add up to more than 100% — *not* because the machines tabulating the poll were located in Palm Beach County, Florida.

For the Mac, most people are at **OS X 10.3.x** or higher; on the Windows side, **XP** is the overwhelming favorite, with the **XP/SP2** combination dominating. It's also worth noting that the Mac has a larger market share among musicians than the general population. The poll has a ±4% margin of error. (Actually, we just made up that margin of error thing.)

BUT, BUT, BUT...

"My Mac system drive is partitioned for Panther and OS 9, though I go over to the OS 9 side less and less. I mainly keep it there because of Adobe FrameMaker; they never did an OS X version. The Windows laptop runs WinXP Pro/SP1. It has been incredibly stable with Cubase, Forte, and lotsa different soft synths." —**Steven Fortner**

"Win XP Home and Pro (on different machines) with SP1, but my softsynth/Giga machine is still running Win ME. I have three Ataris in storage — two 1040s and a Mega ST/e. Good machines back in the day, especially the Mega running Notator. Hmmm . . . an editable MIDI notation display circa 1988 . . . and here we are in 2005, with *no* such capability in Pro Tools. I sure miss that." —**Phil O'Keefe**

"Win XP/SP1 on my audio PC. I also have a laptop and a spare PC converted to a bedroom PC, both running Windows Media Center Edition 2005. MCE 2005 is very cool — XP Pro with added bells and whistles for movies, DVDs, music, and pics. I believe you can buy this OEM for less than XP Pro if you also purchase some sort of hardware along with it. (I bought mine from NewEgg for $132 + $19 for an MCE-certified remote control.)" —**Frankie P**

"My main studio box is OS X 10.38 running Logic Pro 7.1. Got a copy of Tiger sitting on the shelf — as soon as UAD-1 drivers are ready, I'll make the jump. I keep a Windows ME box in the studio as well, just for running a Korg Oasys PCI card. And my laptop, running Logic Platinum 5.5.1, is WinXP/SP1." —**EoS**

"OS X is a beauty. Sometimes I still need to work on OS 9, and cannot believe how foreign it looks even though I worked there for four years." —**Ernest Buckley**

Listen Hear

DROP THE LIME: *THIS MEANS FOREVER* (Mastered by Antimatter)

When Kid 606 first sent us some of his stuff back in the late '90s we thought he was insane. Glitch-filled disconti-nuities and synth-driven insanity. It was one of those grown-up moments when you find yourself muttering about *kids these days*. And we liked that and kept listening and this here release on Kid's label continues with a healthy tradition of bafflement as Drop The Lime is some of the most muscular laptop hop this side of the Kid himself. Normal indices *á la* analog don't apply. Straight-up digi-tal claustrophobia designed to make you watch your software very, very carefully.
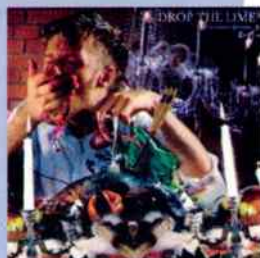
CYCLES: *INCIDEN-TAL GESTURE* (Designed & Produced By Ron MacLeod)

Man, this kills us. Like some wild ambient thing from Windham Hill if Windham Hill wasn't so bloody godawful. Spawned by Cycling '74, this audio source library is like hours of 40-second symphonies, sonic textures, and "melodic meanderings" that vibe like the soundtrack to the newest David Lynch movie if David Lynch movies weren't so bloody godawful. The audio face of cool.

BARRY CONLEY: WHAT HE STOLE & FROM WHOM HE STOLE IT

Barry "Lord" Conley's place in the pantheon of wild-assed California lore is well assured since if your resume includes **Wasted Youth, L7**, the **Red Hot Chili Peppers**, *and* **Miles Davis** well, then, you most definitely have paid the cost to be the boss. So when Conley says he's ready to come clean about the finer points of felonious genius, you just do what we did: Shut up and listen. "I tend not to think of this as 'ripping off' other people but more as 'assimilating' these production techniques and putting my own spin on them," says Conley. Exactly.

THE MANGLE & DISRUPT DICTUM:

Process (Mangle/Disrupt) instruments through analog synthesizers. Lately, I have been using The OutofControl-atron (an analog modular synth I designed and built — with Tom Doty as technical advisor — inspired by the Buchla 200 series, EMS Synthi, and the Stylophone 360s). I RIPPED this technique OFF from **Steve Morse** of the **Dixie Dregs** and **Brian Eno**. In the late '70s I saw Steve Morse play his guitar live through a Mini Moog with the Dixie Dregs. Also, I absconded with Brian Eno's use of "Treatments" (manipulating sounds through his EMS AKS VCS 3 Synthi synthe-sizer) as a production technique he used through the '70s and '80s.

THE SHIMMER & SPARKLE STYLE:

The use of resonant chambers (pianos, furnace coverings, 12-string guitars, Hemholtz resonators, any kind of resonating room, plate/spring reverbs, etc.) to process instruments. This technique can often lead to a shimmering, sparkling, or a dark, brooding hue to the instrument being processed. Initially I was introduced to the concept of Hemholtz resonators from the studio designs of architect **Chris Huston**. Upon further investigation, I RIPPED this technique OFF of **Hermann Hemholtz's** (19th century acoustician and theorist) *On the Sensations of Tone* book.

THE TRIGGER/REPLACE ROUTINE:

Trigger a sound like a snare or kick with a different sound such as white noise, low sine-wave oscillator tone, anvil hit, and so on. Use this technique to replace or blend in to give a different color to the initial sound. RIPPED this technique OFF from mixer **Rob Stevens** while I was an assistant engineer on the first **Red Hot Chili Peppers** record.

THE SLICE & DICE TECHNIQUE:

Edit disparate sound elements (jackhammers, pile drivers, guitars, door slams, birds) in succession to make a basic track for a song or composition. I record the sounds on 1/4" analog tape, edit in succession, and make a tape loop to get a repetitive groove. I RIPPED this technique OFF from mid-20th century avant-garde composers like **John Cage**, Pierre Schaeffer, Pierre Henry, **Karlheinz Stockhausen**, and Earle Brown.

THE USE or LOSE GAMBIT:

Use the above track (Slice & Dice) for the basis of a composition and add to it through overdubbing or use the Slice & Dice track for inspiration then LOSE it. This technique was RIPPED OFF from **Brian Eno**.

Is There a DJ Colette in the House?

**Pop hooks?
Lush vocals?
Meticulous production?
And it's *dance music?!?***

Yes.

by Craig Anderton

In the ever-fluid world of dance music, it's easy to spot the fakes. Honesty matters; even if you're just going to play "four on the floor" beats all night, you'll get away with it if you mean it.

Which is why most attempts to steer dance in a mainstream direction don't work: The "Frankenstein effect" kicks in when you cobble together disparate parts. No wonder so many DJ albums that try for commercial success by sticking a vocal cut at the beginning end up sounding uncomfortably calculated.

But then there's DJ Colette, who's been singing since she's been talking. It apparently never occurred to her that you couldn't meld highly produced vocals and a pop sensibility with dance music, so she did. And it works because she's real about it. The listener's reward is music that exceeds the sum of its parts: More depth than the typical dance tune, and more shake-your-body quotient than pop. No wonder DJ Colette is the current "it" girl of the dance scene . . . and *EQ* couldn't resist getting the story behind her latest recording, *Hypnotized* (Om Records).

EQ: *When I heard the vocals on the first cut, I figured it for a single. But the vocals just kept coming, and the lush, multi-layered vocals were unusual in this genre.*

DJ Colette: I've always been a singer first. Even before I was DJing, I was singing over other DJs. I started DJing 10 years ago mainly so I could sing more — it's a lot easier to sing over records than to find a band, especially with electronic music.

But I've been playing out every weekend for years, so I was always immersed in new music. I was really impressed with Kaskade's album, *In the Moment*, that had both dance songs and downtempo. I thought that it was beautiful. With an album, I want to hear a variety of music. I want to hear what you can do *outside* of the dance club.

So I did lots of collaboration: Drew K from Angel House Studios helped write and also produced a bunch of the tracks, Kaskade did about four of the songs, and I also worked with the Home and Garden production team based in NY and Chicago . . . Greenskeepers, Undercover Agency . . . a variety of people. I've sung on a lot of their albums over the years, so I called everyone up and scheduled some sessions. But I've never recorded any complete projects by myself. Nothing would ever get finished, I'd just continue working on it.

EQ: *Given the geographical issues, did you do online collaboration?*

DJC: Most of the writing happened in person — Drew K and I worked five days a week. But I did

MOBILE HOME

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

USB 2.0 connectivity lets you drag and drop files to your computer

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The built-in CD recorder and 40 GB hard drive let's you store and master as many songs as you want

AW1600

PROFESSIONAL AUDIO WORKSTATION

The AW1600 is a complete professional mobile recording studio. It has everything you need to record, mix and master your songs to the built-in CDR in one portable and rugged package. It's also designed to do one thing and one thing only — be the best multi-track studio possible. So you never have to worry about IRQ settings or OS crashes.

The eight transparent/ low noise mic preamps, 36 channel 02R96-based mixing engine with 4 bands of EQ and compression on every channel, even the unique Pitch Fix algorithm to correct the pitch of out-of-tune vocals are all built into a durable metal chassis that's road ready and Yamaha tough. You're always ready to pick up and go anywhere you want to record. And, of course, the AW1600 is the perfect centerpiece of a home studio.

So whether you never leave the trailer park or are always on the road collaborating with friends and recording live events, the AW1600 is the perfect mobile/home studio solution.

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EASILY PORTABLE.
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⊛YAMAHA

www.AWinspire.com   www.yamaha.com

do projects with Kaskade over the internet, they'd send me MP3s of music I could write to, and I'd send an MP3 of vocals over that until we came to a final rough version we liked. The online preproduction saved us a lot of time before we met in the studio to record the song, and writing quality hasn't suffered by doing things over the Net. One of my favorite songs, "The One," was pretty much a product of Internet collaboration.

EQ: *Are you producing your own vocals?*

DJC: Yes and no. Drew K produced most of the vocals. Each song has 14 tracks dedicated to vocals, with three-part harmonies, all sung for real. No autotune, no electronic doubling, no synthesized harmonies. It took lots of time, but Drew never rushed the session because the vocals were the focus. We did add another singer on "I Didn't Mean to Turn You On," otherwise it's all me.

But we used Pro Tools on a Mac G4 with lots of TDM cards. We used a ton of plug-ins — all legal, by the way. With cracks, things are always crashing; who wants to take an hour out of their day to deal with that? I've never even downloaded music for free, I'm very adamant about that, especially with songs costing only 99 cents. People need to support the music industry.

EQ: *Mics?*

DJC: The main ones were a Neumann U87, a RØDE NT2, and a RØDE Classic Tube with a pop screen. Whatever sounded the best. Drew usually keeps a few mics around, and we'd run through the songs with each mic to see which sounded best. The preamp of choice was a Requisite Audio Engineering PAL.

And one person in each production team I worked with could play just about any instrument. I'd think about lyrics, then work on a really basic track — just to decide if it was going to be more keyboard-driven, guitar-driven, or whatever. Later on, we'd add the layers. We'd try to structure things around rhythmic loops, but these were phrases people played that we would turn into loops. So many things change while writing a song, though . . . it's just like painting, layers upon layers.

However, this was *all* actual humans playing actual instruments. One song even has live drums. A lot of the percussion is performed live; there were five different guitar players, and live bass. I really wanted to make an electronic dance album where it wouldn't matter that it was dance music. I wanted to take it out of the clichés that people associate with the genre. So many people don't respect dance music because they

WHO:

Photo by Chad Scanlon
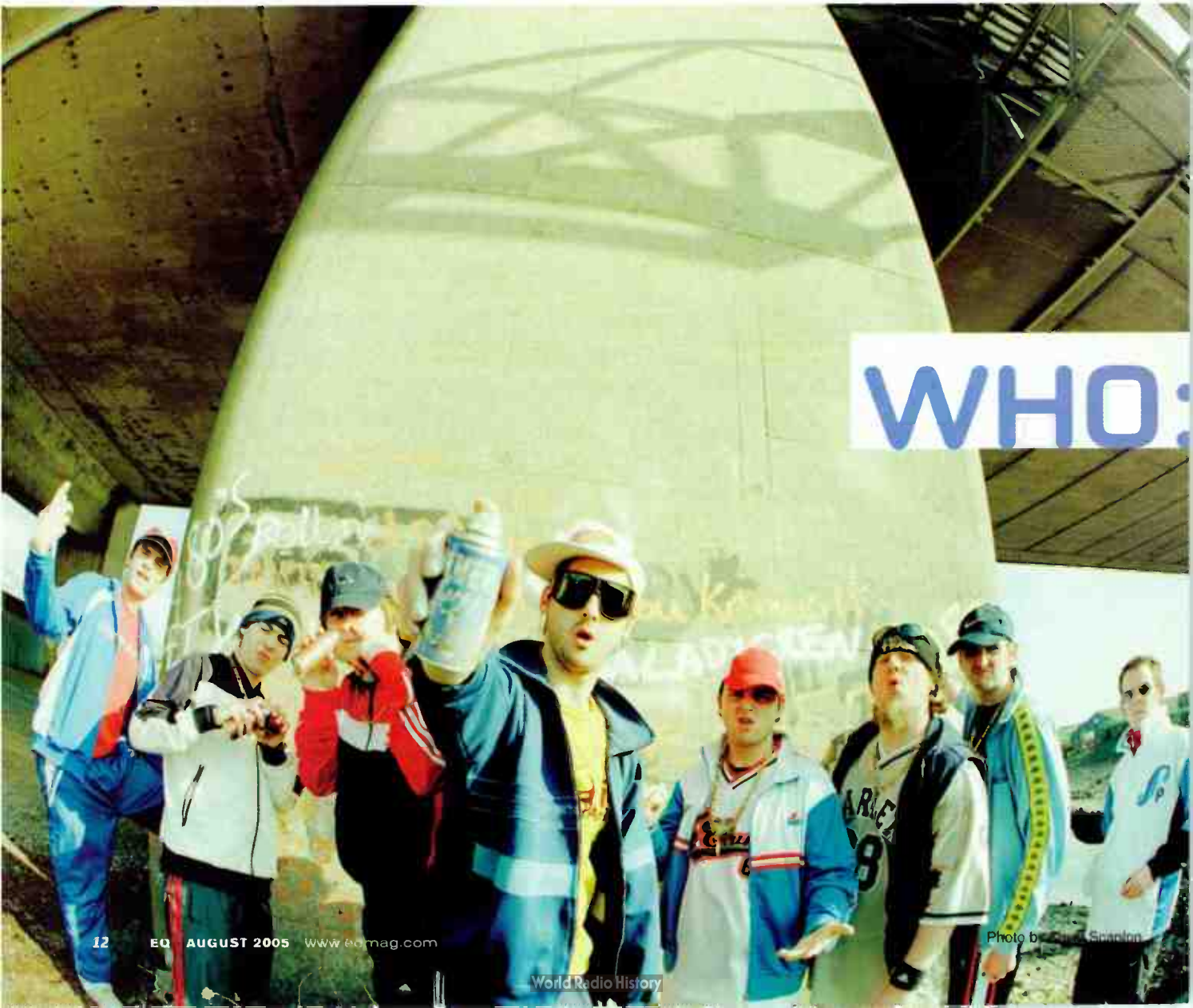
think it's just a bunch of repetitive loops. But that's a little naïve; much of this music is carefully composed.

We also had a lot of different people mixing the record. We tried to record so that while we were making it, we were mixing it. But you have to be careful; one dance track was mixed with "rock levels." How the hi-hats were mixed was all wrong; for dance music everything is a little more lush, a little more glued together. Even though you want the kick to be heavy and feel it, you don't want it to overpower the track. One thing we did do differently was put the vocals high in the mix, more like pop music, and really produce them.

We never had effects on my vocals while I was singing; I always recorded dry and we would add effects immediately after the vocal track was recorded. It took a little extra time, but it was nice for the song to have more of a finished feel even while it was developing.

I'm really particular about how I want to sound; I kept one version of the vocals dry for remixing, and another with all the plug-in effects. On the material I gave to the production teams, if I really liked the vocal effects, they stayed on. Others got all dry vocal parts, and on some tracks there was no premixing of the vocals so they could have some leeway when mixing harmonies.

The album was mastered by Henry Sarmiento at Sonic Vista Studio in Ibiza, Spain. He works a lot with Om records, and at Om, it's all about the process. We sent over the final mixes, got the mastered versions back, then listened to them for a couple of days. There was only one song that everyone felt could have been done differently.

The mastering was really important, because a lot of the songs were recorded in different cities with different people. Henry made the record sound consistent. Even though the songs really fluctuate in terms of sound, it doesn't sound like so many people worked on the project.

I spent about five years working on this record; the first couple of years were more casual, but the last two and a half years were really intense. You don't realize how fast time goes by. Ultimately, I hope people who come see me play will be open to newer styles. A lot of the tunes are made for an audio experience, not just a physical one; it's not just all for the dance floor.

EQ: *Do you think interest in dance music is waning?*

DJC: No. House music came out in the early '80s, and it's still here. People are always going to want to go to a party on Friday night. And the music is always changing, so it doesn't get stale. Last year the Grammys introduced a best electronic album category; that's significant. Dance music is definitely not dying.

EQ: *I hear a lot of dance music in commercials here, but in Europe, it's background music at airports. Why has dance music not hit in the US like it has in the rest of the world?*

DJC: Because it's primarily instrumental, and you can't sing along. In other countries, electronic music is totally pop music. I think dance music has

> ## "With cracks, things are always crashing; who wants to take an hour out of their day to deal with that?"

enough tunes and not enough singers. But there are more live electronic bands starting to tour, and that will push this genre more into the mainstream. Moby [May 2005, *EQ*] is the only one who's really visible, but he has such an eclectic sound. He performs, plays, and sings — there needs to be more of that. I want to see *musicians* in videos, not some weird model.

I'm turning 30, and started when I was 16. I was lucky, I heard house music on the radio when I was 10. It wasn't like I was so cool that I decided to get into dance music, it was just by default because that's what I heard, and I liked it. As more people get exposed to good dance music, they'll get hooked, too.

You can hear snippets of DJ Colette's album Hypnotized *at www. om-records.com as well as from her web site, www.djcolette.com.*

GOLDIE LOOKIN' CHAIN

WHAT: A methodical and drunken examination of their song "Guns Don't Kill People, Rappers Do" from their debut album, Straight Outta Newport

by Lily Moayeri

Eight man strong, the Newport, Wales, collective flowing under the heading Goldie Lookin' Chain is providing what was missing from music: Welsh rappers.

Likened to the Beastie Boys more often than not, their debut long-player, *Straight Outta Newport*, first catapulted GLC into the public's consciousness after the success of their website, www.youknowsit.co.uk, and a series of DIY demos. And GLC's stories run the gamut from songs about smoking, going out, smoking, life in Newport, smoking, you get the picture.

Dwayne "Xain" Xedong, one of the main mouthpieces for the crew recounts the process underlying their hit single, "Guns Don't Kill People, Rappers Do," which went to number three in the British charts.

"All the kids, as I call them, they come around to the studio area downstairs in my house, a room full of crap we called HQ, and they say stuff they've said to themselves to me and we try and hook up some songs around it. Mr. Love Eggs was saying 'guns don't kill people, rappers do,' and we decided it would be a really good idea to make a song out of it. I laid down some grooves on the computer. I've been PC-based for ages. I call the computer 'the rave generator.' It's actually two custom-built PCs with 128 MB RAM. It's not very powerful, but built for music spec by C.Live Ltd. in South Wales.

We use Cakewalk. It's really good because it's not compatible with a lot of other things, so professional types can't play around

with my stuff. I have to let them have it mastered rather than let them have all composite parts on the CD that they can open somewhere because no one really understands the program, which is quite good.

We started off with a basic rhythm and built up the track sampling a Martha Velez tune, which I got from Cardiff Market for 4 pounds, which has got a good groove on it. I used to use an Emu ESI 4000 Turbo sampler, but I haven't turned it on for two and a half years. Now I use the computer, recording directly onto Cakewalk. A lot of times with samples I'll put it in Sony's ACID Pro 5 and you can do whatever you want with [the sample]. You can put it in the pitch or BPM you want and re-import it back into Cakewalk. You can slice them, move things around, and start building up like that. The nice thing about the way the groove works [on "Guns"], it leaves breathing room for the snare so if you're looking at a page it's got that bit of space on it that sets everything into place.

There's four of us rapping: me, Mr. Love Eggs, who does the first rap, and then there's Adam Hussain, and Mike Balls. We use Shure SM58

microphones. They give a fantastic top end and are very responsive for any type of voice. We've got so many different types of voices in the GLC. A lot of people like to use valve mics and stuff like that and put people in booths. We're making hip-hop. We keep it real. We do it very organically. If someone's got a rhyme, or was done a verse, they'll step up, we'll bang it in and keep going. We compress the vocals. Compression's the secret to anything. Any effects that go on the track will go on through the computer plug-ins.

When we finished with it I thought to myself it needed some scratching at the end of it. I took it to Second Son, a record producer from Cardiff. He's got a DJ on his roster called Upper Cut, and he did some scratching on the end and we finished it off. We took it to be mastered in London at the Exchange. They made it sound too clean and sheen-y, like guitar music. So I took it to Second Son again, gave him my finished version and he mastered it there to give it a more punchy hip-hop feel.

Chingy?
Right Thurr?
Hell Yeah!

And 4 million records later, everyone still wants to know how the TrakStarz did it.

by jimi izrael

The Gateway Arch dominates the skyline of St. Louis, Missouri, but the beat bumping from the passing cars really defines the city. Warm and acidic: heavy bass drums and analog synths move the air. It's the sound of the city, omniscient and inescapable. With Nelly's success, it seems like everyone 'round here wants to make a hit record, and many of them have gathered at an industry showcase at the Plush,

downtown, in hopes of making an impression. And Alonzo "Zo" Lee and Shamar Daugherty – a.k.a The TrakStarz — are impressed. Just not in a good way.

"Man, some of these groups? They're really talented," says Sham. "But I couldn't get with 'em. No way. They don't bring nuthin' fresh to

We added a lot of low mids in the mix, because when snares hit, it's in a different frequency range. But the low mids in the mix gives it a real hard clap feel. We wanted our drums to hit big, so we play a lot with the mids to get that distinctive sound.

the mix." You see, he and Alonzo know something about bringing something fresh to the mix.

They produced Chingy's "Right Thurr" hoping that it would go gold. Maybe. It went 4-times platinum, and made them hit-list producers overnight, fielding requests from Britney Spears and Janet Jackson for? A hit. You see "Right Thurr," played on the Dirty South's predisposition toward analog synth grooves by making the tracks clean, heavy, and laden with a kind of personality that can't really be bought.

In an exclusive suburb outside of St. Louis, with a customized H2, a Range Rover, and a Baby Benz in the driveway, Zo jokes that this is the house that Chingy built. And on the way past his screening room to his fully outfitted basement studio, he smiles and says, "It only takes one hit."

Do tell.

"[Sham and I] had done some things on our own, and decided to get together to start developing artists. So we sat down with Howard Bailey, Jr., a.k.a Chingy, did a few songs with him, and we tried different things. It got to the point where he moved in with us. So there were three of us living in a two-bedroom apartment, with one room we used as the studio and vocal booth. I was sleeping in one room, Sham was sleeping in the studio under the Wurlitzer, and Chingy slept in the front room on a futon.

"I worked at Mars Music, so I was able to get a lot of gear at a discount, and we had a lot of crap crammed up in that room. We were running a Pro Tools Digi001 rack mount, an ART MP preamp, a couple of DBX compressors, and a Shure SM58 microphone with pop-stopper. We used Alesis M1 monitors, an MPC 2000XL, the Triton Keyboard, a Roland XP50, Proteus 2000, Roland VP 9000, Roland SH32, and we were running everything through a TC Finalizer and dumping to a TASCAM CDRW 700. All this running with a first-generation Apple G4 with the guts of a G3, so it ran kinda slow.

"It was a beautiful thing because the minute anything came to us we could get right to it, and that's kinda how "Right Thurr" was born. We would sit around and vibe on concepts. Chingy came to us with the concept and a verse already written. So me and Sham had just been jamming, and he came to us out of nowhere with this idea.

"The synth we used on "Right Thurr" was an E-mu PK6. E-mu had a bunch of boards based off their popular modules, and this was one

of them. That's where the bass line came from. It's an unlikely board — not a lot of people use it. It doesn't have the dopest sounds but it definitely has the most different sounds. It has an incredible bass sound that feels like a real electric bass. We used it pretty straight on the track, just adding a lot of compressor to make it hit like a real, live bass we wanted. To make it nice and punchy for the dancefloor.

So Sham was working a drum loop — the snare in particular — that really made the track move. He was using the MPC, just stacking and stacking snares, really making the snare smack off of the track. We added a lot of low mids in the mix, because when snares hit, it's in a different frequency range. But the low mids in the mix gives it a real hard clap feel. We wanted our drums to hit big, so we played a lot with the mids to get that distinctive sound.

"We used an AM Radio filter on Chingy's voice. Chingy has a high-pitched, tinny, almost kinda irritating voice. And we almost didn't wanna work with him *because* of his voice. So the challenge was to deal with his voice and make it less irritating. But the VIPRE Pre Amp allows you to play with the impedance, and gives it some depth and bottom. We also used a real basic Pro Tools reverb — I mean, it's hip-hop so we keep the vocal real dry, beyond the occasional doubling.

"We initially played with the mix on a Mackie 1604 out to Pro Tools, to try to keep that fat analog feel: it gave a kind of dirty hum, so we were trying to keep it hip-hop to a certain degree. But when we got Chingy signed and had some money to get the mix right, we worked it out on an SSL. Wassim Zreik, who does a lot of pop and boy-band stuff, brought his game to it and it was a good marriage. Hip-hop

We actually had to go in and spend 24 hours straight dissecting the demo and re-creating the track, dialing up the sounds, and re-programming the song.

with a pop feel. We work with him to this day.

"You know at one point there was another version, but we lost all the data. We actually had to go in and spend 24 hours straight dissecting the demo and re-creating the track, dialing up the sounds, re-programming the song. The funny thing about "Right Thurr"? When we were shopping the demo, we really didn't think that would be The One.

"But it's been our biggest hit so far. It changed my life in a major way. Not just monetarily — it was artistic confirmation of what we had going. Every aspiring producer always second-guesses his sound. Are the kicks hard enough? Will it bump in the clubs?"

He pulls at the grape-sized diamond in his ear and smiles." We don't have to wonder anymore."

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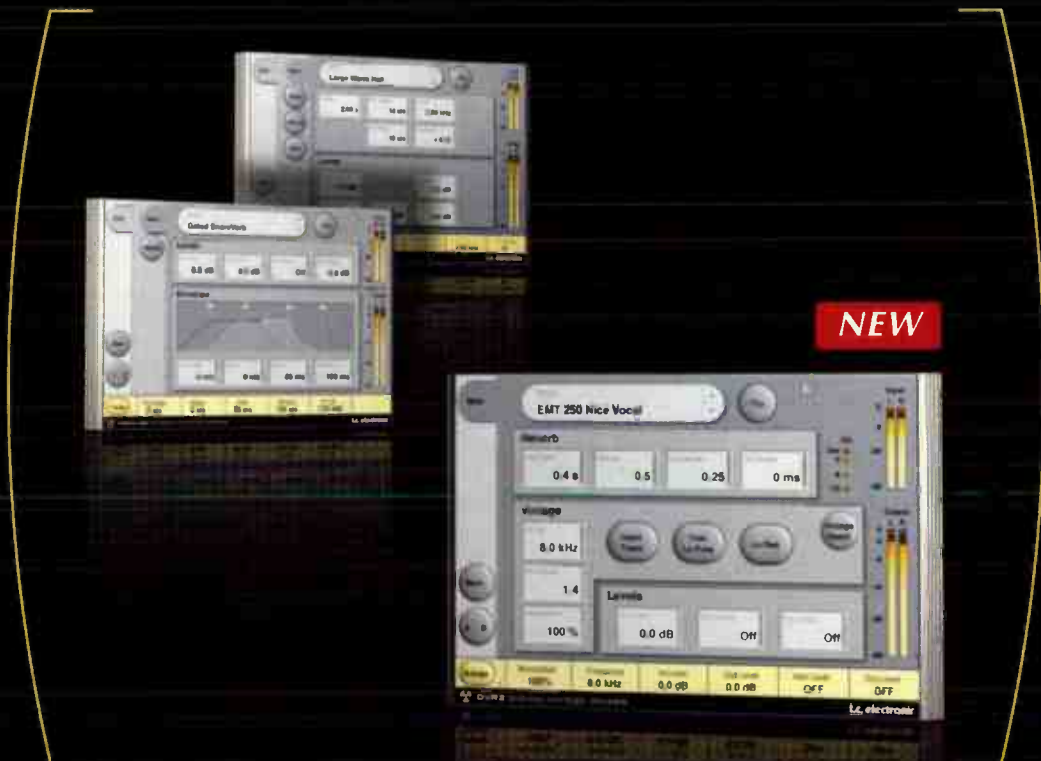
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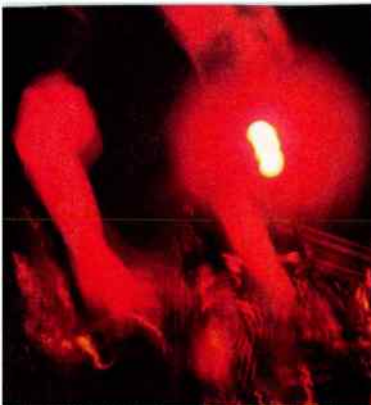
In the July 2005 issue of *EQ* (The Guitar Issue), the fantabulous piece with James Plotkin of Khanate was rudely interrupted by a) a printer error, b) extreme editorial affection for The Wine, c) the Council on Foreign Relations who mistakenly believed that Khanate was a country, or d) all of the above.

Here it is now, in its full-blown glory. Enjoy.

GOD SLOW YOU KHANATE

James Plotkin crushes, detunes and detuningly crushes Khanate into the most beautifullest kind of sonic sludge this side of John Cage.

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

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

And if the molten-aluminum sheets of feedback and magma waves of minor-seventh power chords aren't dark enough for you, Khanate's poor vocalist shrieks like he's being sacrificed, a centimeter at a time, to some particularly grim, bloodthirsty power (Cthulhu? Huitzilopochtli? Tom DeLay?)

Actually, singer Alan Dubin is still very much alive. Khanate's equipment has fared less well, and the root of the problem is, well, the root: Plotkin and guitarist Stephen O'Malley tune their instruments down to

A-flat. "It's ridiculous," Plotkin admits. "The thickness of the strings I have to use, they don't even fit in the nut on my bass. I have to actually carve out extra nut space." The lack of string tension forces them to use aluminum necks: O'Malley wields a Travis Bean, Plotkin a Kramer bass.

Think they like a little bit of gain to go with all that low-end? Mmm-hmm. O'Malley uses three vintage Sunn Model-T 100-watt heads blasting through various and sundry 4x12 cabinets. Plotkin favors an Ampeg SVT head with an 8x10 cab and a Sunn Beta-Bass with a 2x15; both heads pump out between 120 – 150 watts.

That is, when they pump out anything at all. "I blew up four different heads last year," Plotkin laments. "I think the subharmonics generated from the aluminum in my bass pushed the power transformers way too much." He says he's been using a compressor pedal for the past six months, but doesn't like the way it "colors the tone." And even with such precautions, Plotkin declares, "Gear failure plagues no less than 90 percent of our performances and rehearsals."

So how does one even begin to tame such a sonic beast in a studio setting? Especially when one's budget is, effectively, nothing? Plotkin asserts that Khanate hasn't spent more than \$1,300 on any of its three existing records, or the fourth that's in the works. How does he do it? By summoning his own relentless, obsessive DIY spirit (or demon, whatever).

The 34-year-old Bergen County, New Jersey, native first practiced the high art of low-tech recording with his trusty TASCAM PortaONE 4-track. He later graduated to a Yamaha 8-track cassette machine, with which he recorded piles of his own stuff and other acts for various indie labels.

He says basically everything he's recorded since 1998 or so has been done with the Steinberg Cubase program on his laptop. In addition to his own projects he's worked with numerous other hard-'n'-heavy underground acts; his remix clients have included Isis, Pelican, and

THE GEAR THAT'S FIT TO PRINT

For *Things Viral*, Khanate used the following:

- **Roland 16-track digital HD recorder**
- **Drum mics: 57 on the snare; Shure Beta on the kick; 2 Octava (Rode-copies) condensers for overheads at a distance of a few feet "to capture a good amount of room sound from the loft we're using."**
- **Bass cabinet mic: Audio-Technica 3035 — "they handle sound pressure and low frequencies pretty well and very cheaply."**
- **Guitar cabinet mics: a 57 and an "Octava rip-off."**
- **Vocal mic: an Audio-Technica condenser mic.**
- **Vocal effects: A Joe Meek VC3 EQ/compressor between the mic and an 8-second Digitech delay. "We encourage him to build strange voice loops during the more drone-oriented sections of our live performances," Plotkin says. "I'll either use a laptop or some type of file player to recreate these additional sounds during performances. They all have a tendency to crash from the volume and low frequencies though."**
- **Extras: Waldorf Wave XT for additional sounds and filters, GRM Tools plug-ins.**

Hawkwind. (You heard me right.) When he joined up with O'Malley to form Khanate, he learned just how tough things can be when low-end meets low-budget.

The main challenge when recording digitally is keeping a warm sound. For *Things Viral*, Khanate's 2003 release on Southern Lord, the band rented out a loft in Brooklyn. "We figured that we'd use a lot of the room acoustics to get most of the sound," Plotkin recounts. "There's not really too much close miking going on with that record."

But the mics weren't the problem. It was what the mics were connected to.

"We tried using a laptop, and the low frequencies, the vibrations in the floor, would just shake the crap out of the hard drive," he recounts. Undaunted, they borrowed a Roland 16-track digital mobile recorder for basic tracking (only four tracks for drums — two overheads, kick and snare), but even that machine balked at the low end.

"By the end of the recording, we had an empty speaker cabinet in the middle of this loft, with like three layers of foam, and another layer of foam wrapped around the machine, because every time we'd start recording, within a minute, there'd be an error and the machine would stop."

Even with all that tube gear, the recorded product still sounds thin once it's digitized. Plotkin says he uses "the warmest, most gritty tube emulators and compressors I can find" to fix that problem. These days, he likes the PSP Vintage Warmer.

For the diamond-drill shrieks of Dubin's vocals, the singer uses a Joemeek BC3 Half-Space Compressor on his vocals before they hit the soundcard. Then Plotkin does his flea-market mad-scientist thing. "I like to build these sonic walls of voice," he says. "It's basically a combination of delays and reverbs."

The final mixing and mastering processes test the limits of Plotkin's patience — and those of his CPU. Sometimes he even mixes songs in sections, and then reassembles them in the mastering process. "It's walking a tightrope between getting the sound you want and having your computer run smoothly so you can actually finish a project," he says.

And yet, after this spit-and-baling-wire process, the final product may sound ugly to those without a high tolerance for dissonance, but it sure don't sound cheap. And still yet it dissatisfies. Because when Plotkin stepped outside of his idiosyncratic approach, he's been less than pleased with the results. For the fourth Khanate record, due out in the fall on Hydra Head records, "We went to 2-inch tape, and bounced everything down to a hard drive. And the sound isn't really as good as I had hoped. The guitar and bass sound dull and lifeless. It may have to do with the miking techniques the engineer used, but it could also be that he didn't bias the tape machine properly."

He's massaging the tracks to get a better sound in the mixing process, but is irked that such steps are necessary. "It seems ironic that I have to use tape- and tube-emulation plug-ins to get the sound we want considering both tubes and tape were used in the process," he grouses.

"I can honestly say that it would have been better if we had stuck with our DIY approach." —Ted B. Kissell EQ

World Radio History

Tool Box

BY KEVIN OWENS

01 APPLIED ACOUSTICS STRING STUDIO VS-1 ($249)

In addition to all the guitars, basses, harps, clavinets, bowed instruments you'd expect, this string modeling synth for OS X and Windows lets you use picks, bows, hammers, fingers, frets, dampers, and soundboards to create custom sounds. DXi, VST, Audio Units, and RTAS (Mac only).

Applied Acoustics Systems
applied-acoustics.com

02 RAIN RECORDING LIVEBOOK ($2,699.95)

With its low power-consumption components and quadruple-vented convection design, the LiveBook is built with the CPU demands of recording and mixing in mind. The base model features a 15.4" widescreen display, a Pentium M processor, one GB of RAM, four USB 2.0 ports, a FireWire port, and a CD/DVD combo drive.

Rain Recording
rainrecording.com

03 WIZOO WIZOOVERB W2 ($249.95)

Featuring Wizoo's proprietary High-Definition Impulse Response (HDIR) and A.I.R. algorithmic reverb technology, W2 lets users combine impulse-based and algorithmic reverb in true stereo throughout the signal chain. W2 lets you choose from hundreds of presets or sculpt and tweak your own acoustic spaces.

Wizoo, dist. by M-Audio
m-audio.com

04 NATIVE INSTRUMENTS KONTAKT 2 USER LIBRARY (free)

Patterned after similar sites for NI's Reaktor, Absynth, and Guitar Rig, this online database lets registered Kontakt 2 users share custom instruments, license-free samples, KSP scripts, banks, multis, impulse responses, and module presets. The maximum uploadable file size is 18MB.

Native Instruments
native-instruments.com

05 PHONIC HELIX BOARD 18 ($459.99)

This FireWire mixer claims the ability to stream 16 independent channels of 24-bit/96kHz audio to a computer and return two tracks for monitoring with "absolute zero latency" Highlights include S/PDIF output, eight mic pres, a 10-band graphic EQ (assignable to Main or AUX 1), and 16 high-definition digital effects

Phonic
phonic.com

06 CYCLING '74 MOMENTARY INCURSIONS ($99)

Depending on your definition of the word "incursion," this fourth entry in Ron MacLeod's Cycles series of audio source libraries could provide perfect background music for your next brief hostile takeover Includes more than 900 non-looped samples ranging in length from a fraction of a second to over a minute.

Cycling '74
cycling74.com

07 AMS NEVE 8051 ($11,950)

Based on the circuit design first used in Neve's classic 2254, this handcrafted surround compressor features six fully discrete transformer-balanced audio paths complemented by two side chains and a key input, allowing for flexible sidechain routing, trimming, and filtering Available in Standard and Mastering versions.

AMS Neve
ams-neve.com

08 MARSHALL ELECTRONICS MXL V6 ($349.95)

Marshall is now shipping the versatile V6 Silicon Valve solid-state mic (reviewed in the May 2005 *EQ*). The large diaphragm, pressure-gradient condenser mic combines "FET amplifier techniques and carefully selected components to create the warmth and transparency of the best tube microphones."

MXL Microphones
mxlmics.com

09 ROAD READY ONYX SERIES

($319.99–$499.99)

Created specifically for Mackie's Onyx series mixers, these heavy-duty cases feature removable covers, low-profile bases, stackable ball corners, recessed latches, and recessed spring-loaded handles. Design allows access to the mixer's rear-panel controls without having to remove it from the case.

Road Ready Cases
roadreadycases.com

10 DYNAUDIO ACOUSTICS BM 5P

($695 per pair)

Designed to bring transparent compression-free sound to cramped project studios and other space-challenged environments, this 2-way passive nearfield monitor features a 6.9" woofer, a 1" soft dome tweeter, a frequency response of 50Hz–21kHz, and pure aluminum voice coils.

Dynaudio Acoustics
dynaudioacoustics.com

11 SPINAUDIO ROOMVERB M2 V. 2.3

($145)

The latest version of this cross-platform reverb plug-in features a redesigned reverb engine, improved stereo image spatialization, 10 new factory presets, plug-in delay reporting, as well as improved rendering synchronization. Registered users can download the new version for free at the company's website.

SpinAudio
spinaudio.com

12 SONIC IMPLANTS COMPLETE SYMPHONIC COLLECTION ($2,995)

Hailed as the first symphonic library created specifically for TASCAM's GigaStudio 3.10, *CSC* is comprised of four volumes — Strings, Woodwinds, Brass, and Percussion — recorded in Roslindale, Massachusetts' renowned Sonic Temple and performed by members of the Boston Pops and Ballet orchestras.

Sonic Implants
sonicimplants.com

SOUND TRIBE SECTOR NINE (STS9): GUITARS

DATE: January 2001 – October 2004
MOBILE STUDIOS: At home and on tour in bedrooms, hotels, moving vehicles, and parking garages
STUDIOS: Trevor Horn Studios (with assistance from Gary Hughes); Hyde St. Studios; Spacebar; Profoundry basement
LOCATION(s): Los Angeles, San Francisco, Athens, GA
ALBUM: ARTiFACT
PRODUCER(s): STS9, Chuck Butter
ENGINEER: Chuck Butter
WEBSITE: www.sts9.com/

Recording on the road is the rule and not the exception for the ever-touring, genre-defying, experimental, alternative-rock-meets-jazz-meets-electronica act, Sound Tribe Sector 9 (STS9). The band, performing with legends like James Brown, Perry Farrell, Tortoise, LTJ Bukem, Telefon Tel Aviv, Ming & FS, the Roots, Blackalicious, and Ozomatli, was spawned from the collective desires of a group of four sonic scientists to explore sound design, instrumentation, and the magic of improvisation.

"We really found what we thought was a unique sound and just let it be open to the moment," says the Pro Tools manhandling guitarist/producer, Hunter Brown. That mantra was the foundation of what became STS9, an experimental live act that shares its space with its catalog colleagues and sometimes collaborators, Telefon Tel Aviv and Richard Devine.

Amidst sounds that are largely electronic, Brown tries to use the guitar to add to and complement the rest of the mix. "I'm not one of these virtuoso guys that can shred," he admits. "I like to find a pocket and accentuate and morph rhythmic lines to build, sustain, and release energy. That's what is most instinctual for me in the tracks I do for STS9."

SIGNAL PATH

When it came to recording the guitar tracks for STS9's *ARTiFACT*, Brown used Modulus, Godin, and Fender guitars, plus some borrowed acoustic guitars — most stocked with humbucker pick-ups. "I recorded everything with an Mbox into Pro Tools with a G4 laptop," he says.

To monitor the tracks, they used Yamaha NS-10s and many random headphones. "But the headphones are always my favorites," admits Brown.

MIC POSITION

"For mics I mainly used an Audix large diaphragm condenser mic for the electric and acoustic guitars," explains Brown. "Because we were using just what we had available to us, this definitely sounded the best. I put my amp in my bathroom and ran the cables under my door and played in my room with headphones. I would put one mic right up against the speaker and another about three or four feet away and about two feet higher than the other mic to pick up more of the ambience of the room. I could usually find the sound I was looking for between these two mic positions."

He also recorded some of the acoustic guitar tracks with a Neumann mic.

"That was really nice," adds Brown. "I would usually sit on the floor and put the mic about eight inches or so from the center of the guitar and lean in a little when I would need more volume."

PROCESSING

Brown mainly relied on stomp boxes when recording the guitar tracks for *ARTiFACT*. "I have a Mesa Boogie Tremoverb that I like 'cause you can get a lot of different sounds and tones out of it," he says. "It's kind of particular and needs to be babied a little bit but it sounds really good. I also used a TC G-Major for some effects on tracks like 'Today' and 'ARTiFACT interlude'."

He also used Live, Reason, and Reaktor to arrange, edit, and process sounds. "Sometimes I use a MPC2000 and some other drum machines/samplers when I get tired of being on the computer," he adds.

TRACK NOTES

Recording on the road condenses the recording timeframe for STS9, so the next record probably won't take four years to complete. "Technology allows us to experiment more with the recording process without the costs of studio time getting in the way," says Brown. "Back in the day, we would record until we ran out of money, then come back two months later when we could afford to keep going. Today I can record most of my instruments on the road or at home."

However, Brown still respects the craft behind the art of recording technology. "We still use studios from time to time because one thing the technology doesn't come with is the experience of a real engineer," he adds. "You can't replicate real knowledge and experience with technology." EQ

Can you picture yourself owning an SSL console?

Songwriter/Producer Mike Elizondo
[Eminem, 50 Cent, Fiona Apple]

Producer/engineer Tal Herzberg
[Green Day, Counting Crows, Mya]

Producer David Kershenbaum
[Joe Jackson, Bryan Adams, Tracy Chapman]

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Success Story
by Steph Jorgl

rOOm: SONIC VISUAL DISCIPLES

COMPANY: rOOm Audio
CONTACT: www.room.tv
LOCATION: Venice, CA
KEY CREW: Robin Nixon, Brandon Toh, and Elad Marish

Robin Nixon not only helped pioneer the electronic dance scene and launch the CD pre-listening revolution by programming music for Urban Outfitters in the '90s, but during this time, Nixon also managed to carve himself a place on the film side of music: working as a music video producer for the Fugees, Cypress Hill, and Boys 2 Men, as well as contemporary alternative rock acts like Oasis.

So almost natural that in March 2005, Nixon joined with several partners to open up rOOm Audio — a boutique deal inside the already boutique-y rOOm music video and audio post-production facility, just two blocks from the beach in Venice, California. And Nixon, the music video producer for the audio end of the facility, designed it to be the ultimate haven for audio post-production, composition, editing, and surround sound for music videos and commercials.

"It's one of the few studios where a director can come down and work on a video edit, and then walk straight into another room and start working on the audio," says Nixon. "And we can give them audio samples and audio design halfway through a project, which is a really unique situation."

Composing 50 Cent At a Time
The rOOm music team, which includes producer Nixon, composer Elad Marish, and mixer Brandon Toh, is also jacked in to composing original lead-in music for music videos. "More and more videos are running as sort of short-form films, so they require more and more music composition to surround the actual track, as well as sound design," explains Nixon.

Conveniently, rOOm is also home to commercial/music video editor Jeff Selis who works with several top hip-hop music video directors. "Our first job in this studio was to do a piece of music for the lead-in to 50 Cent's 'Just A Little Bit,'" explains Nixon. "We wrote the lead in music as 50 Cent is walking down the plane. To do this we had to match the tempo of the actual video. We recently just did the same sort of thing — wrapping sound design around a music video — for Snoop Dogg's and System of a Down's latest videos as well."

The Sonic Vault
rOOm's 5.1 surround sound studio is powered by a Power Mac G5 running a Pro Tools HD 192 system with two HD2 Accel cards. In addition, rOOm audio hosts a very, very large sound design library. "When people come to us — we have about 500 sounds of breaking glass," he says. "Our sound libraries are so good that — if you pull up an automobile — it will actually categorize every make of car and year and you go into that subcategory and it will have 'Wheel skid,' 'engine start,' 'engine stall,' 'drive by,' and so on."

The studio is also equipped with a Focusrite ISA pre-amp and several Neumann mics. But mics and pre-amps are about the only hardware they use in this ultra-modern loft-like studio. "We use a lot of plug-ins, but not much outboard," says Toh. "The Waves plug-ins work very well for me. They're clear and they're transparent and it allows me to just sort of clean things up and enhance certain frequencies."

Getting The Perfect Mix for TV
The final mixes are monitored first through a KRK 5.1 surround set of monitors, plus a set of Auratone monitors that they use to compare their mixes at a level that simulates the lowest quality home theater environment. Auratones are designed to mimic the sonics of television.

"A lot of the time, you'll have a mix really sounding great on the KRKs, but then when you play the song through the Auratones, you realize that you've lost what you thought was the best part of your mix," says Nixon.

The Future Is Surround
The surround sound system at rOOm audio was set up with the help of several audio industry big brains. "We totally balanced this room for surround by following the specs in the Producers & Engineers Wing 'Guidelines for Surround Sound Production,' and it actually worked quite well," says Nixon, who sees the future as being highly immersed in surround.

"Until now, surround sound has been almost exclusive to the movie industry," he explains. "Now, with the accessibility of home theater systems, people are more and more going to realize that you can put your music CD into your home theater and have the benefits of your surround system. Stereo is great, but surround is *better*."

by Eugene Robinson

IN DEFENSE OF: THE BIG PRO STUDIO

Not that it needs defending, but to anybody with a pair of functioning eyes, what's become increasingly clear is that studios are locked into a full-blown cage match with both *cheaper and easier* on one hand, and *MP3* on the other. With passionate defenders increasingly rare (and usually with extant and aggressive commercial interests), is there not one true believer who will speak for the tired, poor huddled masses of Big Studionia?

And two not-so-tentative hands go up in the back of the room.

AL HOUGHTON and STEVEN ALVARADO from NY's Dubway Studios. To the rescue.

EQ: Big studios . . .

Al Houghton: Well, a "Big" studio is a funny terminology. Anything too big to adapt to a shifting business environment is liable to have problems surviving and . . .

EQ: Well, the claim is that if it's bigger than a bedroom, it's too big and if it's too big, well, it's struggling to survive today as well, yes?

And so again, why a professional studio at all?

AH: Look, due to shrinking recording budgets and the business lost to home studios, *all* studios must face up to a smaller pie from which to draw revenue. So, yeah, the massive capital outlays and overheads associated with "big" studios are increasingly untenable.

I mean an old-school studio accustomed to giant recording budgets from record labels will not be happy when the record labels themselves are reigning in spending.

That all being said, there's *still* a market for professional studios big enough to record entire bands live. . . .

EQ: Well *is* there? Where? Who? And with what money? I guess the issue is, can you guys crank it down to be cost competitive with the home studio alternatives given that there are so many variables beyond your control (tape costs and availability and so on)?

AH: Some artists still use rooms big enough to hold the myriad pieces of gear required for such a session and the buildout for soundproof rooms that sound good, and are big enough to accommodate the extra personnel involved in a "big" session (talent, musicians, producers, managers, hangers-on). . . .

EQ: None of which are germane to the real task of making music. A chill spot is one thing but why would I care about space that the drummer's

girlfriend is going to like if I'm in a band that can't afford to be there for more than a day? Not to be totally antagonistic but purely in the name of devil's advocacy: If the audience doesn't care, and the MP3 is proof positive of that, and the labels only care about what the audience cares about, and the artists can't afford it, isn't there something about this model that has to change?

Steven Alvarado: I have to jump in here. I totally disagree with this. MP3 is not proof positive that the audience doesn't care about the quality of a recording. If that were true, why do teenagers across America spend thousands of dollars on big sound systems for their cars? They want good sound and they are used to good sound. What about the millions of audiophiles out there who have elaborate sound systems in their homes so they can listen to a classical recording of a single violin? The fact is, most music you hear is recorded in a pro studio. You have to start with a quality recording in order for an MP3 to sound as good as they sound. A poor quality recording sounds like crap in MP3 format. The only thing MP3 proves is that people demand a format that is easily delivered

MP3 is not proof positive that the audience doesn't care about the quality of a recording. If that were true, why do teenagers across America spend thousands of dollars on big sound systems for their cars?

and that is portable. That's why cassettes were so popular. But as soon as CDs came along, everyone changed because of the quality. iTunes, the most successful seller of MP3s doesn't even sell MP3s, they sell MP4s, which are very high quality.

Listen, you can record an album in your bedroom and everybody knows it. Most artists don't do that because of the limitations. The ones you hear about that do like Moby, have "home studios" that hardly fall into that home studio category. Moby can afford microphones that cost $10,000 and his studio is filled with some of the most expensive gear you can get. The idea that everyone is now recording their albums in their bedrooms is a myth. What we are seeing is that everyone is recording the demos for their album and maybe some ancillary parts and then bringing the main portion of the album into the studio. There is also the engineer factor. There are pro engineers for a reason. I'm sorry but a pro engineer knows how to record you better than the bass player in your band does.

So, OK, the days of the really big houses are definitely over. They're just too much to manage and the overhead is enormous. It's extremely difficult to make any money that way. It was sad for all of us to see the Hit Factory close because there was a lot of history there. That studio certainly had that "wow" affect, but the times have changed. People don't like to work like that anymore. The smaller, intimate environment is more appealing to most people these days. It's a more human level and people feel comfortable in that setting. These days it's better to be a smaller studio with big clients. That's how you make money. We are somewhat small and we have a client list that can afford to go anywhere, but they love it here because they're comfortable and we treat them really well.

EQ: But is there enough of that type of recording going on for you all to stay in business?

SA: All, no. Smaller studios that run lean and offer quality in every way, yes. The ones that don't are dropping like flies. The ones that do are busier than ever, like us. We do it right and people know it.

AH: And home studios *are* valuable for musicians at all levels of the industry, from Bruce Springsteen's 4-track to the hobbyist's GarageBand. And not just for fleshing out song ideas — with a few pieces of decent gear and some know-how, one can get quality production tracks at home. And the same technology that allows professional studios to run quicker and more optimally works in the home recordist's laptop.

Home studios will keep getting better and more versatile, and more people will be teaching themselves how to use them. And if they can afford some extra expertise in mixing or drum tracking, for example, they'll opt to do that at a professional space. This combination gives an artist the best product and the most autonomy.

SA: Well, I've done the home recording thing and I think it's a drag. It can be fun sometimes, especially to work out ideas but there is still nothing like the magic of going into a real studio to record. You create your own world when you go into the studio and it becomes all about the music.

EQ: So you're trying to sell the studio space on the grounds that you're nice guys and you have enough magical space to record a ska band? That's it?

AH: Like I said, some recording can't be done in your bedroom. Can you turn your guitar amp up to 11? Can the drummer play at 7 pm? Can he fit? Do you have enough mics and processing to get the drum sound you want? And God forbid that a rhythm section wants to track together. . . . They'll get arrested for disturbing the peace. Not that these issues are impassable. Sure, your resources may force you to track players individually, or to use a digital amp simulator, which may be fine, but *it is not the same* as playing through your amp, live with your band.

Let me add, by the way, that the original Dubway Studio was a very funky affair — a quarter-inch 4-track reel-to-reel, a 10-channel PA mixer, a tape loop echo, a lousy drum kit, and some amps. It was not a "pro" studio by any stretch. In fact, it was more of a "home studio" in terms of recording gear. But people booked it because they needed a *place* to record their band.

So, in other words, *space* and a *sound-friendly* environment are what a pro studio has to offer. Not everyone needs them, but plenty of people do. In addition, these features are not necessarily expensive for an artist to rent for an evening or a week. They

are expensive to build and maintain long term. And, frankly, you can't underestimate their value in making music. Just because you can record your band in a phone booth with a bunch of digital gadgets doesn't mean that people aren't willing to pay for the real estate and sonic space that a studio offers.

All this ignores the recording gear itself. Studios have better gear. And even more important, they have staff that earn their living by knowing how to use it. And that staff are typically musicians who love what they do, so they're the type whom a musician would want as their comrade/guide in recording.

As far as gear: Plug-ins are versatile and recallable and cheap and convenient. An Mbox A/D converter is OK. MP3s don't sound so good, but they certainly get a song across. Your laptop and that gear will all enable you to get a certain sound. If the sound you're after is like the Beatles' *Revolver*, or Led Zeppelin's *IV*, or Miles Davis' *Kind of Blue*, or Beck's *Mutations*, then you're out of luck. Even when it's distilled down to an MP3. At this point, good mics, discrete class A mic pre's, tube compressors, plate reverbs, and so on all sound better than their digital equivalents.

> **Just because you can record your band in a phone booth with a bunch of digital gadgets doesn't mean that people aren't willing to pay for the real estate and sonic space that a studio offers.**

But, the home studio is a great device, always has been, always will be. Especially for exploration and creation of musical ideas. You don't want to be paying by the hour during that seminal process. At the risk of going too philosophical: Music is music, recording is recording. Your choice of gear and environment will reflect the extent that the *sound* of your music matters to you, as well as the *process* of recording. There are occasions for pro studio recording, just as there is a place for home recording. **EQ**

AL HOUGHTON has worked on more than 1000 projects, built Dubway studios, and is an active musician on New York's club scene, whose credits include They Might Be Giants, the documentary film Five Films About Christo and Jean-Claude and Richard Barone.

STEVEN ALVARADO, Dubway's studio manager, used to record as a solo artist for the Hollywood-based Del-Fi Records label with founder Bob Keane of Richie Valens fame. He later moved to Nashville and worked off-and-on at Star Song/EMI and DreamWorks Records SKG before settling in New York City.

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CHOW TIME: The Making of

by Robert Breen

In the last few years **Jimmy Eat World** has gradually built a following on the success of their sprawling *Clarity* and radio-friendly *Bleed American* albums, both featuring emotionally charged performances and enviably melodic songwriting. **Jim Adkins** and **Tom Linton's** crunchy dual-guitar and voice attack, alternately weaving, locking in tight harmony, or riffing full bore over **Zach Lind's** powerfully lyrical drumming and **Rick Burch's** there-and-gone-again bass, became the prototype for everyone *else's* Emo band.

Recording the follow-up album the band unexpectedly hit a creative wall, but no one was ready to give. The success of their new album, *Futures*, has come at the end of a long year that saw the band track the album, scrap the results, change producers, and then try again. "Everything on *Futures* we must've demoed and re-demoed at least nine, 10, or 11 times," explains songwriter **Jim Adkins**.

For the first time in their career they would start recording with an unfamiliar producer, **Gil Norton** (Foo Fighters, Dashboard Confessional, Pixies). Gil recognized, "the band is really close, and they've been through hell and high water together, so they're all looking after each others' backs. They're like brothers. It's nice when you get invited into that sort of family community."

Wanting a heavier rock sound, their A&R man, Luke Wood, suggested engineer **Dave Schiffman** (System of a Down, Mars Volta, Audioslave), who encountered a band prepared to do whatever it took to get the record made. "They needed to pull back and regroup, but they'd written about nine new songs and were really excited about what they had," Dave adds. Drummer **Zach Lind** admits the band was a little nervous at first. "It was our first time working with Dave, but within the first few days we had a lot of confidence in him." **Rich Costey** (Franz Ferdinand, Muse, Mars Volta) was later tapped for mixing duties.

Pro Tools engineer **Jake Davies** (Madonna, U2, Bjork) explains the technical approach; "Jim and I had this discussion about enhancing studio performances, and I was arguing that the objective of record making is to use every piece of technology available to make your record better. That's what the Beatles were doing. We came to the conclusion that's what we should be doing!"

Gil Norton: They'd already tried to do the album once, so I just tried to give them a fresh perspective. I was helping Jim with arrangements and parts and things on his songs, and I think to a certain extent he needed his creativity stimulated . . . *and I hope I stimulated him! Ha Ha!*

Jim Adkins: One thing Gil brought to the table was great ideas about the English versus American kind of songwriting . . . in America a lot of self-taught songwriters refer to that thing after the second chorus, where it goes away a little bit and comes back, as the "bridge." With a lot of UK people, they call that part the "middle 8" and their "bridge" is what we call a "pre-chorus." For us, the "middle 8" has always been where you make your most concise statement, where you start to sum up what the song is trying to do, mood-wise. But Gil was really good about making us focus on those transitional "bridge" parts. In the past, if there hadn't been an obvious transition from the verse to the chorus we just wouldn't have one!

Gil Norton: Even if I make a bad suggestion, it hopefully gives them the impetus to come up with something better . . . *my idea's crap, here's yours!* One of the things I wanted to do going in was try to get (guitarist) Tom (Linton) to write a couple more things for this album, because I think he's a very talented musician and a great writer, but I didn't really get him to do that for some reason!

Dave Schiffman: We tracked drums first in the big room at Cello, in studio one with the big Neve 8078. [*Cello closed in January 2005, its return is not looking imminent. —Editors*]

Jim: I like that Cello was an L.A. place, but it was really laid back. George Drakoulias and Jim Scott were down the hall recording at the time. Jim loaned us a ton of gear, and George had this margarita machine set up. The first day the margaritas started about 7:30 P.M., next day it was 5 P.M., then 3 P.M. By the end of it, as soon was we showed up margaritas were distributed! It got pretty ugly, but it was a lot of fun.

Jake Davies: My God! Margaritas would just keep appearing! It really was a massive party atmosphere going on at Cello. It was the happiest editing time I've ever had in my life! Everyone's door was open and you could hear all this great music coming out.

We did a shootout with analog, but Pro Tools, 24-bit/96kHz won hands down. Gil's a stickler for always making the most of every minute of every day, so we had two rigs going to maximize what we could accomplish. Cello was actually quite close to my house, and I'd just upgraded to a G5 w/ dual 3 gig, so often I'd take work home on a drive.

Zach Lind: Dave got a big, open drum sound for all the tracks, but you could take the room mics out and turn the overheads down, and it sounded like you were playing in a small room. I thought that was really cool.

Dave: Zach has a signature sound, which is 90 percent of a good drum track. It's less about the mics and more about the "stick on the skin." It's crucial the kit be in tune with itself. One of the biggest challenges is getting every mic to agree in phase from the room mics in. That takes more than a little positioning. You have to make sure that everything adds rather than subtracts.

JIMMY EAT WORLD'S Futures

At Cello I was afforded some luxurious mic options. I had phenomenal old AKG C-12s for overheads, a Shure SM57 on the snare top and a Sennheiser 441 under, mixed together, and a SM57 on the hi-hat. I used AKG C12As and 57s on the toms, and a KM54 to fill in the ride. We had a press conference going on the kick drum! Gil turned me on to this Shure SM91, it looks low and flat like a PZM mic. We put that inside, kind of in the center, for picking up the "click" without any EQ. I mixed that with a Neumann Fet47 outside and a Sennheiser 421 in the hole. With three mics you have options. Sometimes we used a resonator. It's like a kick drum but you put it two or three feet in front. We covered the whole thing with a blanket to make a long tube. We used it on some of the slow songs, like "Night Drive," where you can get away with a fuller, boomier kick drum. On a faster song that turns into mush.

For room mics I went for a pair of Neumann M-50s up pretty high, six feet away, and combined them with U-67s that were about three feet back and level with the kick drum. I had a couple mono mics as well, one on the opposite side of the hi-hat, real close to kick drum level, which I'd just pulverize with a compressor to mix in and make the drums feel more live. Usually the hat is the first thing to take over when you do a super amount of compression, so you use the kick drum as kind of a baffle. Otherwise I like to compress as little as possible. You don't want to restrain the overall dynamic range or tone of the drums. I think I went through a Neve 33609 with the room to hype it up a bit.

I'd rather try to move or switch the mics before I go to the EQ. The more you EQ, the more everything kind of smears together — especially when you have 14 mics. My job is to look about four or five moves down the road and think, "how is this drum sound going to work with a super heavy guitar over it?" You have to visualize sonically what the band is all about.

Jake: Jimmy Eat World are a great live band, and Zach's really got it down. I'd spend a good period of time just listening to what he was doing and really getting my head into what his space was: where he was sitting against the grid. If we had a great fill that totally worked, but wanted to tighten it just a little bit, I'd tighten it to Zach's own feel.

Gil: He's a great drummer, Zach. In a way it was nice to push him a little bit and make him think about parts and fills and stuff he hadn't really tried before.

Zach: For the verses on "Pain" we overdubbed me hitting the wooden rims on the Ayotte drums, then the hi-hat stands, the hardware stands, and the metal snare rim, trying to get different sounds. In the second verse we overdubbed these Def Leppard sounding backing vocals. I think it was Jim whispering. . . .

Jim: . . . Like "TNT" . . . I was going *"HAI!, HAI, HAI!!!"* It's one of those things where you were laughing 'cause it's so stupid, but it works and picks up the verse in this weird way.

The way we've always done stuff in the past is we've used the expensive big studio with a lot of inputs for drums, then we moved to the less expensive place to spend our time. Our friend Harvey owns a store in Tucson called Rainbow Guitar. Since the '70s he's been collecting and selling rare instruments. Over time he's built up a real studio in his house. He loves gear and recording, and he gets excited about having it *used* for something rather than just looked at.

Zach: Harvey was really generous and basically put into our hands lots of various items worth very much money. . . .

Dave: The studio definitely had its pluses and minuses. You really couldn't have asked for better equipment. He had a beautiful old Neve 8028, Telefunken pres and EQs, a bunch of great compressors, RCA BA-6As, UREI 1176s, LA-2As, some really great microphones, and one of the best guitar/amp collections in the country. We'd ask if he had any Supros and he'd say "which one?" and come back the next day with four of them.

Gil: The only problem by the end was that we couldn't work very late because it was his house. We'd have to stop 'round about half past 11 because his family was there. Dave's a fantastic engineer, and he's such a professional studio guy that I think some of the funkiness of a home studio was eventually getting to him. I just didn't want it to rub off on the band. The great thing about the band is they're all really equal, and they each make unique contributions. Rick (Burch) is a really solid, melodic bass player.

Zach: Dave had the idea of using a Marshall guitar head for the bass and running that through a guitar cabinet.

Jim: He mixed that in with the SVT and the DI . . . just to get the gritty midrange attack without mucking it up, especially for a rocking song like, say, "Futures."

Dave: I had a Neumann Fet 47 on the 8x10 bass cab — we listened for the best speaker — and Rick brought this DI called a "Gas Cooker" that sounded really good. Probably compressed the DI with an LA-2A, and something faster on the amp like a UREI 1176. On the Marshall cabinet I had a pair of 57s, then a Distressor. It has a nice personality for aggressive stuff like that.

Jim: For basic rhythm guitar tones, there is a sonic area Tom and I like to hit. I don't think either really makes sense on its own. Tom's

tone is a little more saturated, a bit more scooped and wider, not like a Triple Rectifier scoop, but more vintage. I'm doing a narrower, just-enough-gain Hiwatt sound — so you can hear all the notes, and it's crunchy but not super-saturated. For a while there we were on a kick that we weren't going to use any 57s for guitar. We'd use Royer 122s and Fet 47s on the 4x12s. For a lot of leads we'd use really small Fender Tweeds with 8-inch speakers.

Dave: The 122s kind of did what the SM57 did, but fuller and wider with less capsule distortion. They sounded *so* great we used them on most of the combo amps too. The drop tuning made a huge difference to the tones, the voicing makes all the guitars sound deeper and warmer.

Jim: We used to play most of the songs in a regular 'drop-D' tuning. For "Futures", we had everything a half step down from there. So it would be C#-G#-C#-F#-A#-D#. Sometimes we'd use an open *E* tuning. There's so many different ways to make it heavy, if you're just laying down multiple guitar overdubs, it's not exactly the right approach. If it becomes small . . . like "Kill" is a good example. Everything is mono until the chorus, then it seems like it gets bigger, but you can't tell how. I like doing stuff like that . . . "Polaris" does that too.

Gil: To sit there with Jim and watch him plug his delay pedal in and capture a piece of music, then just layer these things up into this *landscape*, is just fantastic. There are lots of moments like that.

Jim: We used Echoplexes and Space Echoes a lot. Sometimes it would be easier to go to the Line 6. If you want to get a good sound quickly, turn the dial and you've got a whole new delay pedal.

Jake: On this record everybody was so Pro Tools proficient. You're brought in as the Pro Tools guy and you're like "I've got to get my stuff together here!" One of the best bits was this thing on "Pain" Jim put together in Pro Tools with this little delay on it. When you took the delay off, the part sounds so odd . . . he obviously played into it with great effect.

Gil: Once Jim gets things going he's a bit of a genius really. I love the way he thinks of melodies and hooks, and once he starts, lots of them happen. We'd have to sift through them and place them so they weren't all stamping on each other.

Dave: For vocals we found this great Neumann U47 of Harvey's. Jim felt comfortable behind it, and he really has great mic technique. No EQ, just running through a Neve 1073 flat, and a bit of compression off an 1176. We moved to a U67 for Tom for a little tonal difference.

Jake: Jim was really on top of his game for that whole record. He really knew what he wanted to hear and how he wanted to hear it. We'd do about four takes then Gil and Jim would sit down on either side of me. They're great vocal comp-ers, it made my job easy. For tuning, Melodyne was a great weapon as you can slide a slightly off vocal into place, whereas Auto-Tune wants to take every section perfectly onto

the note. We used it sparingly, but it keeps the whole delivery, vibrato, and emotion as Jim gave it. I've discovered since then that it worked so well because Jim was such a good singer. I've done some other projects with less experienced singers, and Melodyne was a disaster.

Jim: Things didn't really take shape until close to the end. We spent two weeks at our own space in Phoenix — tweaking away, and getting things ready to mix. We'd gone overtime so bad that Gil was already a week and a half into missing the project he was supposed to start after us . . . he was fried.

Gil: The end of any album is pretty tiring anyway. . . .

Jake: It was really at their place that it went from being a great record for me — there was another level added there. It wasn't just "let's check everything." Jim got out his keyboard and he was adding a different layer of personality.

Jim: There's more keyboard on this record than on anything we've done in the past, but it's all an old Roland VK-7. The synth strings and the organ stuff. There's a real Fender Rhodes too, in the bridge of the song "Futures." We maxed out the track count on every song. It was ridiculous.

Jake: At that point, the objective becomes getting it to the mixer. You want to make his life as easy as possible, give him a really good rough mix to reference. You don't want him looking for files, or plug-ins.

The only way to do that is to have one consolidated audio file, and one region that starts at the beginning and ends at the same time on every track. No automation data, no plug-ins. You want to split the audio across two drives so there are no playback issues. For a 64-track session, that means 32 clean audio files per drive, copied fresh so the fragmentation is absolutely minimal. We'd put drums and bass on one, then guitars and vocals on the other. We had a really cool naming system, any drum had the initial "D" in the front, vocals had a "V", and guitars had a "G." If you look on the drive for the drums, they're all in a line with a "D."

Jim: By the end of the record we were back at Cello mixing with Rich Costey.

Rich Costey: We mixed from Pro Tools HD, at 24-bit/96kHz, clocking from a Rosendahl Nanosync. I always mix to half-inch tape, in this case to an Ampex ATR 102. Cello had a mix room in the back (it was supposedly the room where Bill Putnam assembled the 1176LN), with a slightly modified SSL 9000J and quite an array of outboard equipment, including 10 API 550a EQs, 10 Neve 1081 modules, a pair of UREI passive EQs, a fantastic sounding Fairchild 670, and a very rare stereo EQ made by Cello. I also had an assortment of misfit gear of my own: Echoplexes, ATC active speakers, and my Metasonix Hellfire Modulator.

I feel that the mixer's first responsibility to a song is to respect what is on tape and not step all over it. The tracks came in sounding very good, as both Dave Schiffman and Gil know quite well how to get what they're after. As the SSL 9000J is a very clear, yet fairly flaccid-sound-

ing board, I would run nearly all of the rhythm guitars through API 550a EQs, simply because the op amps in them tend to add a bit of punch. I would then only adjust the EQ if the track needed it. I'm pretty sure the entire mix was sent through a pair of them as well. For Jim's vocal I mostly used the Chandler/EMI TG1, sometimes with an 1176, sometimes a Fairchild, sometimes nothing else but Neve EQ. I mixed with a pair of EAR 660 limiters across the mix bus.

Quite often there were heavily overdubbed guitar melodies competing for attention along with multi-layered background vocals, lead vocals, rhythm guitars, percussion, and so on. In cases such as this, there are two choices: Turn things off or turn things up. While some arrangements became reduced during mixing, by far the choice was to turn up selected events when they're occurring. Radical EQ was frequently deployed to aid in this. I almost never compress guitars when mixing. This makes things a whole lot easier when dealing with complex material. Compressing distorted guitars can frequently dull out their attack and make the whole track sound mushy. I am pretty ruthless when it comes to using high-pass filters, they are absolutely critical in clearing out the muck of a dense mix.

Jim: Meanwhile we were also re-cutting a bunch of stuff in Studio 3, the "Pet Sounds" room.

Rich: Re-cutting things during mixing isn't unusual to me, as mixing shouldn't feel like a completely separate process to recording, because it actually isn't.

Jim: I was redoing main vocals and harmonies on songs. By that point we were doing, like, 16-hour days, not leaving 'til between 3:00 and 7:00 in the morning.

Rich: Jim is a workaholic to the extreme. That guy needs a vacation. Here's something funny: They nearly killed themselves working non-stop on a song that was dropped from the album. Hilarious!

Jim: Whoever was in Studio 3 took their API console with them, so there was no desk . . . they cut us a great deal on the room though. We used Jim Scott's BCM-10 to track on. There was, like, a card table set up, an 8-channel Mackie mixer, and a pair of Jim's flaming red KRK-8s. Later, I was on my own and we had a 47 set up in the live room. So I was setting a super-long pre-roll, hitting record, then running out into the room, re-cutting main vocals . . . Rich Costey came in at 3 A.M. and was like, "What are you doing, man???" I was doing the song he was going to mix next! He just lost it and he was laughing saying, "I can't believe you're doing this right now, this is what state we're at!"

Zach: There's a lot of stuff that we decided not to include on the record just for "album feel" reasons rather than being not good.

Gil: The name of the game for me is for all the musicians to come out feeling like they really tried their best and achieved, and maybe got to do something they didn't know they could do. EQ

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RETURNING TO THE 36 CHAMBERS

by Dan Daley

"When I was at The Shack we dealt with gangstas all the time. There was one session I did, five days straight at gunpoint. They wanted to get it finished and they said 'if you try to leave, we'll shoot you.' They were on a budget."

A conversation with Carlos Bess can often read like a screenplay. The Manhattan native grew up around the corner from a patch of concrete dubbed Rock Steady Park, on West 99th Street and Amsterdam Avenue, in the 1980s. It's a place where spray can graffiti is as common on buildings as vinyl siding is in the suburbs. It's also a place where career decisions were made at a time when those from around the way had few stark choices. "You could break dance, you could rap, you could DJ, you could tag, or you could run drugs."

Instead, Bess became one of the few to come out of that culture and sit behind a recording console for most of his adult life, to stunning effect: for the Wu-Tang Clan on *Enter The Wu-Tang:36 Chambers* and *Wu-Tang Forever*, their individual spin-off projects

(RZA's *The World According To* and Ghostface Killah's *Supreme Clientele* and *Shaolin's Finest*), the late Big Punisher's *Capital Punishment*, Bahamadia's *Kollage*, Cella Dwellas' *Realms 'n' Reality*, the Gravediggaz's *Pick, the Sickle & The Shovel*, and Jay-Z's *Reasonable Doubt*.) Then there is the ongoing series of drum beat records, the *Funky Drummer* break LPs, as well as a series of CDs containing RZA and Wu-Tang tracks broken out and unmixed. It's a serious body of work compiled under circumstances that no academy has in its curriculum. Just as well, since one audio engineering school in Manhattan refused Bess entry because he didn't have a high school diploma. Twenty-five million records later, he can still smile about it.

In fact, Bess was lured out of high school early by . . . the drum machine. "I started playing drums at 13 in school; I wanted to become a DJ but my parents couldn't afford to get me any equipment," he recalls. "I loved the drum machine to the point that I dropped out

"Everyone was like a rapper or wanted to be a producer," he says. "No one from the streets wanted to be an engineer. I was kind of different like that."

In 1991, Bess hooked up with Tkae, a producer who was about to open a small studio on West 129th Street in Harlem called The Shack, and Calvin "Trouble" Jones, another producer/mentor. That gave him regular exposure to a larger array of technology than he had been getting doing freelance programming sessions. "It was the first time I ever messed with an Akai sampler or the E-mu SP-1200," he remembers. "Tkae taught me the patch bay, he taught me microphone placement and recording techniques, and he taught me how to deal with clients. He taught me how to troubleshoot and not let the client know you were in big trouble if something was going wrong. He was real strict with me, and I used to hate how he would ride me. Tkae was ghetto — he would be screaming at you to get your stuff right. But I love him for that now, man. He taught me good. And when it came time to wire the new studio for Wu-Tang, I went to him to help me." Firehouse Studio, in midtown Manhattan, was like graduate school, and it was where he first met the Wu-Tang.

You see all of these studios were part of a parallel universe in which all but the largest-budget hip-hop and rap records were made. As Bess' career progressed in the early and mid-1990s, he would cross this invisible boundary, like Ralph Ellison with a soldering iron. "When I first started learning the SSL and going to other studios, it was complicated trying to get respect out of the studios," he says. "It was like, 'He's Hispanic — keep an eye on him or we'll be missing some mics.' One studio made me wait for hours in the lobby — they didn't know I was there to engineer a session. It was hard for me at the beginning 'cause all the engineers were white and had so-called 'degrees' in engineering. There was no room for a kid like me at that time so I had to fight all the time for credit and respect from whites and the brothers who at the time thought Hispanic engineers only knew how to EQ a conga."

One of the few mainstream Manhattan studios Bess would become comfortable in was the now-defunct Unique Recording,

Carlos Bess, engineer for the mightily seminal Wu-Tang Clan, along with genius producer and counterculture film score darling RZA, managed to do what other engineers only murmured about: make music that was immediate and immediately dangerous sound exactly so.

of high school just to go to the music stores. It got to where we were doing demos for the sales department. And the guy there dug it 'cause we would be showing him what the boxes could do. I got real good on the Roland RX-15. So they let us hang out all day. I learned like 40 machines in a year. But then they got a new manager and he kicked us out. So I went over to Alex's [Music] and he let me hang out."

The Education of Carlos Bess

His first recording session was at the venerable Regent Sound, where the studio's by then-ancient MCI console seemed like an alien technology to Bess. "All I had been seeing up to that time were guys with PortaStudios in their houses," he says. "This was like the real thing to me." The engineer at Regent, Richard Fairbanks, answered Bess' eager questions patiently. By the end of the session, Bess knew what he wanted to do.

which was also a favorite of Chris Parker (aka KRS-1), and he would pass through places like Avatar and Sony Music Studios. But the place that seemed most like home to him as his career progressed was the Wu-Tang's 36 Chambers studio on the west side of Manhattan. There, the ability to get the track done fast, a life-saving skill in his early days, now became a trademark as the Clan's often nebulous and fluid membership would line up like flights over O'Hare waiting to grab the mic. "I found a [signal chain] combination that worked and I set it the same for everyone," says Bess, referring to a Neumann U-67 or U-87 into a Neve 1031 mic pre and an LA-2A compressor. "In those sessions, there was no time to get a level on everyone. Someone would just walk up and grab the microphone and start to rap over the track. I made sure that the input to the LA-2A was light on the gain reduction and I would never overload the input. If I needed to raise level I would do it on the return channel on the console or add some dbx compression. But we would still get lots of distortion on the tracks. There was just no way to completely eliminate that when

RETURNING TO THE 36 CHAMBERS Carlos Bess

"When I was at The Shack we dealt with gangstas all the time. There was one session I did, five days straight at gunpoint. They wanted to get it finished and they said 'if you try to leave, we'll shoot you.' They were on a budget."

you had so many people doing vocals on the fly like that. Plus, they like their headphones really, really loud, so I had to tape them up pretty good to minimize the leakage from them into the microphone. And they'd want to listen back on the main monitors really loud even while other parts were being recorded, so if the studio isolation wasn't great, you'd get that kind of delayed 'flutter' on the tracks, too. But that was OK, because it wasn't about making perfect records; it was about making sure the vibe was intact."

Speed was the enabler of vibe. "That's the secret with those records — don't listen back to every take, trust your sense of what the vibe was when it went down, don't get comfortable in the seat because shit's going to change any minute, don't get meticulous over one track. If it gets done fast, it's gonna work. Even the mixes would get done in a few hours. The only time we ever waited around was when they were writing lyrics."

Wu-Tang's 1997 *Forever* double-disc LP took the notion of the assembly line a step further. RZA was working from a temporary crib in the Oakwood Apartments in L.A. on a setup of three ADATs and a slew of keyboard modules that Bess had assembled there for him. "Each stereo output of the modules would go into the inputs of the ADATs and the output of that would go to a Mackie mixer," he explains. "It was a little strange — he had to arm the tracks and hit 'record' to monitor. But the thing was he wanted to record every idea, every sound." In another room, Bess would set up a drum kit and record himself playing beats to a two-inch deck running Ampex 499, then mixed down to a DAT, some of which would become loops for RZA to combine with his own beats, others would become the backbone of new songs. To complicate matters, the Wu-Tang's near-paranoiac concern with having beats stolen resulted in Bess and another engineer having to take what would eventually become 80 reels of two-inch tape back to his hotel every night for safekeeping. "The bags we were carrying them in were ripping at the seams," he says.

Distortion that the engineer has no control over would come from other cultural imperatives. "Two-tracking" refers to the fact that many sessions now start with the beats and other basic track components created by a sort of sub-producer, sent to the artist for lyrics, and which often wind up as the tracks for the record. "They come in with a CD that I'll transfer to Pro Tools and just go right to vocals," says Bess. "It started off as the [demo] but they often become the final, and I can't do anything about any [artifacts] that are already on the CDs. You just deal with them."

Not that it was always much different when the tracks were done live. "RZA was harsh with the EQs, man," Bess remembers of Wu-Tang sessions. "He would walk in and just turn it radically. Then I would slowly bring it back to some place that had some of that edge he was looking for, but still worked in the track. That approach was OK with the SSL G series consoles, but when you got to a J, the EQs were way too sensitive. I'd really have to sneak it back."

And the machismo that so much a part of Bess' learning experience never completely went away. It was part of the culture of rap, and he probably spent as much time proving himself over and over again as he did actually engineering sessions. "RZA or [producer/artist] David Banner would walk into the control room with an MP-4000 and plug it in and tell me to throw it up on the monitors really loud," he says. "Blaring loud, the drums are pounding on your chest

and they don't stop. My reaction is, I live with it. They expect me to flinch and turn it down but I don't. But they're not giving me a hard time, really. I'm not taking nearly the heat I was 10 or even five years ago."

Interestingly, Wu-Tang member Ghostface was often more meticulous, if not articulate. For his solo effort, *Supreme Clientele*, in 2000, he would take beats and complete tracks done by a variety of producers. "Ghost would spend a week writing and working on the songs, then we would do like 15 takes and he would have me do a comp of the best lines from each one. For the tracks, he would tell me to make it 'chunky' — that was his key word. To do that, since they weren't my tracks, and there was no MIDI time code to lock new instruments to on the tape, I would take the kick, for instance, and split the signal into three or four other return channels. On one, I'd get it to close real tight with a gate and take out all the low end and add some low mids, so it sounded like someone knocking on a door. Another track was the opposite: Add a lot of low end and take off all the high end and pass it through a sub. This way, I could create layers to the sound as though I had other samples to work with."

Wu-Tang never formally dissolved, and Bess' work compiling RZA's multitracks is entering its fourth volume. But the death of member Ol' Dirty Bastard from a heart attack in late 2004 cast a pall on the group's future. Bess remembers him as the rap equivalent of John Belushi. "He had an act of being wild and crazy and doing outrageous things" — ODB, as he was called in family newspapers, strode onto the podium uninvited during the 2002 Grammy Awards, interrupting a speech by Shawn Colvin, and violated a term of parole in California by wearing body armor in public — "but he was actually, the kindest, nicest of them all. He would say kind things to me when it was nuts in the studio. He would ask me how come I was so quiet in the studio, and I would tell him that it was my job to listen, and let out a big laugh. He respected that."

Future Perfect

Carlos Bess has gone through some changes. The work kept coming, but the loss of his mother, whom he credits as a major inspiration in his life and career, in 2000, and then the trauma of the 9/11 attacks a year later, compelled him to take some time off. He and his family moved to Buffalo, NY, where they continue to work on Majestic 12, a group comprised of he and his wife, Paulisa Moorman (the "12" comes from Bess' early 'hood handle, "C-12," after the AKG microphone). He travels to Manhattan half the year, producing and engineering from a studio/office he keeps at Integrated Studios, a multimedia facility on Manhattan's TriBeCa neighborhood. Artists he's worked with recently include the Last Poets and Xavier Naidoo, a German pop artist that RZA had introduced him to and who had a huge global hit with a remake of "Cherchez La Femme" in a duet with Ghostface called "Cherchez La Ghost," which reached number three on *Billboard's* charts, and which Bess produced. He's also working on a restoration project for the Aleems Brothers' classic '80s R&B label, NIA Records. He also continues to work on the *Funky Drummer* series of albums, and beats from those recordings have found their way into over 20,000 records and television commercial spots.

"That's one of the things I'm most proud of," says Bess. EQ

Sleep is for the weak

Are You Good Enough For Neutrik?

POSITIVELY

Deep Throat spilled the beans on Watergate in a cloud of smoke in a darkened parking garage. Brian "BT" Transeau is about to do the same to the recording industry on his living room couch between sips of an Ultimate Ice Blended.

"I have so many stories," BT declares, folding his blue-jeaned legs up to his chest. "It's ree-diculous how many stories I have. I'm going to give you some good secrets, 'cause I know some secrets that people wouldn't want me to tell you, and I'm gonna tell 'em, too!" His smile is bright, infectious, conspiratorial.

Few industry figures are so well positioned to blow the lid off so many different kinds of studio sleight-of-hand as is BT. Since helping invent trance music in the early '90s, the classically trained BT has gone on to engineer, produce, remix, or otherwise knock musical heads with a mind-bogglingly diverse roster of musicians, from Tori Amos to M. Doughty to The Roots to 'NSync. And his movie soundtrack and scoring work — for *The Fast and the Furious*, *Monster*, and most recently *Stealth* — has allowed him to explore and expand his mastery of both orchestral and electronic music.

But throughout his musical journey, the 34-year-old BT has seen plenty of nifty studio techniques, some of which he's adapted for his own purposes, some of which he's pilfered outright. And he has no qualms about sharing the wealth.

So on this cool Los Angeles evening, in his modern, multilevel hillside abode, with a wall of guitars looming overhead and a Mac G5 purring contentedly at his corner workstation, BT opens up his bag of tricks. Come closer . . . closer . . . closer.

THE FIRST THING HE THOUGHT WHEN HE HEARD *EQ* WAS DOING A RIP-OFF ISSUE

Seeing the guys from Portishead in the studio, and seeing them put an Auratone speaker in the piano, and put a book on the sostenudo pedal — a phone book, huge book. And then with two people, held down a bunch of keys, so just those strings would ring, and played the entire mix into the piano so that the piano is used as a tuned reverb. And then played the tuned reverb back under the track and side-chain compressed it to the beat. And I was like, "I'm doing that shit in everything I do for the rest of my life! It is the coolest sounding thing I've ever heard."

Soon after I'd seen that happen, those guys working, I did "Blue Skies," the song that I wrote with Tori Amos, and I took the bass line in it, the New Order-y, Peter Hook-y lead bass line, and I ran it through my VP-330, the old Roland Vocoder, and then I played the root motion of the chord progression of the song, and it sounds amazing. Because it's like you're hearing the side bands of the harmonics of the sound — [which] is then pedaling through the progression. It makes that lead bass line gel so much with that track, and so it's something that I really took with me.

WHY THIEVERY IS A GOOD THING

I actually think that people from the electronic music community are much more precious and secretive. It's much closer to the

by Ted B. Kissell   photography by Bud Tincou
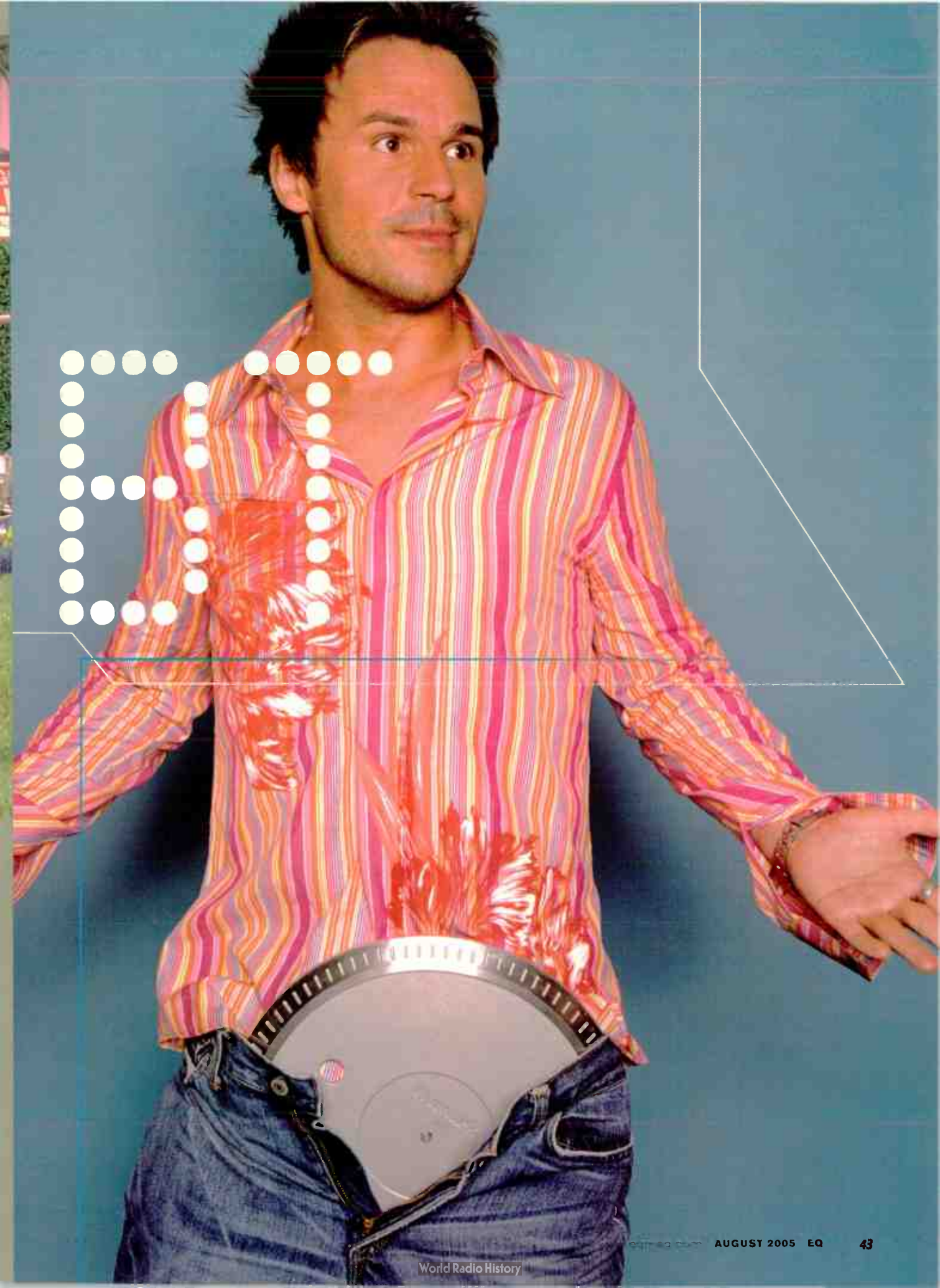
to New Order and Depeche Mode, all these beautiful, lush plate reverbs and Lexicon 480s, and these ridiculous effects chains, things like Cocteau Twins and Dead Can Dance and This Mortal Coil. And then you hit, kind of, the late '90s, early 2000s, and all these hip-hop records are so dry. And I didn't understand that until I did that track with the 'NSync guys. And Justin kept saying, "Man, don't put 'verbs on *anything*. Nothing. Not even our vocals." And I'm like, "It sounds like crap!" And he's like, "No, dude, don't do that. It doesn't need it."

There's two things about hip-hop that I've really kind of poached. The one is the idea of not using any kind of reverbs and delays. What I like doing with that is — [though] I still love that kind of '80s lushness — is using things that are really either close-miked, if it's a real instrument, zero room or incredibly small percussive sounds with no reverberation on them at all. And I think that mixing and matching that kind of like hip-hop aesthetic with the things that I grew up listening to is a really special sound. And especially when you're playing around in something like Surround Sound, you have so much room to have things really present, and other things that are just washing, and it's a beautiful sound, man.

YOU NEVER GET A SECOND CHANCE TO MAKE A FIRST SIDE-BAND COMPRESSION

Nic Fanciulli's mix of "Flashdance" Deep Dish track, which was my peak time track in a DJ set for like six months. You just play that track, and people go spastic, 10,000 people going mental, right? And you go, what is it about this that's so breathtakingly powerful? It's the loudest record I've ever had. What happens when your ears are bombarded with really loud sound is they saturate, they naturally compress. People that are the best at using compression, people like William Orbit — I don't think there's anybody better at using compression — you can listen to one of their records really soft, and it still sounds ridiculously loud. So listening to that record, I thought, what the hell is it in this record that makes it sound so loud?

What they did, and it took me a long time to figure this out, is, it's a straight eighth-note bass line, and it's moving in octaves, so it's like the low note first, and then the octave above on the "ands." Straight four-on-the-floor kick drum, right? So the bass note is emphasizing the kick drums, right? The sound is a really buzzy saw sound, like 16 Saw Oscillators??? Obviously an analog synth, right? But then underneath it they've also put a sine wave, which is like the old drum-and-bass trick, which is another trick that I poach, where you've got a high-pass filtered bass line that's a really buzzy or distorted sound — like high-pass filter or even band-pass filter, when they sweep the band pass — but you've got a high-pass filter on it at, you know, 120 Hz, and then you get all the ass end in the sound

IF WHAT YOU DO IS SO RELIANT ON THE TECHNOLOGY THAT YOU CAN'T SHARE IT WITH OTHER PEOPLE, OR PEOPLE CAN INSTANTANEOUSLY EMULATE YOU, WELL, THEN, FIND SOMETHING ELSE TO DO.

World Radio History

from the sine wave. That's like, an awesome trick, and I've used that on "Hip-Hop Phenomenon," "Fibonacci Sequence," tons of tracks.

Anyway, they side-band compressed it to the kick drum. So you get this incredible, sucking sound on the "and," so it's like, bvvahhhbvvahh, like that. It pulls into every beat, and you hear it, and I swear to God you can listen to it on laptop speakers, so soft, and it feels like it's gonna tear your head off. It's ridiculous. It's something I stole in a track I'm working on right now. It's an awesome trick that you can apply to so many things. Side-band compressing an important synth sound, or a hooky lead synth to a loop is wicked sounding, man.

MR. TRANCE ATTENDS THE SCHOOL OF ROCK

Another trick that I learned from another rock producer, who I

IF YOU LEAVE HERE AND ONLY LEARN ONE THING, SHELF EVERYTHING AT 120 HZ BUT YOUR KICK DRUM AND YOUR BASS LINE, AND YOUR MIXES ARE GOING TO SOUND, LIKE, 3,000 PERCENT BETTER.

probably shouldn't talk about either, because he'd probably get pissed off that I was giving away his stuff, is using a de-esser on overhead mics for drums. That's something I do all the time.

Ben Grossman, who's mixed everybody, he does that side-band thing as well, but something he does, 'cause drums are one of the hardest things there are to record: Anything that's a cymbal, doing it as an overdub. It's a nightmare for a drummer to play, you know, 'cause you just get 'em to play kick, snare and toms, and then you can compress the living crap out of it.

There are three things in a rock record that make a rock record impossible to mix: the vocal, the guitars, and the drum overheads. Rock records are not mixable. It's like magic that people mix rock records well. And the way that people are doing it is stuff like that. Like sideband. It's the same sort of thing . . . they're using it as like a reverse expansion, so if you're, you know, pegging 7k, what it does is, you have an attack, so it's like it pulls it down when it really starts ringing hard, and then it leaves room for your vocal.

WHAT DO PRODUCERS WANT TO KNOW WHEN THEY STOP BT ON THE STREET?

The funniest one is my stutter edit technique. People will go, "What plug-in do you do that with?" It's like, two bars of that usually

World Radio History

takes me about 16 hours. There's not a plug-in. I do that by hand. [*Laughs.*] Come over to my house and prepare to have carpal tunnel syndrome, get a lot of coffee in you. Sometimes it's just hard work.

With friends, I actually made a plug-in to do stutter editing live. It's really neat, but it's nowhere near what I can do in the studio doing it by hand. My friend Luigi Castelli and I, he did the coding, but I designed it and stuff. We're starting a software company, and I'm digging in on making a bunch of apps this summer. Really excited about it, man.

> THERE ARE THREE THINGS IN A ROCK RECORD THAT MAKE A ROCK RECORD IMPOS- SIBLE TO MIX: THE VOCAL, THE GUITARS, AND THE DRUM OVERHEADS. ROCK RECORDS ARE NOT MIXABLE. IT'S LIKE MAGIC THAT PEOPLE MIX ROCK RECORDS WELL.

WHOSE HARD DRIVE WOULD BT LIKE TO SNEAK A PEEK AT?

My number one is Autechre. What the hell are they doing? I make records for a living. What are those guys doing? If you read this, call me. [*Laughs.*] It's the most spectacular sound design I've heard on anything, ever, anywhere. Autechre records are, from beginning to end, spectacular. And it's heady, intellectual music. For electronic music, it's like wanky jazz, you know what I mean? The only people that can listen to wanky jazz are jazz musicians. It's like that for electronic musicians, it's the sort of thing you play to your friends, and they're like, you're a complete frickin' geek, dude, this makes no sense at all.

But as someone that just loves the process of building sounds, and the different sound design techniques — I mean, building whole rhythms based on, you know, phase vocoding, where you can hear they started with like a simple kick-snare pattern, then using all these phase vocoding time-stretch algorithms to elongate these simple, clippy, you know, hundred sample sounds, they make these unbelievable collages of sound. EQ

Ted B. Kissell is a Los Angeles writer and editor whose affection for his Rat pedal, kittens, unicorns, and strolls on the beach make him as fuzzy on the inside as it makes the rest of us dizzy on the outside.

I, PROGRAMMER

FANTASTIC FIXERS: FABULOUS FIXES

WANT TO DIGITALLY ENABLE YOUR DAW WHILE TIME-SLIPPING TRACKS, TUNING VOCALS, OR FLYING AROUND INSTRUMENTAL AND VOCAL PARTS? WE THOUGHT YOU'D NEVER ASK.

by Dan Daley

"Everything is fixed or tuned to some extent," says **Jan Folkson**, who's done time with both Phil Ramone *and* Nile Rodgers. "There's this subculture of people that have evolved to do it, and I guess I'm one of them."

And like many programmers, Folkson has a host of stuff worth stealing when it comes to making the most of managing your mechanics.

1 WORKING THE PLAYLIST

"My technique of vocal comping makes extensive use of playlists. If you aren't hip to playlists in Pro Tools, you should really take the time to learn them. When I track vocals I record each successive pass onto a new playlist on the same track. When it comes time to comp, I'll first create a new playlist and name it 'vocal comp' and then start listening to each take phrase by phrase. Once I've chosen the one I like most, I'll select it and hit 'copy.' **Changing playlists keeps my selection 'in place' in the edit window, so now I just need to hit 'paste' and the phrase is in the comp track. I'll then 'tab' to the end of the region (so I know exactly where the new paste needs to start) and move on to the next phrase and repeat the process.**

Once I've got the whole song comped, I'll go through and clean up all of the edits."

Playlists also come in handy for other edits. "I do a lot of jazz and orchestral work where there often isn't a click track," Folkson explains. "On nearly all of the projects that I record, the ensemble will do multiple takes of a piece. It'll be my job later on to cobble the best bits together. The orchestra is typically recorded live with no overdubs. I'll group all of the tracks and create playlists for each successive take. When it comes time to edit, I use the same approach as I do for comping vocals, even though I'm usually cutting across lots of tracks. Typically, I'll make notes so we'll have a map to work from. I'll create a new playlist across all of the tracks that will serve as a comp and I'll go through each take (playlist) and copy and paste each section to the new playlist.

Because tempi, dynamics, and start times are going to be slightly different for each take, editing becomes a bit trickier and requires some critical listening. I often use the up and down arrows in Pro Tools, which allow you to mark in and out points on the fly. So I'll listen to the existing take and hit the down arrow where the edit needs to take place. Hitting the 's' key (with focus key commands enabled) will trim all of the tracks at the point I marked. So now I've got my 'out' and need to get my 'in.' I'll select the playlist that has the next bit of the song and mark the 'in' the same way that I marked the 'out'. I'll then copy the selection and paste it at the 'out' point of the comp playlist that I've already trimmed. Usually the edit will require a bit of adjusting. One technique that I use all the time is control + +/-, allowing you to keep your edit point where it is and nudge the audio within. Once the timing is good I'll often need to caress the edit point of each individual track. Since the orchestra is often recorded all in the same room and the room is a big part of the orchestral sound, you need to take the leakage into account when considering your edit point.

Tal Herzberg, Folkson's counterpart on the West Coast, has spent years working closely with Ron Fair and Jack Joseph Puig.

"Programmers are the engineers of the 21st century," he proclaims, "and engineers without programming chops face the problem of losing out on some of the more technically challenging but more lucrative gigs."

Like?

Like flying in vocals, or other parts, to other sections of the same song.

2 THE *BUT HOW?* CHAPTER

Herzberg measures all of the passages in bars and beats, creating a verified tempo map for the entire song. Then, he will include one previous measure to any section he is about to transfer. **"If chorus 'one' starts at measure 17, and I need to insert it into the second chorus at measure 43, I'll copy from bar 16 and insert it at bar 42," he explains. "It gives me a blank header that I don't need to trim."**

Creating a drum track, though, is considerably more complex. "If I have a song that's supposed to have a funky sort of groove, for instance, I'll look into my own musical experience to recall a song that has a groove like the one I'm looking for, something in the same pocket," he says. He'll choose two bars that epitomize the feel he wants, record them into Pro Tools, then trim and process it so that it fits the exact timing and BPM of the track he's working on. Next, using Beat Detective in Pro Tools, he'll overlay what he now calls the 'groove template' over the track he's working on, fitting the new track eighth-note by
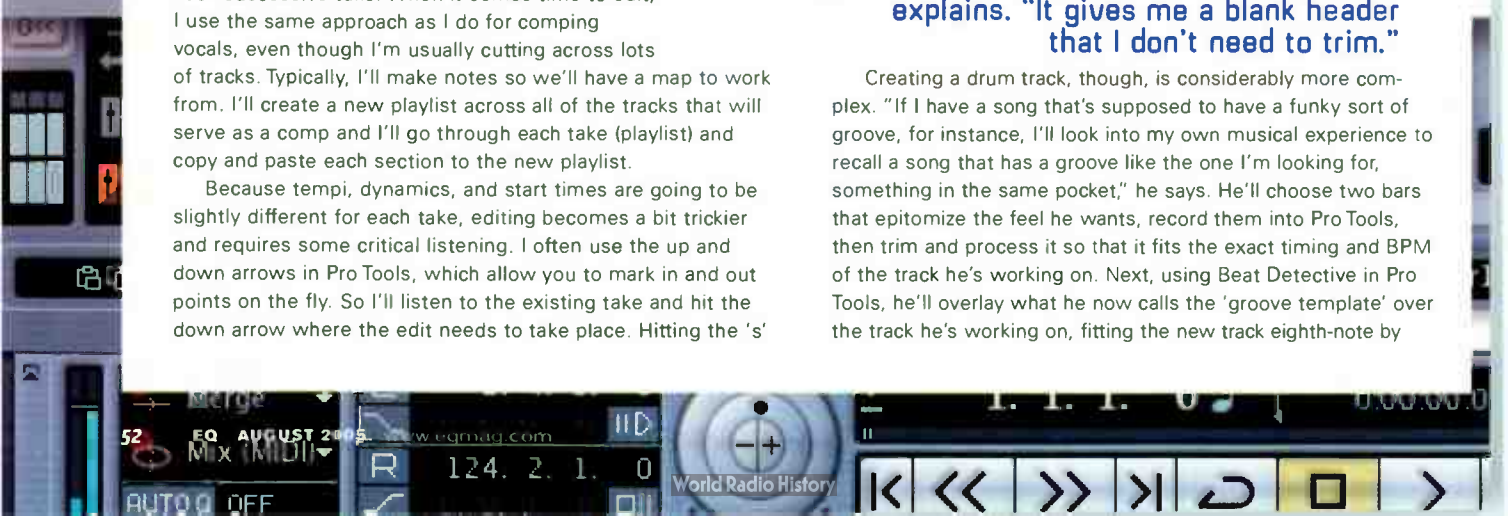
eighth-note (sixteenth-note, if necessary) to the new track. This allows the live drummer from the sampled track to "play" the parts for the new one.

"Since I'm repeating the same two [sampled] bars over and over again, you get a very consistent rhythm pattern," he says. "But since the drummer is actually playing the new samples, you get a little of the human feel — the hits that come a little before and after the beat. It's not a 100 percent, mathematically precise, drum program: It has humanity to it." [*Herzberg then scrupulously erases all of the original sampled groove templates so only the new samples remain. IP law, it should be noted, has yet to get around to allowing a copyright on the movement of a musician's arm. —Editors.*]

Programmer **Mark Dobson**, working with Jimmy Douglass and Matt Serletic, is a speed freak out of sheer necessity: The pace of sessions lately has him more often in the studio and more often needing to do things as fast, and as completely, as possible.

3 FASTER VOCAL COMPING

"If I have four lead vocal tracks that I need to comp into one, I'll lay five tracks out on the [Pro Tools] screen," he says. "The top track is the comp track; the four below it are the sources. As you get your comp track together and you want to audition individual lines, just leave the section to be auditioned blank on the comp track. Pro Tools will automatically play the next unmuted track below it in that open spot. So you just unmute each track where you want to compare the vocal and mute the other three tracks."

Jim Wilson, moving beyond editing and other digital manipulation, programs musical *parts*. Drum and synthesizer tracks, developing custom sound patches, and recording and customizing drum samples in the process, Wilson's trick is to tend to put programming into the production process at an earlier stage.

4 MAKING THE PARTS FIT

"I had co-written a song with a young artist whose style is Latin pop with some hip-hop elements," says Wilson. "In putting the arrangement together, I used Stylus RMX for the loops and used the drag and drop feature to place the loops as MIDI files within the project window using the most current version of Cubase SX3 on an OS X10.3.8 Mac dual 1GHz G4. I had him sing the melody over the loops with a basic keyboard part for pitch. I put a simple chordal synth part down to outline the harmony and give me an anchor for the arrangement, then tackled the bass part. Next, I went back to the loops and deleted certain parts in sections to give the song dynamics. We then brought in a guitar player to add two acoustic steel-string strumming parts à la flamenco-meets-pop. I still needed an acoustic gut string ad-lib part but we were running short on time. Rather than point out specific places to have him fill around the vocal, I decided to just let him play a bunch of licks

over the track. He understood the style of playing that we wanted so I just made three comments: Make the fills short and groovy — no more than a bar or so and 'in the pocket' — leave a little space between the licks (natural breaks for editing), and have fun. I told him I would edit the parts later so don't worry about mistakes or even stepping on the vocal. Needless to say, he played some great stuff because of the lack of confines.

"First, I listened through the entire track with just the rhythm and gut ad lib parts playing, noting which guitar licks I liked. This allowed me to concentrate on the groove and feel of the licks regardless of the melody or chords in the pitched instrument parts.

Then I turned on the grid, set it to 'use quantize,' and set the quantize value at 1/8. I then used the scissor tool (or point, hold option and click) and cut the 1/8 "notch" right before the attack so as not to disturb the entrance of each lick.

I did the same at the end of each lick but placed the splice a couple of beats beyond the end and added a two-beat volume ramp. This allows any 'over-ring' or ambience around the microphone to trail off naturally but keeps any additional noise floor out of the soundbite. I created two adjacent mono tracks and used the drag-and-drop feature to place the best licks on one of the tracks. (Hold 'option,' click and drag the waveform, then before releasing the mouse, hold 'command' and release the mouse, then release 'option' and 'command': This leaves the original track intact.)

"Next, I started listening to the full track again minus the gut string tracks and noted what places needed fills around the vocal or instrumental parts. I used a few of the licks in their original location and copied those to the third track. This is where the eighth-note grid tool pays off. **After copying the lick to the approximate area that needed a fill, I would try listening back with the lick nudged forward or back in time to hear where it would sit best in relation to the vocal and track. For some of the licks, I just pasted in a different ending note to match the chord and it worked.**

Rhythmically, some of the fills ended up sounding more syncopated because the original accents were delayed or advanced an eighth-note in time."

Brian Montgomery's work with Al Schmitt and Arif Mardin is legend. While he's currently working on edits for Donald Fagen's new solo record (produced by Fagan and recorded by Elliot Scheiner), Montgomery *will* dish."

5 ON TUNING: DRUMS & GUITARS

"On all of these projects, as the Pro Tools engineer, my main objective is always to keep the recording process as transparent as possible to the artist," says Montgomery. "The key to achieving this is through speed and organization, and key commands are crucial
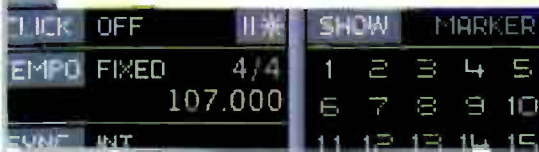
to making anything happen quickly with Pro Tools. There is nothing worse than when a session comes to a screeching halt while a bunch of people stare at a screen as someone pokes around menus to complete an edit. **I always take detailed performance notes as audio is being recorded, which makes finding a particular take easy even if editing is done offline, days or weeks later."**

Montgomery on editing: "Editing loud, distorted rock guitars is challenging. Heavy distortion can often make it difficult to visually tell where the actual attack of a note is on a waveform display. Try recording the direct output from a D.I. (before the signal hits the amplifier) along with the amp signal to two separate tracks. Mute the D.I. track so that it's not heard and assign it to an edit group with the 'amp' track. **When editing, using the D.I. track as your visual guide will make seamless edits much easier. The added bonus is that now you also have a clean guitar signal to 're-amp' in case the original amp tone needs a makeover at a later date."**

And on stereo drum replacement: "Many people are very familiar with using Digidesign's SoundReplacer to replace drums with mono samples. What many people don't know is that SoundReplacer can be used to trigger stereo drum samples as well. **For example, to create a stereo snare sample, create a new empty dummy 'mono-audio' track directly under your original snare drum track in the edit window.** Next, create a new stereo-audio track to be used as the destination for your stereo sample. Select the regions in the original snare track to be replaced while also selecting the empty area below on your new dummy mono-audio track. Open SoundReplacer and choose the new stereo-audio track as your destination. Be sure that SoundReplacer is set to Stereo Mode and assign either a stereo interleaved or dual-mono audio file as your sample. **If using dual-mono files, make sure to choose the '.L' file when pointing SoundReplacer to your sample. Choosing the '.L' file makes SoundReplacer automatically pull the '.R' file along with it. Or try using either Drumagog or Trillium Labs Drum Rehab to do stereo drum replacement in realtime."** EQ

Gearhead

The FX Placement Trinity

It's not just how you stick it, but where you stick it

by Craig Anderton

Okay, let's talk about where you can stick your effects. Hmm, that didn't sound quite right . . . what I mean is, there are several places in a virtual *or* physical signal path where you can insert effects. And these places are definitely not created equal — which one you select can impact both the overall sound and CPU power consumption.

Insert, Master, or Send?

Let's find out.

READY FOR INSERTION

Insert effects got their name from the "insert" jacks located in the channels of hardware mixers. By plugging into the insert jacks, you're *inserting* (duh!) the effect into the channel's signal path.

In hardware mixers, you'll find channel inserts after the input preamp and before the fader/panpot circuitry. This allows finding the sweet spot for gain-changing, as effects generally want a diet of high-level, not mic-level, signals; the preamp can bring up the incoming signal to a consistent level for feeding the effect. Also, if the effect generates any noise, pulling down the fader reduces both the signal and the noise. With software hosts, the hardware audio interface has already set the level going into any input channel, so gain-staging isn't much of an issue.

Insert effects affect *only* the channel into which they are inserted. Typical insert effects include dynamics control, distortion, EQ (because of EQ's importance, it's often included as a permanent insert effect), flanging, and other effects that apply to a *specific* sound in a *specific* channel.

Insert effects are patched in *series*, where the output of one feeds the input of another. One exception is Tracktion 2, where you can insert a "rack" of effects connected in series and/or parallel (see Power App Alley, July 2004 issue). A program may have a maximum number of inserts, such as the eight found in Cubase SX. Other programs allow for an unlimited number, although "unlimited" translates to "how many effects

Fig. 1: With Steinberg's Cubase SX3, insert, send, and master effects all have six pre-fader and two post-fader slots, and look similar. Send effects go in a separate FX track (1), which returns to the mixer. Individual channels have inserts (2), as well as eight send controls (3). The master outs (4) have a similar structure.

your computer can run at one time without screaming pathetically for mercy."

In a hardware mixer, insert effects are mostly mono. But in a virtual mixer you usually want to apply stereo insert effects to stereo channels. While it's often possible to insert stereo effects into mono tracks, there may be unintended results. For example, if you use a mono effect with a stereo signal, perhaps only the left side of the stereo signal on that channel will be processed. On the other hand, some programs won't let you use a mono plug-in with a stereo channel, and will return an error message if you try. Mono/stereo protocols vary from program to program; check your manual for details.

MASTER EFFECTS

Master effects are patched in series like insert effects, but they insert in the mixer's master output section, after the separate channels have been mixed to a stereo or

surround signal. As a result, master effects process the *entire* mix.

These effects usually patch in prior to the master faders, so turning down the faders also reduces any noise contributed by the effect. However, with virtual mixers, there may be post-fader effects slots as well. This is important in case you want something like a reverb or delay "tail" to continue even after you've pulled the main fader down. A post-fader slot is also where you would apply dithering (at the very end of the chain). If you applied it before the master fader, moving the fader would re-create a high-resolution audio signal, and defeat the point of dithering.

As master effects process the entire mix, these effects are generally mastering-oriented processes like limiting, multiband compression, noise reduction, EQ, loudness maximization, etc. If you want to add more than one master effect, the options are the same as for insert effects. ➤

AUDIO ROUTING AND CONTROL, THE NEW-FASHIONED WAY.

Fig. 2: Adobe Audition can add not only effects, but "effects racks" (1) into tracks or buses. Note that the tracks let you choose a wet/dry amount (2) for sending into buses, which are brought together into a separate bus mixer (3). As with Sonar, there's no "master effects" slot per se, because any bus can serve as a master bus, and include effects.
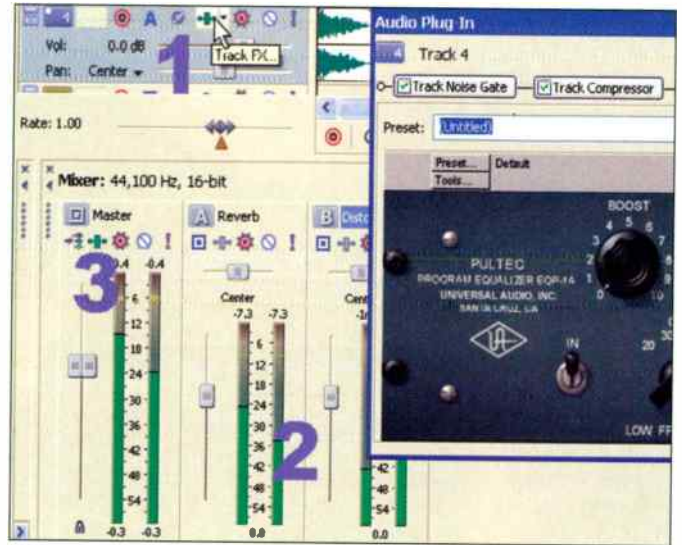
Fig. 3: Sony Vegas 5.0 has inserts (1) and buses (2), but a channel can feed only one bus (although the bus can feed any other bus, or a master bus). Therefore, any send effects need to have a wet/dry balance. Note that it's possible to insert effects directly into the Master bus (3).

For mastering effects, you want really clean-sounding programs . . . which unfortunately, have a reputation for being greedy when chowing down at the CPU Cycles Café. If you throw a lot of quality master effects on top of insert effects, your computer might go on strike (and even file an abuse complaint). One possible solution is the bus (send) effect, which uses one effect to do the work of many.

SEND EFFECTS

These effects receive their signal from an aux (send) bus, and therefore process only signals that get on the bus. The signals that show up on the aux bus come from the send controls on individual channels.

For example, suppose you want to add reverb (probably the most common send effect) to the instruments on channels 1, 5,

7, and 10. Each of these channels will have one or more send controls, each of which sends some of the channel signal (the amount depends on the send control knob setting) to a dedicated aux bus.

If a channel has multiple send controls, each can feed its own bus. So you would turn up like-numbered send controls for channels 1, 5, 7, and 10 that correspond

Fig 4: Just below a channel or bus EQ section in Sonar 4 Producer Edition, you'll see the effects bin (1). Below that are four realtime controls for effects parameters (2), then the send controls (3). All insert effects are pre-fader, but all sends can choose between pre and post. Note that the hardware out on the right (4) has no effects slot, because master effects are handled through a master bus.

Fig. 5: Reason has an extremely flexible "insert" implementation — you can patch effects wherever you want in any audio signal path by using software patch cords (1). Effects can be turned into send effects in conjunction with the mixer module (2).

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on the SLA-2 is ART's SmartFan technology. In addition to a standard cooling fan, the oversized convection heat sinks located on each side of the SLA-2 silently direct heatflow outside the chassis. What makes the SmartFan *"smart"*? It's temperature controlled variable speed keeps the amp quiet and cool when performing at lower output. SmartFan activates only when the amp's heatload rises creating an "on demand" cooling system in warmer environments.

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to the bus feeding the effect. The aux bus out then goes to the effect input, and the effect out comes back into the mixer so you can hear the processed sound. The processed sound's level depends on either the mixer's return level control and/or the effect's output control.

Cubase SX3 has an interesting take on send effects, as it makes it easy to treat external hardware processors like a plug-in. The only catch is that you need an audio interface with multiple ins and outs to send signals to the processor, then pull them back into the computer again.

Note that because send effects produce sounds that are mixed in with the main channel faders, the faders take care of sending the dry signal component to the main output, so the send effects generally produce only the processed (wet) sound. Blending the unprocessed signals with the processed sound returning from the effect is what gives a good-sounding balance.

Send controls often have a pre/post fader switch. This chooses whether the signal going to the aux bus comes from before the channel fader (in which case the amount of signal feeding the aux bus is constant, regardless of the channel fader level), or after the fader (pulling down the fader also reduces the amount going to the effect). In other mixers, some sends may be permanently set as pre-fader while others are post.

If you want to add more than one send effect, you can usually patch several effects in series: Feed the input to the first effect from the aux bus, and feed the last effect output back into the mixer. However, if you want to have a number of separate send effects, you need an equivalent number of buses. For example, suppose you want to add reverb to some channels and delay to some other channels, some of which have reverb and some of which do not. You would then need two aux buses: one to feed the reverb, the other the delay.

How does this save CPU power? Easy. When using plug-ins, every effect you add requires more computing power. If you want to process several channels with the same effect, it makes more sense to stick a single plug-in into a send bus and use the channels' send controls, instead of inserting, for example, a reverb into each channel that needs reverb.

INTO THE FUTURE . . .

Most recording software follows the hardware mixer paradigm fairly closely. But as people become more familiar with operating in a virtual world, this is starting to change. For example, Samplitude can treat effects as something you attach to a single audio object; if there are multiple objects on a single track, each can have its own processing.

Another trend is the inclusion of onboard effects in virtual instruments, making additional processing unneeded. However, in some cases you still might prefer the sound of separate plug-ins compared to what's included in the instrument.

Finally, although you can't do parallel effects inserts with most hosts, remember that there's a simple workaround: "Clone" the track, and put one effect in one track, the parallel effect in the other track, then mix both tracks together.

And now you know where to stick those effects. Happy processing! EQ

The John Lennon

SONGWRITING CONTEST

Categories

Rock   World
Gospel/Inspirational
Hip-Hop   Children's   Electronic
Pop   Folk   Rhythm & Blues
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www.jlsc.com

Mail your entry to: **John Lennon Songwriting Contest**
620 Frelinghuysen Avenue Suite #131
Newark, NJ 07114

Each entry must consist of:

- Completed and signed entry form (or photocopy). All signatures must be original.
- CD(s) or audio cassette(s) containing one song only, five (5) minutes or less in length.
- Lyric sheet typed or printed legibly (please include English translation if applicable). Sheets not required for instrumental compositions.
- Check or money order for $30.00 per song (U.S. currency only) payable to John Lennon Songwriting Contest. If paying by credit card, $30.00 per song will be charged to your account.

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

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

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

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

I have read and understand the rules of the John Lennon Songwriting Contest and I accept the terms and conditions of participation. (If entrant is under 18 years old, the signature of a parent or guardian is required.)

SIGNATURE   DATE

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Bang for the $$$!!!

We took three amps, three monitors, and one criminally minded mix.
The objective?
To separate the wheat from the chaff. Oh yeah.

by Monte Vallier

When the editor said, "I don't want reviews of gear where the product is tested with a list of all the specs, a rating, and a price. I want engineers to use the gear on a daily basis and talk about how well it worked into their studios and sessions," I thought that it would be easy. Yeah . . . easy . . . especially if by "easy" you mean the amp and speakers challenge to end all amp and speakers challenges. Yes. The one that would almost kill me. Anyway, I was given an ART SLA2 power amp, a set of Event SP8 passive monitors, and a set of KRK V6II powered monitors, plus an unusual assortment of other goodies.

WHERE

I work in two places mainly: my home studio, which I use for editing, premixing, overdubs, cue composing, and the occasional full project. I spend a lot of listening time in the tiny cockpit-like control room. Too much time. I also work at a private producer's nest studio called
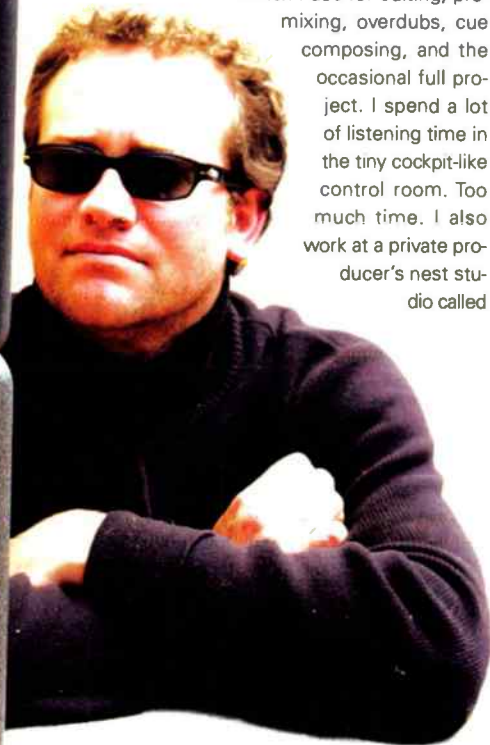
Function 8. This is the place where I do most of my mixing and tracking of bigger projects. I feel very tuned into these rooms. So I thought it would be a good experience to shake up the status quo and switch out amps and speakers in the middle of a project.

In my home space I've been using a NAD 3020 150-watt amp that even though it is a consumer stereo component, I've always liked how it sounded — warm and predictable. For monitors I have some KRK 6000s from the time before their cones turned yellow. I monitor through a dusty old Soundcraft 400B and I work exclusively in Pro Tools.

At Function 8 there's a Trident 80C console, an Otari MX70 1-inch, 16-track Pro Tools mix system, and a few choice pieces of gear in the racks. We have been using a Hafler Trans Nova P1500 amp to power another set of the KRK 6000s (we bought them at the same time so our stuff would translate). We also have some NS10s but lately we've kept them in the box behind the racks. The KRKs sound so much better to our ears.

WHAT

I couldn't wait to unpack the ART SLA2 and get it hooked up in my home space first. I was in the middle of mixing an eight-minute film that had a lot of interviews and some full-spectrum atmospheric music. So I left the session open — plugged in the amp, connected the XLR inputs, the speaker wires, set the output attenuators to 12 o'clock and slowly pushed up the faders.

Wow.

My first reaction was that this amp sounded good. I closed the film session and opened a track I'd been working on with reasonably heavy kick and bass and tons of splashy cymbals. I was a little wary of pushing the master up too high as the ART is 200 watts per side and my old KRKs are rated at 75 watts. When I did get the fader up

Photography by: Will Waghorn

I was very happy. I was so used to the NAD that this was shocking. Everything (even at the low volume) sounded clean, clear, punchy, smooth, fat, the stereo image opened up a bit, and I swear the depth of field had increased. Within five minutes I came to the realization that I had to get a new power amp!

I like the size — the ART SLA2 takes up one rack space, which is great for my small room. It also has output attenuators that push in after you set them so no one can inadvertently bump them and blow your speakers. It also comes with a screw-on faceplate in case you really don't want anyone messing with your settings. It runs very quiet and very cool. I left it on for a couple of days and it was still cool to the touch. They have "Smart Fan" technology that kicks in when the amp is being taxed. With the price less than $300, it doesn't make any sense why I wouldn't switch.

HOW

I was looking forward to trying the amp out at Function 8. We were also going to check out the Event SP8 speakers. In order to A/B the ART and the Hafler amps, we borrowed a JBL crossover box. We could hook both amps up and then defeat the crossover and switch back and forth. We got the Event monitors out of the boxes and proceeded to set everything up. We didn't have a sophisticated method of A/B-ing the speakers with each amp so one of us would stand behind the console and switch the banana plugs on the speakers really fast.

We had been working on a mix and decided to continue while we checked out the different set-ups. The track we had up was a moody instrumental with plenty of low end and some tricky mid range thanks to a Rhodes loop with a long delay. This track had an annoying hi-hat tone with some phasey stuff around 7 or 8K. This is a range that the KRKs seem to push a little.

We've been mixing on the KRK 6000s with the Hafler amp for so long that when we switched to the ART amp it was very surprising. First the ART with the KRK 6000s — same thing as at my home space: The stereo image got cleaner, the depth of field seemed to get deeper, and the dynamics increased. But the real cool shock was when we switched to the Event SP8s. How could we have been mixing all this time without being able to hear the lows like this? Suddenly that clean solid low end that I'd been missing and compensating for was there. The highs were smooth and pleasing: The 7.5K hi-hat problem seemed to melt away. It only took us a few minutes to notice flaws in our mix — from the compressor artifacts chugging along to the verb and delay tail ambiences that were sticking out in an awkward manner. The noise in the Rhodes loop was almost too apparent. Oh well.

I was never a fan of the Event 20/20s that everyone seemed to be using a few years ago. So when I got these I was a little wary about how they would sound. They are miles away from the tubby, low-end and hyped "home stereo" highs of the 20/20s, in my opinion. They are clear and accurate with sweet highs and great detail in the stereo image and a truly deep 3D field. The speakers are pleasing to listen to with a non-fatiguing smoothness that beats the KRK 6000s in the same way that the KRKs beat the crap out of the NS10s. They are good sized (12.5" x 16" x 11.9") and pretty heavy. But they are also less than $700 a pair. Good value indeed.

We continued our mix leaving the ART SLA2 and Event SP8 combination. When we brought the mix out to the 1999 Audi mix testing vehicle, the lows translated so much better We had been used to the compensations that we had to make with the KRK 6000s and we usually got it right after a couple tries, but now I felt like we could trust what we were hearing down there from the start.

Since I didn't have an amp set up anymore in my home space it was the perfect time to try out the KRK V6 Series 2 powered nearfields. They are the same size as the KRK 6000's (14" x 9-3/8" x 10") so they fit perfectly into my set up without having to move anything. These speakers are bi-amped with 30 watts for the highs and 60 watts for the lows. These are very easy to plug in and go. I brought up the same track that I had been working on before — the one with the heavy kick and bass and obnoxious drums.

First impression is that these speakers are loud. They push lots of air for little 6" woofers. There were lots of similarities between these V6 IIs and my old 6000s: The midrange up to the high mids — felt smooth and clean and present. But that's where the similarities ended. The lows on the V6IIs were hyped around the 60 to 100Hz range. The highs seemed a bit harsh upward of 9 or 10K. I felt like my room was too small for these lows and definitely overwhelmed. I like the KRK speaker line and swear by the old 6000s that I've been using forever, but I have to say that these V6IIs started to wear my ears out. I gave up and went back to Function 8, grabbed the ART amp, re-hooked up my trusty 6000s, and everything felt right.

AND NOW

In conclusion, *yes* for the ART SLA2 amplifier — *yes* for the Event SP8s. We will make them our new midfield monitors — *keep* the KRK 6000s as near fields — *maybe* the KRK V6IIs will work in the right room — *get rid* of the NAD 3020 amplifier — *consider* replacing the Hafler P1500. EQ

CURVES OF STEAL: Three Fabulous Frequency Felons

Psst, want an EQ curve? Used only once on a hit?

by Craig Anderton

Bob Ludwig . . . Doug Sax . . . Bernie Grundman . . . They're masters of mastering. They produce hit after hit, with nothing at their disposal other than . . . well, experience, talent, great ears, the right gear, and superb acoustics.

So maybe you're missing one or more of those elements, and wish that what came out of your studio sounded as good as what comes out of theirs. So, why not just analyze the spectral response curves of well-mastered recordings, and apply those responses to your own tunes?

Why not, indeed — but can you really steal someone's distinctive spectral balance and get that magic sound?

The answer is no . . . and yes. No, because it's highly unlikely that EQ decisions made for one piece of music are going to work with another. So even if you *do* steal the response, it's not necessarily going to have the same effect. But the other answer is yes, because curve-stealing processors can really help you understand the way songs are mixed and mastered, and point the way toward improving the quality of your own tunes.

As to the tools that do this sort of thing, we'll look at Steinberg's FreeFilter (which was discontinued, but still appears in stores sometimes), Voxengo CurveEQ, and Har-Bal Harmonic Balancer. So similar, yet so different . . . (*Note: CurveEQ and Har-Bal are currently PC-only, although a Mac version of Har-Bal is forthcoming. FreeFilter was available for both Mac and Windows.*)

HOW THEY WORK

FreeFilter and Voxengo split the spectrum into multiple frequency bands in order to analyze a signal. These create a spectral response, as from a spectrum analyzer, while a song plays back. During playback, the program builds a curve that shows the average amount of energy at various frequencies. You can apply this analysis (reference) curve to a target file so that the target will have the same spectral response as the analyzed file, as well as edit and save the reference file.
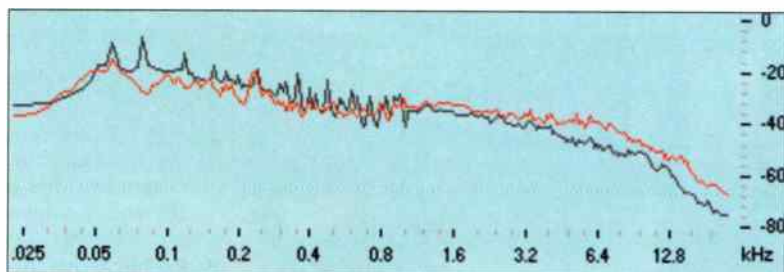
Fig. 1: The black line is the spectral response for Madonna's "Ray of Light"; the red line represents a Fatboy Slim mix. Fatboy's has a lot more treble, while "Ray of Light" has a serious low-end peak.

Fig. 2: Steinberg's FreeFilter was an early curve-stealing/EQ program. Its sound quality is lacking by today's standards, but its functionality set the paradigm for this type of software.

Har-Bal isn't curve-stealing software per se. While optionally observing the response of a reference signal, you can open another file, and see its curve superimposed upon the reference. You can edit the opened file's curve so it matches the reference signal more closely, but this is a manual, not automatic, process.

The manual vs. automatic aspect is in some ways a workflow issue. FreeFilter and Voxengo start by creating the reference curve, but give you the tools to adjust this manually because you'll probably want to make some changes. Har-Bal takes the reverse route: You start out manually, and

World Radio History

use the tools to create something that resembles the visual reference curve, which was generated automatically when you opened the file.

Also remember that curve-stealing is only a part of these programs' talents. They're really sophisticated EQs, and would probably prefer to be judged on that basis. But given the theme of this issue, we figured investigating the curve-stealing aspect would be the most interesting angle.

So what do some typical curves look like? Check out Figure 1. The black line is the spectral response for Madonna's *Ray of Light*, while the red line represents a Fatboy Slim mix. Past about 1kHz, Fatboy's curve shows enough high frequency energy to shatter glass. *Ray of Light* has a higher response below about 400Hz, due mostly to a prominent kick. It has a more thud-heavy, disco kind of vibe, whereas Fatboy Slim leans more toward a techno style of mastering. Apply these curves to your own music, and they'll take on the characteristics of the reference tunes — but the results may not be what you expect, as we'll see.

THE SOFTWARE
The software needs to analyze two files: the reference and the target. It compares the two, and raises or lowers the target curve's response to match that of the reference.

Figure 2 shows the spectral response graph for Steinberg's FreeFilter; it illustrates what happens after applying the source's curve to the destination. The green line displays the target curve, while the red line shows the result of applying the reference. The yellow line shows the response correction curve generated by FreeFilter to match the two curves. The 30 sliders are like those on a graphic EQ; they modify the curve represented by the yellow line.

It's crucial to be able to change the degree to which the reference influences the target. With FreeFilter's morph control at 0%, you hear the original destination sound. At 100%, the two curves match. You can even go past 100%, which exaggerates any changes. Generally, it seems settings in the 20%–50% range almost always gives better results than 100%, because then the source curve *influences*, rather than dominates, the destination.

With Voxengo CurveEQ (www.voxengo.com, $99.95), you can again see the filter's frequency response, input spectrum, and output spectrum. It also includes goodies not found in other programs: The "GearMatch"

Fig. 3: Voxengo's CurveEQ has analyzed the song in the rear window, matched it to the current song in the front window, and generated a compensating response curve so that the current song's spectrum matches the reference. This curve can be tweaked further.

feature includes impulse responses of pieces of classic gear you can apply to a tune. Additional limiting, saturation, and voicing can further color a piece of music.

When you want to capture and apply a curve, you can load a reference file, or play a file (in real time) into CurveEQ and capture its response. You then load the target file you want to process, and match the two. CurveEQ generates a filter response that matches the current file to the reference (Figure 3), which you can then tweak by dragging on the small handles.

With its vintage gear and dynamics processing options, CurveEQ is intended to be more of a complete mastering solution than FreeFilter or Har-Bal. Of course, if you're not careful you can overdo things, but a hint of saturation of vintage compression can indeed add some sparkle. And as it's a plug-in, CurveEQ can work with individual tracks as well as program material, although you need to be careful about delay compensation.

Har-Bal (www.har-bal.com, $95) has several interesting aspects. First, it's stand-alone, not a plug-in, and runs under ASIO, WDM, or MME. The interface is extremely easy to use and responsive in terms of drawing curves; you can adjust peaks, average, and a mean of the two separately (see Figure 4). For example, you would bring down excessive peaks on the peak line, and bring up "holes" in the average line. Har-Bal also has a volume compensation feature so that the equalized and bypassed sounds have the same apparent volume. This allows you to base your judgements solely on what EQ contributes to the overall sound, rather than being influenced by level differences. Another talent is the ability to match average levels among tunes.

Because CurveEQ and Har-Bal seem superficially similar, they're often lumped together

Fig. 4: Har-Bal's display shows the peak (yellow), average (green), and mean (red) response for the file being equalized. Each line can be tweaked independently. The faint lines in the background are from a "techno" reference file.

as similar programs. But actually, they do things in very different ways, and have very different workflows and optimizations. For pure EQ curve adjustments to fix problems, Har-Bal gets the nod. But that's all it does. CurveEQ does a lot more, including automatic curve-stealing with the ability to "morph" curves *à la* FreeFilter, but is not as versatile in terms of having separate control over peak and average amounts. Frankly, you kind of need to have both if you want all the features, but fortunately, both have downloadable trial versions so you can determine for yourself which one satisfies your particular needs better.

SOUNDS GOOD, WHAT'S THE CATCH?

For EQ adjustments, these are extremely useful programs. But if you're into stealing curves, be forewarned — there's a fundamental flaw in the concept. For example, I grabbed an audio reference from a Spice Girls CD (yes, I'm not ashamed to admit it, so sue me) because it had a nice, overheated kind of pop mastering approach and I was curious how it would affect some of my cuts. There's a serious treble boost on the girls' voices to make them airy; it sounds great with the Queens of Auto-Tune, but when applied to one of my tracks, the treble boost made the overdriven guitar screechy. However, reducing the influence of the reference tamed the treble boost, trimmed the bass, and did produce a more pop-sounding curve.

Then there are times when curve-stealing doesn't really make a difference. I had a dance tune and thought hey, *Ray of Light* was a big dance hit, let's see what happens when I apply it to my tune. So I did, and . . . nothing. Then I realized why: I had mastered my tune with virtually the same spectral response.

So does that mean I had mastered my tune as well as the big-bucks experts who did *Ray of Light?* Well, no — my tune needed a bit more high end than *Ray of Light*. So a curve can point you in the right direction, but won't necessarily complete the job.

SO WHAT DOES WORK?

Using your ears to compare your work to a well-mastered recording is a tried-and-true technique, but it shortens the learning process when you can actually compare curves visually and see what frequencies exhibit the greatest differences.
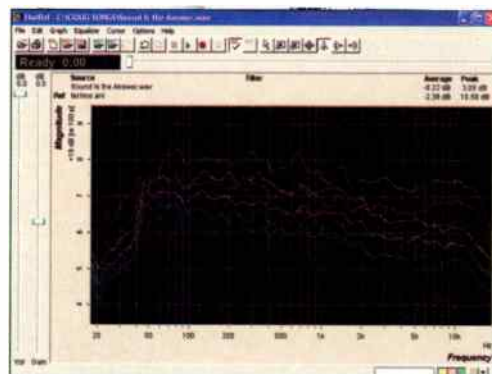
I've found a few reference comparison curves for Har-Bal that work well for certain types of music: Fatboy Slim for when dance mixes are too dull, *Ray of Light* for a house music-type low-end boost, Cirque de Soleil's *Alegria* for rock music, and Gloria Estefan's *Mi Tierra* for acoustic projects. On very rare occasions I use their curves, but when I do, they're more like "presets" because they end up getting tweaked a lot. Automatic curve-stealing just doesn't do it for me, but "save me 10 minutes by putting me in the ballpark" does.

But my main use for curve-analyzing software is for stealing from *myself*. After mastering a music project for a soundtrack, one tune sounded a little better than the others — everything fell together just right. So, as an experiment, I subtly applied its response to some of the other tunes. The entire collection ended up sounding more consistent, but the differences between tunes remained intact — just as I'd hoped.

Another good use was when German musician Dr. Walker remixed one of my tunes for a compilation CD, but used a loop for which he couldn't get clearance. Rather than give up, I created a similar loop that wasn't a copy, but had a similar "vibe." Yet it didn't really do the job — until I applied the illegal loop's *response curve* to my copy. Bingo! The timbral match was actually more important than the particular notes I played in terms of making the loop work with the rest of the tune.

This does produce a weird paradox, though: I used a piece of curve-stealing software to avoid stealing a piece of copyrighted material. I guess it's all part of the living in the 21st century. EQ

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Software & Signal Synergy

A Nice Pair: Samplitude 8.2 + RME Fireface 800

by Craig Anderton

Several years ago, I was talking about computers with some pals in Germany who use Samplitude as their DAW. I mentioned how my computer, which was integrated specifically for music, didn't have the incompatibility/stability issues that others were reporting with Windows machines.

There was a pause. Then one of them said "Well over here, we just buy the cheapest Windows computer we can find, then use an RME interface."

Samplitude (www.samplitude.com) and RME (www.rme-audio.com) are very popular in Europe, but never really hit in the U.S. Samplitude was first written for the Amiga, as the first 16-bit audio editor available. It was licensed to a company that also licensed the name of the original developer studio Sek'd (Studio of Electronic Klangerzengung) in Dresden, whose unpronounceable name was matched only by the puzzling icons they used ("I think this one means spin your monitor, then shoot arrows at it"). The engineering quality was never in dispute, but the GUI and documentation made for a steep learning curve.

Things looked up when Emagic announced distribution. Cool! Major recognition, reputable company, big announcement at trade show. Uncool! Emagic gets acquired by Apple and ditches Samplitude shortly thereafter.

Then Magix, known mostly for quality consumer software, finally took over marketing. Throughout all this the program kept getting refined, features were added, MIDI support went from sketchy to serious — and comments would pop up on U.S. Internet forums from users wanting to champion this great software they'd just "discovered."

Samplitude 8.2 (S8 for short) comes in three flavors. Master ($349) does four channels and takes advantage of the excellent bundled processors, while Classic ($629) is a lighter version of Professional ($1,249), which has the whole enchilada. Or does it? Well, almost. Sequoia 8 moves the package up one more notch with extra editing features, many oriented to broadcast. It's probably overkill for most musicians, but Sequoia is a

Fig. 1. Samplitude 8's elastic audio feature offers multiple ways to use the process, covering the range from subtle pitch correction to extreme effects.

beautifully crafted piece of software (at $3,349, it better be). Various crossgrade/upgrade pricings are available.

Synthax (www.synthax.com) now handles Samplitude and RME in the U.S., raising the visibility of both. It's an uphill fight to compete in a Pro Tools world, but Samplitude 8 has the chops to qualify as a contender.

THE SAMPLITUDE EXPERIENCE

It seems pointless to write a full-blown review of such a sophisticated program when you can get the specs from the web, download a demo, and test it yourself. So let's talk *context* — how does this fit into the big picture?

S8 is a native-based, Windows-only multitrack recording/editing/mastering/burning application that runs on anything from Windows 95 through XP Pro. It supports ASIO, MME, and WDM drivers; DirectX, VST, and VSTi plug-ins with automatic delay compensation; sampling rates up to 192kHz; and uses a USB dongle for protection.

Many proponents claim Samplitude sounds better than other platforms. At unity level, differences compared to other DAWs sound minimal to me. However, the EQ and other processing is extremely transparent, which I believe is what people are hearing. Some might prefer processing with more of an attitude (and S8 has some plug-ins for that), but Samplitude is faithful to the audio. For example, turn up the treble, and the sound gets sweeter but not grittier. Magix pushes S8 for mastering — with good reason. There's even Pow-r dithering.

S8 also has a Melodyne-like "elastic audio" function that can break notes into separate objects that are easily pitch-corrected (or pitch mangled, if you prefer), automatically or manually. This is *significant* added value.

Surround includes effects packages with EQ and dynamics, and the convolution reverb

from S7 is now surround-capable. And, *every* object can go anywhere in the surround field.

V8 Pro also adds improved file and object management/archiving, and some new toys: Robota Pro (very nice "analog" 8-voice drum machine with integrated step sequencer), and for those who are never satisfied ("but it's *too* clean and accurate!"), the Analog Modeling Suite provides a classic "analog" compressor with saturation, and a "transient designer."

MIDI, traditionally Samplitude's weakness, continues to improve. There's no groove quantize, but there are several types of group edits, a drum editor view, "multi-lane" graphic controller editing, and solid soft synth implementation. For *extensive* MIDI editing, S8 can be awkward. But if you're mainly interested in laying down soft synth and drum parts, it's easy. Besides, with ReWire support, you can take advantage of the MIDI editing in programs like Reason, Live, or Project5.

S8 is also compatible with more video formats and external hardware controllers, offers full screen video output on a second monitor (or TV), burns basic DVD-Audio discs (stereo only), and includes Remix Agent — a "beat detective"-type function. It's not like acidization (which unfortunately, S8 doesn't support); it works only with objects longer than 15 seconds, so short loops are out. But you can match projects to material with a pre-existing tempo, and vice-versa. Other useful features are folder tracks, track freeze, improved take management for loop recording, three audio effects new to version 8.2 (flanger/chorus, analog delay, modulatable filter) . . . you get the point. The Pro version even bundles the Magix Movie Edit Pro 10 video creation program.

Short form answer: Samplitude 8.2 is a thoroughly pro, extremely flexible program. The learning curve will throw you at first, but the rewritten documentation is a plus. In fact, once you get the hang of the interface, you can move around pretty fast. The graphics are a fine combination of no-nonsense basics and aesthetics; S8 is extremely well-designed, and clearly the result of engineers who place stability and functionality as top priorities.

Can S8 wean you away from your current host? Maybe, maybe not. But I suspect quite a few people who download the demo will find that S8's design philosophy matches how they want to create music.

RME FIREFACE 800 AUDIO INTERFACE
You can't download a demo of this cross-platform, 192kHz FireWire 400/800 audio

interface, so a little more detail is warranted. It's like other RME products: Built like a tank, useful applets, significant additional features (remote control, dim, submix mode, internal loopback, flash memory for updates, etc.), low latency, fine-sounding converters and mic pres, and it just plain works. But like S8 Pro, there's also heavy checkbook impact ($1,799, thanks to the current weak dollar).

The manual gets extra points for bluntly describing the technical limitations of doing audio over FireWire. But it also notes FireWire offers convenience, portability, hot-plugging, and transportability among platforms (including Mac/Windows). Overall, the package has a straightforward, "let's-get-to-work" vibe.

I/O is eight analog balanced line ins/outs, with one switchable to Instrument (you can enable drive and speaker emulation in the applet). Two mic pres are always available, and two more can sub for ins 7 and 8. The mic ins have front panel connectors (XLR and 1/4"), gain controls, and phantom power. The instrument input and gain controls are also on the front panel. Other I/O includes MIDI in and out, SPDIF coaxial connectors, word clock in and out, and a pair of ADAT optical interfaces (16 channels total). One ADAT set can do optical S/PDIF instead.

Just about everything has to be set up with the FireFace settings applet. I have mixed feelings about this; it would be nice to have physical switches for instrument drive/emulator options, and mic phantom power. Then again, a software switch won't get hit by accident, so there are advantages to RME's approach.

While the FireFace 800 is not cheap, I'm as impressed with it as I was with the MultiFace (reviewed 05/04) because it pulls off the "interface hat trick" — great construction, sound, and software.

A NICE PAIR?

I've been using Samplitude/Sequoia more and more lately for "mostly audio" projects that don't use a lot of looping; the ability to take something from inception to mastering (then burn a CD) is pretty compelling. I also like the DSP very much, due to its neutral sound. And teamed with the RME interface, I probably shouldn't be surprised that the combo is exceptionally stable.

Samplitude is definitely not the dominant host in the U.S., but you needn't follow the herd. Download the demo, then get past the learning curve; you just may find the host you've been looking for all these years.

Sounds

A/B CD
The A/B CD

Contact: www.theabcd.com
Format: CD
Price: $34.95

The A/B CD's series of recordings compares recording chain links while addressing most of the significant aspects of the signal path. Translation: 53 tracks of A/Bs including analog vs. digital mixers, 2-inch 30 IPS versus digital, tube mic pre's versus solid state, a U87 with a SM 58, reverbs, cables, real vs. modeled amps, production techniques, and even a standard violin vs. a 1708 Stradivarius.

Most of the tracks are laid out with a two-bar section of A then a two-bar section of B butted up together and sometimes for objective listening purposes, two sections of A and then a B or two Bs and then one A (prepare to reach for the pause/search buttons — often — as the parts sometimes go by too quickly to let them sink in).

After listening a few times at home, I extracted all the files and dropped them into a Pro Tools session to loop and move regions together to get quicker comparisons between waveforms. Some of the comparisons are striking, like the high-end differences in some of the cables, the tape hiss in the analog vs. digital tape, or those violins, for instance. But some of the comparisons show that there really isn't a huge, or even a barely noticeable, difference in some A/Bs, which is also very helpful.

This disk is a good tool because it may open your eyes/ears to what needs to be improved in your studio's signal path and makes for a great way to sharpen your critical listening skills.
—**Monte Vallier**

SONY
5-CD "Genre" Bundles

Contact: Sony,
www.sony.com/mediasoftware
Format: Five CD-ROMs with acidized WAV
Price: $189.95 per bundle

Sony has created some five-CD bundles from their "Standard Collection" library of sample CDs: *Danceteria, Eclectica, Rock Shop, Smooth Like That,* and *Boom Box Hip-Hop.* Each bundle contains roughly 2.5GB of loops.

Since being acquired by Sony, it seems the former

Sounds

Sonic Foundry loop library is showing love for audio-for-video types — consider bundles like these, Chicago Fire, and the Sound Effects series. Musicians often make their own loops, then buy individual sample CDs to solve specific problems; video people need highly customizable "library" music that covers as many bases as possible.

So, do these bundles let you do a complete production in the given style? Except for Eclectica, which is more like a "fill in the blank spaces in your library" bundle, well, yes. The rock bundle is particularly fitting, with drums, guitars, bass, and organ — a "virtual backup band." The hip-hop collection is mix 'n' match-ready construction kits, and the dance

and jazz collections also have the needed elements. All CDs exhibit the excellent acidization that's characteristic of Sony's libraries.

Do the math, and it's about $38 a CD — not much better than the $40 *à la carte* price. But you get convenience, and a solid selection. —**Craig Anderton**

BETA MONKEY MUSIC
Alt and Modern Rock III

Contact: Beta Monkey Music, www.betamonkeymusic.com
Format: CD-ROM with acidized WAV files
Price: $25.99

Another acoustic rock drum loop CD? Yes, but you get 11 construction kits (614MB) with groove and one-shot endings, and 83MB

of individual hits for $25.99.

The 24-bit sounds are crisp and well recorded, with enough room ambience to give some "air," but "dry" enough to accommodate adding reverb. There's no overkill compression or EQ, either. The loops are logically arranged as grooves and fills; while there's no documentation, the loop names are intuitive. The style is rock, but there's one folder each for shuffled, triplet, and funk grooves.

Unfortunately, like many other "acidized" CDs, the acidization is sloppy. Many slice markers are ahead of the hit, producing flamming with slower tempos; and there need to be more slice markers in some parts to minimize audio artifacts. To use these
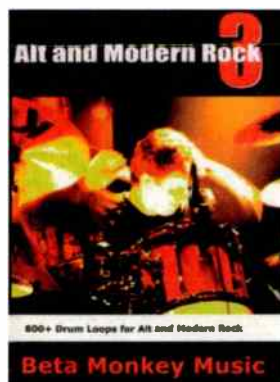
loops at slower tempos, or "mix and match" with loops from other folders, you'll need to edit many of the markers to preserve sound quality.

Still, these are extremely useable loops that slide right into rock tracks, and minimal processing gives you lots of latitude. If you already have rock drum CDs, this one offers no revelations. But if you need rock drums, you can't beat the value for money. —**Craig Anderton**

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Power App Alley
by Craig Anderton

MACKIE TRACKTION 2
Insert VST instrument objects into a project

OBJECTIVE: Supplement Tracktion audio tracks with MIDI-driven virtual instrument tracks.

BACKGROUND: Tracktion 2 is an object-oriented program, and virtual instruments are treated just like other objects. You drag a virtual instrument object into a track so that you can hear its output, then enable the track for MIDI recording so that the instrument receives MIDI data. Record MIDI data into this track, and it will play back through the instrument.
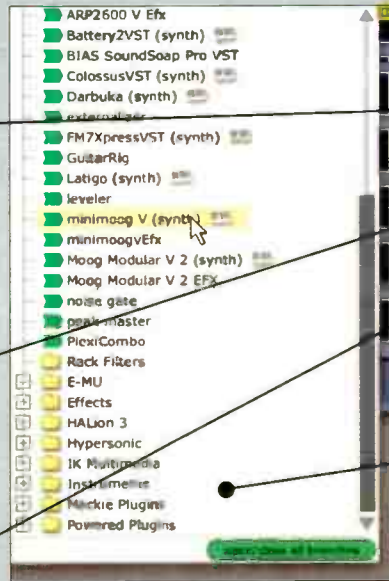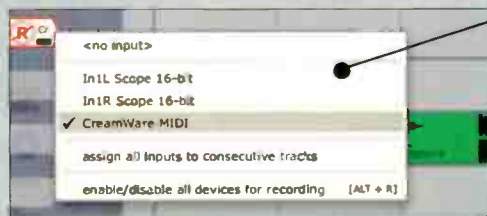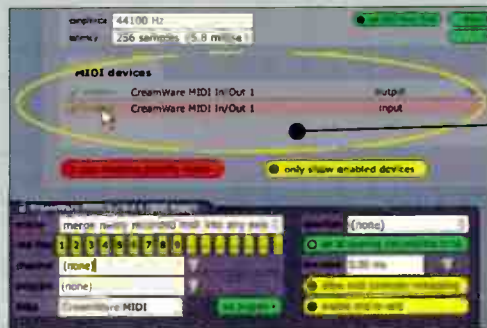
steps

On the Settings page, check that the MIDI input port you want to use is enabled.

Select the MIDI input for the desired instrument track.

Drag the New Filter object into the MIDI track's output. Here the object is being dragged pre-Volume and Pan Filter.

After dragging the Filter object into the track, a pop-up menu appears showing recognized plug-ins. Synths are shown with a small keyboard icon. Click on the desired instrument; after the menu closes, the instrument filter will show up at the track output.

Click on the Record button to enable recording. MIDI data can now reach the instrument — if you play your MIDI keyboard, the instrument should play along.

Click on the transport Record button to record your playing. You can use the Volume and Pan Filter to alter volume and pan; the subsequent meter shows signal levels.

TIP

■ If you want to process the instrument sound further, drag additional signal processing filters (reverb, delay, etc.) after the instrument object.
■ You can drag the instrument object after the Volume and Pan Filter, but then these volume and pan controls will have no effect.
■ If you want an infinitely sustaining/droning sound, program the instrument's amplitude envelope (and possibly filter envelope) for full sustain. Play the note or chord, then disable Record (click on the Record button) so that the track won't respond to note-off commands.

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Sonic Reality Refills Vol. 1-30
Sonic Reality
Now Available

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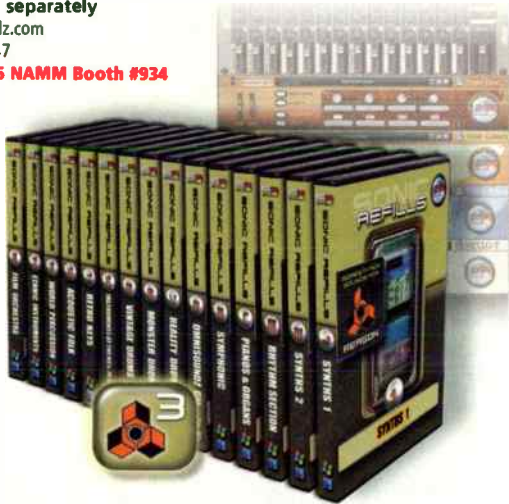
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Summer'05 NAMM Booth #2845

Power App Alley
by Craig Anderton

SPECTRASONICS STYLUS RMX
Here's how to process only certain beats in a loop

OBJECTIVE: Create more expressive parts by adding dynamics, processing, or other edits to specific beats in a loop.

BACKGROUND: Stylus RMX divides its files into "slices," and each of these is editable in various ways. However, it's also possible to apply edits selectively to just certain beats of a loop. In this example, we'll look at how to process just the backbeat (2 and 4) of a loop.
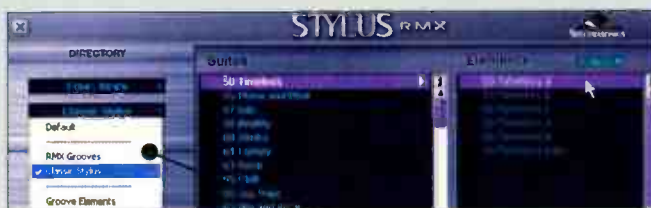
steps

Select a groove. The example above shows groove "50 – Timeless a," from the Classic Stylus library.

Close the browser.

Click on the Edit Group grille.

When the Edit Group window opens, click on the Assign Field, and choose "Assign (2 and 4) Backbeats." Now, any edits (front panel or signal processors) will apply only to beats 2 and 4 of the loop.

Click on the FX button.

Click on the Inserts button, click on the Effects Select button, then select EZ-Verb.

Adjust the reverb parameters to taste. You can solo or mute the selected group to hear the effects of your edits, in real time.

TIPS

■ Of course, there are many possible choices for effects other than reverb!
■ The Assign menu gives lots of options for the rhythms of particular groups, like every eighth, just the first sixteenth, just the 1st and 3rd downbeats, and so on.

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Room with a VU

by Carly Milne

STUDIO NAME: Centerline
CONTACT: Lawrence Wells
LOCATION: Santa Monica, CA.
KEY CREW: Patrick Hildebrand, Willie Brown, Howard Lipp
CONSOLE: Yamaha 02R with TC Finalizer, Yamaha 4416
MONITORS: Mackie HR824, HHB, Alesis, Custom monster sub
EFFECTS: Vintage Tape echo, the usual outboard stuff, and a host of digital plug-ins. Reason, Re-Cycle, BFD, Stylus
OUTBOARD: Avalon pre's, a large collection of vintage and modern/array of floor pedals/Line 6 guitar and bass pods, Marshall, Orange, Fender, Leslie.
MICROPHONE PREAMPS: Avalon VT737 sp, Pre Sonus Digimax & VXP, dbx 383
MICROPHONES: Neumann U87 A, Shure 57s, 58s, AKG C-414/C-1000, and Audix D-1 D-2 D-3 D-4 clip on drum mics
COMPUTERS: Apple Dual G4s, MOTU 2408 interface, Mac OS X running Logic Audio loaded with plug-ins and soft synths.

In Santa Monica, California, nestled among buildings holding entertainment powerhouses Viacom, HBO, Sony, and MTV sits Centerline, just 26 blocks from the ocean. "We call it the Wizard's Kitchen, they call me the digital wizard," says Howard Lipp, president and producer of the studio. "Just about every TV and film and agency, as well as the big management firms and entertainment law firms are right here. You can ski an hour from here and surf down the street. The weather is the best. Unfortunately the traffic is the worst, so paradise has a price."

But the price seems to be worth it, as Lipp's love of music has paid off. A musician for 32 years, Lipp studied computer engineering and physics in college until a career in cable TV gave way to pursuing his dream career, which led to the opening of Centerline. "I've been involved in recording and studied at Newhouse School of communications and interned and engineered at a lot of studios, so designing and opening a studio was as natural as falling asleep," says Lipp. So why the name Centerline? "The Centerline to me is the road less traveled, the unbeaten path. The fall line to skiers, the death alley to bikers. Straight ahead, balls to the wall, no fear."

Though Centerline does boast a celebrity clientele, Lipp notes the studio is living out his dual ambition to develop both film/TV projects and independent musicians. Lipp is most passionate about this aspect of the studio. "I believe that there's room in the hearts of music fans for all music — there just may not be room on a store shelf," he says.

With the coolest vibe of a converted schoolhouse circa 1941, Centerline offers a control room with a 20-foot a-frame ceiling sporting a huge fireplace and great sounding drum room, musicians with years of recording and producing experience at your service, the ability to sync to picture, and 72-hour turnaround on most composing projects. Notes Lipp, "We have turned around tracks for film, television, and advertising in under 48 hours from phone call to master. The single most important part though is our context around producing. Our job is to bring out the best in whatever project is in house."

But for this music lover, the best part of running the studio is — obviously — the music. "I love music and musicians and creating and helping fledgling careers get a leg up," says Lipp. "To me, music is the first true universal language. Music expresses the full range of human experience, emotions, and feelings . . . even those that are hard to put into words can be fully expressed in music." Amen.

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