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ON CRUNCHY SNARES

JANUARY 2010



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by Roland

THE "GIFT" OF MUSIC

I've always found the term "gifted" interesting as applied to people. Of course, there's the obvious meaning: That a person was given something special, through no particular efforts of their own, that provided at least the potential to rise above the crowd in some way.

But there's another element to a gift. A gift involves sharing, whether it was the original sharing of the gift, or sharing a gift with others. Who among us hasn't celebrated an unexpected windfall by treating our friends as well? Gifts seem to be even sweeter when shared.

Now before you think I'm going to get all Oprah on you, don't worry—this ties back to what we're doing as musicians and recordists. I maintain that if you can play music, you have a gift. It's not something everyone can do, and if you have a natural knack for it, that's even better. If you're a musician, consider yourself fortunate to be able to enjoy the art of *creating* music, not just *listening* to it.

However, let's look at the sharing part of the equation. How are you using this gift? If it's just to amuse yourself after a tough day at work, there's absolutely nothing wrong with that. Playing music can be very therapeutic, and the results it has on you will be shared in the form of your interactions as a person anyway.

But maybe you're using your gift in the context of a church, where it helps heighten the religious experience of yourself and others . . . or as a way to affect political change, by using your art to reach people in way you couldn't otherwise. Maybe your gift is to teach music to others, or to volunteer at a hospital to lift peoples' spirits during the holiday season. Or it might be a way, with the help of other local musicians, to raise funds for someone in your community who's fallen on hard times.

Never underestimate the power of music, but don't underestimate your personal power either. As a musician, you can affect others in various ways—whether it's about providing comfort, entertainment, or a soundtrack for their lives. You have a gift: Appreciate it, and use it wisely.

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PUNCH INH

LET IT BLEED

Recording in a Small Mexico City Studio Helped **Chuck Prophet** Get Aggressive

BY PATRICK SISSON

When San Francisco guitarist and singer Chuck Prophet set out to record *iLet Freedom Ring!* [Yep Roc] last spring, he assumed a change of environment, specifically Mexico City, would inspire him and add some manic energy to the album. He didn't count on periodic power outages ruining takes at Estudio 19, the old-school studio he picked to lay down tracks, nor a 6.4 earthquake shaking the building's foundations. And nobody expects a pandemic.

"What I didn't predict was that the swine flu scare would start three days after we arrived," Prophet says. "The CNN paranoia, if you crank that stuff up to 11, makes everybody start to feel a little off. People got itchy. We put on blue masks and had a driver take us to the studio."

Also, according to producer Greg Leisz, Prophet didn't remember how small (roughly 12 feet by 20 feet) the high-ceiling main room was at Estudio 19. Reacting to his last record, *Soap and Water*, which included sections with arranged strings and a children's choir, Prophet wanted to dial things down. The former member of '80s L.A. cowpunk band Green on Red

wanted a light touch and a raw performance. Normally, tight spaces complicate the situation. But with a few deft arrangements of equipment and a willingness to use bleed and leakage to their advantage, the musicians and engineers working on *iLet Freedom Ring!* made it sound both spacious and fully charged.

"People think isolation is the way to go," says Jason Carmer, who engineered the album. "But getting the bleed reinforces the stereo imagery. You can hear the guitars from the perspectives of all the mics in the room. I find that the bleed gives you great depth of field."

The whole album was recorded in one general formation in the main room to help capture a live feel. While there were some guitar overdubs later, and pedal steel and fiddle tracks were laid down separately to add extra color and tone to songs like "What Can a Mother Do," the aim was to capture raw performances.

Electrified opener "Sonny Liston's Blues" was a completely live take. Chuck occupied the right corner. His guitar, usually a Squier Telecaster, which he favors for its simplicity, was plugged into a pedal board and run into an amp, usually a Fender



Chuck Prophet.

Princeton Reverb or a Vox AC30, which stayed in the main room and was recorded through a RCA 77DX ribbon mic. An Ibanez AD-80 analog delay was sometimes plugged in to provide a vintage slapback feel on some of Prophet's solos. Baffles were then set up to cover his Neumann U 47 vocal mic (run through a GML pre-amp with a Urei LA-3A compressor), chosen because the rich, warm sound worked well with Prophet's Tom Petty-esque voice.

"Both the mic and Chuck's voice have character, so I wanted to capture that," says Carmer. "It helped deliver the smashing, classic vocals of old



records that we were looking for.”

Drummer Ernest “Boom” Carter, who played on Springsteen’s “Born to Run,” set up a borrowed ’60s Gretsch drum kit across the room, miked with a mono U 87 placed between the beater and snare that “pulled it all in,” according to Carmer, and added a spaciousness to the recording. Guitarist Tom Ayres, bassist Rusty Miller, and Leisz, who occasionally added another guitar line, squeezed in the middle of the room. Their amps were placed in the machine room or lounge, with doors left slightly ajar to capture some bleed. Everything was tracked according to its orientation, says Carmer, which

meant they could capture the reflection of the space.

To accentuate the live energy in the room, lots of compression was added to the guitar tracks via Neve 1073s and UA 1176s. It really pricked up the guitar lines snaking through the rave-up “Where the Hell is Henry?”

“The general *modus operandi* was to go for it and be aggressive,” says Carmer. “[Compression] helped give it an authentic feel but also trash it up a bit.”

Prophet and others half-jokingly referred to the studio as a state-of-the-art room from 1957, and while there’s some truth to that, the studio’s cache

of vintage gear and mics added a lot of character. A vintage Ampeg SVT added powerful reverb, and Carmer especially enjoyed using Pultec EQP-1As on kick, snare, toms, rooms, guitars, and bass. More importantly, the somewhat cramped space—from the overflowing studio to the courtyard where they’d eat tacos for lunch—gave them a sense of unity of purpose.

“There was so much chaos outside the studio that when we got in there and the power was on and we could lay down a track, there was a certain teenage energy,” Prophet says. “It reminded me of being in the studio with my first band.” **EQ**

MIXED BAG

Annie on Working with a Handful of Producers for Diverse Sounds

BY RICHARD THOMAS

Whether it's the pre-choruses' saccharine harmonies or the robotic march of the percussion line, there's something about Annie's tongue-in-cheek track, "I Don't Like Your Band," that's reminiscent of Animotion's dance rock masterpiece, "Obsession." In fact, much of Annie's second full-length album, *Don't Stop* [Totally/Smalltown Supersound] cuts a wide swath through the sundry styles of '80s-era pop music. But unlike many modern-day electro artists who rely on referential synth patches and drum patterns to achieve their throwback sound, Norwegian songstress Annie achieves her authentic flavor the old-fashioned way—with melody.

"I sing the melody in my living room; then I program the beats using either using a Yamaha Tenori-on, my Roland TR-808, or whatever suits the song," says Annie from her home in Berlin. "Then I look for the perfect bass line. When I've got the bass line and drums that I'm happy with, I sit down and think about the lyrics, which can sometimes take five days or four minutes. When I'm satisfied with the words, I record the vocals properly, then record a synth line using a MiniKorg 700s."

Annie's home studio is not much more than a living room corner packed in with the aforementioned gear, plus a Korg Kaoss Pad, Kaossilator, and MacBook running Ableton Live and Apple Garageband. That basic setup gives her quick and easy access to all the parts she needs to put together a rough demo, but as longtime friend and producer Richard X points out, Annie's demos are close to what the final recordings end up sounding like.

"The writing and the concept go hand in hand with how the demo sounds and what ideas that sparks off," says Richard, who worked on "Songs Remind Me Of You," the album's first single.

Xenomania's Brian Higgins, Timo Kaukolampi, and Paul Epworth (The

Rapture, Friendly Fires) also produced tracks for *Don't Stop*, and each set of songs lends a specific feel to the overall body of work. Epworth, who remixed Annie's "Heartbeat" in 2004, produced the bubbling "Don't Stop," "I Don't Like Your Band," and "Hey Annie," which kicks off the album with pounding, collegiate marching-band style drums that Epworth tracked himself.

"It really opened up a new door, and it filled in some pieces that were missing," says Annie of working with Epworth, who most recently produced Florence and the Machine's *Lungs*. "It was very tribal. Not necessarily club-oriented, but just a lot of percussion."

Kaukolampi, who produced much of Annie's debut, *Anniemal*, was responsible for more esoteric tracks like the hazy, string-infused "Marie Cherie." The bass line was created with a Roland Paraphonic-505, while the beats were made with a broken-down Roland TR-808 with heavy analog delay from a Yamaha E1010. Although the 808 doesn't function properly—after Kaukolampi tried to solder together some broken components in the unit's mixer, the machine started emitting extra noise and distortion—the distinctly lo-fi sound complements the strings on "Marie Cherie."

"My great mentor Yngve 'Silverfox' Sætre did the first violin and all the orchestral parts in Pro Tools with Soft SampleCell," Kaukolampi says. "Then he recorded real strings on top with lots of delay feedback, plus these eerie Theremin vocals from Hannah Robinson."

For Annie's vocals, Kaukolampi and Sætre used a '60s-era, East German Neumann Gefell UM 57 mic, UA 1176LN compressor, UA LA-610 channel strip, and an early '70s Audiotronics 501 "Son of 36 Grand" mixing board.

The high band in the EQ of the console helped maintain the air and the sassiness of her tone while keeping it from sounding thin. "The top end of



AKI PEKKA SINIKOSKI


that one is extremely sweet and airy," Sætre says. "Turn it to two o'clock and any vocal or snare drum sounds like a warm pacific breeze." Mixing engineer Matt Gray would also roll off around 200 and 500Hz and then boost at 8kHz on Annie's voice.

"I also love slapback delay on Annie's vocals," Kaukolampi says. "An Altai Analog Delay effects unit and a Binson Echorec were used for slapback. Longer delays were done with an Electro-Harmonix Memory Man. For reverb, I used an old EMT 140 plate, then some slight modulation from a Yamaha SPX90."

With the help of engineer Pete Hofmann, Richard X approached his session using a Neumann U 87 through a Tube-Tech MEC 1A with light compression. To help smooth out Annie's vocals on "Songs Remind Me Of You," three lead tracks were used, along with a few interweaving vocal parts and echoes that added lushness to the chorus.

"The MEC 1A has a very gentle overall compression, and then we'd use a Waves or Pro Tools compressor in the same track," Richard says. "Processing-wise, there's also AMS RMX-16 reverb and AMS DMX chorusing on the vocals, alongside the more plug-in-based HD processing on the Pro Tools|HD rig."

Although Annie created demos for most of the songs on *Don't Stop*, she leans on the help of a producer to, as she says, "fill out the pieces."

"There's a certain amount of trust with Annie, as we've worked together a few times over the years," Richard says. "We're on the same wavelength in the studio, and she trusts we'll be able to make something she likes." 

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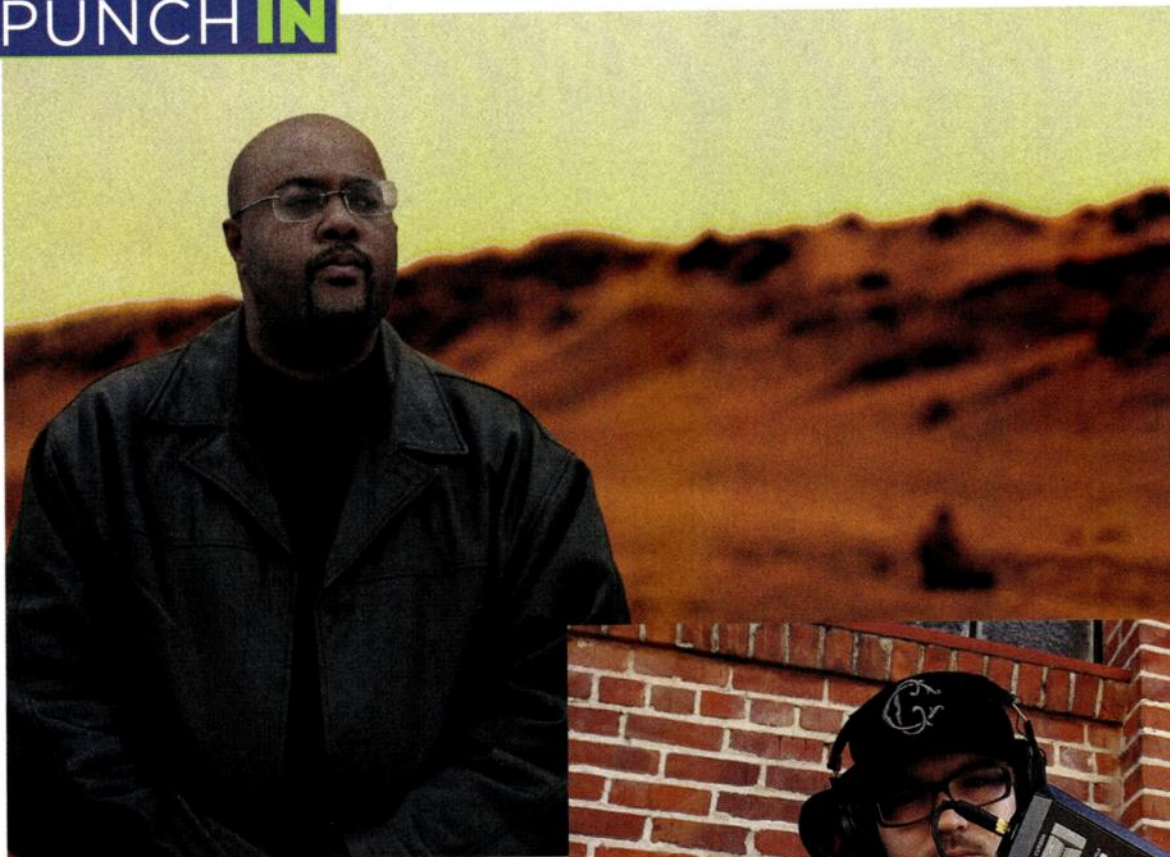
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Gift of Gab (above) and DNAEBEATS (right).



LOST IN SPACE

Gift of Gab and **DNAEBEATS** Get Entranced and Ponder the Planet on *Escape 2 Mars*

BY KYLEE SWENSON

With album titles like *4th Dimensional Rocketships Going Up* and *Escape 2 Mars*, one might assume that Gift of

Gab—one half of Bay Area hip-hop group Blackalicious—is obsessed with space. But really, he's more concerned about Earth.

"I don't want people to think, 'Gift

of Gab's completely on some going green stuff,' but that whole concept was in my head," Gab says. "I'd been watching the Al Gore movie, *An Inconvenient Truth*, and I was feeling

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with people about 2012 and the medical industry and global warming—the state of the world that people don't really talk about but that affects everybody."

So Gab enlisted producer DNAE-BEATS to create a compelling soundtrack to support his political philosophies on his latest album, *Escape 2 Mars* [Quannum/Cornerstone]. "He had given me so many beats from the [2006] *Supreme Lyricism* mixtape that we worked on," Gab says. "I was like, 'This is dope . . . this is dope. . . .' So I picked two beats and used them—"Escape From Mars" and "Light Years"—as the focus for the record."

DNAE sometimes started with samples but often chose to replay them; about 70 percent of the record was played, 30 percent sampled. After sequencing beats and chopping up samples—such as the Indian Bali funk bass found on "El Gifto Magnifico"—on his Akai MPC2500, he dumped them into Ableton Live or Pro Tools (using a Command 8 console). He then played around on his Korg MS2000, Korg Triton, Moog Voyager, Roland Juno-106, Studio Electronics Omega 8, Clavia Nord Lead, and Rhodes keyboards.

That's when he'd get into a trance-like zone. "If you see the tabla player Zakir Hussain play live, he goes into this trance where he's not really there—it's a different level of consciousness," DNAE says. "It's very much the same process for me. If there's something that isn't working, I

can't spend more than five or ten minutes on it. I gotta keep that flow continually going."

To maintain focus, DNAE generally sticks with one synth, maybe two, per song. "'Electric Waterfalls' was all the MS2000," he says. "'Spotlight' was all a Moog Voyager. 'Rhyme Traveler' was a Moog Voyager and a Nord piano."

Gab writes rhymes (as well as chorus hooks, which he often delegates to other singers) in a similar way. "There are certain songs where, as soon as I hear the music, I have to grab a pen and a pad because the whole song is probably going to spill out at that moment," Gab says. "You're never gonna get another moment exactly like that moment."

But he doesn't wait for those moments. "Julia Cameron, who wrote *The Artist's Way*, said there are two ways to look at [creativity]," Gab reveals. "There's the storm aspect of it—when the inspiration hits, grab it. Or there's writing in a disciplinary way, where you write a page every day. Letting go of the outcome is the key. It's not in my hands. My business is being the vessel and dedicating myself to it every day. The first couple times stuff might come out that you won't share with anybody, but four or five days into it the creative energy takes over, and it's like, 'Where in the hell is this coming from?'"

Meanwhile, DNAE got creative with . . . vitamins. "I'll shake a bottle of vitamins 'cause that makes one of the best claps," he says. "If you pitch it down a little and shorten it so that it's just like a

snare and then layer snares on top of it, it adds a lot of depth. On 'Light Years,' there are two or three snares, and I layered two handclaps—mixed with the vitamin sound—over that to give it more of that crunchy vibe."

After recording vocals (on a Neumann TLM 127 through an Avalon Vt-737sp channel strip), the guys brought tracks to engineer Mike Cresswell to take the mix to the next level. An example is the wide stereo image in "Escape 2 Mars," for which Cresswell processed a Paul Reed Smith acoustic guitar through a DigiTech Whammy pedal—set to one octave up/one octave down—then adding spring reverb and panning it hard left and right.

Other gear used to push things sonically included SSL FX G383, Speck ASC-T, and Massenburg DesignWorks EQs; dbx 160X and Smart Research C1 compressors; a Delta Labs Effectron (for the spaceship-taking-off sound between "Escape 2 Mars" and "Electric Waterfalls"); Line 6 DM4 and Yamaha GEP50 effects (for distortion on Gab's voice); and Bomb Factory 1176 and TL Space plug-ins.

Technical elevations aside, Gab's main desire was to create an album filled with fresh ideas. "I want to explore the different possibilities of being an MC and lyricist," he says, "and in my opinion, that journey is the same thing as space: There's no way you can come up with all of the styles or concepts that there are to come up with because everything is moving forward and expanding." **EQ**

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LEMONADE FROM LEMONS

RJD2 Creates Beautiful Sounds from Piles of Cheap, Old Gear

BY JOHN PAYNE

Going by the jaw-dropping cornucopia of sounds on his new album *The Colossus*, hip-hop producer RJD2's got a lot on his mind—and it's beautiful stuff. Created in his home studio in Philadelphia, *Colossus* [RJ's Electrical Connections] is RJD2's fourth solo release, and unlike his last record, *The Third Hand*, on which he veered away from sampling and guest vocalists, it features several collaborations with singers and players; similar to his previous recordings, it was achieved at minimal expense.

"The overarching concept this time was that there would be a variety of things on it," RJD2 (a.k.a. Ramble John "RJ" Krohn) says. "At one time I was producing primarily instrumental hip-hop on a sampler, and then I moved into doing live recording and working with vocal artists. The intent of this record was to move back and take all of those sort of formats of recording and use 'em all, but obviously coming from a 2009 writing perspective."

An inveterate gear junkie—of the cheapo kind—RJD2 dove into his many vintage instruments and mics for inspiration and combined their old-world charms with modern recording.

"I'm obsessed with buying gear," he says, "whether that be synthesizers or guitars or mics. This is a holdover from the time when the only source material I could use to make a record was samples off of records. Now I see collecting different drum kits—or placing different mics on the drum kits—as the same kind of amassing tools, basically. The best scenario is when you get something new and it leads to a particular kind of writing for a particular instrument."

There's no mistaking the thrill in discovering a new use for an old sound, as RJD2 found out with his 1977

Yamaha CS-80 synth. "It had been used on a lot of very recognizable recordings, so you immediately hear some of those sounds," he says. "It's the same instrument that Vangelis used for the score to *Blade Runner*; Stevie Wonder used it on *Secret Life of Plants*; and it was used for the *Doctor Who* theme. But also, it's really playable. It's got polyphonic aftertouch, and in the world of the original analog synths, that was a rarity. It's got a ribbon controller and an expression pedal, and it sounds like no other synth."

Among the antiques and curios at his studio are three separate drum kits, each miked in idiosyncratic ways to get the desired dry, medium, or "wet" sound required for whichever song he's working on. The wettest kit, heard on "Walk With Me" and "Gypsy Caravan," is a Ludwig, with a standard-sized snare and 26-inch kick drum with both heads on it. "It's basically the Bonham kit without all the toms," he says with a laugh. "It's got the front and beater heads on, with two felt strips on each side of it."

The dry kit, heard on "Games You Can Win," "The Shining Path," and "Tin Flower" is "a really trashy Gretsch Nighthawk, but it was just damped to oblivion," RJD2 says. "There are two dampers on the snare—one is this foam square that I stuck a weight in so it wouldn't pop off, and the other is one inch of bar coasters that I duct-taped together; it's about the size of a wallet."

He likes older, cheaper mics for his drum and vocal parts. "I'm a big fan of the old Realistic dynamic mics, like the model 1070, which I used as an overhead on the drums, as well as a Realistic stereo mic. These mics are not 'high end,' but they're the only mics that'll achieve this particular sound that I'm shooting for."



DAN MCMAHON

In front of the wet kick drum he might go with the AKG D 12, a large-diaphragm dynamic mic from the 1960s. However, on the dry kit: "I use this Realistic knock-off of a D 12; it sounds terrible, but you set it an inch off the resonant head of a big kick drum that's damped really hard, and it sounds perfect." His vocal mic of preference is a Microtech Gefell UM 75. "It's across the board, not too sibilant, good frequency response," he says.

While he drafted in horn, woodwind, and string players on *The Colossus* to give things an occasional live organic sound, RJD2's still rifling through his stacks of old vinyl, using the MPC2000 sampler and several soft synths, including the Gforce M-Tron virtual Mellotron. For processing, he made extensive use of the Plate 140 on the Universal Audio UAD card, as well as the Pultec and Fairchild EQ plug-ins.

"A big part of using the UAD Plate 140 is ease of use," he admits. "I do a stereo auxiliary channel and just bus the instruments to it. If I'm really in the mood to patch cables around and shoot for a sound, I've got a Tapco spring reverb that sounds great."

RJD2's "if it works use it" attitude extends, finally, to his studio monitors, a hodgepodge of late '70s/early '80s Technics home studio speakers with a standard power amplifier.

"It's not, like, fancy," he says, chuckling, "but at this point I'd rather have a monitor that I know that isn't perfect than a monitor I don't know that's high class. It makes sense to mix on monitors that are close to what people are actually going to listen on in the end." **EQ**

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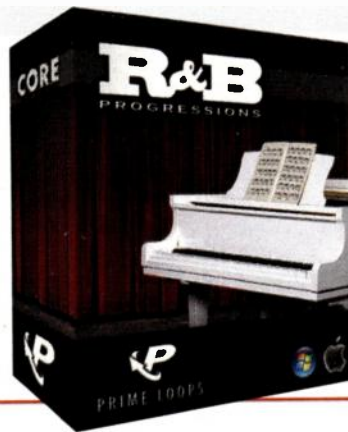
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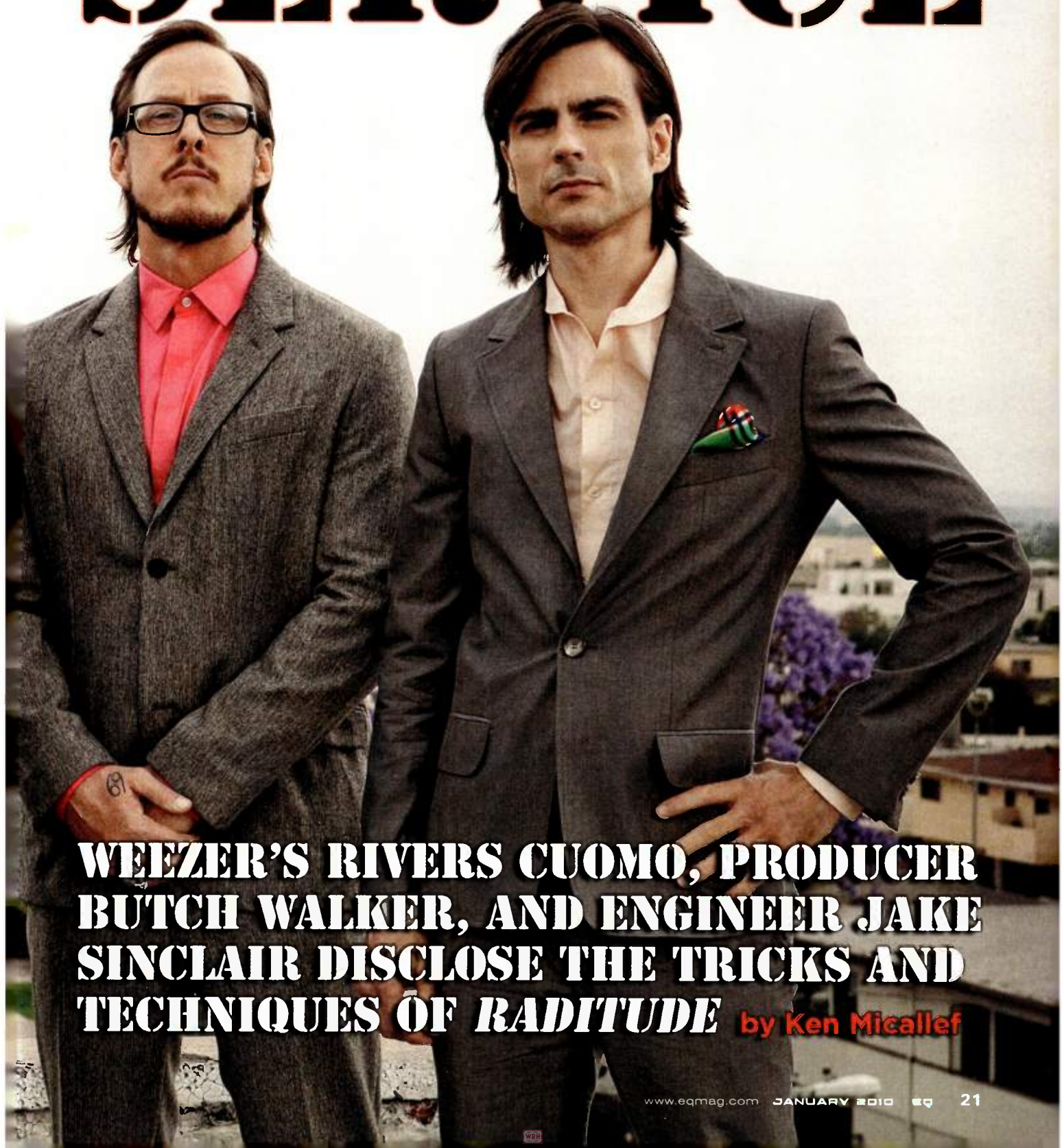
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WEEZER'S RIVERS CUOMO, PRODUCER BUTCH WALKER, AND ENGINEER JAKE SINCLAIR DISCLOSE THE TRICKS AND TECHNIQUES OF *RADITUDE* by Ken Micallef

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Running their own power-pop kingdom, California alt-nerd rockers Weezer perfect themes of partying, hot girls, mall cruising, and universal love on their seventh album, *Raditude* [Geffen]. Recorded at four different studios, *Raditude* reflects Weezer's newfound recording approach. Drummer Patrick Wilson handled the bulk of guitar duties with rhythm guitarist Brian Bell, while principal composer and vocalist Rivers Cuomo mostly showed up to record vocals, handing off arrangement and sonic decisions to producers Butch Walker (Pink, Avril Lavigne, Katy Perry, Dashboard Confessional) and Garret "Jacknife" Lee (U2, Snow Patrol, R.E.M.). Still, with the band members' roles seemingly in transition, *Raditude* is the ultimate Weezer production, a gleaming slab of radio-ready rocking pop that combines contemporary studio techniques with old-school songwriting skills.

Working with Lee at The Village and The Document Room, and Walker at his Ruby Red Studio (all in L.A.), Weezer also enlisted hip-hop mogul Jermaine Dupri for "Can't Stop Partying" (with Lil Wayne, produced by Polow Da Don) and Luke Gottwald, a.k.a. Dr. Luke, on "I'm Your Daddy."

Keeping up with Cuomo as he co-wrote songs with various artists (including Adam Lambert) for Weezer and future projects, the producers found guerilla tactics worked best. A renowned introvert, Cuomo didn't want to record vocals in a proper studio, so Walker invited him to his Santa Monica home (he and Cuomo live on the same tree-lined street) where he coaxed the singer with a laptop, API Lunchbox, Apogee Duet, Blue Bottle and Telefunken U47 microphones, and backup singers (a.k.a. girls from the local coffee shop). Over at Ruby Red, the rest of Weezer—also including session drummer Josh Freese and bassist Scott Shriner—laid down instrumental tracks with engineer Jake Sinclair (who founded the ultimate Weezer tribute band, WannaBeezer, in high school) adhering to Ruby Red's celebrated all-mono approach to drum tracking and gritty, super-saturated guitars.

Meanwhile, Lee used spare time surrounding Cuomo's rare appearances to experiment (often effecting drums with Ohm Force Ohmicide plug-ins). He and

engineer Tom McFall recorded a different kit for each track, typically trolling through Lee's iPod for inspiration to create a different mood for every new Cuomo song.

Raditude grew out of Cuomo's rough demos, which he works up on an ancient Sony Vegas video editing program. Later, Walker and Sinclair used the demos for the basis of many of *Raditude's* tracks, sometimes keeping Cuomo's fully fleshed out demos and only replacing drums and guitars, track by track. But just as often they recorded Weezer live in the studio, occasionally keeping full-band performances, sometimes stacking parts as the muse hit them.

From the first single, "(If You're Wondering If I Want You To) I Want You To," to pop-punk kickers like "Let It All Hang Out" to the Bollywood-inspired "Love is the Answer," *Raditude* finds Weezer perfecting their sound and style, settling into the band's middle age, taking names, kicking ass and, oh yes, moving mass quantities of product. Now, that's *Raditude*.

RIVERS CUOMO: ON LAB COATS, RECORDING VOCALS, AND LIL WAYNE

After seven Weezer records, do you favor a particular recording approach?

For our first record [*Weezer*], we hunkered down for five weeks at Electric Lady in New York with an engineer and producer. It felt very professional and traditional. Nowadays it feels like small potatoes. You're at your neighbor's house, just the two of you. I am old-school guy. I would be happiest doing it early '60s style where the recording crew wore white lab coats. Actually, Jacknife's crew wore white lab coats during some of the sessions. I like that vibe.

You don't like the modern recording sound?

I can't complain about the sound. But I guess my childhood dream of singing in a rock band and making records was always about going to a recording studio where there's no sunlight and lots of gear and there's a sense of excitement and pressure when you're doing a vocal. Now it's so much more casual and less professional feeling.

Then why do it that way?

I guess it's just way cheaper. But at

the same time our records cost more than ever, so I don't know what's going on! But yeah, I'd rather be at Abbey Road. Definitely.

How did you hit on using Sony Vegas for demos?

It's very rare that musicians use it, but ten years ago that's the program I got a hold of and that's what I learned, so it's impossible for me to switch now. Sometimes I create full demos on it with my Dell laptop. [For] a song like "Trippin' Down the Freeway" I just went into my little shack and fully arranged the song. "Can't Stop Partying" was just one mic, and I sang and played acoustic guitar for the demo. That's all it needed.

How do you like to record vocals?

As I've been working with different producers from different backgrounds over the past year, I've been exposed to a number of ways to record vocals. When we made the *Blue* album in '93, I was shocked when Rick Ocasek wanted me to sing the song four times and then he comped the takes together. That blew my mind. I've stuck to that ever since. And with digital I can do even more takes and comp from there, usually line by line. And we do a little tuning if we have to. I've also been exposed to other ways, just singing eight takes of a verse and not singing the whole song. Then singing the whole chorus. Recently, we recorded a song for *Yo Gabba Gabba!*, and I didn't know the song, so I literally sang one line at a time, and I would do four takes of each line. It came out really good! I love experimentation and trying different approaches.

Also, I don't want any effects on my voice when tracking but I do want a ton of compression. I want to hear all the sounds in-between the words, the sound of my breathing and the sounds my mouth makes. I think there is a lot of expressiveness in those sounds. I want to be able to hear all of that.

How do you prep?

You've got to get your whole physical system heated up. I do pushups and sit-ups. Or I run on the treadmill or just do a bunch of vocal takes. All that energy, your blood pumping and your heart beating: That ends up on the tape or the hard drive.

Besides co-writing a couple songs with Butch Walker, you also wrote "Can't Stop Partying" with

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Jermaine Dupri. That must have been a new experience.

It's a combination of a party attitude and also some darkness and sadness and complexity. We just traded files over the Internet. To top it off we got Lil Wayne to do the rap. At first his lyrics bothered me 'cause they were so hedonistic. But even though the lyrics sound like they could have been written by a kid, they're just perfect. I ended up rewriting the music and putting it in a minor key, which gave a different spin to the lyrics. The lyrics are about partying, but with heart-breaking music under it. It's so satisfying to me.

Can you contrast working with Butch Walker and Jackknife Lee?

Jackknife does a lot of work in Logic, and he does a lot of experimentation with texturing, effects, and processing guitars so much that they don't even sound like guitars anymore. It sounds more atmospheric. You hear that on "I Don't Want to Let You Go," the beautiful closer to *Raditude*. And it takes a long time to cut a song with Jackknife. But it's worth it.

Butch is more straightforward. By the end of the first day you have all the instruments tracked, and it sounds like a live rock band playing together in a room. Butch does like some ear candy, so on "(If You're Wondering If I Want You To) I Want You To" he tapped on a bottle of water to get that little bell

sound in the pre-chorus. And he's not afraid to bring in some girls from the coffee shop to do background vocals, like on "Let It All Hang Out."

BUTCH WALKER: ON MONO RECORDING AND WHY CYMBALS ARE THE ENEMY

How did you come to write with Rivers Cuomo, then produce tracks for *Raditude*?

It escalated from being asked to co-write a song—"(If You're Wondering If I Want You To) I Want You To"—then Rivers liked it so much he asked me to produce. He's an interesting character; he didn't know I produced records. "You produce what you write, as well?" Next thing I know Rivers wants me to produce Weezer.

You're a big Weezer fan. What was your overall approach to recording the band?

The dilemma we were all having is pop radio in its current state. Shit is so ridiculous sounding now. The songs on the radio all sound like a slot machine at a casino at 6 A.M. It's all bells and whistles and sirens and auto-tuned glitch vocals. It's overkill. Here's a rock band trying to stay faithful to their fans and be somehow relevant on the radio, when radio is playing goofy-ass music. I just thought we could get away with it sounding kind of bombastic and in the meantime

give it this Violent Femmes trashy acoustic bass and drums. Just marrying those elements with the big sounds but not make them sound like a contemporary record either.

Artists come to Ruby Red [Bob Dylan's *Rundown Studio* in the late '70s] for your sound, which includes mono guitar and drums recording.

Current rock music, emo records in particular, sound so generic—20 distorted guitar tracks piled on top of each other. Very rarely will I more than double a guitar; it will be a stereo double of a rhythm guitar to get a big sound and without a lot of distortion. We don't quadruple rhythm guitars, but we will take a slide part or guitar lick and make it mono up the middle and record that four different times. We also make it kitschy and out of tune with itself. I might double a guitar part and do an overdub where I lean on the headstock [bending the neck slightly from the headstock], making the second take rub with the previous take. That creates this weird tension [and chorusing effect] and makes it sound bigger. That's one of those Brian May techniques where his lead guitar sound is almost like a string section. But if you keep stacking the same sound on top of itself, you get this weird frequency buildup that cancels out the bigness to me.

And you record drums in mono?

We're big fans of mono overheads. That '80s and '90s hard stereo panning of the drums is annoying. We put the drums straight up the middle. And cymbals are the enemy! Most drummers abuse them and don't know how to play them. When John Bonham and Keith Moon had to make a drum kit sound really big, they didn't have 14 mics on the kit. To make it sound good by the time the drums got compressed and sucked through the room mics, you couldn't bash the cymbals and expect that to sound good. Cymbals take up all the space in the recording. We'll overdub cymbals later. We make the drummer play the drums without any cymbals up. That's an old Roy Thomas Baker trick. Your possibilities are endless then. We do that just to get the kick and snare and toms so controlled that we can blow them out and make them crazy distorted without having any cymbals in



NEDA ABGHARI

Butch Walker (left) and Jake Sinclair at Ruby Red Studios in Venice, CA.

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the sound. Then we go back and get nice controlled overheads and room mics for cymbals.

JAKE SINCLAIR: ON SECRET WEAPONS AND NITTY-GRITTY DETAILS

What's the main gear at Ruby Red?

We use a Digidesign Icon console. We always stay in the box. We run everything coming in through such old gear, it's warm and toasty by the time it gets to Pro Tools.

How does Butch work typically?

Butch likes to work fast. We don't spend a long time getting sounds; we leave everything miked up all the time. Weezer used all our gear, except for their Diezel "Wiesel" [VH4] amp and Rivers' Boss Turbo Distortion pedal. He likes guitars super dirty. They played live tracks as a band, and we would build piece by piece to focus on parts depending on the song. Sometimes it was all live; sometimes it was piece by piece. For a couple songs Butch and Rivers wrote, they had a great-sounding demo with MIDI drums and guitars and bass straight in. So we cut the drums on top of that and added a new bass. At the end of the day we'd have a really big track.

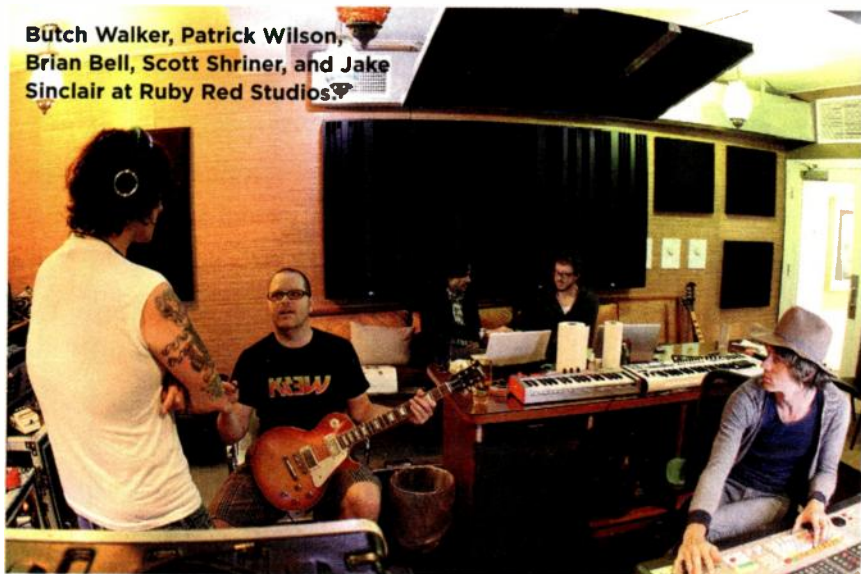
What are Ruby Red's secret weapons?

We have two Collins compressors (26W and 26U) that I pretty much send everything through. They're '50s-era ham radio-looking compressors. All tube. They are like a poor man's Fairchild with their own unique sound. One of them has a slower release, and we use that for kick drum and bass, and the other has fast release, slow attack, so we use it for vocals, piano, and guitar. I try one or the other, and it's always magic—it's perfect for what we're doing. Another secret weapon is the Altec 1567a four-channel mixer. I use that every time for bass, without an amp. It's so rich, warm, and full. We turn it all the way up.

And for vocals?

For most of it we used a Telefunken U47. Also a Blue Bottle and a Neumann M 49. The M 49 is super warm; it really suited River's vocal. We always only use our Neve 1073 for everything. I like the sound of always using the same preamp for everything: drums, bass, guitars, vocals. It makes everything feel like it's glued together.

Butch Walker, Patrick Wilson, Brian Bell, Scott Shriner, and Jake Sinclair at Ruby Red Studios.



KARL KOCH

Butch also brought a Neve 1084 to his house for Rivers' vocals. He used the Neve 2264 compressor on the vocal at his house and we ran it through the Collins 26W. The Blue Bottle and U47 sound pretty close to each other. There's a little less high end with the 47. They are similar in the midrange; you get that larger-than-life vocal sound. For EQ, I like to boost at 1.6kHz on the Neve—that's like the magic spot for me. Then we usually high-pass everything really steep at 3 or 400 then add a bunch of 12kHz to get that gritty sound.

Butch likes mono drums, but how do you actually record drums?

We send all the drums and the overheads to the Digidesign Lo-Fi

plug-in as an auxiliary, and it blows up the drums. We put maxi pads on the toms to get them really dead, and yellow notebook paper and tape on the snare, tuned down low. The paper gives the snare drum the deadness we like and a faster release. We have a lot of room mics happening—AKG C 24 high, Neumann M 49 mid-room. That way when we crunch the drums up, they really sound explosive. We also remove the front head from the kick, sometimes the bottom heads off the toms. We are huge '70s recording fans; that's it for us.

Which microphones and mic preamps for drums?

We use [Audio-Technica] AT4047 and Calrec CM1050C mics on the



A bird's-eye view at Ruby Red.

KARL KOCH

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Tech REVIEWS

Sterling Audio ST69 Condenser Microphone Three-Pattern Tube Mic Offers Flat, Natural Sound

By George Petersen

It would be far too easy to dismiss Sterling Audio as another "like all the rest" line of Chinese-made microphones. However, for several years now, Sterling Audio has carved its own path, including developing a close connection with Groove Tubes founder Aspen Pittman, resulting in innovative products with affordable, solid, and excellent performance.

Sold exclusively through Guitar Center's Franchised and Music 123—the Sterling Audio ST69 tube studio mic package includes the PS30 power supply, 30-foot 7-conductor cable, shock mount, and aluminum transport case.

Bright Looks, Big Inside

The ST69 is a 25-inch, lap-ported condenser model with an attractive, machined stainless-steel body and brushed finish. Looks can be deceiving, so I was interested in what resided under the case. The electronics are an all-discrete, Class-A design with nice touches, such as high-end Wima capacitors and a large, custom-fabricated, air-core transformer with thick ferrite metal shielding. The miniature George Tubes CT6305 tube is what remained on the underside of the board. Hand-selected for low noise, the 6AS5 is actually a pentode, but in this case it is wired to operate as a triode.

The ST69 has a 1-inch diameter, suspended gold Mylar diaphragm with a thickness of just 3 microns. Framing from the center of the diaphragm forms a Disk Resonator, a construction that reduces the level of the diaphragm, the

disk acts like a Helmholtz resonator—essentially in the same manner as a loudspeaker without cone, but in reverse. This preserves the resonance of the larger capsule while extending the caping to equalization or other active filters.

Switches on the front of the mic body select a soda-pod filter (up to 100 dB SPL handling) and three switch on the backside for polar patterns (figure-8, cardioid, figure-3).

In Session

The ST69 rides high in the shock-mount so the switches are easily accessible. The mic shock-mount—a nice touch. I wasn't worried about the plastic angle-adjustment knob. This package and its small size and close proximity to the shock-mount frame make it hard to grip, which limits placement accuracy. But this shouldn't be an issue in most applications.

Once set up, I switched on the power supply and was greeted with a burst of warm-up hum, which subsided after about 60 seconds as the tube warmed up and the electronics stabilized.

My first session was on a male vocal with the ST69 in cardioid. The cardioid pattern is fairly wide, with even, uncolored off-axis response.

The mic's gentle proximity effect provided a nice warmth around 300 Hz when used close at least four or five inches away, but for tighter handling, I wish there was the option to keep about the mic had a smooth, mostly flat natural sound, with a slightly rising (+2dB) upper midrange boost around 5 to 10 kHz and extended HF for EQ here, and I had the same experience in recording. The result was full and round with plenty of leg articulation that made the tracks sound like the

Used close-up in the figure-8 pattern, the



The ST69 has a huge proximity boost with a low-cut effect on vocals and a great sound on acoustic guitar. With extended HF reproduction and nearly identical cardioid and back-side response, the ST69 is an ideal candidate for A/S mixing, as well.

in the cardioid pattern, the ST69 was very flat out to 10 kHz, followed by a slight bump around 12 kHz and plenty of high-end response. Cardioid and back-side response were a bit flatter on Acoustic that was natural and balanced.

One thing that surprised me somewhat was that the ST69 picks up everything. Used as an ambient mic 10 feet up on an AIRB Support dinging piano bench speakers, page turns, random construction of widespread problems that other mics may have missed entirely.

With a low \$699 street price tag, I was initially skeptical about the Sterling ST69. But it sounds great and would serve equally well in a large studio collection or as a single mic that can handle almost any recording application. ■

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PRODUCT TYPE:	CONDENSER
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snare, pushed together so they are in phase. An Electro-Voice RE20 underneath the snare, another AT4047 on the rack tom, and an [Electro-Voice] RE20 on the floor tom. Sometimes a Shure SM7 on the hi-hat. And Coles 4038 for the overheads set up the Glyn Johns way, where it's set like a triangle 36 inches above the snare measured from the middle, then 36 inches next to the floor tom looking at the snare, one on top, one on the side. If I can get the drums to sound right there, then I start sneaking in the close mics. That gives you a real natural picture of what real drums sound like without being overhyped. The Coles really boost the high end, but they are very warm. The Calrecs are a big part of the sound, too. It's the perfect snare mic for what we like; it sounds very crisp.

Do you rely on overheads for Butch's mono approach?

It's 60 percent room mics, then overheads and close miking. We like to switch between the mics, and we always like to blow up and enlarge

everything. We hit the Neves—2264 and 2074—really hard on the way in, and it sounds so natural using the room mics. Once those are right, getting the attack is easy. I don't compress snare and kick very much; I have them going through the Smart C2 compressors, but just barely. We split the signal to have clean and distorted; that's another part of our sound for drums. Everything is sent to distortion at some point, but with clean mixed in so we can go back and forth between the two depending on the song.

Raditude's guitars are so saturated and in your face—it's pure classic rock.

We look at guitars as oil and water: two separate, different-sounding guitars. Pat played a lot of guitar, usually a Les Paul or a Strat, going through the Wiesel amp [the band taped a "W" over the "D" in Diezel]. We put that through our Bogner 4X12 miked with a Sony C37A; that is the best guitar amp mic ever. We usually go straight in front of the cone right up to the grill—

we like that brightness. The Sony creates this larger-than-life sound.

The Sony goes through another Neve and a Pultec EQP-1A EQ. We don't compress guitars. We use a Visual Sound V2 RT66 Route 66 compressor pedal or sometimes the Holy Grail pedal. It sounds like a spring reverb, and all our reverbs are broken! But by compressing before it hits the amp, it makes the amp breakup a little more evenly and creates a more in-your-face feeling. Brian used the Epiphone Trini Lopez through this tiny little amp, the Port City 12, a 12-watt amp that'll fit in your pocket. That was the thinner, cleaner sound we used against the big metal sound of the Diezel. And sometimes we'd put Brian through an old Silvertone head. It's got a very honky tone. And we run the amps all the way up! 🎸



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THE HARD WAY

**Way Out West Shifts to Synths
and Learns a Valuable Lesson
About Compression** by **Kylee Swenson**

There are plenty of well-recorded albums released every year, but that doesn't mean you'll want to hear them. Likewise, electronic music can get people moving on the dancefloor, but that doesn't mean the songs are well written or memorable.

Four full-length albums in 15 years may not seem prolific, but Bristol, England's DJ/production duo, Way Out West, writes every day, so there are a ton of ideas that don't make the cut. Jody Wisternoff and Nick Warren's latest album, *We Love Machine* [Hope], is hook-filled and beautiful, with lots of well-arranged intertwining textures. You'll want to

hear it again and again: while you're making dinner, getting ready to go out, in your car, at the club. . . .

When the guys aren't on the road, Wisternoff is in his basement studio every day. Warren, an obsessive sample hunter, might bring over a hook on his laptop, and the two slowly build up ideas in Ableton Live, later turning to Pro Tools for more detailed arranging and mixing.

Their plan is to not have a plan: to fiddle around with synths and samples and see what happens. At some point, an idea might come up that will be the basis for a track, and they'll run with it. Or they'll build up

a library of loops not meant for any particular song.

"I'll spend hours messing around and recording it all and cataloging things and then trying to fit them over different tracks," Wisternoff says. "There's no pressure. We're not trying to actually compose a song as such. We're just having fun."

And he doesn't expect the magic to come immediately. "If we had the ability to do something that was as intended straight away, you'd have to be superhuman," Wisternoff says. "It's not that easy. Sometimes nothing comes of it. You can build up loads of little riff-y things, trying to



HELM

THE HARD WAY

follow a formula that you think you've got locked down, and it will sound rubbish. Some days the machines just don't want to play the game."

SYNTH OBSESSIONS

While 2004's *Don't Look Now* was sample-based, the guys wanted a more synthetic sound this go around. They use some soft synths—including Spectrasonics Omnisphere and Native Instruments Reaktor—but their focus lately is on hardware synths. "In 2006, we decided to start collecting, get on the eBay tip and see what we could find," Wisternoff says. "Then it sort of snowballed. We got kind of addicted to it and amassed quite a few classics.

There's the Roland Jupiter-8: "It's got real sharp envelopes, so it's really good for stabby sounds. If you add a bit of mids and maybe roll off a bit of low end—if you're not doing bass stuff—it sounds so good." Then there's the Sequential Circuits Prophet-5: "It's nice and soft focus, a bit drunk sounding, a little bit out of tune, which I love." They also picked up an Octave The Kitten ("a raunchy little thing with really vicious filters"), a Roland SH-5 ("very tasty—amazing condition since it's from the early '70s"), a MacBeth M5N ("which is just like the ARP 2600, but it was built in the last year"), and the Yamaha DX7 ("which I wanted since I was a kid—great for real cold, FM, clunky sounds").

While Wisternoff is digging through parameters, he's always recording. "I'll be coming up with these incredible sounds, and then I'll be like, 'Oh my God, I haven't recorded anything,'" he says. "If I start recording, I'll probably destroy my flow and the sounds will start sounding lame. So you've really got to put it into record and trick yourself into thinking that it's not—then you can get into all the fiddling around."

The bubbling synth on the title track is the Jupiter-8. "It was just a combination of using the LFO at a high rate to control the arpeggiator and having the arpeggiator running fast in conjunction with the LFO."

When the duo chose to sample, they'd usually record the audio straight into Live. On "Future Perfect," Wisternoff sampled some website demo clips of the Hammond Novachord (touted



Way Out Ware—Nick Warren (left) and Jody Wisternoff.

as the world's first synthesizer, built in 1938). "It's this crazy old synth," he says. "At the bottom [of the site] there are a few demos of the sound of it, and I just chopped them up. It's a little bit naughty, and you can really hear it—sounds a little bit MP3-ish."

"Body Motion," which features live flute (the band sometimes brings in guitarists and other musicians), was built around a vocal sample from Quando Quango's "Love Tempo," an early '80s new-wave hit. "The thing about sampling is you're taking magical moments in music," Wisternoff says, "and as long as you're doing something creative with it, then I don't think it's a crime."

THE LITTLE DETAILS

Recently, Wisternoff has been mixing in the box. He admits it was a nice luxury to spread out tracks over an SSL

console for *Don't Look Now*, but with trusted headphones (Sennheiser HD 25s) and monitors (Adam A7s and Yamaha NS-10s), he feels confident about mixing in Pro Tools.

"I find headphones extremely valuable for working on the stereo space," he says. "I think the most important thing is to know your headphones inside out. You can have high-quality ones or slightly less pure ones, but it's really more down to what you understand a good record should sound like on them."

The same goes for monitors: "[The NS-10s] are great for mids, but you're completely lost in the low end; they've got no truth about them at all. But the Adams are pretty good for that stuff, so I'm always A/Bing."

Wisternoff loves the Audio Ease Altiverb reverb, Line 6 Echo Farm delay, and SoundToys EchoBoy delay

ANALOG FEEDBACK DELAYS

"On an analog desk, I'm really into feedback delays," Wisternoff says. "You send it and feed it back into another channel, and with *that* [second] channel, you send it back again with the same auxiliary send. So you just get that real dubby, spacey feedback delay thing that just goes on infinitely. If you've got a notch EQ on it, each time it comes back around, it's got a bit more mids, and it can sound crazy. You can't do that in the box very well because once you start messing around with feedback delays, it can sound a little bit harsh."



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THE HARD WAY

plug-ins. He'll put "tiny little touches" of Altiverb on hi-hats, and he'll even put reverb on bass lines. "I know it's really naughty, but very subtly, it can do a nice little thing," he says.

One thing he won't do is put a reverb on one auxiliary and send a bunch of tracks through it. "I pretty much have a separate reverb on each sound that requires the reverb," he says. "I find that I have more control doing it like that."

But Wisternoff does get creative with mixing minutiae, for example rolling off low end on reverbs to "get a bit of air at the top" and sending sidechains to effects with different amounts of ducking. "It's really important to attend to all these minor details because it gives you more space," he says. "If you don't go through this process, you'll end up with a really mono-sounding, flat mix."

COMPRESSION DO'S AND DON'TS


While producing *We Love Machine*, Wisternoff learned to respect compression.

He used to get crazy with sidechain compression and ratios as high as 15:1, but now he abides by a mellower 2:1 ratio. "I think sidechain compression is a kind of sound that will be seen in the future as 'of an era' and will make [albums] date faster," he says.

So Wisternoff avoids overdoing it: "I've realized that dynamics are good. You want things to pound and you want quieter sections. If you compress everything, you're sucking the life out of it."

But it wasn't until he sent the *We Love Machine* tracks to German mastering engineer Robert Babicz that he really took his love for dynamics to heart. "I mixed them down, thought they were great, sent them to be mastered, and he just said, 'Listen, the mixdowns aren't right. They're too squashed; they're too flat. I'm not sure what you've done, but you've done some damage.' It was a real shock to the system, but it was tough love," Wisternoff confesses. "So I went back

and looked at the mix, and there was just heavy compression all over the place. I used an Audient Sumo summing amp, but I haven't really spent enough time with it, so I [accidentally] put a bus compressor over the entire mixes. And I also put too much compression on a few of the drum busses. I just got carried away.

"So I pretty much muted all of the compressors, used them very slightly—let the drums just smack. I had to mix down the entire album again within the space of two weeks. It was an amazing lesson to learn. After that [Babicz] said, 'They sound like they're from a different galaxy.' It was a real confidence booster 'cause he shot me down, and then he brought me back to life again." 



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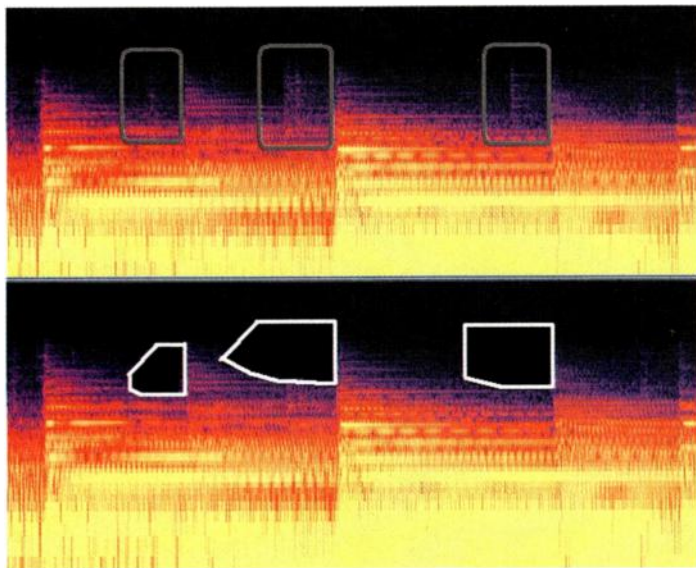


Fig. 1. Note the artifacts, outlined in gray, in the upper waveform. In the lower waveform, these have been removed completely by using editing tools in Adobe Audition's Spectral Frequency view (the vertical axis is frequency with the colors indicating amplitude, while the horizontal axis is time). For clarity, each selection has a white outline that indicates what was removed; note that only higher frequencies have been removed, and the decay of the note itself has been left intact.

NYLON STRING GUITAR PERFECTION

by Craig Anderton

Assuming you *want* perfect, of course.

Part of what makes the nylon string guitar such an interesting instrument is that it has a rich vocabulary of artifacts, from fret buzzes to slides to fingernails scraping on the lower strings' metal windings. In fact many samplers include samples of these sounds, which can be brought in by (typically) hitting a key harder or using a controller, to help create a more realistic emulation.

However, there can be times when the artifacts are a distraction rather than an enhancement. Before digital audio editing came along, there wasn't much you could do about the situation, but that's changed: It's now possible to surgically remove, or at least reduce, many of these types of artifacts.

I first used this technique when working on a classical guitar album by an artist who had some health problems at the time. Most of his playing was exceptional, but occasionally some notes sounded "tentative." I found that in those cases, there was some sort of sound preceding the note itself, and deleting

that sound made the note ring through with authority. Since then, I've used this technique with other guitarists to reduce or remove artifacts that would spoil an otherwise perfect part. If you take this to an extreme, you can almost make a classical guitar sound like it was played by a robot with perfect technique—but I don't recommend this any more than I recommend using Auto-Tune or Beat Detective on everything!

Gather Your Tools

Doing this kind of editing requires a *spectral* view of the waveform (Figure 1) so you can easily recognize the difference between the artifacts and the notes themselves, and perform the digital audio equivalent of a "window splice" in the frequency spectrum. I use Adobe Audition 3 for this, although Steinberg Wavelab also gives an editable spectral view.

With Audition, call up the file and go *View > Spectral Frequency Display*. Adjust the resolution as desired, then look closely at the notes. Note attacks will have a sharp, vertical line that extends from low to high frequencies. Artifacts

almost invariably appear just before the note attack. You can use any of Audition's selection tools to define the artifacts as a selection; when you do, a level control appears. You can then use this to dial in the exact amount of attenuation.

Surprisingly, it's often possible to remove the area completely and not be able to hear that it was removed. Sometimes, though, you'll need to reduce the gain (by a few dB) rather than remove the section to retain a realistic sound, or if you want to leave a bit of the artifact sound but make it less obvious.

Practice Makes Perfect

It takes a while to recognize what's an artifact and what isn't, and to determine the degree to which you can reduce it. Life is often about compromises, and this is no different; you'll find problems you can't fix, and conversely, you'll be able to fix problems you thought were unfixable.

In any event, if you're willing to take the time to do this kind of detailed editing, you can produce the most amazingly clean and clear nylon string guitar parts you've ever heard. 🎸

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RECORDING ROCKABILLY SLAP BASS

by Kent Carmical

The Key to getting a good rockabilly bass track is making sure you get the best acoustic bass and slap tones, and mixing them to the desired thump-tastic effect. Unfortunately it ain't that easy. Recording acoustic bass can make you want to rip your eardrums out with a plastic spoon. Hopefully, these fine tips can save you from ten hours or more of getting crappy sounds.

The Instrument

You are unlikely to find an expensive, 19th-century carved-top treasure in the hands of a rockabilly cat. This is because most greasers generally spend their money on beer, tattoos, old junk cars, or bail money. Plywood basses such as old Kays, eastern European monstrosities, and the odd high-end King bass are most likely to be brought through your studio door. Acoustically, these plywood beasts are rather dull sounding when compared to what your local jazzbo plucks, but who needs tone when you rock the pump and tats so hard!

I recommend close-miking options, because there really isn't a whole lot of volume being projected from the bass itself. You'll also be able to grab a good portion of whatever tone the beast is putting out if you don't let a lot of air stand between the instrument and the mic. In addition, most Rockabilly acts prefer to play all together for that authentic vibe of the Eisenhower era, so close miking may somewhat

diminish the other instruments bleeding onto the bass track.

Two-Timin'

Place a large-diaphragm condenser set to its cardioid pattern about five inches from the f-hole, and a bit off center. This mic should cover the bass/body part of the sonic equation. To capture the slap, position a small-diaphragm condenser five to six inches from the side of the fingerboard. This is the most basic setup for pulling together a quick sound, and it allows some freedom when mixing, as you can get a decent balance between the slap and body sounds.

Wrap It Up

Wrap a cheap condenser mic set to its omni pattern in foam rubber, and wedge it between the bridge and the body of the bass. The capsule should be pointing up towards the neck. If luck is with you, the sound should be detailed, yet still have plenty of body. I have found that inexpensive mics consistently perform better in this setup—which is good news to the mic-poor. If you don't get enough slap from the jammed-in-the-bridge mic, add a small-diaphragm condenser in the fingerboard position as detailed above.

Clipped

Omnidirectional clip-on mics offer great ways to pinpoint the sounds you are after. Cheaper models from Radio Shack are designed to be clipped to an article of clothing, while more

expensive models from the likes of Sennheiser have more versatile clips and groovy little flexible goosenecks you can use to really dial in the mojo. The bridge, tailpiece, and f-holes are prime locations for the body sound, while clipping one to the end of the fingerboard will pick up the slap.

Suzie EQ

If you've achieved your sound with mic positioning alone—congratulations. For the rest of us unlucky geezers, some EQ may be in order. Here are some helpful hints:

- Cut everything under 30Hz. You can't hear it, so why record it?
- If you want some low-end rumble, audition 3dB boosts in the 80Hz–100Hz area. Take care not to add in flab and mud.
- For even more real Rockabilly zest, boost 200kHz by a couple of dB. This is the bass you hear, rather than feel.
- If your mids are sounding boxy, cut 1.25kHz by about 5db. This will also help the track sit better in the mix.
- To dial in more slap, 5kHz is the magic number. Tweak it right, and your cheeks will sting for weeks.

Smack It

Lastly, some light compression can help smooth things out when the bass player gets real fired up. A ratio of 2:1 is a great place to start for your body track. The slap may require more extreme limiting with ratios around 6:1 or 9:1. Play with the threshold until you feel good, and "Go Cat, Go!" 🐾

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SUPER-QUICK EQ FIXES

by Michael Molenda

Recording drums in personal environments such as rehearsal spaces, garages, and living rooms can be a bitch. Big-studio engineers often have marvelously tuned acoustic areas and cabinets full of sexy microphones at their disposal, and, along with their years of audio training, these benefits can yield tremendous drum sounds. You, however, probably have a couple of inexpensive dynamic mics and a recording space that's awash in the debris of everyday living. But you're not a whiner or a quitter, so you barrel in and use who you've got, and you record your drum tracks the best you can. Bravo.

But when you audition the sounds during the recording process—or later on when you're in mixdown mode—you start getting a tad paranoid. Perhaps the kick drum sounds thin, the snare is dull, or the hi-hat is piercing. Mic placement isn't solving any of the problems, and you don't want to stop the creative surge, break down the kit, and start from scratch in another room—or, worse yet, bail entirely on the session until you can beg or barter for a better-sounding recording space and/or hipper microphones.

Keeping the studio energy flow rocking may sound like something a porpoise-loving, crystal-worshipping flower child might advise, but when you're attempting to keep the flames of creativity burning, any setbacks can douse one's personal inferno of inspiration, and that's not good. To that end, the home-studio owner needs to juggle the option of a quick

fix that keeps the session moving (but may not deliver transcendent results) against the possibility of rescheduling the recording in order to acquire better tools.

My vote is obvious—keep working feverishly until the beatific hellhound of inspiration turns to dust. You never know when you'll be lucky enough to get a return visit from a benevolent muse.

Of course, in this instance, keeping the momentum going means you still have those problematic drum sounds to deal with, and they have to be dealt with immediately. Here, then, are some tonal bandages worthy of Florence Nightingale. Your drums might not sound as glorious as Chad Smith's or John Bonham's, but the patient won't die, either.

Flabby Kick Drum

Use your channel EQ or an EQ plug-in to cut 80Hz or 100Hz by 3dB–6dB. If that doesn't work, try cuts from 40Hz to 200Hz until the muddy lows dissipate.

Wimpy Kick Drum

Need some beef? Carefully boost at 100Hz until you love the boom. Usually, a 3dB or 6dB boost should do the trick, although I've sometimes been as bold as to dial in a 10dB boost. Take care not to go boost crazy and produce a flabby timbre—you don't want to ping-pong between the previous EQ tip and this one!

Where's the Impact?

Sometimes, the snap of the beater pedal against the drumhead gets mushy or indistinct. To bring back the

punch, boost 2kHz or so by 6dB. Depending on the size of the kick drum and the material used for the beater, you may also want to explore boosts from 1kHz up to 5kHz to get the desired result.

Bloated Snare

Get more thud and swack by cutting 500Hz by 3dB or so. If there's an annoying low-midrange ring, try cutting around 900Hz.

Not Enough Wood

Zero in on 120Hz–240Hz to dial in some warmth and fullness to the snare drum. A 3dB boost should do it.

Where's the Crack?

For a crisp snare attack, boost anywhere between 1.5kHz and 3kHz. To add some snap, boost at 10kHz.

Dead Floor Tom

To up the rumble, boost around 80Hz–120Hz, and cut the same frequencies to reduce mud. For attack, boost in the 3kHz–5kHz range.

Puny Rack Toms

Pump up the wallop with boosts in the 240Hz–400Hz range. Articulate those stick-to-skin hits by boosting around 3kHz–7kHz.

Piercing Hi-Hats

Calm the sizzle by cutting 3dB to 6dB at around 3kHz, and again at 10kHz–12kHz.

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MICROPHONE SELECTION

by Michael Molenda

Every vocalist is different. Way different. There are the kind that make you cry—either because they sing like angels, or because they're so awful that their caterwauling makes your cerebral cortex jerk up and down like the pistons on a red-lined Porsche. Some whisper, others bellow. Some sing high, some low, and some work in the midrange frequencies. Some are masters of phrasing, while others couldn't keep the beat if a free-range chicken pecked it out on their skulls.

So why do a fair amount of home-studio engineers seem to think that one microphone will do it all, for all vocalists, and at all times?

Obviously, one's budget has a lot to do with limited microphone options. Assembling a bountiful collection of dynamic, condenser, tube, and ribbon mics is not an inexpensive proposition. But if you are committed to finding the perfect microphone for your vocalist—or your own vocals—then some gear-acquisition compromises must be made. In order to ensure a particular voice is recorded with the utmost detail, vibe, and clarity, you can't just assume that the mic that sounded great on the hammy screamer is also going to fastidiously document the timid and tortured whisperer. You need options. You need time to assess. And you need the mindset to listen critically to what each singer is delivering, and how different microphones capture—and color—the sound of the voice.

The Dreaded Cost Factor

No one I know is taking champagne baths or setting Franklins ablaze to light cigars these days, so committing cash resources to buy mics is likely not very high on your priority list. The good news is that a “reasonable” vocal-mic selection can be comprised of a dynamic, a large-diaphragm condenser, and a ribbon. This selection should get you through a decent squad of singers with different timbres and approaches. You may already have a Shure SM57 or SM58 on hand to track guitars, vocals, and most everything else, so that can cover the dynamic. Now, let's see how much trouble we can get into with the other models.

- **Some Large-Diaphragm Condenser Mics Under \$100:** AKG Perception 120 (\$99), Audio-Technica AT2020 (\$99), Behringer C-3 (\$59), CAD U37 USB (\$69), M-Audio Nova (\$99), MXL 990 (\$69), Nady SCM 960 (\$69).
- **Some Ribbon Mics Under \$150:** MXL 990 (\$99), Nady RSM-1 (\$139).
- **Some Extra Dynamic Options Under \$100:** Audix F50-S (\$59), Blue enCORE 100 (\$99), Electro-Voice PL24 (\$59), Heil Sound (\$98), Sennheiser e825S (\$79).

So, depending on your preferences, you can assemble a two-mic cabinet (deleting the ribbon) for as low as \$118, and a three-mic selection (including a ribbon) for around \$217. You may desire some quality upgrades, of course, but you can absolutely get into the different timbres and characteristics of three microphone styles for just a couple of

bucks more than you'd shell out for an iPod Touch.

Now That Ya Got 'Em . . .

. . . You must use them. Musicians who are accustomed to recording everything with a single microphone aren't necessarily hip to auditioning a number of different options. Now is the time to start training your ears to hear the subtle tonal shadings offered by different microphones and different mic positions. The discoveries may shock you—and that's a good thing. A condenser may bring out all the wonderful rasp in one singer, while a ribbon may capture the sensual smoothness of another. You might hear overtones you've never heard before. The (hopefully) beneficial ambient effects of your recording space may be audible just behind the singer's voice, adding a delicious vibe or spookiness or weight to the sound before you even touch a reverb or delay send.

Train yourself to put up all your mics, and then take the time to sing through each one, documenting the results in your DAW. Listen critically to the different vocal tracks, and go for the one that makes the hair on the back of your neck rise up and cheer.

As for which types of mics work best with which types of voices—sorry, you'll have to discover that one for yourself. Experimenting is the key here, and what works once, might not *always* work—after all, the same vocalist on a different day can sound quite different. The goal is to always audition multiple mics, and free your mind to choose whatever works best at the time you push Record. **EQ**

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4 COMMON PRE-MASTERING MISTAKES

by **Buddy Saleman**

Prepping your final mixes for a professional mastering session may be somewhat confusing if you're used to mastering your tracks yourself (a process where you're the boss and anything goes), or if you typically choose to bypass the mastering stage (leaving your stereo mixes as the final versions people will hear). Happily, the basic rule for handing your tracks to a pro is an easy one: Leave the mastering engineer as many sonic options as possible. To that end, here are four missteps to avoid if you want your mastered tracks to really rip it up.

Don't Hire an Insensitive Engineer

Mastering is supposed to enhance and even energize your mixes, so the process needs to be all about you and your music. In other words—get selfish. The perfect mastering engineer for you is someone who truly understands what your music is about, and who is willing to listen intently and seriously to your aural wishes. If the engineer seems bored, overworked, or in love with his or her personal mastering process (which is typically repeated time and time again for all clients, regardless of musical style), then walk away.

Other warning signs of a bad match might involve someone who seldom masters your type of music, someone who is totally unaware of the reference tracks you want your

own sound modeled after, and someone who immediately takes the position that home-studio tracks sound like crap before even listening to your mixes.

Remember, you are spending good money to entrust someone's ears and skills with crafting a far better mastering job than you could ever do yourself. Make this person earn your trust and respect before they start messing with your music.

Don't Bring Unfinished Mixes

Now this seems like an extremely obvious—perhaps even insulting—tip, but you'd be surprised at how many people ask me to bring up the level of individual instruments in the mastering process, as if I have some top-secret plug-in that can magically transform stereo mixes into multi-tracks and then back to stereo again. (I don't.) It's your responsibility to get your mix levels and signal-processing sounding exactly the way you want them before you get to the mastering process. Too much reverb on the vocal? The mastering engineer will not be able to diminish it. Lead guitar too low in the mix? While an EQ or compression tweak might clarify the guitar sound and make it more prominent in the audio spectrum, you're not going to be able to crank up that puppy like you could when you had it on its own fader during the mixdown. Fair warning: If you're unsatisfied with a mix when you bring it into the mastering studio, there's a damn good chance

you'll still be disappointed when you bring it out.

Don't Compress Your Master Output

Many artists put a limiter or a compressor on the master bus to give a stereo mix that extra oomph. Get rid of it! Compression not only limits the amount of dynamic information your engineer can work with, it can also adversely affect the sound quality of your entire mix if you use a less-than-high-end unit or squash the stereo signal to near oblivion. The mastering engineer typically has far higher-quality compressors than you do, and he or she knows how to use them.

Don't Chew Up Headroom

It's a good idea to bring your mixes down at least 6dB before you go into mastering—especially when mixing to a digital playback format. In the analog world, there may be a bit of play above the zero-gain line, but if you slam your mix up to 0 VU in a digital format, the mastering engineer may have no where to go without risking distortion, dropouts, or artifacts. Giving the mastering engineer 6dB or so of clear headroom will allow EQ boosts and other adjustments without pegging the meters. (And you probably don't want the engineer relying solely on subtractive EQ to tweak your sonic spectrum.) Don't worry about setting the stereo mix level too low, as the engineer can adjust the overall output gain after the mastering adjustments are completed. **EQ**

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BY CRAIG ANDERTON

PROPELLERHEAD RECORD

Make groovy MIDI sequences with the ReGroove mixer

OBJECTIVE: Turn stiff MIDI parts into music that grooves and swings.

BACKGROUND: The ReGroove mixer is a powerful tool for adding humanization and expressiveness to MIDI parts. It has two options: Global parameters and Channel parameters. We'll cover basics of Channel parameters, which affect only note lanes assigned to them. Note: The following also applies to Reason 4.

STEPS

1. Click on the ReGroove Mixer show/hide button (lower right). The mixer has four banks of eight channels; each channel can have a different groove.

2. In the note lane you want to groovify, click on the Select Groove pop-up menu, and select a groove channel. Here, ReGroove channel A1 is being selected.

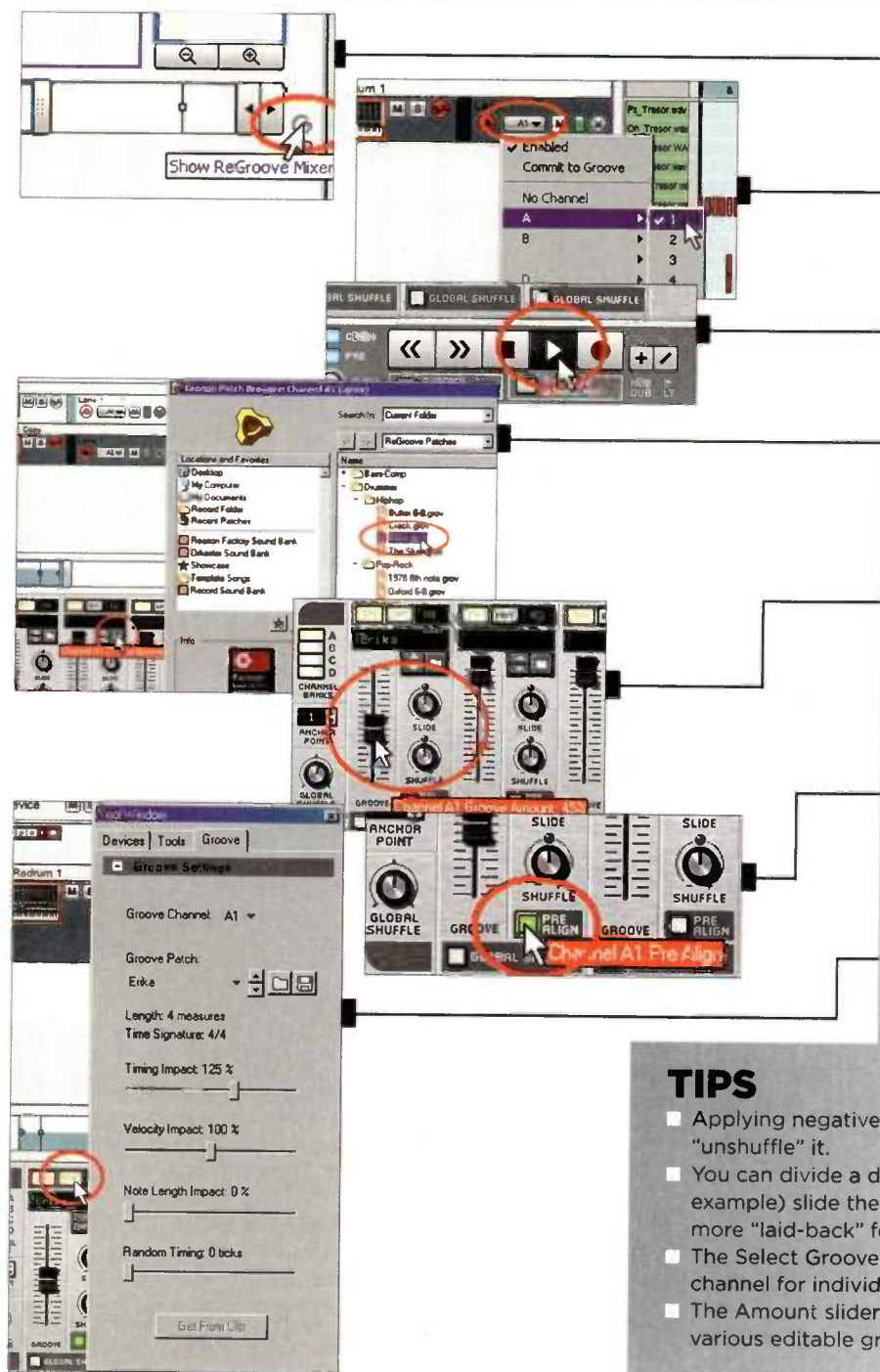
3. Start playback, so you can hear the results of applying grooves in subsequent steps.

4. Click on the folder button to open the Groove Patch Browser. Clicking on a groove loads it almost instantly, so you can hear how it affects the track. After choosing a groove, click on OK.

5. The Amount slider adjusts how much the Groove affects timing, from none to maximum. You can also use the Slide control to move notes forward or backward in time, and the Shuffle control to add a 16th note "swung" feel.

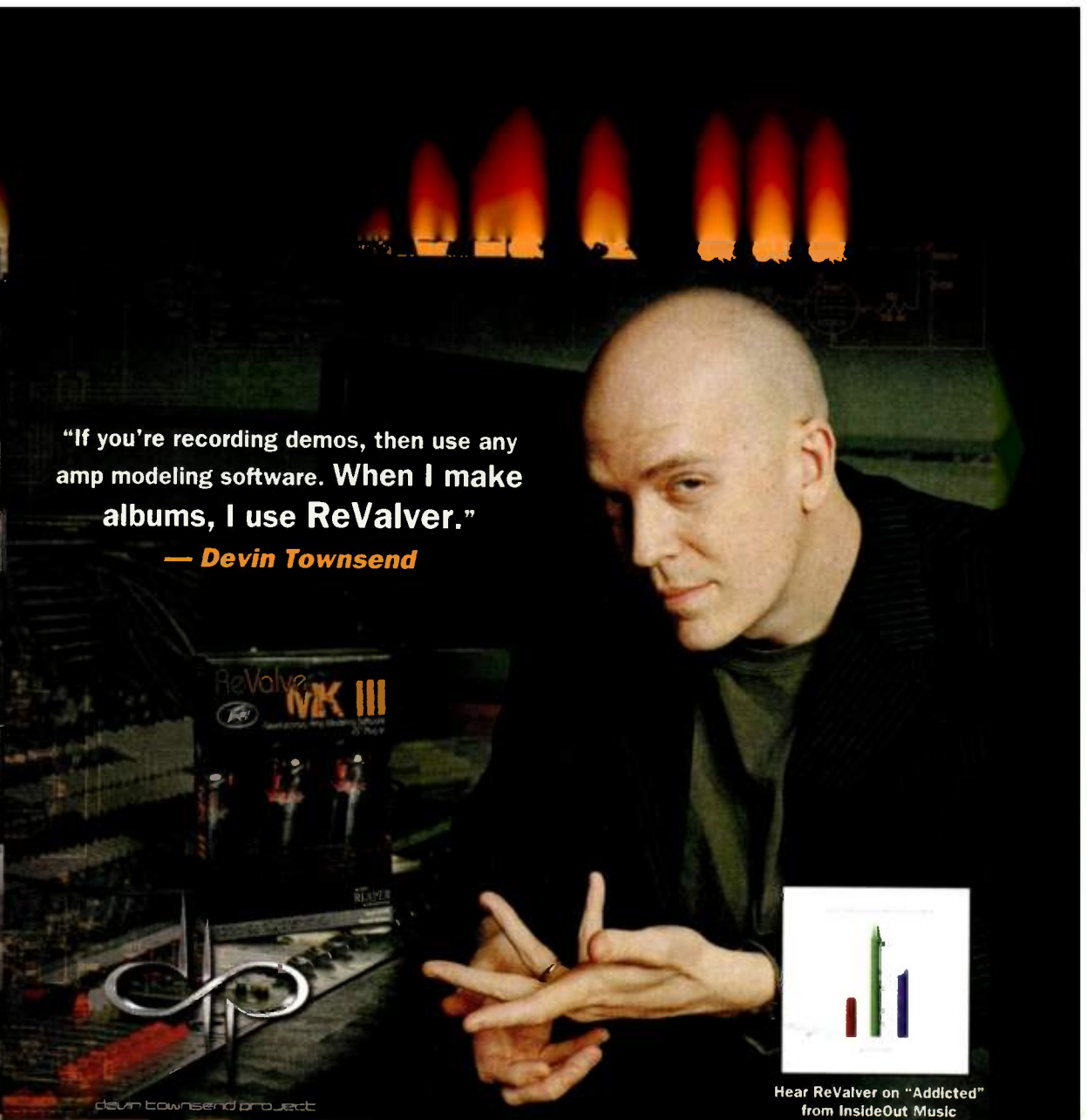

6. If needed, enable "Pre-Align" to quantize all notes to a 16th-note grid prior to adding Groove effects. This insures that changes caused by the Groove template will be predictable.

7. To edit the parameters that make up the Groove, click on the Edit button.



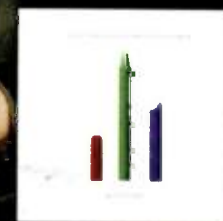
TIPS

- Applying negative shuffle to a previously-shuffled track can "unshuffle" it.
- You can divide a drum part over multiple lanes, so you could (for example) slide the snare part in one lane a bit later to create a more "laid-back" feel.
- The Select Groove pop-up lets you enable or disable the Groove channel for individual lanes.
- The Amount slider (Step 5) is basically a "macro" that affects the various editable groove parameters (Step 7).



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BY CRAIG ANDERTON

STEINBERG CUBASE 5

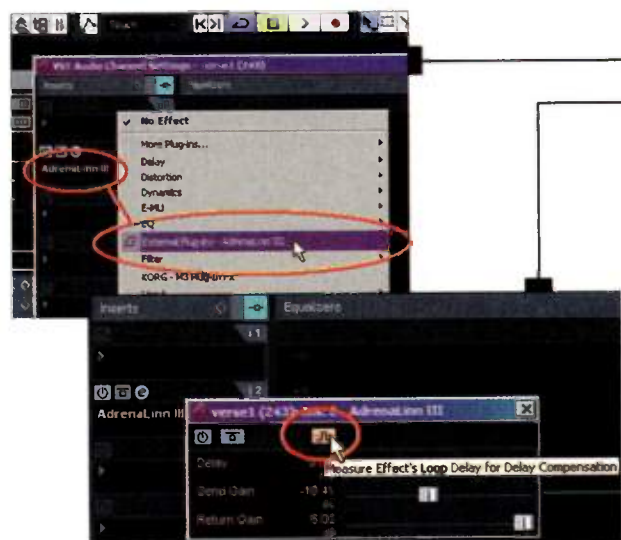
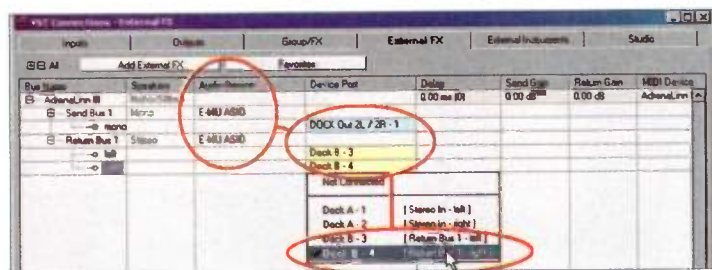
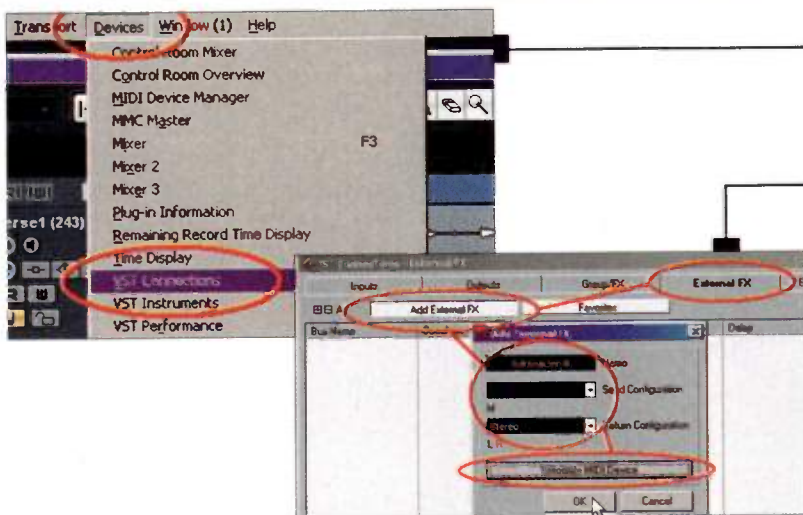
Use external hardware as a VST plug-in

OBJECTIVE: Add hardware processing to Cubase's virtual environment.

BACKGROUND: You're not restricted to using virtual plug-ins within Cubase; you can also integrate external hardware devices, "black box" and "lunchbox" processors. However, note that your audio interface needs enough I/O to dedicate an output to send signals to the external effect, as well as dedicate an input to receive signals from the external effect.

STEPS

1. Go **Devices > VST Connections** (or type **F4**).
2. Click on the **External FX** tab, click on **Add External FX**, name the external effect, choose the send/return configuration (e.g., mono, stereo, surround, etc.), click on **Associate MIDI Device** (see **Tips**), then click on **OK**.
3. In the **VST Connections** window, under **Audio Device** choose the audio interface that connects to the external effect. Under **Device Port**, select the interface ports over which you will send and receive external signals. Then, close the window.
4. Call up the **VST Audio Channel Settings** for the track where you want to insert the external effect. Under **available plug-ins**, choose **External Plug-Ins** (name of external plug-in you entered in Step 2).
5. Click on the channel insert's **Edit** button. In the window that appears, click on the "pulse" button; Cubase then measures any delay through the effect so it can add appropriate compensation. Done!



TIPS

- In Step 2, if there is no MIDI device associated with the external effect, create a MIDI device as this is necessary for automatic delay compensation through the effect (Cubase compensates automatically for any interface latency).
- In Step 3, note the fields toward the right for adjusting delay, send gain, and return gain. Use the gain controls to trim the signal as needed. You can do delay compensation in this window by right-clicking on the Delay field and selecting "Check User Delay." These controls are also visible in Step 5, and may be adjusted there.
- If you want to freeze the track, it must be done in real-time as audio needs to pass through the effect in real time.

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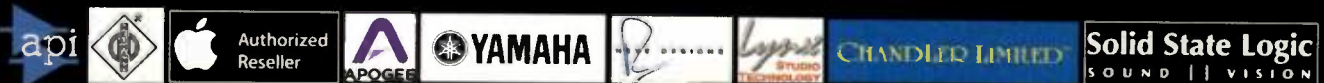


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ROUNDUP: CAN YOU REALLY MIX ON HEADPHONES?

by Craig Anderton

Of course you *can* mix on headphones, but does that mean you *should*? It's an increasingly relevant question because many people listen to music on earbuds or headphones, not the hi-fi speakers that resemble what's used for traditional mixing. Furthermore, as more people work in home/project studios, mixing at high levels could lead to a grumpy spouse or complaining neighbor.

Another consideration is economics: Headphones take room acoustics out of the equation, which can be a factor with home studios, and top-of-the-line headphones cost less than top-of-the-line speakers.

However, not all headphones are created equal. Those designed for

consumers sometimes "hype" the low end, high end, or both. Finding headphones that provide an accurate listening experience requires effort.

To complicate matters further, some headphone amps are more of an afterthought (few are as sophisticated as Sound Performance Lab's Phonitor, which seems to make just about any headphone sound better). But even if you get the right headphones and a great amp, there's still a major psychoacoustic issue because music doesn't sound the same on headphones as it does on speakers. The sound is *in* your head, not in front of it, and there's no cross-feed between channels. (I had planned to cover some of the DSP software that claims to make working with headphones more like listening to speakers, but after working with them

for a while, decided they deserve their own coverage—which we'll do in a future issue.)

In any event, now you don't just mix so something sounds good on different speakers: Your mix has to sound great on living room speakers, cheap earbuds, and in the car. What's an *EQ* reader to do?

Well, start with this roundup. We looked at nine headphones intended for recording applications, and have included a roundtable discussion of mixing/mastering on headphones, courtesy of the "in the trenches" recordists who frequent my forum at www.harmony-central.com.

Ultimately, can you mix on phones? Whether you can or not, many feel they now have to be a part of the mixing process, even if it's just a bit part.

ROUNDTABLE: MIXING ON HEADPHONES

EQ: If you use headphones for mixing, what's your methodology?

Roy Brooks: I tend to mix with headphones late at night, but then listen to it the next day on monitor speakers to see if it needs changes. I'm pleasantly surprised when the mix I did with headphones sounds good with monitors.

Jon Chappell: I do a variation of this. I often mix with headphones (AKG K 271 MkII) because I can hone in on the individual instruments better and listen for timing, breath noise/fret

squeaks, flams, etc., faster and more efficiently than with speakers. I do make individual EQ adjustments, but sparingly.

When working with headphones, I make it a habit to swap the left and right sides, sum to mono, listen to left only (through both earpieces), then right only. This was a trick I often employed when I was a professional transcriber and music editor; it helps you hear parts in a new light. This (hopefully) eliminates any fatigue or "stuck perceptions" that my ears

have picked up in the process.

Then I break for the night, and fire up the mix on the nearfields the next day. That's when I'll EQ or employ light compression over the stereo bus, and perform any operations that fall more in the mastering domain.

Working with headphones so much in the preliminary stages lets me learn the arrangement and individual parts well. Then when I hear the mix over speakers, it's a brand new experience, sonically. So I still experience the music fresh in one aspect, while knowing

what I'm listening to in another.

Calfee Jones: My process is similar, but lately, I've been thinking about how people will listen to the music—for many, it will be on earbuds and small computer speakers. So after I do the initial mix on headphones, I'll "tune" it on the nearfields, then listen on computer monitors. If I have to optimize for one or the other, I'll usually optimize to the computer speakers on the

assumption that's the way most people will hear the music.

Jeff Klopmeier: It's really important to check a mix on earbuds. I'd even guess these days, there's more listening being done on those than any home-based speaker system.

Angelo Clematide: If I would spend the time to listen to every production over the wrong playback system, then I would never come to an end! When it sounds

excellent on high resolution monitors, then it sounds good on any playback system, including headphones.

Jeff Klopmeier: That should be true. However, not everyone has access to really excellent monitors, and sometimes listening at SPL levels appropriate for mixing isn't possible. In any case, I do prefer to give the phones a try when listening to a mix before it's unleashed on the world.

ROUNDUP: NINE HEADPHONES FOR MIXING

Being Executive Editor of *EQ* has its perks: I asked six companies at AES if they felt it was possible to mix on headphones . . . and if so, which headphone they would recommend for a roundup. A couple weeks later, I was surrounded by nine kick-ass headphones, and the process of evaluating them began.

But first, a caution: Listening to headphones is even more subjective than listening to speakers, because the headphones interact with your ears physically. Someone with a different ear and head shape might take issue with my conclusions, and they'd be right—because any given headphone might be a better physical, as well as aesthetic, fit. So, while I have definite opinions about the sound of these phones, unfortunately they're "all about me." What I hope is that this roundup points you in the right direction, so you can narrow your search to the ones that seem most appealing to you. The good news is that even the inexpensive phones are solid, useful transducers. Paying more does refine the sound further, but that's not a deal-breaker for the lower-priced models.

I evaluated each headphone by listening to music that I'd

recorded—classical harpsichord and guitar, as well as full rock band with drums, bass, guitar, and vocals. I chose these because I was in the studio when recording, and know what the instruments sound like by themselves as well as when mixed and mastered. My goal was to find out if the headphones preserved the original sound quality, or added qualities of their own.

I used an Aphex headphone amp so I could plug in four sets of phones simultaneously, and switched constantly between them. During this process certain favorites developed, and I'd A/B those with other potential favorites. But I also compared the expensive phones against the inexpensive phones as a "reality check," and this was a good move because it emphasized just how much of an overachiever some of the less costly models could be.

So let's get to the headphones. Except for the Monster earbuds, they're all circumaural (the ear pads go around your ear), and most come with detachable cords, some kind of carrying pouch, and a 1/8" to 1/4" adapter—check the respective websites for specs and details. In no particular order, here's how they stack up (all prices are MSRP).

Audio-Technica ATH-M50 (\$199) www.audio-technica.com

These are the second least expensive headphones in this roundup, but are quality, durable performers with a smooth and balanced response. Thanks to the circumaural design and heavily-padded ear cushions, they offer great isolation for tracking and remain comfortable for hours at a stretch. Further emphasizing its tracking abilities, the earpieces can swivel 180 degrees for those into single-ear monitoring. The isolation is very good, as the ATH-M50 offers above-average noise rejection from the outside world.

The high end is not as transparent as more expensive models; the overall sonic signature is a bit "warmer" or "darker" (depending on your viewpoint). But that doesn't mean you

can't mix on them—it just means there's a little less "air." On the low end, the bass is solid and sounds very even, with a midrange that's both defined and free of significant "peakiness."

The ATH-M50 can deliver some serious SPL, which is important in a tracking headphone if there's a lot of ambient noise in the studio. And as someone who's used an ATH-M50 for a while, I can attest that it can handle a certain amount of abuse and keep on going. Bottom line is that the ATH-M50 is all about performance/price ratio, where it scores very well indeed. (An alternate model, the ATH-M50s, is available with a straight cable instead of coiled; neither model offers detachability.)



Shure SRH440 (\$125) and SRH840 (\$250)

www.shure.com

When I was at AES, a Shure representative suggested the SRH440 for mixing—which is at the lower-priced end of the line—because he felt it was more accurate. When someone in marketing recommends a lower-priced product, that gets my attention!

But Shure sent both the SRH440 and SRH840 so I could decide for myself. The rep was right on: I much prefer the 440 for its more balanced response, particularly in the low end and low mids, that would make it better-suited to mixing. The 840 seems to emphasize the high end somewhat, which is okay when listening to commercially-recorded music but not as

helpful when mixing.

So let's look at the 440. Its level of comfort is average; you would have no trouble using it for hours at a stretch. The ear pads cover your ears well, and help reject noise. Like other headphones, it comes with a detachable coil cord and 1/8" to 1/4" adapter; but the end that goes into the headphone can lock, making it difficult to pull out accidentally.

The overall sound quality is slightly less transparent than more expensive contenders, but that's the tradeoff for the lower price. The crucial point here

is the response (which tells you the truth), and the low cost.

In terms of value, you simply can't beat the SRH440. It may lack the finesse of higher-priced models, but for mixing, it does the job remarkably well—which is even more surprising, given how kind it is to your wallet.



Sony MDR-7509HD (\$265)

www.sony.com/proaudio

I used Sony headphones many years ago as my primary "cans" until they basically wore out from extreme use. As I like to try different products I moved on to check out various other phones, but always felt the Sony's were above average in terms of clarity.

The MDR-7509HD stereo headphones have been around for a while, and are well-regarded by those into headphones, so I was interested in checking them out. They're ready to go out of the box: no cord to attach, 1/4" adapter already screwed in . . . plug 'n' play. And, they retain the same level of comfort as the somewhat older, but still current MDR-7506.

Tonally, Sony headphones have a particular character to me—high in mid/upper mid clarity, light on bass.

Classical music sounds fine on these phones, because they're like putting the midrange under a magnifying glass (not a microscope, thankfully), and much classical music tends not to have a lot of low-end energy anyway. They're also excellent phones for tracking, because the level of midrange detail makes it very easy to hear what's going on in the mix (especially if you're singing your head off, or playing a guitar solo). And, they can handle very high power levels.

However, for bass-heavy genres like rock and rap, I wouldn't feel confident that I was placing the bass accurately until I felt I had truly "learned" the phones. I know lots of people who love their Sonys for listening to music, but our task here is to examine the sound

in the context of mixing. In that respect, I would consider the MDR-7509HD as more of a general-purpose set of monitoring headphones than a set optimized specifically for mixing.



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Ultrasone Proline 750 (\$389) and Edition 8 (\$1,499)

www.ultrasone.com

Ultrasone headphones have a particular "character," and as a result, people have strong reactions to their sound. But Ultrasone also incorporates a few unique features. Ultra-Low Emission technology dramatically reduces magnetic radiation from the headphone drivers; I don't know if having significant amounts of magnetic radiation so close to your head is a health hazard, but there's no harm in not having it.

Ultrasone's unique S-Logic Natural Surround Sound process is not about 5.1, but aims to reduce the "headphone effect" by giving a sense of distance. Instead of having the sound hit the inner ear directly, sound reflects off the outer ear's surface beforehand; the company believes this is more realistic because we use the outer ear to locate the direction from which sound emanates. Ultrasone also claims this process gives the same apparent loudness with 3–4dB lower sound pressure levels. I can't verify this, but the sound is definitely more "open" than other headphones (except for the AKG K 702, which exhibits similar "speaker-like" qualities but uses different technology).

Ultrasones are known for a sparkly, present sound, while delivering a tight bass. Even those who find them

"bright" don't necessarily find them harsh, because the highs are smooth. But if you like the sound of the 750, you'll flip over the Edition 8. It's a luxury item (Ruthenium-covered outer ear cups, Ethiopian sheepskin leather-covered headband, French goatskin carrying pouch) but so is the sound. It has everything people like about the 750, but achieves its balanced, neutral sound with exceptional detail—it recalls the 750, but with more refinement, especially from the lower mids on down. There's absolutely no "peakiness" to the response.

The only disadvantage I found with the Edition 8 is an odd one: Where other headphones would sound terrible with excessive sibilance, the Edition 8 re-created it so neutrally it wasn't objectionable. With the Edition 8, you could go through life thinking you

never need a de-esser, and cymbals never sound harsh. As a result, if you plan to use these as a reality check, you won't be hearing what other people will hear on inferior phones. Conversely, if you subscribe to the philosophy of mixing on the highest quality monitors possible because the accuracy will allow music to sound as correct as it can on lower-quality transducers too, the Edition 8 embodies that philosophy. Furthermore, it makes the whole process of listening and mixing enjoyable rather than just clinical.

Granted, most of us won't be able to afford them (I certainly can't), but if you want to know what top-of-the-line buys you, these give a sound that's stunning precisely for its *lack* of stun—what you hear is what was recorded. Fortunately, the 750 delivers most of the goods for a much lower price.



AKG K 271 Mk II (\$299) and AKG K 702 (\$539)

www.akg.com

When you need headphones with extreme sound quality that are also suitable for tracking, the K 271 is an excellent choice. It's extremely comfortable, and provides excellent freedom from noise and leakage. One very considerate, and unique, touch: The headphones mute automatically when you take them off, thus making them "good neighbors" when others are in the same space.

Given that the K 271 is \$100 more

than the Audio-Technica ATH-M50 and \$175 more than the Shure SRH440, some might consider "stretching" to the higher cost if there's a significant difference. Well, the extra bucks do make a difference; the high end is smoother and more dulcet than the SRH440, and more defined and present than the ATH-M50. Bass

was similar for all three phones, but the 271 had a "rounder" quality than the Shure. Overall, the K 271 has an



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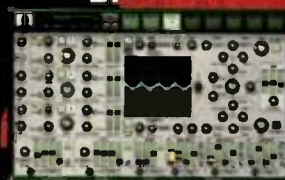
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GEAR HEAD

extremely "sweet" response that is effortless to listen to for long periods of time.

So given the price compared to the K 271, is the K 702 twice as good as something that's already good? Well, the K 702 headphones are remarkable. They don't have a "headphone sound;" the experience is closer to listening on speakers—there's an open quality that's big, full, and realistic. Also, the fidelity is beyond reproach: The highs are crystal-clear (I'd even use the word "silky"), there's no peakiness to the response, and the bass is warm without being hyped; there's a tightness and ability to reproduce transients that makes these headphones stand out.

Although the phones are circumaural, they have an open back that lets some of the sound "escape" through the back. While I'm not fully tuned in to the science, one of AKG's engineers explained (I *think* I got this right!) that

this prevents waves from bouncing around inside the headphone. The decreased isolation makes them less well-suited to tracking in noisy environments because a little sound can "leak" out of the headphones, but so what—get some other phones for tracking, because the K 702 is exceptional for mixing or listening. It's also surprisingly light and comfortable, which I assume is a byproduct of the oversized earcups that also place the sound drivers further from your ears than usual. This may also contribute to an extraordinary ability to pinpoint sounds in the stereo field.

Granted, these are the second most expensive headphones in this roundup, so you'd expect them to be good. What you might not expect is value: I've heard speakers many times the price of these phones that don't have this level of detail. These are honest, comfortable, transparent headphones with a virtually non-existent fatigue factor.

Monster Turbine Pro Gold (\$299.95) www.monstercable.com

And finally, can you really mix on *earbuds*? The Turbine Pro Golds are designed more for consumers; the companion Turbine Pro Coppers are for neutral, critical monitoring. Unfortunately they weren't available as of this writing, but if they're shipping when this goes online, I'll include an addendum.

However, the Golds are nonetheless highly impressive. They're far and away the best earbuds I've heard, and while they may be a little more forgiving than the Coppers, they still present an accurate representation of a mix. They've now become a part of my "traveling laptop studio," saving a lot of space over carrying conventional headphones.

The biggest difference compared to standard earbuds is superb transient response (drums *crack* instead of *thud*), and exceptional detail—which



provides a wide, precise soundstage. And if there's any distortion, I couldn't detect it.

I went to Europe shortly after obtaining the Golds, and did several mixes for videos while on the road. Upon returning, I was shocked at how well the mixes translated over speakers; I didn't need to change a thing.

(As a bonus, on the plane the movies sounded downright vibrant, and my MP3 player never sounded so good.)

There's one caution, though. Spend the 20 minutes it takes to check out *all* the earbud tips included with the package, otherwise you'll cheat yourself out of the optimum bass response. Also, while these aren't noise-canceling, the in-ear design is good at keeping out ambient sounds if you use the right tip.

I never expected to get this excited over a pair of earbuds, and I certainly never thought of Monster as a headphone company. The Turbine Pro earbuds aren't cheap, but you get what you pay for—and maybe more, because they really are outstanding.

CONCLUSIONS

What's interesting is that you could mix on pretty much all these headphones; the main difference is how much you're going to enjoy the process, both physically and sonically. They're all reasonably comfortable, especially compared to some older cans I used back in the day.

Let's get the easy conclusions out of the way: If you're going to use earbuds, do yourself a favor and get the Monsters—I've never heard any earbuds that come close. If your budget is really tight, the Shure SRH440 is vastly better than you'd expect for the price. The high end is a little harsher than the more expensive models, but they're solid, accurate phones that need make no apologies.

Moving up a notch cost-wise, I was pleasantly surprised that the Audio-Technica ATH-M50 does such a valiant job of holding its own against more pricey headphones. However, in a side-by-side comparison, there's no question that the extra \$340 for the AKG K 702 buys a much silkier, smoother high end and greater comfort over hours of mixing.

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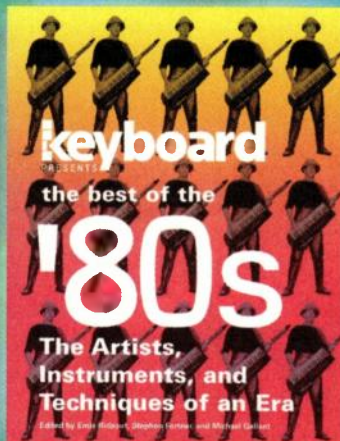
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GEAR HEAD

Similarly, when comparing the ATH-M50 to the 50% more expensive AKG K 271, the ATH-M50 comes surprisingly close. I hesitate to say the ATH-M50's high end is "harsher," because it's not really harsh—it's more like the K 271 is "anti-harsh."

The Ultrasonics 750 is less expensive than the K 702, and here's a case where I feel someone's subjective desire of how they want to hear music on headphones comes into play. Both give less of a "headphone" sound, and both have very clean responses with excellent detail. However, they have different "personalities" and how you would react to them is a subjective call.


Which leaves us with the Sony MDR-7509HD and Ultrasonics Edition 8. The Sony is about the same cost as the Shure SRH840, and would be my recommendation if you also expect to do tracking with the phones—they're

durable, and the midrange lift puts the spotlight on the all-important instrumental frequencies. However it wouldn't be my first choice for mixing and to be fair, many of the other headphones wouldn't be my first choice for tracking. I also think the MDR-7509HD would be ideal for DJs because of the power handling capacity, and the midrange being able to stand out compared to the huge amount of bass leakage to which DJs are typically subjected.

The Edition 8—well, they sound *really* great, but there's that issue of them making something like excessive sibilance sound acceptable. It seems totally insane to urge caution because a product can be too good, but remember that the topic is mixing on headphones, not which headphone is best-suited for audiophiles. In any event, listening to music on the Edition 8 is a wonderful, enveloping

experience where you almost bond with the music. It's fortunate the 750 comes so close for so much less.

If I had to pick a winner, I'd say AKG's K 702 hits the sweet spot—but aside from the astounding Edition 8, it's the most expensive product in this roundup. Still, I think anyone would agree after hearing these phones that the price is more than fair, because the sound quality and comfort is undeniable.

Having said that, though, don't feel bad if money's tight for you right now. The lower-cost headphones are perfectly suitable for mixing—surprisingly so, particularly in the case of the bargain Shure SRH440 and "near-bargain" Audio-Technica ATH-M50—and what it really comes down to is "you get what you pay for." Fortunately, though, with these phones you don't have to pay all that much for something that does the job with competence and style. 

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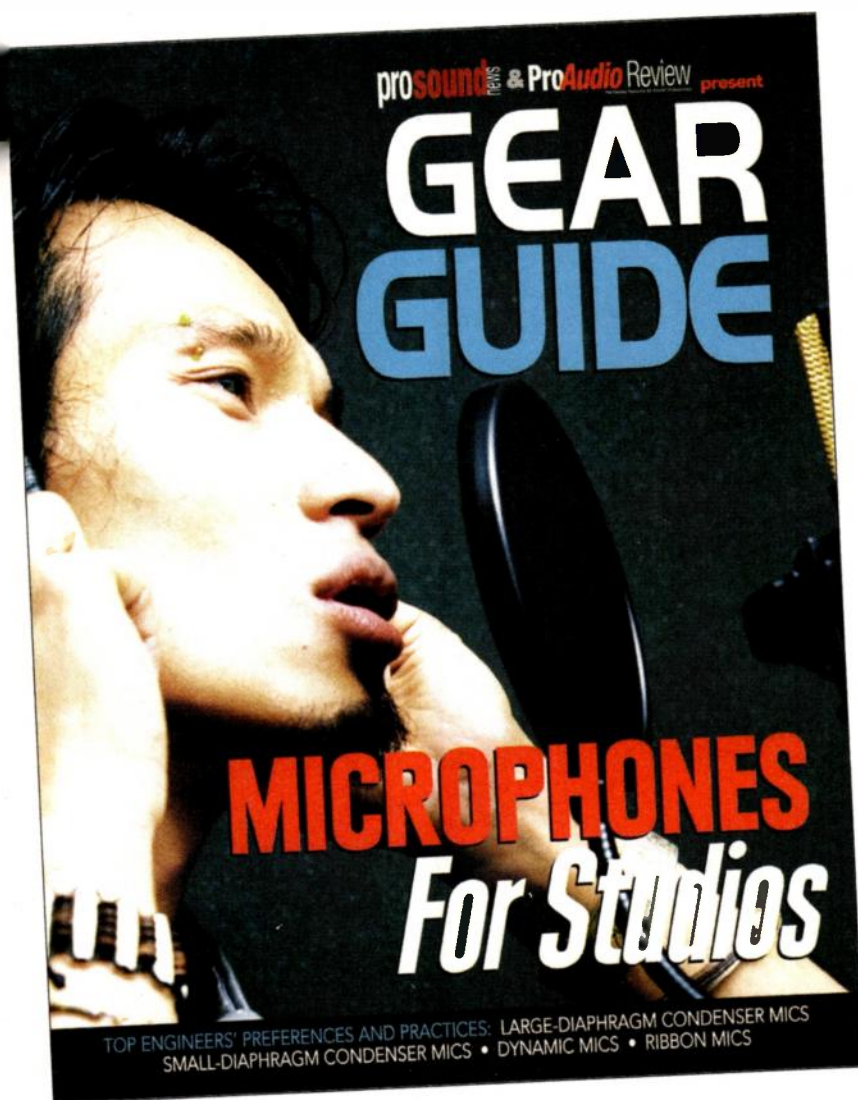
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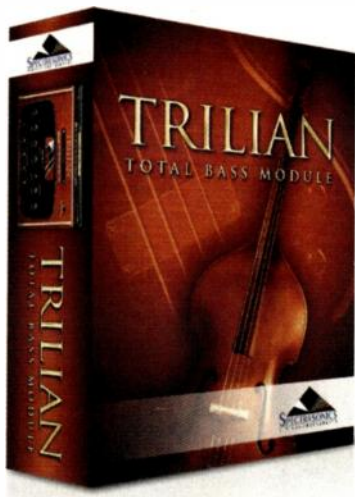
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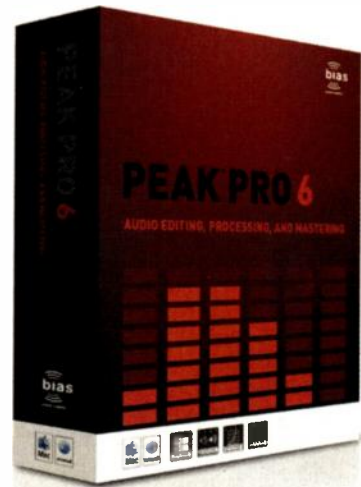
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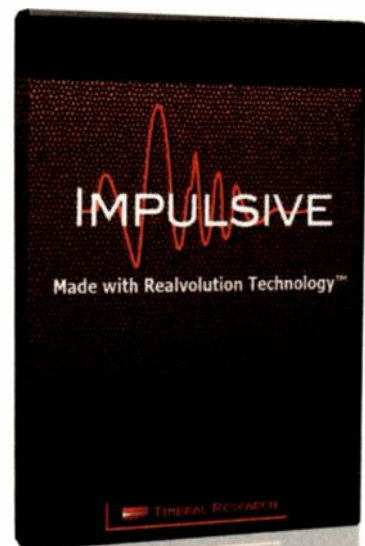
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STEVEN SLATE STEVEN SLATE DRUMS PLATINUM V3.5



I met Steven Slate at Sweetwater's Gear Fest, where after finding out what kind of drum sounds I liked, he said I had to check out his drum library. Sure, uh-huh, more drum samples . . . (stifles yawn).

Well, he was right. Using Native Instruments' Kontakt 3 player engine, Slate's 53 kits combine "you-are-there" multisamples with room ambience and intelligent processing within Kontakt. Far from being neutral, these drums make a statement: From drums so dry/tight they could be from the Kalahari to Zep-type sounds saturated with ambience, you get full, muscular sounds that need no extra processing to be ready for prime time.

And that might be the only complaint you could level: The kits are so filled with personality they have a definite

stamp. You can reel them in, though; I edited one set into sounding almost like a TR-808 by killing the ambience, bringing the decay down to almost nothing, and tuning the pitch up. The editing flexibility is welcome.

We can only scratch the surface here—there are also Roland V-Drum kits, different snares and kicks loaded on adjacent keys to minimize "machine gun" triggering, humanization options, WAV/Drumagog files for drum replacement, and more. Bottom line: If you want drums that are locked and loaded as soon as you open them, look no further than this inspiring collection. —*Craig Anderton*

Contact: Steven Slate Drums www.stevenslatedrums.com
Format: DVD-ROM with 4.39GB of drum content; 24-bit, 44.1kHz; two additional DVDs with WAV/Drumagog files
List price: \$325

BIG FISH AUDIO BOLLYHOOD BEATS



Urban music is incorporating more world elements, but this sample library is full-on Dr. Dre meets Dr. Desai. 92 folders each have individual percussion loops, a hip-hop-type drum loop, some partial mixes (e.g., percussion track[s] with and without duff—a deep, tonal drum), and a full mix with all tracks.

Tempos range from 57 to 110BPM, but the Acidization/REX/Apple Loops editing is excellent; I had no problem jacking the tempos up into the trance range, and some even work with drum 'n' bass. And yes, the beats fit in amazingly well.

The recording is clean and natural—so you can use as is, or hype it up. There's fine use of stereo; you can almost see the two hands working the tabla. Other instruments include shaker, clay pot, manjira, dholak, and other things you won't

find at your local Guitar Center (unless it's in New Delhi).

I'm a big fan of spicing up conventional tracks with world loops. While the full mixes definitely shout "India," the individual loops have a kind of chameleonic quality that allows them to work in many different contexts. If you're scoring a Bollywood movie, you'll need more as this has no melodic components. But as you're paying only about 11 cents a loop, that's a good deal if you want above-average percussion. And notwithstanding the title, BollyHood Beats works in many different contexts. —*Craig Anderton*

Contact: Big Fish Audio, www.bigfishaudio.com
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FUTURE LOOPS NUCLEAR DNB



The popularity of Drum 'n' Bass has waned a bit over the years, but it remains a vital subculture. Nuclear DNB is almost a "granular" library, as it contains thousands of short files—it's up to you to assemble them into full parts. Tempos are 160, 165, 170, and 175BPM; WAV files are not Acidized, but REX versions are available for stretching.

Note that these files are beats only—no bass or synth.

The raw materials include 407 full mixes, 303 fills, 620 "loop elements" (individual kick, snare, hat, and percussion loops), 2,127 slices for building beats from scratch, 192 processed patterns, and 99 FX loops. The same files are also sorted into 25 "construction kits" per tempo, with related fills, full mix with variation mixes, loop elements, and slices. The sorted versions simplify putting together

beats, due to the more limited palette.

As it's harder to slow down files than speed them up, don't expect to use these at slower tempos. The four tempo sets are close enough, though, that the REX files provide reasonable mix and match options.

These are solid, well-recorded files, but using Nuclear DNB is labor-intensive; if you're rushing to beat a deadline, previously-reviewed DNB libraries from Sony and Big Fish are a better choice. But if you need a parts kit that's loaded with suitable files, Nuclear DNB gives value for money. —*Craig Anderton*

Contact: Future Loops, www.futureloops.com
Format: DVD-ROM with 1GB of unique WAV files (approx. 3,755 files), sorted two different ways, and duplicated as REX files where possible; 16-bit, 44.1kHz
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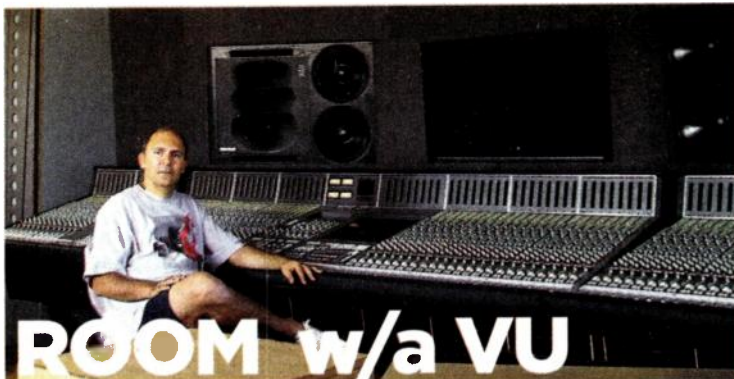
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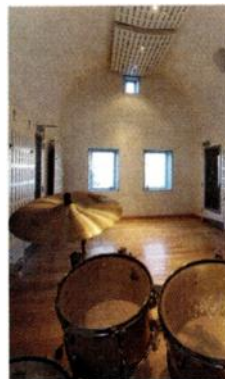
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ROOM w/a VU



by Kylee Swenson

Studio Name: Black Rock Studios
Location: Santorini, Greece
Contact: www.blackrock-studios.com
Key Crew: Kostas Kalimeris (owner, pictured above), Nick Riris (engineer)
Latest Projects: Joe Bonamassa, Lauren Harris, Kevin Shirley
Console: Solid State Logic 9080 J Series with Ultimatum & Total Recall
Converters: Digidesign 192 I/O (4)
DAW: Pro Tools|HD 2 Accel; Apple Logic Studio 9, Mac Pro 8-Core with (2) 2.26GHz Quad-Core Intel Xeon "Nehalem" Processors and 6GB RAM
Mics: AKG C 12 VR, C 451 (3), D 112; Cascade Fat Head II (2), Vin-Jet Long Ribbon; DPA 4011 (2); Electro-Voice RE20 (2); Microtech Gefell 711; Neumann U 87 (2), KM 184 (2); Oktava MK-012 (2); Peluso 2247; Royer R-121; Sennheiser e602, e609, MD 421 (2), MD 441; Shure KSM44, SM57 (3), SM58 (4), SM7B
Preamps/DIs: Amek System 9098 DMA; Chandler TG2 EMI Edition; Neve 1073 (6), 1081 (2), 1083 (2)
Dynamics Processors: Anthony Demaria Labs ADL S/C/L 1500, Avalon AD2044, Empirical Labs EL-8X (2), Focusrite RED 3, Manley ELOP
EQ: Manley Massive Passive Stereo Tube EQ; Neve 1073 (6), 1081 (2), 1084 (2)
Effects: Eventide H8000FW, Orville; Lexicon 960L, PCM 81; Yamaha SPX990
Plug-Ins/Software: AAS Modeling Collection; Antares Auto-Tune 4; Arturia V Collection; Audio Damage EFX Collection; Cakewalk Rapture, Dimension Pro; Celemony Melodyne; Cycling '74 Max 5; D16 Group; Focusrite d2, d3; GForce; IK Multimedia; iZotope; Koblo; LennarDigital; Line 6 Amp Farm; Luxonix Purity; McDSP Emerald Pack; Native Instruments Komplete 6; Novation; Ohm Force; PSP Audioware; Propellerhead Reason 4; reFX; Rob Papen; Sonalksis; Spectrasonics; Sugar Bytes; Toontrack; U-HE; Wave Arts; Waves Gold Bundle; XLN Audio
Instruments/Amps: Fender Telecaster Custom Shop '62 Reissue; Gallien-Krueger Backline 600; Gibson Les Paul Custom Black Beauty, Les Paul Standard, '82 SG Standard; Marshall Plexi; Mesa/Boogie Stiletto Trident; Pearl Master Series Trap Kit
Monitoring: Dynaudio BM 5A, Furman HDS-16 Headphone Monitor System, Genelec 1035B, KRK VXT6, Yamaha NS-10
Control Room: Damped front baffle wall; main monitors independently mounted on high mass, decoupled, vibration isolated plinths. Low frequency control as per membrane absorption balanced with mid frequency diffusion and strategically located high frequency absorption. Geometrically

designed to minimize early reflections at mix position.
Isolation Booths: Balanced response—even mixture of absorption and diffusion.

Power Conditioning: The studio is powered by a large-scale uninterrupted power supply (UPS), and there's a backup generator.

What were the inspiration and goals for building Black Rock as a residential recording studio?

Kostas: I first had the idea over a decade ago and while I realized that the basic idea had the potential to be really unique, it actually took years of thought, investigating possible locations, and checking out the international and the Greek recording scenes before it evolved into what we have today. About three years ago I was still investigating possible locations on various Greek islands until I finally settled on Santorini as the perfect location. Great poets have sung the praises of Santorini for much of its 4,000-year history.

Our goal was to develop an environment that embodies everything that an artist could desire to enhance their creativity and hopefully produce the best results when recording their music.

What kind of business plan was involved in putting it all together?

However much thought and planning has gone into a project of this magnitude, and no matter how well prepared you think you are, with a venture of this scale and scope, there are always unforeseeable problems. We tried to take things one step at a time in an attempt to make sure that we had considered even the minutest details.

We decided to adopt the very traditional architecture of the region, and architect Roger D'Arcy of Recording Architecture designed the studio space with that in mind.

What was the process of choosing the gear you wanted to feature in the studio? How did you make those decisions?

Choosing gear is obviously difficult, especially when a budget is in place, so we drew on our own years of working experience and also visited various world-class studios in Europe. We chose equipment that we believe to be standard in the industry while also offering the kind of versatility that enables various types of recording and production.

Is there a particular piece of gear in the studio that you couldn't do without?

Neve Pre/EQs, Manley Massive Passive EQ, SSL Stereo Bus Compressor, and the couches on the terrace where we watch the sunset while drinking Black Rock house wine after an awesome recording session! 🍷

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