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THINK BACKWARDS

Making music is an art—but *selling* music is a science. And all too many times, when I've asked someone how they plan to market their music, the answer is "Well, I'm going to get 1,000 CDs made, store them in my garage, and . . . uh . . . um . . . you know, like, sell them."

Cue the buzzer sound effect, because that's the wrong answer. It's not enough to just create music; you also have to figure out how to market it. But how do you create a marketing plan?

Simple: *Think backwards.*

By that, I mean think first about the goal you want to attain, *then* consider how you're going to attain it. Picture your potential customer walking into a store: What artwork will grab their attention? Are they even walking into a *record* store? If you're making "meditation music," maybe your customer is walking into a health food store, and you want your CD sold at the checkout stand.

What if your demographic is in the late teens/early 20s? Plan to make up a flyer promoting your CD (or downloads) like the "room for rent" flyers with the little tear-off tags on the bottom, and post them on bulletin boards at every college within driving distance. Enlist your fan base (because you have a website and have been collecting names, right? *Right?*) to cover the colleges you can't drive to. And why the tear-off tag? Because it has the URL where people can download one or more of your songs for free (there's nothing like the word "free" to get people's attention).

Keep working backward. Will you be selling music at gigs? Then think about how to present your music. In fact, do your customers actually *want* CDs? Maybe they'd prefer to have their music on a USB stick, so why not duplicate some of those as well?

Before you even place a call to a CD duplicator, draw up a marketing plan. Define which people are most likely to enjoy your music, figure out where to find them, and decide what marketing "hook" will speak to them. Explore various avenues of distribution. Find out who covers music for your local paper. Talk to musicians who have been successful at getting their music out into the world.

Then—and only then—think about getting your music mastered and duplicated.

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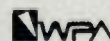
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SOUNDING BOARD

THE EVERLASTING THANKS

Thank you, thank you, thank you, THANK YOU! I will never be able to thank you enough for the massive piece on the Smashing Pumpkins ["Signal to Noise" - 10/08]. I've been searching for details about how they made all of those great albums since I was a young, way-too-angsty 19-year-old blaring *Gish* in my college dorm. One question though: I've went to your website to sign up for the live chat with Billy, and I can't find anything. Help! I need to know how I can be a part of this. I have more questions for him than you could believe.

Aaron Renault (via email)

Editor Matt Harper responds:

Unfortunately we experienced some last minute scheduling difficulties due to Billy's understandably hectic schedule (he has a lot of interesting things for you fans in the works that we aren't at liberty to publicize right now). As of writing this response (10/20/08), the event is officially cancelled. Though we worked tirelessly to make this happen for you, ultimately it just wasn't meant to be. Rest assured that we will announce the next installment in our Artist Master Class series shortly, and we're sure you'll be pleased with what we have in store for you.

On a related note, now seems as good of a time as any to recommend that you sign up for our free *Record Ready* e-newsletter at www.eqmag.com. This is by far the best way to keep up-to-date with all the going-ons over here at *EQ*, including announcements regarding our Artist Master Class series. As a subscriber you'll also get special content, all the new gear news you can stomach, and the opportunity to win tons of free stuff. All of the cool kids are doing it, so what are you waiting for?

LIFE IN THE FAST LANE

I'm a musician/vocalist/engineer/producer and I've been running my Pro Tools studio as a business for three years. Over the years I've gained the respect of my clients due to my tracking style. You see, I tend to mix and add effects to the vocals during the vocal tracking, and usually need to spend no

more than 20 minutes after the tracking is complete getting the levels right. With a lot of Hip-Hop and R&B artists, this means they can have a finished song laid down in about an hour.

Recently, I started to work at a nice, new studio. They want me to bring them my customers, but they forbid me to add even so much as light compression until the tracking is complete. I feel as if these owners are taking an unnecessarily slow and entirely old school approach to a fast moving industry, and it is costing me my clientele. Will you please do a story about integrating tracking/mixing with RTAS plug-ins on a DAW so I can show them and, hopefully, return to my normal workflow? These guys have a lot of money and great equipment, but unfortunately they are closed-minded and have little actual knowledge of tracking/mixing.

David James (via email)

Editor Matt Harper responds:

We'll do you a good one and start working on an article about processing vocals on the fly, and why that is a great way for some of us to work. Meanwhile, I urge you to push this issue in front of these owners you speak of and show them the cover story. In there you'll see that Joe Chiccarelli has a lot of positive things to say about the subject of committing to *EQ*, compression, and other effects during tracking. I mean, if such is good enough for artists like My Morning Jacket, Beck, U2, Elton John, The Shins, White Stripes, Morrissey, etc. then surely it's good enough for your clients, right?

DEAR CHRIS MARA...

I just wanted to write because, as a fellow engineer, I really look up to you. I caught your video over at the *EQ* site [www.eqmag.tv], and was astounded to see you breaking down the calibration process for an analog reel-to-reel tape recorder.

I recently acquired a Fostex open reel, 1/4-inch 8-track recorder. Are there any recommendations you can give me for the process of tracking in a DAW and then bouncing to 1/4-inch tape?

Shawn Larson (via email)



Contributor Chris Mara responds:

Try this technique:

1. Create eight new tracks in your DAW.
2. Pick eight tracks that you want sent to tape and assign them to the DAW's analog outs (1-8).
3. Take the new track's inputs (analog 1-8) and group them.
4. Put the tape machine into reproduce mode.
5. Arm the analog machine and the new tracks in your DAW.
6. Play/record your DAW session as you record on your analog deck. This way you're simultaneously recording onto tape and back into your DAW.

Note that while being in reproduce mode assures that you're actually hearing tape (versus the machine's input), this results in a long delay. Therefore once you finish each pass, you'll need to slide your group of new tracks to the left and line them up with the original tracks in your DAW. Check to see/hear how they line up further down the song too—they may drift, so you may need to line them up again at, say, the top of the second chorus or whatever.

Got something to say? Questions, comments, concerns? Head on over to www.eqmag.com and drop us a line in our Letters to the Editor forum, send us an email at eqeditor@musicplayer.com or snail mail c/o EQ Magazine, 1111 Bayhill Dr., Suite 125, San Bruno, CA 94066 for possible inclusion in the Sounding Board.

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KICKIN' THE BANG

Arabian Prince on the TR-808

BY COREY BLOOM

Mik Lezan—popularly known as Arabian Prince—says he was practically *born* a gear junkie. As a young man growing up in the storied Los Angeles inner suburb of Compton, Lezan spent his days toying with CB radios and building his own speakers. Eventually settling in with a set of turntables and a Roland TR-808, the DJ quickly joined the ranks of the West Coast hip-hop elite, linking up with fellow electro-innovators such as Egyptian Lover, and later, Dr. Dre (a friendship which led to the founding of the seminal gangsta rap squad N.W.A.).

Though Lezan is best known for his stint with N.W.A., the young DJ contributed to countless classic records, largely as a producer, but he also dropped quite a few solo releases. Though initially commercially ill-fated, the aforementioned albums have garnered a cult following in recent years, which is why the folks at Stones Throw Records just released an anthology of Lezan's works between 1984-1989, appropriately titled *Innovative Life*.

Tell me about the gear you started off on, and how you made it work.

When I first started DJing back in the day, they didn't have the Technics 1200s. The first two turntables I put together were linear-tracking turntables where the tone arm went sideways on a track. You couldn't really pick up the arm, it just slid sideways on a track. We would put some plastic underneath the record to try and do some scratching, but it was near impossible.

My first drum machine was a cheap

Mattel Synsonic Drum. I used to rock that at the club, though, and people would dance to it. After that, I saved my money and got a Roland TR-808. I begged and pleaded my mom—

"Look, I don't want to spend money on food or anything else, I just want to take this money from my parties and get an 808." I bought that, and then I went out and got a Roland Juno-60 keyboard. Neither one of those were MIDI. They were CV/Gate, so syncing those up to anything—especially in the studio—was a pain in the butt. You had to go through the CV lock, which was just like a pulse. If you ever hear that click—that Kraftwerk percussion sound, which me and Egyptian Lover used on a lot of our songs—it's actually not even a sound from the 808. It's the pulse that locked it to other equipment in the studio.

Jumping into the present, how do you feel that technology has helped or hindered your creative process?

I still own a lot of my old gear. I'm a real gear head. I have a lot of analog keyboards and drum machines in storage, but I don't use them anymore. I've been able to use Propellerhead Reason and Ableton Live to get the sounds I want. I hear a lot of cats say Reason sounds thin, but that's because all they are doing is taking stock sounds and leaving them there. I still do what I've always done—find a drum sound or keyboard sound, and then tweak it to get it somewhere new.

Do you use the 808 at all?


I still use the 808, and I always will. I use hardware vocoders, too, because I haven't heard any software versions I like. And I'll use my Neve preamps to

get a warm signal into the box, but I do most of my processing internally.

Do you use Live to edit, or do you export your tracks to a different DAW?

I use a lot of different DAWs for different things. I use Sony Sound Forge for editing, Steinberg WaveLab for mastering, and Adobe Audition for a lot of my multitrack recording. I'll use Pro Tools occasionally, but not as much as other people. I can use Audition for what I need, and it's faster and not as cumbersome.

You say you'll always use a real 808. Why?

Because each kick is not the same when you use an original 808, whereas in the digital realm, whatever sample you use, it's always the same. You can work around it, but it is difficult. In a lot of my mixes where I didn't use a real 808 what I'll do is use like eight or 10 different drum kicks in one sequence—some longer, and some shorter—just to give it that natural feel. I've studied the 808 for hours on end, and I've found that every time a single programmed kick would hit—if a kick was by itself and there wasn't another kick for another six bars—it would have a longer decay. But if there was another kick two or four bars away, the first would get cut short—it wouldn't resonate as long. You have to program your patterns differently using software to replicate that effect. Otherwise, you'll sound like one of those producers who leaves all the 808 kicks wide open. All you hear is "boom, boom, boom." The kicks drown out the rest of the track, and it just doesn't sound right. 



LA MERIDI WIER

GERMAIN TO THE POINT

Four Quick Questions with Producer **Clark Germain**

BY MR. BONZAI

Clark Germain's impressive credit list includes Stevie Wonder, Chick Corea, U2, Iggy Pop, the Commodores, Bonnie Raitt, and many others. We caught up with him for a brief chat at his new Laurel Canyon, California, studio WonderWorld, to pick his brain about recording techniques, personal studios, and the future of the music biz.

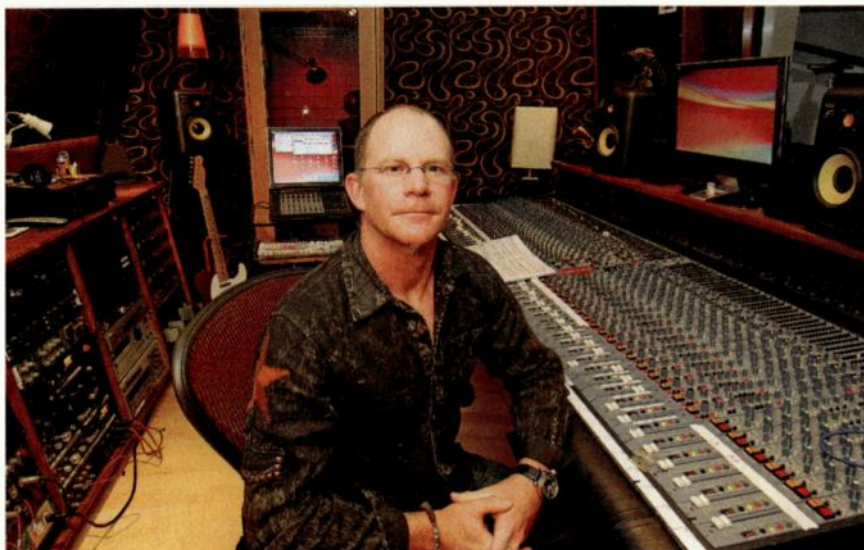
You've worked with David Benoit and Herbie Hancock. What piano recording techniques have you learned from working with these guys?

My miking technique changes depending on the piano and the player. With David Benoit, quite often we will record the piano in the same room as the drums. In this setup, I have to use a custom stick to keep the piano lid open just above the mics. I keep the mics fairly close to the hammers in a bit of a modified X-Y pattern. David has an absolutely wonderful touch on the piano—very sensitive and lyrical—so it helps when the mics are close to the hammers.

When I recorded Herbie Hancock, they brought in a huge Fazioli piano. This thing sounded gigantic! I had to experiment with a lot of different miking techniques with the producer, Bob Sadin, playing the piano. I eventually settled on one AKG C12-A inside, facing the upper register hammers, and one outside, facing the low soundboard. I combine these with a pair of AKG C12s outside at a medium distance, and a pair of Earthworks M50s out in the room. I don't necessarily use *all* the mics, but you want to have all your bases covered.

What do you think is the most difficult instrument to record?

I would have to say drums. So many times, the problem is in too many mics, improperly placed, causing phase cancellations that make the drums sound small. Minimal miking techniques can work great, but when you want a more pop sound, you need



MR. BONZAI

to do more close miking. I get a large part of my drum sound from the overheads. I like to use C12s, or a pair of Sony C55Ps.

For the toms, I am a big fan of C12-As and Sennheiser MD421s with a bit of EQ. For the top of the snare, there is still nothing better than the old Shure SM57. I'll also place a mic on the bottom just in case I need a little more sizzle in the mix. For the hats, I generally use an AKG C451, and for the kick, I like to have something like a MD421 inside and a Neumann U47 FET outside.


You have your own studio. Explain your setup.

I have a Pro Tools|HD 3 Accel system running through Apogee DA 16x converters into a customized Amek 2500a console. This way, I can set up the static mix to where it sounds good through the console with all the Pro Tools faders at 0dB. Then, I make small fader moves in Pro Tools. This setup provides access to all my great old outboard gear, as well as all my favorite plug-ins. I like having the ability to automate various parameters of the plug-ins for different sections of the song. It really gives me the best of both worlds. I think the most important thing, though, is to have a mixing environment that remains constant.

That way, you never have to guess about how things will sound when you bring them in for mastering.

What do you feel is wrong with the music industry these days?

I think we are in a huge transitional period. It's not just the fact that people are downloading music for free—although that is a major factor—but the major labels have not been supporting creative endeavors nearly as much as they used to for quite some time now. If you continue to put out a new version of something that had success in the past, the people will eventually give up on you.

Also, the days of active listening are long gone for most people. Music listening has become a passive activity—something you do while performing some other task. I think that the future belongs to the independents, and forward-thinking majors. The record industry will go back to being a singles-based business, as well—which is how it started. I do believe that if we give the people good and creative new music at fair prices with easy access, they will be willing to pay for it. It is going to take a while, but I think when the industry recovers, there will be more access to diverse types of music than ever before. 

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EVOLUTIONARY THEORY

Sasha Returns to the Remix with *Invol2ver*

BY RICHARD THOMAS

If punk rockers live and die by the 7-inch, DJs are defined by the variety of their continuous mix. The calling card for all forms of electronica, the DJ mix (or mixset, if you prefer) spent its formative period as the byproduct of two Technics 1200s and a simple mixer. For quite a few years, that was fine. But once the sheen wore off the superstar mystique in the early 2000s, DJs knew they had to step up their game, and gear manufacturers waited in the wings with new technologies to serve the quickly evolving craft. New DAWs allowed for increased integration between what historically was kept behind studio doors, and what was spun, scratched, and manipulated in clubs. Newfangled external controllers with expanded features allowed DJs to literally stay in touch with the tactile performance ethos of their past.

No one capitalized on this convergence of art and technology on a mainstream level in quite the same way as Welsh DJ/producer Sasha did with his breakthrough 2004 hit, *Involver*. This first foray into the hybrid world of on-the-fly remixing was made possible by Ableton Live. Pro Tools sessions for each handpicked track were flown in from the original artists, sliced and diced by Sasha and his squad, seasoned with additional instrumentation, and thrown into Live to create a DJ mix with fluidity and thematic consistency. With the arrival of Live on the scene, pre-production for Sasha's sets became less about crate digging, and more about the deconstruction of full songs into clips that could be tweaked

and manipulated in the DAW, and then performed live with the aid of a hardware controller.

Soon, however, Sasha found himself increasingly at odds with his equipment. The idea of scratching on a laptop made him physically ill, and the basic controllers at his disposal fell short of his needs. So, he began developing his own controller—the Maven. The current Maven Mark II version is a 100-percent custom-built unit, replete with handpicked knobs, switches, LEDs, and other bells and whistles specific to Sasha's desires.

"We even designed the fader caps ourselves," says Sasha, who has pumped an estimated \$100,000 into the unit thus far. "I just wanted to have it right. That stuff doesn't come cheap, but it's revolutionized what I do."

Never before has the Maven been more of a critical crutch than now, as Sasha is on the road promoting *Invol2ver*, the second installment in his groundbreaking mix series.

"We started the album at the beginning of 2007, but nearly 80 percent of what we did never ended up on the album," explains Barry Jamieson, Sasha's longtime friend and the lead engineer on *Invol2ver*. "We were doing loads of experimenting, and, eventually, we thought, 'Why are we doing this in the box again? We've got all this beautiful analog gear!'"

Sasha, Jamieson, Leo Leite, and Spooky's Charlie May and Duncan Forbes utilized a multi-room setup that allowed for simultaneous mixing and sound design. Once a track was broken down into building blocks by the team in Studio A, clips would be shipped over to the B room and tweaked using

U&I's MetaSynth and Native Instrument's Reaktor 5 before ultimately being hauled back into Live for Sasha's remixing. On Ladytron's "Destroy Everything You Touch," Leite time-stretched the source vocals to create the otherworldly choruses, using Reaktor 5's Grain Perception plug-in. Afterwards, he says that he filtered out Helen Marnie and Mira Aroyo's voices into "glitchy bits" that were then heavily compressed, gated, and used to create the track's percussion stabs.

For a track like Telefon Tel Aviv's "You Are The Worst Thing In The World," the manipulations were a bit subtler. Using a combination of Logic's built-in vocoder and the Eiosis ELS plug-in, May created between 20 and 30 different vocoder treatments, and then stacked them onto different parts of the original clean vocal to create a spatial, deeply layered effect.

Meanwhile, back in Studio A, vintage synths such as the Roland Jupiter 6 and JD-800, along with circuit-bent TR-707s and Alesis SR-16s, were used to jam out accompanying beats and melodies to the existing source clips. A Soundcraft G2 console provided what Jamieson calls a "sculpting environment" for the outboard sound design before everything was dumped back into Live. Jamieson adds that many of the synths were processed through guitar pedals and outboard filters to achieve a lo-fi effect—often-times using a Jomox T-Resonator and Analogue Haven's Truly Beautiful Disaster before hitting the desk. If a song called for something more "proper," the synth's signal would first be sent to a Millennia STT-1 Origin, and then compressed using either a Universal

Audio LA-610 or an LA-2A.

"It's quite a flexible box for the money," says Jamieson of the Origin. "It's great if you want to do combinations of solid state and valve preamps, or solid-state compression and, say, valve EQ. Sometimes, we'd put a couple of preamps in-line—like the LA-610 and the STT-1—so it's going through the valve process a couple of times to get a bit of that grit and noise."

Though all the mixing and arranging was done in Live—with Logic acting as more of a tape machine for the crew—it wasn't the group's secret weapon. For that they turned to FL Studio 8. But rather than use it as a writing tool, they employed it as an automatable patch bay, connecting different modules within the program to one another to create complex sound-design matrixes.

"Let's say you have a reverb," explains Jamieson. "You can have one parameter going from a bass line to the wet/dry of the reverb. Then, you can take another controller from another input, and give it a side-chain input to compress it, but just using the volume control within the plug-in itself. It's almost like you're using compressors, but you're not. You're just using controller information to manipulate parameters. It can get really complex really quickly."

Though Sasha rarely strays from his tech-house roots on *Invol2ver*, the album should have appeal outside the club due to a track selection that features, among others, Thom Yorke, M83, and Engineers. Furthermore, the convergence of analog warmth and razor-sharp digital deconstruction makes for a far more textured listening experience than your standard mix fare. Though he hasn't released a proper artist album since 2002's *Air-drawndagger*, the *Involver* series has proved to be just as labor-intensive.

"The idea of working on an original album is fairly terrifying," laughs Sasha. "I'd removed myself from the club scene for a good nine months, and that's a long time to be away from what you do as your main thing. But, that said, we work a lot faster now, and I have such a strong team around me. So maybe we'll start with a couple of tracks and see where it goes." **EQ**



DREW RESLER

Sasha's Maven Mark II controller was custom-built from the ground up to allow a physical, hands-on connection to the software he uses. Even the fader caps were designed specifically for the Maven.

MS. MINIMALISM

Keeping it Simple with **Juana Molina**

BY MICHAEL ROSS

"Solo" and "simple" are the operative words used when describing Juana Molina's bare-bones operation, but the beauty lies in the primitivity of her work. With their hip-shaking rhythms and unique synth lines, Molina's loop-based songs can inspire even the most ardent party-pooper to dance.

On her latest outing, *Un Día*, the Argentinian songstress layers vocals, guitars, synths, and percussion into a Boss RC-20XL Phrase Recorder, and then archives the results in MOTU's Digital Performer in order to explore the creative possibilities of looping. Starting as a way to perform her compositions live without a band, looping has since become the essence of her craft.

"At first, I didn't know I was playing a loop," she says. "I was just playing something over and over. Ten years ago, I thought that was bad, so I interrupted it, and put a chorus in the middle. I had these concerns about everybody thinking the loop was boring. Then, looping became more common in everyday music. I should have listened to myself back then!"

To record *Un Día*, Molina employed her usual method of setting up her live rig in her house. Replacing the small Behringer mixer she uses live with a Mackie 1604,

she goes straight from the mixer into the RC-20XL, and then into a MOTU 828 interface. Molina's guitar—an antique Martin—sports a DiMarzio magnetic acoustic pickup that she combines with the signal from a Neumann TLM 103 linked to an Aphex 207D preamp. She acknowledges the system has limitations.

"I don't really care much about the sound quality," she confesses, "because sometimes when I pause to fix the quality, I forget the idea. Why would I need quality for no ideas?"

A firm adherent to the "if it ain't broke don't fix it" philosophy, Molina admits to being very conservative—to the point of returning almost every new piece of gear she buys.

"I bought the big Boss RC-50 Loop Station, and it had too many pedals," she says. "I would have ended up a shoe-gazer! The only advantage would be that it is stereo, and while some of my keyboard sounds are stereo, they get turned into mono when sent to the RC-20XL."



All of Molina's recordings have been made using the TLM 103 and a Shure SM58 to mic every instrument with her trusty Korg O1W synthesizer supplying almost every other sound. However, her recording space's negligible soundproofing allowed a chorus of unlikely contributors to her last album, 2006's *Son*.

"The birds in my garden were very apparent on *Son*," she says. "I didn't make them participate as heavily this time." **ea**

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My Morning Jacket (foreground to background): Bo Koster, "Two-Tone" Tommy, Jim James, Carl Broemel, and Patrick Hallahan.

FOR THE RECORD

Throwing Caution to the Wind, My Morning Jacket Indulges in Their *Evil Urges*

Stop me if you've heard this one before: There's a band, and this band has toiled on the road for years, living an existence rife with vans that smell of urine and dirty socks, hole-in-the-wall clubs staffed with near-deaf sound guys, and barely ingestible continental breakfasts at virtually uninhabitable Motel 6s. Slowly but surely they gain a reputation as a truly great live act, and before long they enter the studio to record what they are sure will be their masterwork. They've spent years writing and rehearsing this material, honing their craft in front of audiences that grow exponentially by the gig. Their goal is simple enough: Capture the vibe, the energy, the intimacy of their live show.

by Shane Mehling

FOR THE RECORD

But somewhere along the way something bad happens. Blame it on too many overdubs, too many EQ boosts and not enough cuts, convolution reverb abuse, or a mastering engineer that was bound and determined to be the victor in the Loudness Wars, but the fact remains: What ships from the pressing plant is a squashed, pitch-corrected, time-stretched sham; a dull, lifeless, reproduction of a once-beautiful thing. No balls, no groove, no soul.

Louisville-bred rockers My Morning Jacket decided early in their career that they would never be the punch line in that terminally unfunny joke. Considered by many to be one of the best live bands on the circuit (or at the least one of the most athletic—point of proof being their nearly four-hour set at 2008's Bonnaroo Music Festival), the quintet knew that when it came time to record their newest LP, *Evil Urges*, they were in a do-or-die scenario. It was here that they would either defend their hard-earned rep and assume the throne as the leaders of modern rock, or die a shameful commercial death.

Singer/guitarist/mastermind Jim James knew that if the band's fate was to be a glorious one, they would need to find a producer that understood the magic of their music enough to encourage great performances instead of relying on quick fixes. They needed an old school pro. Little did they know when they

embarked on a short run of live dates that their sonic soulmate was waiting for them in the crowd, an ardent fan of their patented psych/funk/indie/southern rock gumbo.

"I went to see them play at [Colorado amphitheatre] Red Rocks and we hit it off immediately," says veteran producer Joe Chiccarelli (Elton John, U2, Beck, and The White Stripes). "I had seen them about six years earlier and was a fan, so I had an understanding of what they did even before we started working together."

"As I began our search for someone to work with, Joe's name just kept popping up over and over again," James says. "Even the people I was talking to about working with us were talking about Joe."

Since the men of My Morning Jacket had already cut loads of demos for *Evil Urges* before Chiccarelli was flown in, the newly assembled team was able to hit the ground running and get right to work on what would prove to be the band's crowning achievement.

"We tried to go for the middle road between banging it out and being surgical," says James of the group's strategy when entering the studio. "I believe you have to have a certain spontaneity and then capture it, harness it, and get surgical on its ass [laughs]. [Making an album] is like a blacksmith pounding out a sword—you have to put a lot of labor into the

process, but if you pound it too much, you can ruin the sword."

"Besides the human voice, the studio is perhaps the greatest instrument known to man," James observes from My Morning Jacket's tour bus during a brief respite from a tireless one-gig-after-another tour of



PEDAL TO THE METAL

While the My Morning Jacket guys used and abused everything from EMT plate reverbs to the Urei Cooper Time Cube to create the otherworldly sounds on *Evil Urges*, a good portion of the spatial effects were courtesy of a hot little pedal from Eventide called the Time Factor (for a full review of the Time Factor, go to www.eqmag.com/gear). "It has a real natural tone with a very warm, almost analog high-end quality that blended into the tracks very well," Chiccarelli says. "Even though it's in a stompbox form, it has a line level in and out, so it was very easy to interface into the API Legacy Plus console."

The Eventide ended up being used on lead and background vocals, guitars, and keys. "I love the fact that I can sit it on the console and easily tweak and refine while I working on a live performance," Chiccarelli tells. "In some cases it was printed on the track with the original sound. For background vocals, I would print several sets of various stereo delays using the Analog Tape Echo and Mod Echo programs to fatten and widen the parts. I would then balance them off in Pro Tools, combine them to one stereo track, and bounce them back to tape."



My Morning Jacket discusses their last take with producer Joe Chiccarelli. Pictured left to right: Patrick Hallahan, Bo Koster, Joe Chiccarelli, and "Two-Tone" Tommy.

SAM ERICKSON

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FOR THE RECORD

the U.S. James says that the band had recorded in various studios in the relatively rustic surroundings of their Kentucky hometown throughout their decade-long career. For *Evil Urges*, the group felt they needed a change of scenery, and therefore left their Midwestern abode and headed towards the bright lights of the big city. But while they knew that they wanted an urban environment to work in, they were undecided on where to set up shop. At Chiccarelli's urging, the band hopped in the van and soon found themselves in New York City, sitting at a Neve 8088 in what is unarguably one of the East Coast's greatest recording facilities: Avatar Studios.

Chosen not only for its first-class gear list or the convenience factor of being smack dab in the middle of West 53rd St., Avatar was also the perfect studio for My Morning Jacket to work in due to its multiple (five), spacious iso booths. "We were going to record bass, drums, two guitars, keyboards, and a lead vocal, all live," Chiccarelli explains. "We had to be able to isolate everyone. We also wanted a lot of space for each player so we could easily audition different amps and keyboards on the spot."

Before the first tom was tuned, the band decided to utilize Avatar's Studer A-800 MARK III 24-track tape machine for the majority of the tracking. "We used Pro Tools for additional tracks of horns, strings, background vocals, etc." Chiccarelli says. "But all of the tape editing was done with a razor—old school."

"We did the guitar and vocal overdubs in Pro Tools so we didn't have to link up two tape machines," James adds, going further to proclaim his love of the integrated approach. "It's the best of both worlds. I just wish that there was another way to meld the sound quality of tape with the workflow advantages of digital. But with anything digital you'll always have the problem of people infinitely editing and f**king around. We spent the first half of these sessions without a computer running. It made things much simpler."

The decision was made to record each song from the top-down, collect multiple takes, and then comp together the best performances. "They're such good players that it

wasn't an issue," Chiccarelli says of the band's ability to pull off a respectable track in a single take. "But sometimes the chorus is a little better in take four and the bridge is better in take three and you like the outro from take seven . . . we wanted to leave ourselves with lots of options."

"Going into Avatar, I knew which songs I wanted to sound dry and tight, and which songs I wanted to sound open and roomy, so we immediately set up two rooms for two different sounds," says drummer Patrick Hallahan. "The rather large main room was the right environment for big-sounding songs like 'Evil Urges,' and 'Smokin' from Shootin.' A 'dead' vocal booth worked perfectly for the more machine-like beats on 'Touch Me I'm Going to Scream Parts 1 and 2' and 'Highly Suspicious.'"

Besides the occasional TR-808 kick sample being blended in as a helper track and the Roland CR-8000 chugging away in the back of the mix on "Touch Me I'm Going to Scream Part 2," the oftentimes cold, industrial percussion one hears on *Evil Urges* is all man-made. "Obviously drum machine sounds are shorter, punchier, more compressed-sounding, so we needed a small, dead acoustic space to replicate that," Chiccarelli tells. "We were lucky that this vocal booth worked so well. It barely held his kit. But the low end really built up in that

small room and it made the tracks sound quite punchy."

Surprisingly enough, the few effects that Chiccarelli used on Hallahan's drum tracks were dialed in and committed to during the tracking process. "Joe is very particular about getting as much done pre-mix as possible, so most of the signal processing was done as the tracks were recorded," Hallahan says. Chiccarelli adds: "I don't leave a lot of decisions to mixing. I print the sounds how I want them because I don't want to leave these things until later. When I bring up the faders I want to hear the way the record is actually going to sound."

According to Chiccarelli, the magic of Hallahan's drum sounds cannot be attributed to mic choices or signal paths full of boutique gear but, rather, the drummer's masterful technique: "When it comes to getting that tight, dry sound, we would do things like mic only the top of the snare instead of our regular over-and-under miking. And we would deaden the heads so there wasn't so much resonance. But it's all about Pat's stick technique. He would choke up on his stick, which keeps the stick from rebounding and therefore keeps the head from resonating much after a strike. That's what made the machine sound."

Mindful of the fact that a rock record is only as good as the worst guitar sound contained in the



A LITTLE EQ

"I should note that the one other piece of gear used all over this album is the Chandler TG12345 Curve Bender equalizer," Joe Chiccarelli tells us as we're finishing up a last-minute fact check on the story you now hold in your hands. "I used this as the final stop on my rough mixes, which [mixing engineer] Michael Brauer modeled his final stereo mixes after."

Chiccarelli calls the Curve Bender, which is modeled after the EMI TG12345 desk used to record the Beatles and Pink Floyd at Abbey Road, "very powerful and rock and roll sounding. A couple of clicks—the boosts and cuts work in 0.5dB increments—can dramatically color the overall sound of the mix. I've subsequently used the same EQ for recent projects like The Raconteurs, The White Stripes and Brandi Carlile."

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FOR THE RECORD

grooves, James and guitarist Carl Broemel took their sweet time crafting the guitar tones on *Evil Urges*. "As a rule, I start with the gear that I am most used to—the amps and guitars I use while we're on the road. When that doesn't do the trick, I go hunting for sounds," says Broemel, noting that, though his trusty 88 Black Les Paul Standard is on the lion's share of the album's tracks, he would regularly switch amongst a fleet of amps including a Vox AC30, an Orange Rockerverb 50 2x12 combo, a Carr Viceroy 2x12 combo, a Top Hat Ambassador, a Fender Pro Junior, and a '70s Peavey Vegas [for a detailed list of what Broemel used on each track of *Evil Urges*, go to www.eqmag.com].

James kept his rig much more consistent, using one of his three Gibsons (a J-185 acoustic, an ES-335, and a Flying V), a Fender Stratocaster, or a Telecaster through a Premier 76, a Mesa Boogie Trem-O-Verb, or a Mesa Boogie Blue Angel. Similarly, Chiccarelli kept the guitarists' signal paths simple: a Shure SM57 and a Royer R-121, each on axis to a speaker cone, and a Neumann U67 for the room ("to keep the guitars from sounding one-dimensional"). Each mic was then sent through the Neve 8088's 31102 preamps and bused together to Urei 1176 limiters. "One guitar amp to one tape track," Chiccarelli clarifies.

Chiccarelli notes that for some of James and Broemel's gnarlier guitar tracks, he would run a signal through a Demeter Tube DI to complement their amp sounds. "I'll use the DI track when I need to add more definition to a guitar line, when I need more clarity for individual notes in a distorted chord. We'd also use the Demeter DI for the pedal steel tracks, then blend that signal in with what we got out of the amp to get a more balanced sound."

Broemel elaborates on the gear used in conjunction with his Carter 12-string pedal steel on crowd favorite "Look at You": "I used a Source Audio Hot Hand Wah. My feet were busy controlling the steel, so I couldn't use a standard wah, and I didn't want to use an auto wah. The Hot Hand uses a tiny device that you wear on your finger and the motions of your finger



Jim James cuts acoustic guitar tracks and vocals simultaneously

then control the sweep of the wah. It came in . . . handy [laughs]."

Since the band was recording vocals live with the other instruments, achieving proper separation when James was cutting acoustic guitar tracks required some ingenious mic placement on Chiccarelli's part. Says the producer, "Acoustic guitars were done while James was singing, so we had to make sure the leakage was minimal. In some cases I would put a lapel mic inside the acoustic guitar for total isolation. It also created a weirder sonic perspective, like your ears were inside the guitar."

More traditional miking techniques were also employed, utilizing some common unidirectional cardioid mics such as the Neumann KM84 and a Shure SM57. "I'll put the SM57 on the body by the bridge and the KM84 up by the 12th fret," Chiccarelli explains, adding that, when the sound produced using the SM57 is too boomy, he will "use an Electro-Voice RE15 on the body . . . it has a natural midrange-y sound to it."

Deviating from such tried-and-true miking techniques was of paramount importance when it came to "Touch Me I'm Going to Scream Part 1." "There's an acoustic guitar part on that song that never sounded right," Chiccarelli confesses. "It just sounded pasted on to a more electronic track. So we re-recorded the guitar track using an Altec Salt Shaker through a Pultec HLF3, which is a real drastic

high and low pass filter. The sound was lo-fi and grainy—almost like it was an old sample of an '80s 8-bit emulator. It instantly fit with all the other colors of the song."

In retrospect, Broemel adds that he's glad the band avoided what would have been convenient at the time, such as automating plug-ins or using amp simulators, and, instead, integrated effects processing into their guitar performances. "Using computer plug-ins isn't our first choice when getting a guitar sound," the guitarist says. "I would say, in general, anything you can do with your eyes closed and your hands on the knobs is going to turn out better than what you would get while staring at a screen."

Keyboardist Bo Koster is a firm believer that amped keyboard sounds ultimately blend in better with guitars in a mix, so he insisted that Chiccarelli keep at least a 60/40 ratio in favor of amp to direct signals. "The amp definitely adds more dimension to the sound as well as some extra harmonic distortion," Chiccarelli says. "It's not even that you have to put it through a Marshall—even a small amp does the trick."

Koster drew from a veritable smorgasbord of killer keyboards for the *Evil Urges* sessions, including a Fender Rhodes, a Wurlitzer electric piano, a Clavinet D6, and a Hammond B3. According to Chiccarelli, most of the

SAM ERICKSON



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FOR THE RECORD

keyboards were sent through an unspecified Mesa Boogie bass amp, which was miked with an Electro-Voice RE-20. However, Broemel's multitude of boutique combo amps were also brought in from time to time to "add some reverb, vibrato, and distortion and open up the possibilities," such as on stand-out track "I'm Amazed."

A similar approach of mixing amp and direct signals was employed for bassist "Two-Tone" Tommy's tracks. "I have a bad habit of lightly slapping the strings along with the snare," Tommy confesses. "That can be problematic when going direct. [A DI] is too clear, too unforgiving."

Tommy is cut from the same cloth as his bandmates in regard to the shared proclivity for constantly switching up rigs. For *Evil Urges*' 14 songs, Tommy used no less than seven basses—from the more aggressive-sounding 2001 Fender Deluxe P-bass (for raging rocker "Remnants") to a 1980 Rickenbacker 4001 (for the fuzzed-out lead bass lines in "Two Halves"); from a '70s Fender Precision fretless (for the über-smooth "Librarian") to the '76 Alembic that cuts sharply through the mix on kick-off track "Evil Urges" [for Tommy's track-by-track gear list, go to www.eqmag.com].

Chiccarelli says that the direct signals were all piped through his trusty Demeter Tube DI and that nearly all the amp tracks were courtesy of a Mesa Boogie 400+ head matched with a Mesa Powerhouse 1000 cabinet (miked with an Electro-Voice RE-20 on the 10-inch speakers and an AKG D112 on the 15-inch speakers). "I also used an old Ampeg B-15 for the fretless tracks," Tommy adds. "We used the RE-20, placed in the upper right-hand corner of the speaker."

As a general rule of thumb, Tommy tends to keep his bass sound fairly dry. But for *Evil Urges* the bassist decided to go nuts with an Electro-Harmonix Bass Micro-Synth. "It's on quite a bit of the album, including 'Evil Urges,' 'Smokin' from Shootin', and 'Look at You,'" says the bassist. "The only way you can rein the signal in is to send it through the amp's effects loop, so we had to use an amp signal."

While lead vocalist Jim James has one of the most singular voices in rock today, he says that he



Joe Chiccarelli (left) convenes with Bo Koster (middle) and Jim James (right) while comping together a few choice sections.

approached the *Evil Urges* sessions as an opportunity to branch out and expand his range of vocal personalities. As each song became a quest for what the vocalist calls "the perfect color," Chiccarelli found himself auditioning, and ultimately using, a stunningly wide array of mics and effects. "Almost every song employed a different vocal mic," Chiccarelli says. "A lot of the vocals were done with a Neumann U47 or a U67. A couple of things that were more breathy and quiet were done on an [AKG] C24, and for his old-timey, radiophonic vocal sounds, we used an Altec 639 'Birdcage.'"

Though James would step up to a Shure SM58 and do a baseline vocal live with the rest of the band, he

would often immediately go straight to the booth after the take and perform a couple extra passes. These tracks would then all be comped together for the perfect vocal. Chiccarelli says that James' ability to work with various mics allowed him the opportunity to experiment on the fly. "Certain singers will find themselves getting shy around more than one or two mics, but Jim sounds pretty good on just about anything—it sounds like him whether he's on a [Shure] SM7 or a [Neumann] U67."

"We made a conscious decision to always vary the mics when we did a backing track, or when we were shifting vocal personalities," James says. "For instance, if we used a U47 for

EARLY COMMITMENTS

"The great thing about working with Joe is that he's constantly helping you make choices and stick with them," My Morning Jacket front man Jim James raves. "That way you are really mixing the record as you go along. I am very into that old-school work ethic from when bands only had a few tracks to work with and the engineers had to place and practically mix the performers before they even hit record. It kept everyone honest."

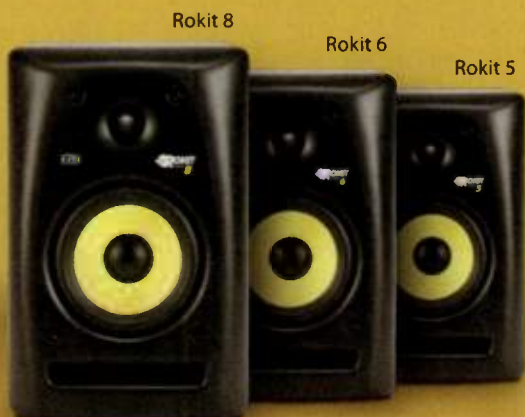
Chiccarelli explains why he isn't shy about tracking with EQ, compression, reverb, or any other signal processing: "I started in the early '80s where everything was done on analog 24-track machines and people really made decisions and committed to their sounds before the mix. They bounced down background vocals, bounced down guitars—they would use 20 tracks and then make a submix and that was it. All the other stuff was erased! I would rather commit to something and build other sounds around—even if it means having to re-cut tracks late—than I would leave so much uncertainty to the end. Being uncertain just isn't the way I like to work."

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FOR THE RECORD



Jim James (right) checks in with Joe Chiccarelli (left) after finishing a vocal pass.

the main vocal, we would use a [AKG] C12 on the backing vox, which has a thinner sound that mixes nicely with the U47."

Chiccarelli says that James' vocals were sent through either the Neve 31102 pres on Avatar's 8088 console, or through outboard Neve 1073s. Every vocal signal was sent to either a Teletronix LA2A or a Urei 1176, and lightly compressed before hitting the tape.

Though the Neve pres added a sense of warmth and the squish from the compressor/limiters significantly beefed up James' vocalisms, Chiccarelli's liberal use of reverb is perhaps most responsible for the singer's unique sound. "To Jim, reverb's another instrument and another sound on the record and he plays off that texture," Chiccarelli says. "It's really important he has it in his headphone mix and he hears exactly how it is going to sound

on the album, whether it's a plate or a chamber or an old '80s AMS RMX16 non-linear program."

Says James on the subject of drenching everything in reverb: "I just have a need for space in a recording. I feel that a lot of modern recordings are lacking space and depth in the stereo field. Many recordings sound flat, with all the sounds pushed right up in your face. I hate that. I like older recordings where you can feel the space around the performers. It's not that I'm on some retro trip—that gets old—I just want there to be some difference in distance between the instruments."

After the core instruments were recorded, James approached Chiccarelli with a wild idea: Take *Evil Urges* into a completely different realm by adding horns and strings to a sizeable chunk of the album's tracks.

COMPRESS IN

"Michael [Brauer] has a particular style of applying compression that differs from mine," Joe Chiccarelli says of the man who handled the mix on *Evil Urges*. "He uses multiple stereo compressors to feed things. But things were effected when tracking, especially the room mics: I used [Urei] 1176s on all of the electric guitars and Teletronix LA2As on the acoustic guitars. Keyboards were all hit with the dbx 160, and I used [Empirical Labs] Distressors and Chandler TGIs, Germaniums, and Neve 33609s on the drums. The vocals were processed through an Altec 9473A Dual Band Limiter as well as the LA2As and 1176s."

With so many room mics being fed into so many compressors, one has to wonder how many tracks made it to the final mix. "Michael muted a few things, but not much. I left him with a lot of options to mix and match with," Chiccarelli says. "For drums, I'd leave one mono, distorted, squashed room mic, one real far, wet-sounding ambient track, and one up-close mic to catch the early reflections and reproduce a lot of the low end build-up. You can hear the perspectives change a lot throughout the album."

"The first person who popped in my head was David Campbell, Beck's father," Chiccarelli says. "I'd worked with him many times before, so I reached out to him and, next thing you know, he's in the studio."

"Working with an outside arranger is tricky because I try to tell them exactly what I want for each song and sometimes it doesn't quite come out right," James says. "David listened to what I said, but he also added his own little touches and flourishes that I thought worked quite well."

Campbell came to the *Evil Urges* sessions with a handful of New York's top players. Starting with horns, Chiccarelli arranged the players in Avatar's Studio A live room. "It's perfect for horns and strings," Chiccarelli observes. "The room is so live. I close-miked the horns with Shure 12As, put four U67s a few feet further out, and then used a Royer SF-12 stereo ribbon for the room."

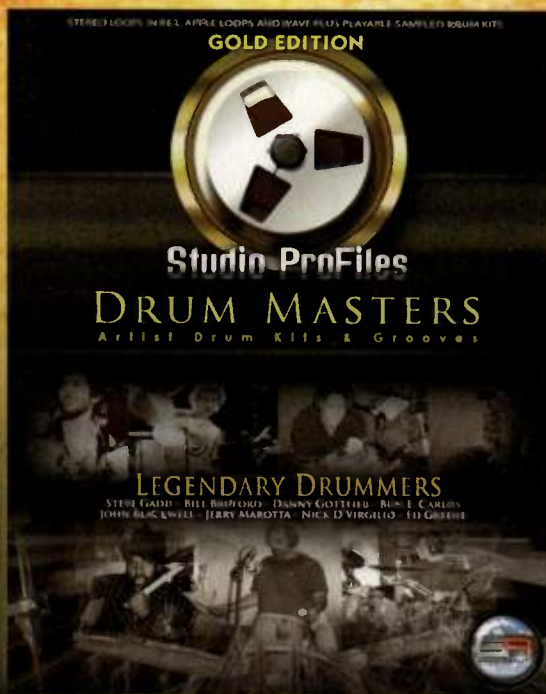
However, the session would prove more challenging than Chiccarelli initially assumed. "In that 'open' of a room, the horns were too wet. They would have stuck out too much no matter how you mixed them. I ended up putting baffles around the performers to tighten the sound up and focus the strings into the mics."

Using a pair of vintage Neumann M50s placed high above Campbell's head, and an AKG C24 stereo mic in the middle of the room, Chiccarelli captured the strings with relative ease. "Some songs needed tighter, smaller string sounds and others wanted to be more grand and symphonic. I would change the balance between the wider-sounding M50s and the tighter-sounding C24 depending on what was most appropriate."

After taking a two-week break during the holidays, the band reconvened with Chiccarelli at Nashville's Blackbird Studios D room to cut a few quick overdubs. "Jim wanted to work more on background vocals and Patrick wanted to experiment with drum textures," the producer remembers. "We booked out two weeks, which was time for the remainder of the lead

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FOR THE RECORD

vocals, the background vocals, whatever guitar and percussion overdubs, and to re-cut one song, 'The Golden Touch'—which didn't make the album and most likely will be released as a B-side. It was good to take a couple weeks' break and reflect on what we did at Avatar. We came in hearing everything fresh and instantly identified sections that needed work."

According to James, the band traveled to Blackbird to partake in the studio's "insane gear list." "We were among the first to use their brand new API Legacy Plus console," Chiccarelli adds. "It's the largest API ever built—96 channels, 192 inputs, 200 faders. The console's pres and EQ sections offered a good contrast to the tracks we cut on Avatar's 8088. We also took advantage of the multitude of vintage effects they've recorded, especially the Urei Cooper Time Cube, the Ursa Major Space Station, and their echo chamber. We used these delays and reverbs on a lot of the backing vocals. Again, all


of the effects and approaches were song-specific. If a device worked for the lead vocal, it was printed on a separate track after the vocal composite was complete."

It was at Blackbird that Chiccarelli and My Morning Jacket parted ways and Michael Brauer [Coldplay, John Mayer, KT Tunstall] jumped aboard. After mixing the lavish live album *Okonokos*, Brauer was asked to lend his talents to the upcoming *Evil Urges*. "We wanted to work with Michael again because he gets a big sound," James says. "He has this muscular, athletic way of mixing records. He gets into it like he's playing basketball. I wanted this record to focus on the rhythmic side of the band, the interplay between drums and bass. Michael used to be a drummer, so I feel like he naturally comes from that perspective of 'making it thunder.'"

Chiccarelli agrees that Brauer did an amazing job at keeping the final mix faithful to the sounds the band achieved during the tracking

sessions: "He really blew my mind. He was able to build a more exciting version of the rough mixes—which were done in less than 10 minutes. I'd just put the faders up, get a balance, and press 'record.' He didn't go in and tweak stuff and turn it into something it wasn't. This album was really built from the floor-up, from the live tracking. He honored that."

While James says that Chiccarelli had "the golden ear that we were looking for," the producer modestly defers all accolades to the players themselves. "They are great musicians with a great work ethic and they aren't precious about anything," Chiccarelli says. "If they couldn't play a part and had to adapt and write something new or couldn't use their favorite guitar amp because it didn't blend right, they didn't care. I think that when you go about things with that sense of abandon—where the only thing that matters is the end result—that's when you end up with something great." 

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CALEXICO: TUCSON TONE KINGS TURN TO *DUST*

by Ken Micallef

For years, Tucson tone kings Calexico have explored a dark, *noir*-inflected style that encompasses '50s jazz, Mexican mariachi, and David Lynchian textures—with a serious nod to spaghetti western composer Ennio Morricone. Calexico's 10th release, *Carried to Dust*, finds principal members Joey Burns (guitars) and John Convertino (drums) pursuing their southwestern sonic sorcery via producer/engineer Craig Schumacher's heavily tricked-out Wavelab Recording Studio.

Playing a 1962 Airline electric, 1950s Harmony Archtop electric, 1999 Manuel Rodriguez nylon cutaway and a 1960 FT-79 Epiphone Texan acoustic, Burns was joined by additional musicians who further broadened Calexico's smoky melodic palette. Volker Zander's 1961 Hofner Club bass and Jairo Zavala's 1960s Gibson LGO acoustic typically overdubbed Burns and Convertino's basic tracks with final arrangements created during mixdown. Coupling Digidesign's Pro Tools and iZ Technology's RADAR (via a Soundcraft Ghost board) with his own gear and effects, Schumacher maintained Calexico's naturalist approach on *Carried to Dust*.

"Calexico's music resonates with people because it has dynamics," Schumacher explains. "A lot of modern music is totally losing dynamics through that whole concept of louder, louder, louder. I'm fascinated by how they do that, but [the resulting music] doesn't resonate with me."

Beyond the band's atmosphere-laden approach, Burns' guitar layering (often through Gretsch Safari and Fender Blues Deville amps) is another Calexico trademark.

"I think of Frank Sinatra's guitarist Al Caiola, or R.E.M.'s Peter Buck; he knows when to drone," Burns says. "I like a wide palette—allusions to an orchestra at times, and at other times, more of a solo or duet dynamic. I'm not about plugging in and playing on ten. I want the sound to pulse and breathe."

Located deep within the former dry battery storage room of Western States Telephone and Telegraph in downtown Tucson, Schumacher's 7,500 square foot facility is flush with vintage guitars, lots of delay pedals (he *loves* delays), keyboards, amps, and effects (including original EMT 140 and 240 plate reverbs). In addition to his work with Calexico, Schumacher has produced/engineered Nico Case, Steve Wynn, Richard Buckner, Giant Sand, and the Sadies, among others.

How do you typically mic Calexico's guitar amps?

I generally place a Royer 121 or 122 ribbon mic six to eight inches away and off to the right side of the speaker cone's center, then go through DW Fearn VT2, Daking Micpre/EQ, Grace Design Model 201, Groove Tubes SuPre, or UA 610 mic pres. I don't like getting right in the center of the speaker where the sound is really bright; when the mic is offset, you get

more midrange.

I particularly like ribbon mics because the way you angle the ribbon is almost the way you hear the speaker: If you line the ribbon up in a vertical position, then you catch the edge of the speaker as you would with a dynamic mic. But if you turn the ribbon horizontally, it's like you're picking up the whole speaker. The ribbon gives a lot of flexibility, and also knocks off some of the brighter, edgier content that can create distortions in the mix.

While ribbons are well-suited for electric guitars because they're



John Convertino (left) and Joey Burns.

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GUITAR **TRAX**

very smooth to begin with, for an edgier sound I'll put a Shure SM57 right up on the grille—just shove it right up there and let it take all the power. A ribbon won't distort if you do that, but the air pumping on it could cause problems, so that's why I move it back a few inches more compared to other mic types.

Does mic placement change depending on the guitarist?

With electric guitar it won't change that much. Nine times out of ten before I move the mic around I'll change the amp tone—volume, treble, mids, reverb, gain—then maybe ask to hear the middle pickup, or try other changes at the guitar itself. I'll

adjust those elements first, because the nice thing about the ribbon is that it's so close to what you're actually hearing that when you dial up the guitar, then listen to what's coming through the monitors, you'll have a more realistic idea of the sound. You can hear the treble that you changed coming out of the studio monitors.


With a dynamic or a condenser mic, I find myself moving the mic more than with a ribbon. But when recording an *acoustic* instrument with a ribbon mic, the first thing I do is move the mic. That's because the ribbon can provide so many different tones depending on how it's pointed, due to the null points.


What's your approach to miking nylon string guitar?

I'll aim the mic at where the neck joins the guitar's body; depending on how much low end I need, I'll swing the mic toward or away from the sound hole. That is where the Royer 121s or 122s really stand out. When the ribbon is facing dead-on straight, it's catching some of the sound hole and that bottom end. But if you don't like that, you can literally rotate the mic ever so slightly, and turn the null points or ears toward the sound hole to really cut that low end boost.

There's also interaction between the mic and the sound. If the guitarist is playing a fast strum rhythm, the low end boom can really build up—so I cut [EQ] from 200Hz on down. But with a slower song where the chords develop, I might want that lower end to create more of a mood. Any rules of thumb I have are really about the low end.

Where do you place the Royer in relation to the nylon string guitar?

About 10 to 12 inches away to start. If Joey is playing aggressively that works great, but if he's a little quieter I move the mic closer. If there's too much pick noise I might ask him to try a different pick. Or I'll rotate the mic, and point those null points—those "ears" of the mic—at his strumming hand, which really cuts down all that noise. 



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"VIRTUAL" BASS RACK

by Craig Anderton

Certain processor/track setting combinations have become my "go to" starting points for recording bass with DAW software. It used to be necessary to create these settings from scratch for each project, but now most DAWs let you create and save Track Templates (also called Track Presets) that remember effects and control settings—like a "virtual effects rack." The 10/08 Power App Alley showed how to create a guitar amp track preset in Steinberg Cubase 4; this time we'll cover bass, using Cakewalk Sonar 8 as our DAW.

FIRST, GET IN TUNE

Insert a tuner as the first plug-in for your virtual rack—but note that some chromatic tuners are designed for guitar, and can't deal with the bass's low *A* and *E* strings. If so, play harmonics on those two strings, and (assuming your intonation is correct) tune to them. With Sonar, turn on "Input Echo" or the signal won't go to the tuner. Also, note that enabling the tuner mutes the track signal.

WHY YOUR TEMPLATE NEEDS TWO TRACKS

A Sonar Track Template can contain multiple tracks. This is important for bass because you almost always want to retain the low end; applying an effect like wah in series with the bass thins out the sound—but applying it in parallel "overlays" the wah effect on top of a solid bottom. So, the secondary track is used mostly to layer effects.

When recording, record into both tracks simultaneously. If you're processing an existing track, copy it into the second track so you have two identical, parallel audio tracks.

MULTIBAND COMPRESSION FOR BASS

On the main track, a Multiband Compressor follows the Tuner because it serves as both a compressor and, if you adjust the various bands' levels, an equalizer. I use lots of compression in the lowest band (under 200Hz or so), with light compression in the lower mids so that the bass doesn't compete too much with more "midrangey" instruments like piano and guitar, and fairly heavy compression in the upper mids to bring out pick noise. (This allows more latitude when mixing the bass in relation to the kick, as pick transients make the bass "speak" better if the two instruments compete.) During mixdown, you can tweak the high and low ends easily by adjusting individual bands in the multiband compressor—you may not even need standard track EQ.

Sonar's multiband compressor includes a limiter function. Enable this under the "Common" tab to affect all bands; this will trap strong transients (great for slap bass), and can bring up levels of individual bands to "push" the limiter for a more squashed sound—without having to vary the band's compression controls.

THE FX TRACK

The second track contains several effects, but I rarely use them all. The first effect is a wah, because if you use envelope-followed wah, it wants to "see" a signal with maximum dynamics. Next is a compressor, which serves as an effect. While the multiband compressor in the other



A Track Template in Sonar 8 for bass, along with some essential effects.

track provides more traditional, transparent dynamics control that preserves bass transients, the compressor can mix a heavily squashed signal in with the main track. This provides a ringing, sustained effect when used subtly.

Distortion is good for "grit," and Sonar 8's new TL64 Tube Leveler effect is a good choice. However, as this adds "crunch" more than heavy-duty distortion, I typically follow it by a lowpass EQ to trim the distortion's high end. Native Instruments' Guitar Rig 3, the final effect in the chain, serves as a sort of "universal" effect because no matter what I want to layer on the bass, odds are Guitar Rig 3 can do it (incidentally, Sonar 8 ships with an LE version of Guitar Rig).

LET'S MIX!

The final advantage of this approach is the ability to mix the two tracks independently. Use automation to bring in the crunch track during the big chorus, and pull it back for the verse . . . tempo-sync effects parameters to the host tempo for a tight rhythm section . . . you get the idea. Best of all, because you're starting from a template, you'll get to the mixing stage *much* faster. **EQ**

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RECORDING THE PIANO

by Matt Harper

Pianist Spencer Brewer has been involved with pianos his entire life—playing, tuning, restoring, and of course, recording on them: He has done 14 major label releases, produced over 200 CDs, and composed for numerous films.

EQ interviewed Spencer at his Laughing Coyote studios shortly after the release of *Cinematic*, a double-CD featuring versions of his compositions done with both solo piano and full orchestration—and found out some of the recording secrets that come only from being a piano tech for over 30 years, and a player for nearly 50.

What was *Cinematic*'s signal path?

The album started in 1997 on a Neve 8232 console. The mics were generally two rebuilt 1968 and 1971 Neuman U-87s with new 3-micron capsules, going through a pair of matched Avalon 737s with NOS Telefunken tubes, then to a Pendulum OCL-2 and directly into 20-bit ADATs. We monitored using Genelec 1032s. The Neve's EQs were fantastic for processing—about +1dB at 500Hz, +1.5dB at 1.6kHz, and +1 to +2dB at 16kHz.

Later cuts were recorded to Pro Tools, still using the Avalons but without the Pendulum. We now mic with a pair of matched Neuman M-149s, and monitor on a Yamaha DM-1000 board using Waves Platinum plug-ins for compression and EQ. Throughout all this time, we've used Lexicon reverbs.

How do you "prep" a piano for recording?

Every piano is different. The 1985 Yamaha C7 in my studio has been worked on consistently for 23 years to get our sound—a "bell-like" tone with clarity throughout each of the octaves, without no section "speaking" louder than another. This evenness depends primarily on the hammers, the strings, the termination points of the "speaking lengths," and how well the action is regulated.



Spencer Brewer in his shop, surrounded by pianos.

Can you elaborate on the piano's physics?

Like any stringed instrument, a piano has a soundboard that generates the sound, and a bridge that serves as the actual amplifier—it connects the "speaking length" [the part of the string that rings when played] to the soundboard. The ribs behind the soundboard support the instrument's curve, or "down-bearing" integrity; this bow is about 7°–10° for piano, to 40°–50° for violin.

The bridge is crucial—the amount of down-bearing, or the height of the top of the bridge compared to the soundboard, determines how well the instrument speaks in relation to the curve or rise in the soundboard.

All modern pianos (1900 and later) have two bridges. One runs the length of the piano from high treble to low tenor, while the other is the bass bridge. The crossover of these two bridges usually happens between notes A1 and G2. This is important, because this is where some of the magic of stereo mic placement occurs.

And what about mic placement?

If you're doing a close mic placement for an "in your face" recording, put the mic in hyper-cardioid or cardioid mode and place it in parallel with the tuning pins, between the first and second plate stress rails. This way the cardioid pattern picks up the instrument's high and alto notes.

Position it about a foot behind the bridge and facing the bridge, around 1.5' to 2' high for optimum amplification.

Next, do the low end placement. The low end of the main bridge and bass bridge run parallel for about a foot and a half. Place the low end mic about 1.5' above the strings, between (and in parallel with) these two bridges. This allows the mid to low tenor notes, and the best of the bass notes, to be picked up in the cardioid or hyper-cardioid pattern at the bridges' amplification points. This placement not only gets a good stereo spread, it also allows for some really fine interplay of harmonics and tone in the mid to lower frequencies.

For more "air," move the mics just outside the piano's rim, keeping them the same height above the ground for consistency. Point the treble mic at the same spot and aimed toward the player, with the bass mic also aimed toward the player but at the cross-section where both bridges run together. If you aim both mics at the bridge, the sound has more depth and a wider range of frequencies. Placing the mics further gives less definition, but a wider frequency range because of the way the sound develops on the way to the mics. In all cases, though, the bridges hold the key to the piano's overall sound. **EQ**

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GENJI SIRAI: LAYERING LIVE AND ELECTRONIC DRUM SOUNDS

by Ken Micallef

Drummer, DJ, and former television commercial engineer (from Tropicana to Tampax) Genji Siraisi is best-known for his rhythm method workouts with the Grammy-nominated New York jazz funk band, Groove Collective—but his tentacles reach even further. Siraisi's 2007 release, *Censorsh!t*, melded mad programmed beats with full set acoustic assaults, resulting in an experience like surfing electronic/hip-hop waves with Afrika Bambaataa and Bernard Purdie as your guides. *Surviving Freedom (Uncensored Remixes & Naughty Bits)* on the Expansion Team label is Siraisi's expected remix album, featuring *Censorsh!t* "reinterpretations" by Balún, no luck club, Q-Burns Abstract Message, Alex Moulton, and Siraisi's DJ alter ego, PushtoBreak.

Artists as diverse as N.E.R.D. to Portishead typically combine live drums with programmed Akai MPC (or equivalent) loops, seeking the ultimate fat beat or impossible-to-perform-live effect. With all of Genji's live/programmed, acoustic/electric information on his plate, who better to ask about mixing live and programmed drums for production satisfaction?

CONSIDER THE SOURCE

"You have to decide whether you're going to use live or programmed-sounding drums—a 'live' drummer or a 'super' drummer. Even something as simple as altering the snare sound with a sample overlay changes everything; sometimes I'll take a live loop and mix in a sample underneath, because the live snare sound will change as you hit it in different spots. Adding the sample will make it more consistent, without losing the

element of having variations among hits.

"Dance or electronic music is built on the idea that the sound will hit the same way, every time. It's frustrating to make a sampler sound like a live drummer—but trying to play acoustic drums to sound like a drum machine is equally frustrating, which is why I like Alternate Mode DrumKAT. Drumagog [drum replacement software] is very useful too."

FIND THE RIGHT SOFTWARE TOOLS

"Drum sound software like XLN Audio Addictive Drums is good . . . or FXpansion BFD, the live drum emulator. It makes it easy to add a programmed snare part with the live one. Addictive Drums lets you keep the nuances and is designed to introduce certain amounts of variation, so even if you hit the MIDI note at the same level, it will add some [sonic] variations. Addictive Drums has a very natural feel—it's a good augmentation for live dates."

MIC DRUMS WITH ENHANCEMENT IN MIND

"If you know you'll be using replacement software with live audio, then you want as much isolation between each drum as possible. But don't forget about the room mics—the one trash mic in the room might be the sound that you want. The distance you move the mic back will create a more delayed sound; the sound will spread, and the drum decay will last longer. A smaller room reduces everything, as there are more early



reflections, standing waves, and unpleasant artifacts.

"That ambient room mic is the one thing you will not get from the sequenced sound. You can always emulate the sound of a tightly miked drum with a sequencer, but it's harder to emulate the way the drum reacts with the room."

CLOSE MIKING

"Even a [Shure] SM58 will work if you're not whacking the drum. I don't like the mic right on the head; pulling it back even an inch or two changes the tonal quality a lot, depending on where you're pointing the mic on the drum. It's that lost art of adjusting the mic to get what you want."

DRUM TUNING

"The playing and the part is important, but the head and the tuning—and the room in which you're recording the drum—is more important than the drum itself, or something like the shell material."

WHICH CHRISTMAS TREE DO YOU FIND MORE INSPIRING?



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TO COMPRESS OR NOT TO COMPRESS

"If you compress the room mic, the character really changes a lot because the decays are so much longer. You want to adjust levels before you compress, though; don't take the easy way out. The attack and release parameters are just as important as the ratio.

"EQ is also important. Sometimes with a sharp EQ you can bring up the tone in the bass drum 8dB. As a different example of EQ, I might take a stereo mix drum loop, then split it into three sends, all pre-fader, and each with a filter: highpass, lowpass, and bandpass. I'll turn down the main level control and set the filter crossover points to split the signal into low, mid, and high bands, one on each track. That gives you a lot of options. You can really control the kick drum when you process each band separately, and it has a mixture of frequencies." 

ABOUT DRUM REPLACEMENT SOFTWARE

Several software programs can analyze an audio file and generate MIDI data for triggering samples. SoundReplacer is an AudioSuite plug-in that can pick transients out of a file, then split them into three velocity zones for triggering multisamples that get mixed back into the file. An RTAS realtime option, TL Rehab, works as an insert and allows realtime auditioning of samples. Its principle of operation is similar to Drumagog, a cross-platform plug-in that works with VST/AU/RTAS systems.

Drumagog works best with multitracked drums having separate tracks for snare, kick, etc. It includes excellent samples for replacing existing drum sounds, or you can create your own Drumagog-friendly drum sample sets. To replace a drum sound, you insert Drumagog as a plug-in, then adjust its controls for reliable triggering. There's also filtering if you need to isolate the drum from bleed—it's even possible to use this feature to pull a drum sound out of a mixed track, although the results depend on how "buried" the drum is in the mix.

Drumagog also offers some advanced features, like a "ducking" option (e.g., if your "old" snare sound remains in an overhead mic track, you can duck the snare sound in the overhead track when the "new" snare hits). Drumagog can also generate a MIDI out for triggering a soft synth or hardware synth with drum triggers. —Craig Anderton



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ELODIEO ON CRAFTING HER SIGNATURE VOCAL SOUND

by Joe Shambro

As the voice of the French experimental-pop duo Elm, Parisian-born New Yorker elodieO had two albums' worth of recording experience under her belt, and with it, plenty of time to perfect her vocal tone. She learned quickly what she liked best, and when starting the process of recording her debut solo release, *Stubborn*, she had a very specific sound in mind.

"I'm very particular about recording my voice," says elodieO. "I did a lot of the vocal recording at home, where I felt most comfortable singing, and where I could tweak the vocals over and over. It was just myself—no producer. After a bad studio experience, I bought a laptop and a Digidesign Mbox and started to learn Pro Tools so I could edit sessions myself. I learned from scratch, and I called friends who are Pro Tools engineers to help me along. I asked a lot of questions!"

Capturing a voice as dynamic and versatile as elodieO's required a special touch, but, surprisingly, that touch didn't involve high-end

microphones and boutique preamps. Instead, elodieO found that less-expensive gear suited her vocal style much better.

"I brought home a Neumann U67 and an Avalon 737 preamp, but I didn't care for the results," she says. "I have a very difficult voice to record, and I ended up liking the vocal sound I got using only the AKG C535 microphone that I like to use live routed through my Mbox."

Aside from her home-recorded lead vocals, many of the album's choral-like harmonies—along with lead vocals on three songs—were recorded at Popcorn Studios in Paris with producer Boris Persikoff, who used a Neumann U87 and an Avalon 737 preamp. But even with the many digital tools available for vocal manipulation and artificial doubling, all of elodieO's intricate vocal layering was done naturally, with her singing each part. After tracking was completed, elodieO sent off her work to be mixed by a studio in California, where, in elodieO's words, "they flattened the mix." After some trial and error, she found Jason Corsaro at Barber Shop Studios in New Jersey,

elodieO in repose.

who worked closely with her to produce a final mix for release.

"Jason did an amazing job," says elodieO. "I finally heard everything as I envisioned it. And I'm making sure my vocal sound translates to my live shows by bringing a TC Helicon VoiceTone Create pedal to re-create the effects on the album. I want to get it as close as I can. Of course, I'll also have my trusty AKG C535 with me, too." **EQ**



MICHAEL FALLIS

S20

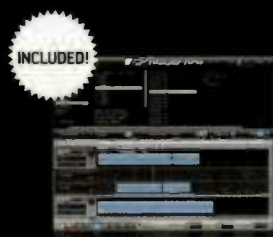
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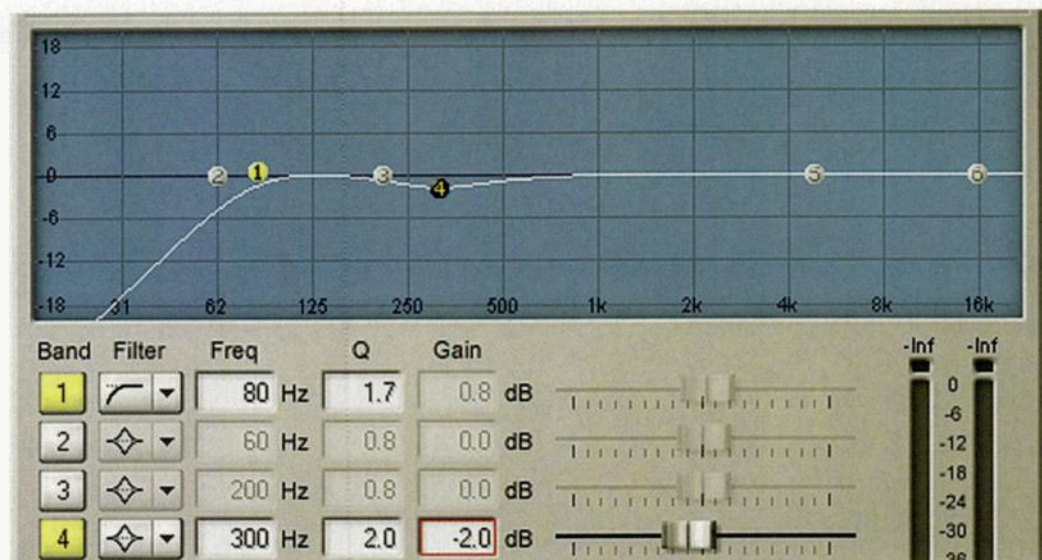
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Cakewalk Sonar's Sonitus:fx EQ is creating a slight cut around 300Hz and a gentle rolloff starting at around 80Hz, both of which can help reduce muddiness.

6 WAYS TO CLEAN UP MIX MUD

by Bruce Bartlett

Does your mix sound like mush? You'll know it when you hear it, because the tonal balance of your song will sound tubby. Instruments will be blurred together rather than distinct, and they'll sound distant and muffled. Here are six ways to reduce muddiness so your mixes can emerge with clarity.

STOP THAT LEAK

Leakage (signal bleed) in a multiple-mic situation is a major cause of muddy sound. Examples of leakage are the drum sound picked up by a scratch-vocal mic, or the electric-guitar sound picked up by an acoustic-guitar mic. I explained several ways to reduce leakage in the June 2008 issue of *EQ*: place mics closer, overdub instruments, record direct, gate the toms, deaden room acoustics, omit the bass amp, and

impose high-pass filters on most instruments. It also helps to position bass traps in your studio and control room to suck up boomy low end.

BACK OFF THE EFFECTS

Too much reverb can muddy the mix. For some reason, many recordists assume a song sounds more "produced" if it's bathed in reverb and/or echo. But if your mix is sounding muddy, mute or disable all effects for a moment. Does the mix suddenly become clearer? If so, turn down the effects send levels. You might be surprised how little reverb you can get away with. I also recommend putting no reverb on the bass and kick drum using shorter reverb times (especially if the song's tempo is fast), and trying echo instead of reverb (just be sure to reduce feedback so you get fewer repeating echoes, and adjust the delay time so the echoes don't mess with the

groove). Another trick is adding about 50ms to 100ms of pre-delay in your reverb unit or plug-in so that the listener hears the direct sound of the instrument for a short time before the reverb kicks in. This can clarify the sound by separating the reverb from the direct sound, as well as help the reverb appear more audible so you can use less of it.

COMPENSATE FOR FLETCHER-MUNSON

As discovered by audio researchers Fletcher and Munson, we hear less lows and highs (around 4kHz) when monitoring at low volumes rather than high volumes. For example, a rock band might sound bright and punchy when you hear it playing live at around 110dB. But when you record the band, and play back the track without EQ at a normal listening level of approximately 85dB, it can sound dull or muffled.

Frank, Global Conceptual Engineering Manager, BEHRINGER Germany designed and voiced the B2031A.

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



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Compensate by boosting EQ levels in the highs and/or upper mids.

CUT EXCESS LOWS

If the sound is bloated or tubby, try cutting 1dB to 2dB around 300Hz. This seems to be a "magic frequency" where a lot of mud resides. It's also common to cut between 400Hz and 600Hz on toms and kick drums. In addition, recording several background vocals can result in bass buildup, so turn down the lows in massed harmonies. If the mix sounds kind of "heavy," or too strong in the deep bass, use a high-pass filter on each track. Starting with a low corner frequency, slowly turn up the frequency until the sound thins out, and then back off a bit.

RESTORE HIGHS

Sometimes, a mix sounds muddy or dark because it's weak in the high frequencies. Try using EQs to boost the

presence of instruments that lack clarity, apply an audio enhancer (but watch for added noise), and make high-frequency boosts *after* you compress, as compression tends to reduce the perceived impact of tonal tweaks.

GIVE ELEMENTS THEIR OWN SPACE

A clean mix is uncluttered—meaning that too many parts are not playing at once. Arrange the music so that similar parts don't overlap. Mix selectively so that not too many instruments are heard at the same time. For example, you might bring in vocal harmonies only during the choruses, or have guitar licks fill in the holes between vocal phrases, rather than playing on top of the vocals (think "call and response").

In a clear-sounding mix, instruments do not "crowd" or mask each other's sound. They are separate and distinct. Clarity arises when instruments occupy different areas of the frequency spectrum. For example, the bass provides

lows, keyboards emphasize mid-bass, lead guitar punches out upper mids, and cymbals fill in highs. Often, the rhythm guitar occupies the same frequency range as the piano, so they tend to mask each other's sound. You can aid clarity by equalizing them differently. Boost the guitar at, say, 3kHz, but cut the piano at that frequency. In other words, use complementary EQ. If the bass and kick drum blur together, thin out the kick and add lows to the bass, or vice versa. Use a high-pass filter or turn down the lows on some tracks—especially guitars—to leave room for the bass guitar and kick drum. The guitars might sound thin when soloed, but the overall mix should sound balanced. It also helps to pan similar-sounding instruments to opposite sides. For example, the rhythm guitar and keyboards might cover the same frequency range, but you can make them more distinct by panning the guitar hard left, and the keys hard right. **63**

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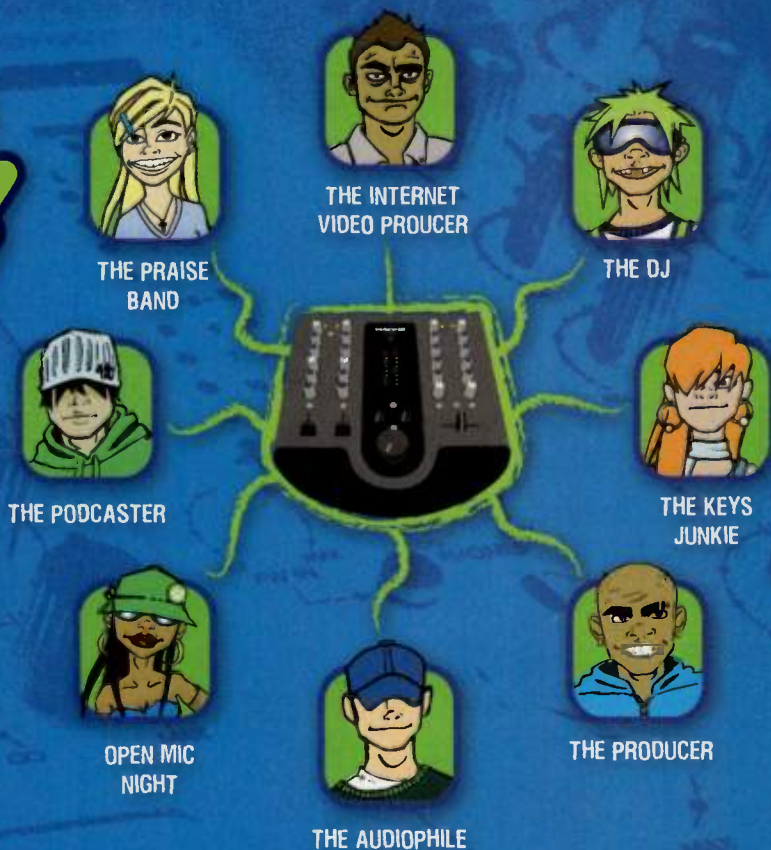
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STEINBERG CUBASE 4.5

by Craig Anderton

Cheat Sheet delivers concise, explicit information about specific recording/audio-related tasks or processes. This installment describes basic Cubase operations.

SET UP VST BUSES

Cubase shuttles audio to and from your audio interface via buses. From the Devices menu, select VST Connections. In the Inputs tab, add and name buses as needed, then from the Device Port popup menu, select the Device Port that connects to the bus. Similarly, in the Outputs tab, assign Cubase buses to Device Ports using the popup menu.

CHOOSE SAMPLE RATE

Immediately after creating a new project, go *Project > Project Setup* and enter the desired sample rate from the drop-down menu in the Sample Rate field.

EDIT OTHER PROJECT ATTRIBUTES

Project Setup also lets you change the recording bit depth (Record Format), Record File Type, Stereo Pan Law, etc. It's best to define these upon creating a new project, but you can change them at any time.

ADD A REWIRED SYNTH

From the Devices menu, select the ReWire synth (slave) application. In the dialog box that appears, activate the desired ReWire channels by clicking on the corresponding power symbol buttons. Then, open the device you want to ReWire. To quit a ReWire session, close the ReWired synth application first, then Cubase.

SET LOOP/PUNCH POINTS

Ctrl-click in the timeline to set the left locator, and Alt-click in the timeline to set the right locator.

INSERT A VST INSTRUMENT TRACK

This method works best for auditioning presets with non-multitimbral instruments. Go *Project > Add Track > Instrument*. In the Instrument drop-down

menu, select the VST instrument you want to insert. To insert more than one instance, select the desired number in the Count field. Open the Inspector to make MIDI input assignments, select patches, and change instruments.

INSERT A VST INSTRUMENT VIA ACTIVATION

Use this method to insert multi-timbral VST instruments. From the Devices menu, choose VST Instruments. Select the desired instrument from the Instrument field pop-up menu, and when asked if you want to assign a MIDI track, click on Create. This creates a folder track with the instrument audio and MIDI tracks. Insert more MIDI tracks to send data to multi-timbral instruments.

BROWSE FOR VST INSTRUMENT SOUNDS

In an instrument track, you can audition any sound from any instrument (cool!). Click in the Apply Track Preset field, which opens up a browser. Click on a preset, and the appropriate instrument and sound will open (if you don't see an instrument, then Cubase has opened an Instrument Track Preset with audio and MIDI effects, channel settings, etc.).

CHOOSE FIXED TEMPO OR TEMPO TRACK

In the Transport, click on the Tempo button to toggle between a fixed tempo or the tempo stored in the Tempo Track.

SELECT TIMELINE REFERENCE

Right-click in the Timeline and select the desired reference (e.g., bars/beats, samples, seconds, etc.).

SCROLL AUTOMATICALLY

To have the track view scroll automatically, click on the Autoscroll button (in the upper toolbar toward the right of the Edit toolbar. The small arrow button to the right of the Autoscroll button, when enabled, suspends scrolling if you're editing.

CREATE KEYBOARD SHORTCUTS

From the File menu, choose Key Commands. In the left column, choose what

you want to assign to a key. Type the key in the Type In Key field, then click on the Assign button to bind the key to the function. Click on OK to save the assignment. Note that you can also create Macros; refer to the manual for more information.

SAVE SYSEX IN A CUBASE PROJECT

From the File menu, open Preferences. Under MIDI, select MIDI Filter. Check Sysex under Record, but *uncheck* Sysex under Thru. Click on OK. When you record a MIDI track and initiate a sysex dump from your MIDI device, it will be recorded in the MIDI track. If you can't initiate a sysex dump, you will need to send a Dump Request message from Cubase. This can be created in the MIDI Sysex Editor but is much more complex than initiating a dump from the device itself.


REMOVE PLUG-IN COMPENSATION FROM VST3 DYNAMICS EFFECTS

Cubase includes plug-in delay compensation to even out any timing differences caused by plug-in latencies or by dynamics processing "look-ahead" functions. However, if you want to use dynamics plug-ins for live performance, click on the plug-in's "Live Mode" button to disable look-ahead.

DESTRUCTIVE CLIP EDITING

Right-click on a clip, then select Plug-Ins and choose the desired plug-in. Set the parameters as desired; additional parameters are viewable by clicking on More, including the ability to fade the effect in and out over the clip. When all parameters are set as desired, click on Process. Note: This function is typically used to save CPU by applying effects to objects. However, VST3 plug-ins turn off automatically when no audio is present.

MIX DOWN TO AUDIO

To mix down a project, define the region to be mixed with the left and right locators. Then from the File menu, select *Export > Audio Mixdown*. Name the file, choose the format (MP3 and Ogg Vorbis are options too), sample rate, and other parameters, then click on Export. 



A black and white photograph of Joe Chiccarelli, a bald man with a mustache, sleeping peacefully on a dark leather couch. Several Royer ribbon microphones are placed around him: one on the couch to his left, one in his hands, one on the couch to his right, and one on the floor next to him. The word "Shhhh..." is written in a large, red, serif font in the upper left corner.

Shhhh...

Producer/Engineer/Mixer **Joe Chiccarelli** had a sleepless passed year, recording The Shins, The White Stripes, Brandi Carlile, Morrissey, Augie March, Mika, Stars, Kurt Elling, Grace Potter, Raconteurs and My Morning Jacket. His Royers were on every session. Let's give them this one blessed moment of downtime...

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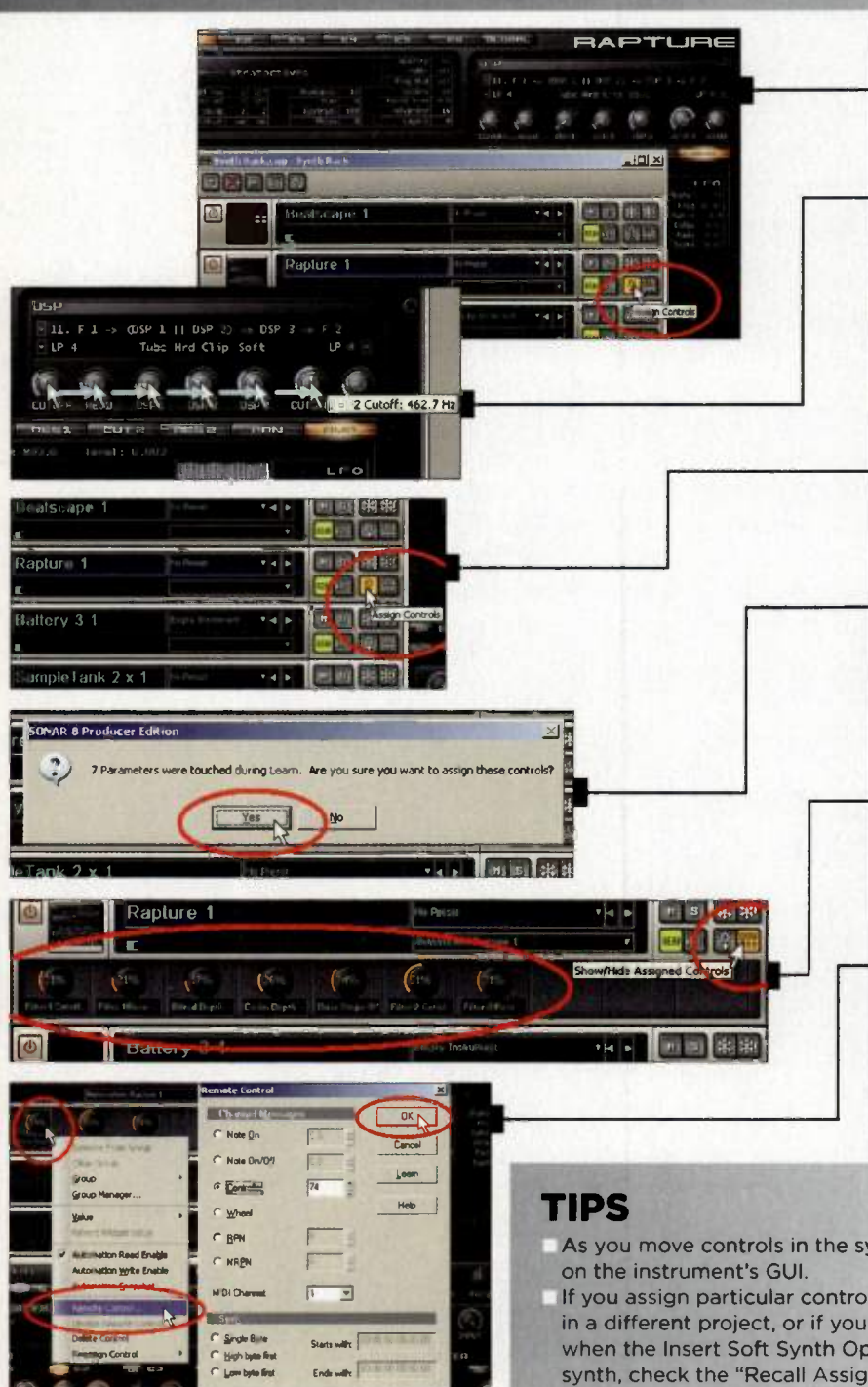
BY CRAIG ANDERTON

CAKEWALK SONAR 8

Consolidate important soft synth controls

OBJECTIVE: Encourage realtime tweaking of synth parameters by collecting them in a common view.

BACKGROUND: The Synth Rack view lets you duplicate various synth controls at the synth rack itself, so you can bring the most tweakable and important synth parameters to a common location. You can then edit the sounds or create automation moves by changing the control positions, or bind the controls to a hardware controller. We'll assume your project contains soft synths, and the Synth Rack view is open.



STEPS

1. Click on the "Assign Controls" button; this calls up the Instrument's GUI.
2. Move the parameters you want to assign as controls. You can't just click on a parameter; you need to alter it from the existing setting. The order in which you move the controls is important, as the controls will be assigned from left to right along the bottom of the instrument's rack, based on that order.
3. After moving the controls you want to add to the Synth Rack, click again on the "Assign Controls" button.
4. A dialog box opens that says "X Parameters were touched during Learn. Are you sure you want to assign these controls?" (X is the number of parameters you moved). Click on "Yes."
5. Click on "Show/Hide Assigned Controls," and the parameters you selected appear as controls along the bottom of the instrument in the rack.
6. To bind a control to a hardware MIDI controller, right-click on it, select "Remote Control," then enter (or "Learn") the controller number. Click on "OK" to finish.

TIPS

- As you move controls in the synth rack, the corresponding controls will move on the instrument's GUI.
- If you assign particular controls to a synth, Sonar can remember them—even in a different project, or if you've closed and re-opened Sonar. To do this, when the Insert Soft Synth Options dialog box appears upon inserting a soft synth, check the "Recall Assignable Controls" box.

LOUD AND CLEAR



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Jason Scott Alexander/ Producer/ Mixer/ Remixer Mix Magazine Contributor/ September, Mix Magazine Tech Review

"The first monitors that I've ever had that you can set up and tune to any of my rooms in twenty minutes. I love 'em. When I want the music loud with lots of bass, the Q15's deliver. When I need to blend elements of the mix at a lower level, the Q15's are spot on. The Q15's sound great no matter where we use them."

Stephen Dent/ Managing Director/ Head Engineer Daddy's House Recording Studios

"I've become extremely dependent upon these monitors. I used my Q10's to mix and engineer the entire Mummy: Tomb of the Dragon Emperor soundtrack and most of the film score. I find the Equator monitors to be very transparent and true to the sound. With the Q10's, whatever I was working with in the control room was exactly what I ended up with on the screen."

Elton Ahi/ Music Scoring Mixer Rusk Studios

"If I listen on the Equators and then walk into the hall, the sound is remarkably like the performance itself. Both the Q8's and Q10's are very clean sounding and reproduce the music with excellent detail. I've also been very impressed with the spatial imaging these monitors deliver and the fact that they are very capable of handling wide changes in dynamic range, which is critically important when it comes to orchestral recordings."

Gary Gray/ President Audiolin Music/ Toronto Symphony Orchestra

"I love having the option of tuning the monitors to the room manually or via an automated process. It gives the more experienced audio engineer the ability to have an extremely high level of control while, for the less technically inclined engineer, the software can make the critical decisions."

Gerhard Joost/ Chief Engineer/ Mixer/ Producer Groove Addicts Studios

"The big test always comes when you go to what I like to call 'the cold light of mastering'—where all the scratches and dings become obvious. When we played my mixes back, they were exactly what I expected, with no surprises. Who could ask for more?"

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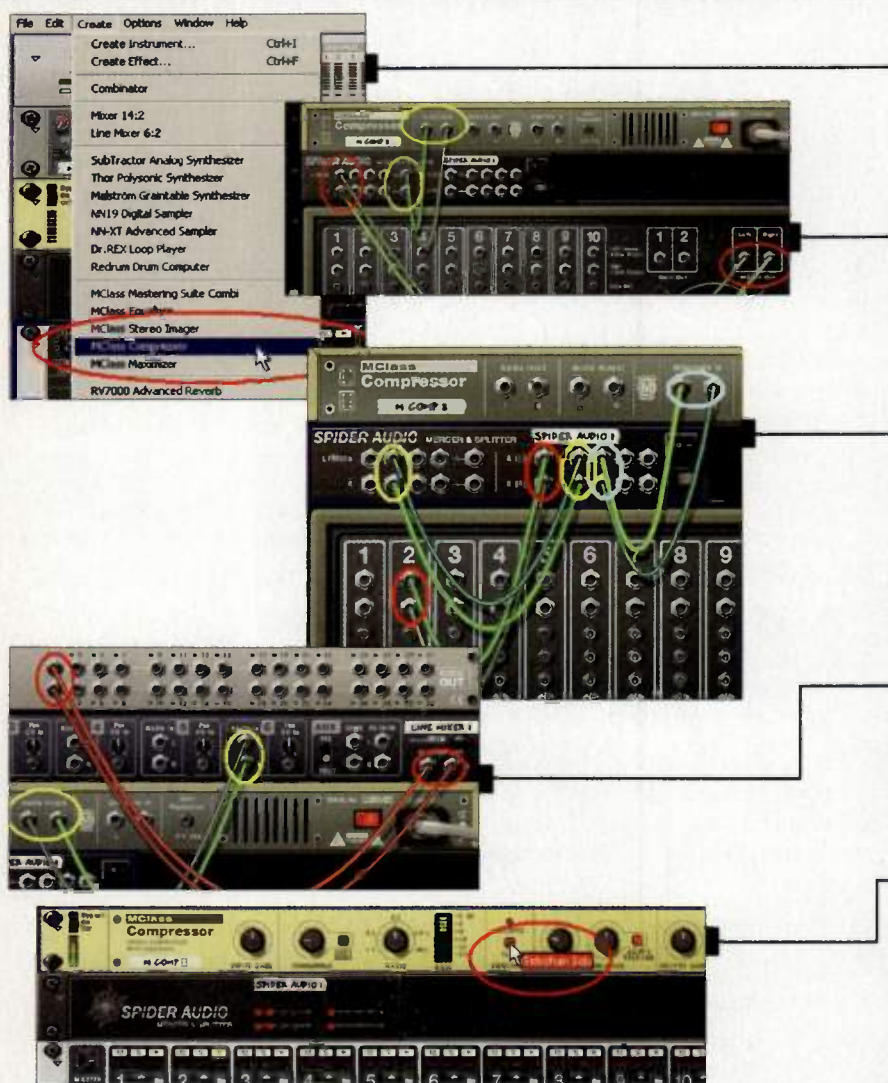
BY CRAIG ANDERTON

PROPELLERHEAD REASON 4

Set up sidechaining with Reason's MClass compressor

OBJECTIVE: Implement sidechaining with the MClass compressor so that one sound can compress another sound.

BACKGROUND: Normally a compressor controls dynamics based on the signal at its input, but if sidechain inputs are present, other signals can control dynamics instead. In this example, we'll show how to use an individual drum (in this case, snare) to compress an entire drum mix.



STEPS

1. From the Create menu, add an MClass Compressor, Spider Audio Merger & Splitter, and the instrument you want to process (for example, ReDrum).

2. Hit the Tab key to flip the rack around, and start patching. Connect the ReDrum Stereo Outs to a pair of Spider Audio Merger Inputs, and the Merger output to the MClass compressor Input.

3. Patch the Snare drum output (e.g., ReDrum output 2) to the Spider Audio Splitter input (previous connections not shown for clarity). Patch one set of Splitter outs to a pair of Spider Audio Merger inputs, and another set to the MClass compressor Sidechain In.

4. Patch the MClass Compressor output to a mixer (e.g., Line Mixer 6:2) or the hardware interface; if using a mixer, patch it to the hardware interface as shown (again, previous connections are not shown for clarity).

5. Hit Tab to turn the rack around again. Adjust the compressor controls (Threshold, Ratio, etc.) for the desired effect. To monitor the signal coming in to the sidechain input, click on the Sidechain Solo button.

TIPS

- In Step 3, taking an individual ReDrum out removes it from the main stereo mix. Splitting the snare drum output and sending it to the Spider Merger mixes it back into the main mix, but you could also send the split snare output to a mixer channel. This would allow independent control over the snare drum and overall mix.
- The sidechain input can come from anywhere—not just the instrument being compressed.
- For frequency-dependent sidechain compression, insert the MClass Equalizer between the sidechain signal and the MClass Compressor sidechain input. Use the Sidechain Solo button to monitor the sidechain signal, and adjust the MClass Equalizer to boost or cut the desired frequencies.

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SAVE MONEY WHILE GETTING GREAT GEAR

by Jay Matheson

Although many analog tape machines and analog mixing consoles are still in use, it's safe to say most musicians now record in the digital domain. However, one crucial console element can't be virtualized in a DAW: the microphone preamp.

The preamp amplifies the mic's signal by approximately 30-60dB to line level (normally referenced as 0dB); however, amplification is never totally transparent. Any preamp imparts certain characteristics to the signal—particularly regarding transient response and tonality—so the quest for quality mic preamps is part of the path toward pro-quality recordings.

It doesn't take long for the average engineer to realize that the inexpensive mic pres built into a \$300 interface may not be up to capturing powerful, dynamic sounds. In fact, the quality and sonic characteristics of mic pres can be as influential as mic selection. Even a high-end condenser mic can sound thin, cheap, and boring when subjected to an inferior preamp.

Yet it's a fact of life that high-quality mic pres require costly parts (transformers, tubes, chassis, potentiometers, etc.) and manufacturing

techniques; they also usually require a significant investment. With price tags of \$1,000 and up per channel, bang for the buck is crucial.

Enter the 500 series modular system, introduced by API many years ago. This consists of a metal frame with an internal power supply, along with input and output connectors that hold up to six of the company's modular products. After this initial investment, you can purchase additional preamps, EQs, and compressors without the added cost of a chassis and power supply.

THE 500 SERIES FORMAT: HERE TO STAY

Companies other than API started creating products that would fit into the already existing "lunchboxes," as the frame came to be called, and use the same power supply and connectors. As the format's popularity increased, these manufacturers even began production of their own housings for 500 series devices. These units hold from two to 11 devices and come in portable, tabletop, and rackmount configurations.

But before you pull out the checkbook for a lunchbox, consider the format's pros and cons. Pros include:

- A significant per-unit savings over comparable stand-alone preamps.

- Up to ten can fit into a three-space 19" rack—that's a lot of gear.
- Cabling the units is neat and easy.
- The widespread acceptance of the format guarantees more offerings from manufacturers in the future.
- Portability—you can transport your favorite 500 series devices from one studio to another in a neat, lightweight package.

And for equal time, here are some limitations:

- The initial investment in a rack/power supply is between \$300-\$700.
- Due to their small size, features such as 1/4" inputs, EQ, and high pass filters are often not included.
- Their size also limits the size of internal components—you won't find large numbers of tubes or bulky transformers.

TESTING 1-2-3-500

The opportunity to compare large numbers of top-shelf pres is both a great privilege and sometimes a dreaded task. For our tests we acquired a Pro Tools|HD rig (with 192 interface), 14 pres, and two API lunchboxes—all tested using ace musicians.

Our first test tried each pre on kick, snare, and overhead. We used an

Electro-Voice ND 868 on kick, Shure SM57 on snare, and Neumann KM100 as a mono overhead. Our second test was with a KM100 on a Martin HD28v acoustic guitar. Next, we re-amped distorted guitar (Radial Engineering X-Amp into a Marshall JCM800 head through a Marshall cabinet, loaded with four Celestion vintage 30s, and miked with a sure SM7B). We also tested those units incorporating 1/4"

DIs on the front panel with a '71 Fender P-Bass and Yamaha Motif keyboard. For vocal testing, we amplified pre-recorded vocal tracks though the mic inputs, courtesy of a level-matching transformer that converts line level signals to mic level and impedance.

Overall, the quality, workmanship, and sound of every pre we tested was exceptional. All pres fit snugly in the rack and had no mounting issues;

each unit also featured a thick metal front panel with both phantom power and phase reverse switches (or buttons). I was astounded by the sounds we were able to capture using this unbelievable arsenal of preamps, and so were all the other engineers that were present—so, let's look at what we found out. (Note: The following prices are list prices.)



PURPLE AUDIO BIZ MK AND PANTS

PRICE: \$675

STRENGTHS: Input and output metering and level control. Switchable input impedance. Lit switches. Low price. Switchable dual-gain stage.

LIMITATIONS: Use of line mode often needed to avoid input clipping.

CONTACT: www.purpleaudio.com

These two pres are very useful, and although they look very similar, have their own distinct characteristics. Both units offer helpful tri-color LEDs for both input and output level, as well as an impedance toggle switch and 1/4" DI inputs.

The Biz Mk is very aggressive-sounding—great for “in your face” mids, and tight lows. It excels on cutting rock vocals and distorted guitars, and its 1/4" inputs are great for keyboards. The unit offers 35dB of gain in line mode, 60dB in mic mode, and 75dB with the “dual” button depressed (note that we sometimes had to use the line mode when tracking loud sources to avoid clipping). When using a pair, I was astounded at the stereo imaging

and clarity when tracking the Motif with a piano sound on a rock song. If you want a pre that knows how to cut through in a mix, this is the one.

The Pants has a much thicker low end with full low mids, which works well on thin sources that need fattening: rap vocals, snare on heavy music, kick drum, and line in bass guitar all benefit. It offers 40dB of gain in line mode, 60dB of gain in single mode, and 75dB in high mode. The Pants has very big lows and a pronounced top with smooth mids; when tracking vocals, it caused my U87 to sound much bigger than normal, with a nice top end presence for loud rock and punk vocals.



GREAT RIVER MP-500NV

PRICE: \$1,034

STRENGTHS: Input and output metering and level control. Ultra-solid build quality. Switchable loading.

LIMITATIONS: Requires two slots in a 500 rack.

CONTACT: www.greatriverelectronics.com

Occupying two spaces in the 500 chassis, the 500NV is particularly well-built, with a 6-segment LED meter for both input and output. The preamp's basic coloration is a huge clear low end, smooth mids, and a nice top end presence. Kick drum and vocals were our fave applications. The front panel 1/4" DI yields the same

huge low end, with great cutting high-end clarity and presence. My Neumann U87 had more beefy low end, with musical highs, than any other pre I've tried on loud rock vocals. The unit also features a switchable input impedance for extra tweakability. The 500NV offers 70dB gain, along with a pad and output level control.

(CONTINUED)

LACHAPPELL MODEL 583S

PRICE: \$1,349

STRENGTHS: Lit front panel switches. Top quality build. Tube amplification circuitry. Output level control.

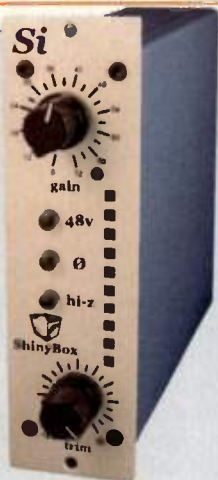
LIMITATIONS: Takes up two slots in a 500 rack. No metering.

CONTACT: www.lachapellaudio.com

This is another solidly-built unit that also occupies two slots of a 500 rack. It's one of two tube-based (ECC83/12AX7) units in this group of pres, which yields a definite sonic signature: huge, musical lows with lots of body, smooth mids, and particularly sweet upper mids and

highs. Standout applications for this pre are acoustic guitar, bass/keyboard direct via the 583S's 1/4" front panel input, kick, snare and overhead where you want a big open sound. It's not a particularly cutting pre, but its very musical sound also exhibits a little

compression, depending on the relative input and output level settings. It offers 70dB of clean gain and a 20dB input pad; the clever lit front panel switches make for a very sweet-looking unit.



SHINYBOX SI

PRICE: \$500

STRENGTHS: Low price. Input level metering. Variable input trim. Dual-color lights in all switches.

LIMITATIONS: No 1/4" DI input. No output level control.

CONTACT: www.shinybox.com

Si offers a transformerless design and 72dB gain, with a 10dB output trim. One of its key features is 10-segment metering. While metering isn't offered on all the pres, it's a handy and desirable feature.

The Si has a big, open, round sound with fine overall balance—great for reproducing deep

lows with plenty of punch and smooth highs, with a shade less upper mids than some of the other pres. The 10-segment metering precludes having a 1/4" DI, but there is impedance switching. This pre is the least expensive one we reviewed and is a great value; it impresses on kick, snare, overhead, and acoustic guitar.

AVEDIS AUDIO MA5

PRICE: \$775

STRENGTHS: Switchable 28kHz boost circuit. Extra-solid build. Output level control.

LIMITATIONS: No 1/4" DI input. No metering.

CONTACT: www.avedisaudio.com

This elegant, sturdy, simple pre features 70dB of gain and an output level control. It's a Class A unit with a sound reminiscent of vintage Neve preamps—superb transparency, the characteristically Neve silky top, and some of the most massive low end on kick drum of any pre I've tested. The MA5 has one unique feature: a 28kHz high end boost, which purports to add "air" or openness (even though that's

theoretically above the range of human hearing, the filtering extends into the audible range). We found it sometimes a nice addition for acoustic guitar, piano, and drum overheads. Good applications for the MA5 would be almost anything not needing aggressive mids: kick, overheads, vocals, bass guitar, and keyboards. There is no 1/4" DI, so consider teaming it with a direct box.



(CONTINUED)

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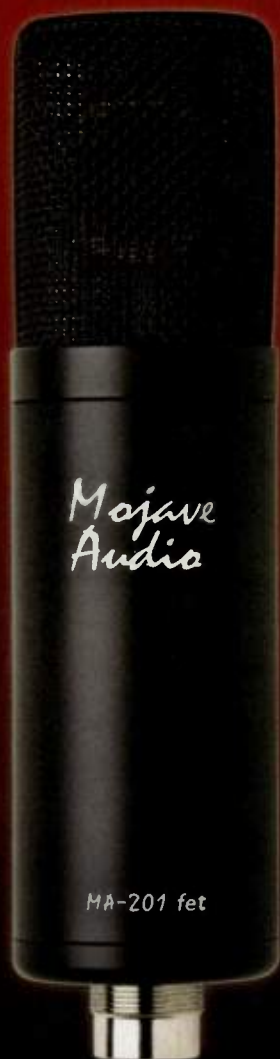
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Mojave Audio
by David Royer



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GEAR HEAD

BUZZ AUDIO ELIXIR

PRICE: \$975

STRENGTHS: 4-LED level meter. Switchable input impedance. Mute switch.

LIMITATIONS: No output level control, although gain is sufficiently detailed that an output control is likely not needed.

CONTACT: www.buzzaudio.com

The Elixir uses a transformerless input with Class A design, and offers 22-70dB of gain (10dB less for the 1/4" DI) and a 20dB pad along with a handy 4-LED level indicator, low/high impedance switch, and mute switch. The Elixir is a solid performer with outstanding overall tonal balance—I especially liked its

1/4" DI input on bass guitar; the massive lows and balanced mids make it suitable for kick, snare, and guitars that need a hefty low end enhancement. The Elixir seems a great general-purpose pre for any source, as the sound leans a bit towards big lows with overall good mids and clarity.



A-DESIGNS P-1, EM-BLUE, EM-GOLD, EM-RED, EM-SILVER

PRICE: \$895

STRENGTHS: A-Designs' units come in 5 "flavors." 20db pad. Very solid construction.

LIMITATIONS: Lacks metering. No output level control.

CONTACT: www.adesignsaudio.com

ROLL MUSIC SYSTEMS TUBULE RMS5A7



PRICE: \$1,000

STRENGTHS: Tube amplification circuitry. Very substantial chassis. Cool old school button-style switches. Input level trim.

LIMITATIONS: No metering or output level control. No DI input.

CONTACT: www.rollmusic.com

Using a tube (with a high-voltage plate supply) for amplification, the RMS5A7 has a 10dB variable input attenuator, and a gain control switch that goes from 33 to 66dB of gain in 3dB steps. It also features a 20dB pad and a well-made chassis. The Tubule was very evenly-balanced over the entire

frequency range and it seemed just as comfortable on kick, snare, overheads, guitar, bass, or vocals. While not as aggressive-sounding as the solid state pres, the Roll Music's Tubule delivers what you want from a top-shelf tube pre: big, solid tube lows with no harshness, and great overall balance.

A-Designs sent us five pres for evaluation. The P-1, EM-Blue, and EM-Silver units offer 65dB of gain while EM-Red and EM-Gold offer 63dB gain, all using a continuously variable pot. They also include a DI input and a -20dB pad. While all share a big/bold sound, feature set, and cosmetics (except the front panel color), each has a distinct sonic signature.

While all five pres are multi-purpose, A-Designs has varied each pre's character by using different combinations of custom-made input and output transformers, making each a little better-suited for specific applications. The P-1 has a pronounced upper mid/top end and solid lows with smooth mids—it's ideal for vocals, overheads, direct keyboards, and acoustic instruments. The EM-Blue offered a great overall balance with a little more high mid and top end air; that extra high-end "zing" helps dark snare sounds, or vocalists who need

additional definition. The EM-Silver serves up a thick, slightly extended low end response with very smooth mids and slight low mid dip. It's our favorite of the five for kick drum, bass guitar, direct synths, and other low end sources. I also had good luck with soft, intimate vocals.

The EM-Gold creates a similar low end to the Silver, but with slightly pronounced upper mids. It's useful for sources that need strong lows and very good definition (heavy distorted guitars, rock vocals, drums that need both thud and attack, etc.)—it's the smoothest pre of the group. The EM-Red is excellent for thick sounds that need a little less top; the mids are strong, and have a "woody" quality. I really liked the Red on bass guitar and electric guitars that need plenty of beef without the sometimes annoying top end buzz. Its slightly darker top also works well on overly-sibilant vocalists.

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GEAR HEAD



ATLAS JUGGERNAUT

PRICE: \$1,095

STRENGTHS: Variable impedance. Swappable iron/nickel transformers on inputs and outputs. Clip light. +THD for adding harmonics. Gain boost switch. 8 LED front panel buttons.

LIMITATIONS: Lacks metering and output level control (although 1dB gain detents pretty much obviate the need for a "fine tuning" level control).

CONTACT: www.atlasproaudio.com

The Juggernaut is easily the most feature-packed preamp we received. It features 12-70dB of gain, iron and nickel input transformers (you can swap out one for the other in about 30 seconds, thanks to two screws and a clip), variable input impedance, a mute button, clip LED, and "+THD" (a 10dB output pad). This pre is so flexible, it's the sort of device that offers an engineer nearly infinite tweaking options. In general, the iron transformer yields huge lows

for tracking kick, snare, or bass guitar, while the nickel input transformer favors guitar. There's also a 300-10k ohm dial impedance switch and 1/4" DI inputs. While recording bass guitar through the Juggernaut, it sounded a bit less "stiff" than many DI sounds—almost more like a miked bass amp. The unit also features lights on each of the eight front panel buttons, and pots with 41 detents (and aluminum knobs) for gain and impedance.

CONCLUSIONS

In general, we were floored by these pres: The sonic variety and overall quality was simply astounding. Clearly, the years of obsessive design and craftsmanship invested by these manufacturers has really paid off; after about a month of testing, I am now a confirmed 500 series junkie. In fact, I plan to purchase at least three channels of these incredible units.

These pres gave my current projects some fresh inspiration, and a seriously-needed sonic shot in the arm. Our thanks go out to the designers and manufacturers for supplying the units for this article, and more importantly, their endless hours of exceptional design work. Now, where did I put my checkbook. . . **EQ**

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"LUNCHBOX" 500 SERIES COMPRESSOR ROUNDUP

SQUEEZE YOUR SOUND BY SQUEEZING THESE INTO YOUR LUNCHBOX

by Garrett Haines

As Jay Matheson noted in his 500 Series Pre Amp Roundup on page 54, there are a variety of advantages with the "API Lunchbox" format—and this format's popularity among engineers is rising. Consequently, we've seen a swell of offerings in the 500 series compressor field. We were fortunate enough to obtain almost every available model for our roundup, and even more fortunately,

the gang at Mercenary Audio loaned us a six-space API model to house them. Later, Purple Audio let us enjoy one of their Sweet Ten rack units. For more information about these boxes (as well as some other options), see the sidebar on page 64; note that all prices given are list prices.

SQUASHING 1-2-3-500

In addition to the other engineers at Treelady Studios, I enlisted the help of Herman "Soy Sos" Pear, from Tuff

Sound Studio. Soy normally focuses on electronic, urban, and world music, and he brought an extensive collection of modular synthesizer sounds that ranged from spacey to phat to downright bizarre. We also used guitar, piano, bass, and drum source and submix tracks from country singer Christian Trich, progressive rockers Undermine the Common, and rapper E Rock. This provided us with a wide range of instruments, vocal styles, and production aesthetics for our tests.



PURPLE AUDIO ACTION

PRICE: \$675

STRENGTHS: All-button in "Nuke" Setting. Tri-color LED metering. Everyday work-horse compressor performs well on most sources.

LIMITATIONS: Extreme settings can cause distortion. Ratio knobs can be difficult to move. Dialing up good sounds on some sources requires patience.

CONTACT: www.purpleaudio.com

While most of the other units gave us immediate gratification, we had to work with the Action. This is not bad; some of my favorite gear required time to get used to the control interactions. Soy Sos found Action outstanding for tracking samples and fast transient synth materials, but he had difficulty dialing in vocal settings quickly.

Purple states that the Action is reminiscent of their MC77 (a respected recreation of the Urei 1176; Purple was the world's only source of this

particular compressor sound for several years). I can see the relation, but at the same time, this is not an MC77 packed into a 500 series rack. For one thing, the attack and release times are much broader than the MC77, which can cause distortion if you're not careful. We wanted to like the Action on bass, but our results were average. However, on synth samples, kick drum, and snare, the Action came alive, adding pop, snap, and presence to sources. The more we used this box, the more we liked it.



BURGIN MCDANIEL KOMIT

PRICE: \$995

STRENGTHS: One knob operation. True hardwire bypass. Independent limiter. Gain makeup.

LIMITATIONS: Requires the right input for proper gain staging. Meter less useful than standard VU.

CONTACT: www.burginmcdaniel.com

Talk about vibe: The Komit comes in an Army issue ammo box, has G.I. Joe green-rubber knobs, and a level meter that looks like the control panel from a missile silo. The guys didn't like the meter, but I did—it fits with the unit's personality. Instead of ratios, there is a compress knob that has images of a circle that gets more squashed and pancake-like as you go clockwise. But don't think this is all sizzle and no steak. Both Kevin Burgin and Travis McDaniel have years of audio and tech work on their résumés, including working side-by-side with Mr. Rupert Neve.

The Komit is a feed-forward compressor and limiter. Simply set the level, choose one of three presets (fast, med, slow), pick a compression level, and you're ready to go. However, note that the

Komit requires a reasonably hot signal for best results, so be prepared to drive this box hard—but that's expected, because this is a macho compressor. You know the type: just a man, some coffee, slab of bacon, a six-shooter, and his horse.

In fact if John Wayne were a compressor, he would have been the Komit: "Look guitars, I need you to plunk yourselves right here in the mix and stay there!" I would describe the sonics as vintage, thick, Neve-esque, rich, and slightly aggressive; it's great on guitars, bass, backing vocals, synths, and drums (individual or bus). The Komit is not as clean or hi-fi sounding as the AnaMod, but it doesn't want to be. If you work with rock and roll, you want a Komit. Or two.



BUZZ AUDIO POTION

PRICE: \$1,150

STRENGTHS: Mix feature. Sidechain ability. RTR can sound like a pro riding the fader. Could be your next go-to vocal compressor.

LIMITATIONS: Takes up two spaces. Not as "warm" as the Essence. Lowest ratio 3:1.

CONTACT: www.buzzaudio.com

Like the Essence, the Potion requires two spaces in the 500 chassis, and offers the same sidechain and linking powers. The Potion uses a Field Effect Transistor (FET) gain reduction element, which sounds completely different from the Essence. I would describe it as being more forceful, but not in a harsh way. Other differences include unique ratios of 3, 7, 10, and 20 to 1, a Release Time Reduction (RTR) setting that automatically changes the release depending on the attack depth, and a mix knob, that allows you to blend the uncompressed source with the compressed signal for true parallel compression effects.

The Potion was solid on instruments,

especially guitars and bass. Having the mix option made all the difference. Remember those unruly bass and synth tracks? They were no problem for the Potion. We just selected its super-fast 50 microsecond attack and a 10:1 ratio, then blended this in until we had a sound that was in control without having that dehydrated, fatiguing sound. Kick drum or snare sticking out too far? Just add an equalizer to the side chain and tell those kids to have a seat. But save room for vocals with this box, because the Potion is great regardless of genre. We tried rock, country, and rap tracks. A 3:1 setting with the proper mix percentage and the Potion can make the vocalist sound like those old pros who knew how to work a mic.

(CONTINUED)

STANDARD AUDIO LEVEL-OR

PRICE: \$485

STRENGTHS: Great bang for the buck. Nice leveling with moderate uses, but also capable of serious sound destruction.

LIMITATIONS: DI does not override XLR input. Aggressive sound not appropriate for every source. No metering.

CONTACT: www.standard-audio.com

The Standard Audio Level-Or is a JFET limiter/distortion processor inspired by the Shure Level-Loc PA limiter. It has two modes: Level and Crunch. Set to "Level," the unit behaves similarly to the Level-Loc. However, Standard Audio has added an additional, faster release time for even more flexibility. The insides feature some beefy transformers, and the sound, although raw, caused one listener to dub the Level-Or as the "Poor man's LA-2A." I could certainly agree with that assessment, especially on bass and some vocal tracks. On a whim, when we pulled up a

piano track from a country session for Christian Trich, the Level-Or destroyed the keys in a fashion that mirrored the destruction in the singer's story. Really cool.

In "Crunch" mode, the Level-Or can start from slight harmonic enhancement, but quickly moves to aggressive crunch, to distortion, to complete and utter destruction of the original source material. Think of a Big Muff or a Pro Co Rat in a 500 series module and you have the idea. Users can take advantage of the 1/4-inch jack on the front, which is line level and parallels the rear



XLR jack, to plug in devices like samplers and drum machines without having to deal with 1/4-inch-to-XLR adapters.

All in all, this does some cool leveling and destruction. It's not a piece for everyday use, but at this price, a pair could really round out a studio's effect collection.

500 SERIES MODULE ENCLOSURE OPTIONS

Users interested in the 500 Series format have more options than ever when it comes to finding a home for their electro-critters; following are three of the more popular chassis on the market.

API LUNCH BOX

This is where the lunch box got its name, because, well, it looks like a lunch box. The API unit can accept six modules and has an internal power supply; a standard IEC cable and some modules are all you need. Several vendors sell this unit, but Mercenary Audio will supply you with blank panels to cover any unfilled slots you may have. Even better, if you return the panel to Mercenary they'll credit you \$50 towards the purchase of a new 500 series module.

Price: \$425

Contact: www.mercenary.com

ATLAS PRO AUDIO REVOLVER

For users who want even more portability than the six-space lunchbox, the Revolver—a two-slot 500 series rack—is a great solution. Like the other cases, it's self powered (and can provide up to five times more than the API minimum power specification). You can configure it in multiple ways; as a stand-alone unit, it can be positioned vertically or set up horizontally for standard 19" rack mounting.

Price: \$400 (less when purchased with modules)

Contact: www.atlasproaudio.com

PURPLE AUDIO SWEET TEN RACK

In addition to being an internally-powered rack, the Sweet Ten has several unique features. As the name implies, up to ten units can be loaded into the chassis. However, slot 9 is a special slot that is designed to accept Purple's

Moiyn 8x2 mixer module. The Moiyn effectively turns the Sweet Ten into an 8x2 summing mixer. So, in addition to tracking with modules, you can add equalizers, compressors, or other devices at mixdown. The Sweet Ten can also accept the Purple Audio Cans headphone amplifier, making this a viable replacement for a small format mixer. Around the back, you'll notice a third XLR row. The second XLR out on each channel provides the option of running modules split, or linked to one another. Our sample unit came with some six-inch long XLR cables that make linking two units a snap.

Price: \$800

Contact: www.purpleaudio.com

Other options from API and A-Designs are also available, so evaluate your usage scenario and choose accordingly.

(CONTINUED)

“ I got my modal bag
together and the
babes are all over
me now ”



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EMPIRICAL LABS DERRESSER

PRICE: \$650

STRENGTHS: Natural-sounding. Key listen makes it easy to target problem areas quickly.

LIMITATIONS: Takes some time getting used to the modes. I want a stereo one for mastering.

CONTACT: www.empiricalabs.com

So many people loved the frequency-dependent compression section on the Lil Freq EQ that Empirical Labs brought out the DerrEsser, a 500 series de-esser. They call it a multi-function dynamic filtering device—I call it cool as heck. Using a band-split approach, high frequencies are separated from lows, which allows the VCA to compress sibilant or harsh transients.

There are actually four DerrEsser modes. With DS, where the level of the highs does not affect the compression, the detector compares the high to the lows; overall signal does not matter. When there are enough highs compared to the threshold, the compression clamps down. In HF Limit Mode, the unit becomes a

high frequency limiter, ignoring the low end altogether (this is similar to the Lil-Freq function). In Highpass, you can listen to the high frequencies being controlled with the compressor. And in Lowpass, you can audition the low frequencies being ignored by the compressor. These extra modes help you target problem frequencies, which makes it easier to throw out the bathwater but not the baby.

In use, this has the same clean, quiet, unobtrusive sound associated with other gear from Empirical Labs. I've never heard another analog de-esser that works this fast, is this easy to set, and sounds this smooth. As someone who has used nearly every de-essing plug-in I can say this: Save your money, get a DerrEsser.

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BUZZ AUDIO ESSENCE

PRICE: \$1,150

STRENGTHS: Useful auto mode. Dedicated side chain. Clear metering. Gives tracks that million-dollar studio sound.

LIMITATIONS: Takes up two spaces. Not necessarily the best on every source, but I wouldn't kick it out of the rack for eating crackers.

CONTACT: www.buzzaudio.com

Occupying two spaces in the 500 chassis, the Essence is a differential opto compressor. But unlike some widebodies, the Buzz doesn't waste the rear XLR jacks. The first set provides input and output, while the second can be used as a side chain. A pair of Essence units can be linked for stereo work. The unit is sturdy, with full-sized control knobs, excellent metering, and premium construction.

The Essence handled anything we threw at it, but really stood out as a bus compressor. On rock drums it provided the good kind of glue, thwack, and round

woody tone that makes vinyl aficionados drool. On bass it could clamp down on string noise, or help stretch out sweet sustain. I tend to dismiss any "auto" compression setting, but the auto attack and release modes on the essence seem to have an alien intelligence: For instance, auto can release fast transients while imposing a longer release time on more continuous signals. The overall fidelity of both Buzz compressors was among the best in the group. I would have no reservations using a pair of these on a mastering job, especially for a rock project.

(CONTINUED)



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LIMITATIONS: Slight changes in knob rotation can lead to big changes in sound. Pricy.

CONTACT: www.anamodaudio.com

While the current rage seems to be digital models of vintage gear, Dave Amels and Greg Gualtieri are making analog models. That's right, modeling gear with gear. The AM660 is the duo's stab at recreating the Fairchild 660 limiter. From the kidney bean VU meter to the retro-looking knobs, this guy looks like someone zapped a Fairchild with the shrink ray. Controls include input gain, threshold, and eight preset attack/release combinations called "Time Constant." A bypass button allows for quick before and after comparisons.

The AM660 possesses a very hi-fi sound and

gave excellent results on nearly anything we ran through it—provided we spent the time to choose an appropriate time constant. It was also one of the only units that could tame some of the weird square wave synth patches Soy Sos brought. It was a standout on electric bass, especially when the player had extreme jumps in volume. (I believe someone called it the "last word on bass compression.") Unless pushed, the AM660 didn't sound like it was compressing, which I found most impressive. If funds permit, a pair of these could take your recordings (and your career) places.

CONCLUSIONS

I want to thank Kyle Smith, Dave Hidek, Dom Misja, and Soy Sos for their help with this roundup. And again, a special thanks to Mercenary

Audio for the lunchbox loaner. But most of all, I want to commend the manufacturers on creating such unique and well-crafted products. Depending on your production

needs, I would have no reservations about recommending these units: They might come in a small package, but they all pack a wallop of sound. **EQ**

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GADGETS & GOODIES LET'S GET MIKEY!

As in "microphones," that is—two really cool ones crossed our desk this month, so of course, we wanted to tell you all about them (all prices are MSRP).

MOJAVE AUDIO MA-201 MIC

(\$695; WWW.MOJAVEAUDIO.COM)

Having owned and used a Mojave MA-200 tube mic for about a year, I was excited to find out I'd be reviewing the new MA-201. I've always been fond of the MA-200 for acoustic guitar and sometimes brass; but with vocals, I almost always have to take down the response around 12kHz with a de-esser. So, I was curious to find out if the MA-201 shared similar characteristics.

As a solid-state version of the MA-200 tube mic, the MA-201 uses a Field Effect Transistor (FET) and comes with a very nice shock mount and metal flight case. The mic features a 3-micron gold capsule, Jensen transformer, cardioid pickup pattern, and low noise resistors.

As a pair was sent for review, I first tried them as stereo drum overheads because we tend to switch up drum overhead miking techniques from session

to session. Sometimes we go to pencil mics (like a pair of Shure SM81s or AKG 451s) for that tight, controlled cymbal sound, but other times we use large diaphragm condensers such as Neumann U87s or Blue Dragonflies for the more open, "whole kit and room" sound. We set up the MA-201s, powered them with a pair of API 512Cs, then sent the signal straight to Pro Tools.

The initial position was about six feet above the kit. It was very apparent that the mic's pickup pattern was broad and wide—we were getting too much room tone, and not enough control of the cymbals. We lowered the mics to around three feet and rotated them outward, away from each other, and that helped everything snap into place. The stereo spectrum was wide as a house; we had good control of

what each mic picked up.

Next up, I wanted to compare the sound of the 200 with the 201, so I set them both up for a vocal shout out. Using a Nice Pair pre, there was a noticeable difference between the two mics. The MA-201 sounded very accurate, with a little color; it did not have the high-end sibilance I've encountered in the MA-200. Especially at this price, the MA-201 is a great mic to add to your collection. —Jeff Anderson



JOSEPHSON C720 MIC

(\$5,090; WWW.JOSEPHSON.COM)



For more, go to eqmag.tv.

Cool: Instead of the usual pickup patterns (cardioid, omni, figure-eight, and hypercardioid), the C720 is a variable pattern mic that lets you switch the polar pattern at any time—even after you've finished recording (yes, you read that right). The mic has a dual capsule, dual FETs, dual transformers, and even a dual XLR output cable. Thus, you can record both outputs from the C720 and manipulate the polar pattern during mixdown.

I put this mic to some serious tests while working with the 2008 American Idol standout, Amanda Overmyer. During rhythm sessions, we set up the C720 as a knee-high mic for a drum kit. It was around eight feet away from the kit and four feet in the air, with the capsule's front facing the drum set. We plugged in both XLR cables into two

channels of our DDA console's mic pres, which then went to Pro Tools.

Talk about control over your room tones! By mixing both mic outputs at different levels, and even dialing in different polarities, we had an unbelievable amount of control. Just listening to the front capsule, the mic sounded vintage and warm; it had a pleasing round bottom, and realistic top end.

Next, we did a vocal shootout for Amanda. Before starting vocals, we always choose several mics to audition with an artist—in this case a vintage Neumann U87, our modded Neumann U47, an AKG C12, and the C720. The producer and engineer found very positive aspects with each one; in the end, they kept the C12 for lead vocals, with the C720 and U47 for backup vocals. As each mic has its own character, the

producer just left all three set up and advised Amanda which one to sing through, depending on the part she was recording.

The C720 proved to be extremely powerful for backup vocals because of how you can control the amount of room tone mixed in with the front capsule, as well as the warm beef that it added to the track. It's not cheap—but given the exceptional amount of control it provides, on balance that's a small price to pay. —Jeff Anderson





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SONY: PHD—PROGRESSIVE HOUSE DYNAMICS



zone), number of measures, key, etc.

As you'd expect from house, the drums are appropriately fat and lumbering, the synths arpeggiated, the basses either round or percussive, and of course, you'll find various percussion and funky guitar riffs. Also, note that the one-shots aren't just drum hits, but bass, keys, guitar, FX, and other notes—for a good time, stretch them across your sampler plug-in.

So, what makes this "progressive"? The vibe isn't as loose as "classic" house; there's a tougher sonic edge, along with

PHD, from Bunker 8, has 21 construction kits, each with between 9 and 15 loops. Some drum elements (e.g., kick loop) are also broken out separately from a mixed drum loop. And, extra credit for the text document that lists file attributes—tempo (mostly in the 130BPM

a rhythmic precision that leans more toward electro/techno—swing is used sparingly, if at all. The end result is a more muscular, contemporary sound.

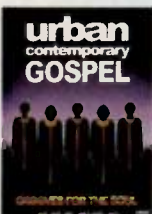
The construction kits may seem like they could use more files, but the exemplary Acidization allows easy mixing and matching between kits. Think of the kits more as "guidelines" of loops that work well together rather than a limited set of choices; it's worth digging around in the other kits, and importing elements that multiply your options. PHD is a satisfying, consistent, well-produced set. —Craig Anderton

Contact: Sony Creative Software, www.sonycreative.com

Format: CD-ROM with 523MB/249 files of loops; 24MB/226 files of one-shots; 16-bit/44.1kHz

List price: \$59.95

BIG FISH AUDIO: URBAN CONTEMPORARY GOSPEL



I fondly remember my father occasionally playing "Gonna Ride that Glory Train," from Harlem's Abyssinian Baptist Choir, at top volume. It wasn't the religious message that got him, but the musical one: It was exciting, vital, raw, and truly uplifting... then again, that's what good Gospel music is all about.

Urban Contemporary Gospel has 34 construction kits, each with loops, drum hits, and mixed drum loops also broken out as individual loops (e.g., kick, snare, overhead). The sound quality is conservative—sometimes a bit muffled (a little EQ solves that) and not "hot" (so drag out your maximizer). But overall, there's a fine selection of bass, guitar, drums, keys, organ, and some pretty delicious gospel vocals. In fact, most of the loops (save the vocals) would fit well into a lot of contemporary

R&B and hip-hop. Furthermore, the Acidization is far superior to older Big Fish releases—and this is not always easy material to Acidize.

The tunes don't have the rip-your-head-off excitement of hardcore, old school gospel; as the title suggests, they indeed have more of an urban sound—some of the loops would even fit well in smooth jazz. Still, there's a good balance of uptempo and slower tunes, making the set quite comprehensive. In a world of me-too sample libraries, this one stands out as unique and, well, uplifting. —Craig Anderton

Contact: Big Fish Audio, www.bigfishaudio.com

Format: DVD-ROM with about 1.3GB of unique 24-bit/44.1kHz WAV/Acidized content, duplicated as Apple Loops (and REX files where possible); also has Stylus RMX installer

List price: \$99.95

REAL LIVE LOOPS: REAL LIVE LOOPS, VOLUME 2



These rock/pop/funk drums are totally "unhyped": There's no processing on the dry files, and while also duplicated as files with reverb, even that adds just a subtle ambience—no John Bonham thundering drums here. While you'll have to do some work to customize the drums to

your needs, this purist approach (all files are recorded with the same drum setup too) makes them applicable to more contexts than if they were already "pre-produced."

Tempos range from 75 to 135BPM. The Fills folder contains fills at different tempos, but the Loops folders emphasize different groove styles—tom grooves, hi-hat grooves, etc. Timing is tight, even though played by a human; the Acidization is less so, and you'll need to edit the Acidization markers if you want to stretch much past the original tempo.

However, what may be this sample CD's "secret weapon" is the collection of individual drum hits, with multiple velocity levels. This allows creating your own kit that can fit right in with the sounds of the loops and fills, offering an even greater degree of customization than just altering the existing loops.

Bottom line is that while this collection provides the sounds and playing, it's up to you to impart the gloss and excitement. But ultimately, it will sound the way *you* want it to sound—not like everyone else using the same collection. —Craig Anderton

Contact: Real Live Loops, www.realliveloops.com

Format: CD-ROM with 16-bit/44.1kHz WAV loops, fills, and single hits, duplicated as dry and wet versions (698MB total)

List price: Approximately \$30 for digital download, \$40 for CD-ROM (including shipping from the UK)

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(All Periodicals Publications Except Requester Publications)

1. Publication Title: EQ		
2. Publication No: 1050-7868		
3. Filing Date: November 1, 2008		
4. Issue Frequency: Monthly		
5. No. of Issues Published Annually: 12		
6. Complete Mailing Address of Known Office of Publication (Not Printer): NewBay Media, LLC, 1111 Bayhill Drive, Suite 125, San Bruno, CA 94066-3040 Contact Person: Denise Robbins Telephone: 212-378-0444		
7. Complete Mailing Address of Headquarters or General Business Office of Publisher: NewBay Media, LLC, 810 Seventh Avenue, 27th floor, New York, NY 10019		
8. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: John Pledger, Publisher, Matt Harper, Editor, Debbie Greenberg, Managing Editor NewBay Media, LLC, 1111 Bayhill Drive, Suite 125, San Bruno, CA 94066-3040		
9. Owner: The Wicks Group of Companies, LLC 405 Park Avenue, Suite 702, New York, NY 10022		
10. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding One Percent or More of Total Amount of Bonds, Mortgages, or other Securities: None		
11. Tax Status: The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes has not changed during preceding twelve months		
12. Publication: EQ		
13. Issue Date for Circulation Data: September 2008		
14. Issue Date for Circulation Data: September 2008	Avg. No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
15. Extent and Nature of Circulation		
a. Total No. Copies (Net Press Run)	41,956	39,738
b. PAID CIRCULATION		
1. Mailed Outside-County Paid Subscriptions Stated on PS Form 3541	4,745	5,382
2. Mailed In-County Paid Subscriptions Stated on PS Form 3541	0	0
3. Paid Distribution Outside the Mails including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS	2,127	2,087
4. Paid Distribution by Other Classes of Mail Through the USPS	0	0
c. Total Paid Circulation	6,872	7,469
d. FREE OR NOMINAL RATE DISTRIBUTION		
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2. Free or Nominal Rate In-County Paid Subscriptions Stated on PS Form 3541	0	0
3. Free or Nominal Rate Copies Mailed at Other Classes Through the USPS	0	0
4. Free or Nominal Rate Distribution Outside the Mail	4,907	4,442
e. Total Free or Nominal Rate Distribution	30,248	27,771
f. Total Distribution	37,120	35,240
g. Copies Not Distributed	4,836	4,498
h. Total	41,956	39,738
i. Percent Paid and/or Requested Circulation	16.51%	21.19%

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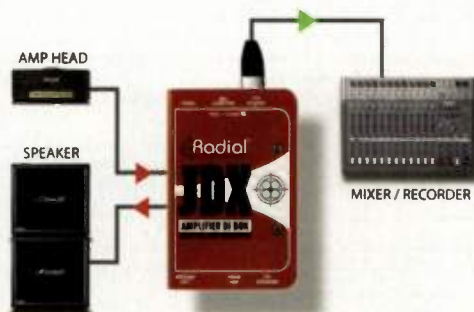
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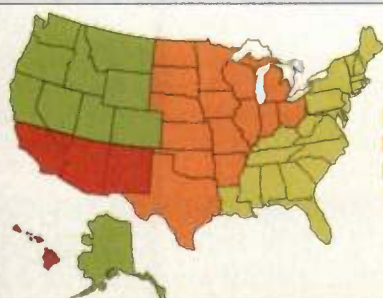
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ROOM w/a VU


by Angelina Skowronski

STUDIO NAME: Inner Machine Studios
LOCATION: Buffalo, NY
CONTACT: www.innermachinestudios.com
KEY CREW: John Rzeznik, Robby Takac (owners); Mike Brylinski (studio manager)
CONSOLES: API Legacy Plus 48-Channel Inline w/Uptown Moving Fader Automation; Digidesign Control 24; Neve BCM10 10-Channel, 8-Channel Broadcast w/ 34128 Modules (8)
CONVERTERS: Crane Song HEDD 192 A/D and D/A (2)
DAW: Digidesign Pro Tools|HD3 Accel, v.7.4
TAPE MACHINE: ATR 102 1/2-inch
SYNC: Apogee Big Ben; Rosendahl Nanosync 192k
MONITORING: Genelec 1030a, 1032As; George Auspurger Mains (custom); Furman HDS6 w/remote stations; KRK E8s; Yamaha NS10s w/ TST-SW150 subwoofer
MICS: AEA R44 (3), R84 (2), R88, R92; AKG 414 (4), 451, D112, D12E; Audio-Technica 3032 (2); Audix i5 (2); Beyerdynamic M160 (2); BLUE Bottle, Dragonfly, Kiwi; Coles 4038 (3); Crown PZM (3); Electro-Voice RE-20 (2); Josephson C42 (6), E22s (6); Neumann KM53 (2), KM56, KM184 (4), M147 (3), M149 (2), TLM103ni, U87 (6), USM69; Sennheiser 421 (2), 441 (2) mkh20 P48 (2), mkh40 P48 (2); Shure SM7 (2), SM57 (5), SM58 (3); Soundelux 251; Telefunken 251, 25C, 270, D19 B200, M12 (2), M16 (2), TD25 (3), U47, U67 (3)
PRES/DI: API 212L (32); Avalon U5 (2); Chandler Limited Germanium (8), TG Channels (8), TG2; Eclair Evil Twin; Groove Tubes "The Brick," VIPre; Mercury 72 (3); Neve 1073 (10); PreSonus MP20; Universal Audio 610, 6176
DYNAMICS PROCESSORS: Alan Smart C2; Chandler Limited Zener; Collins 26ui; dbx 160A (2), 160 VU (2); Drawmer DS201 (2); Empirical Labs EL-7X FATSQ, EL-8X Distressor (4); Eventide Omnipressor; Fairchild 670; Focusrite Red 3; Gates Level Devil (2); Groove Tubes Glory Comp; Inward Connections TSL-3; Inovonics 201; Malkjor Stereo Bus Compressor; Mercury M66; Neve 33609 J; Purple Audio MC77 (2); RCA BA-6A (mod) (2); Retro Instruments Sta-Level (2); Ridge Farm Boiler; Universal Audio LA2A (2), LA3 (2); UREI 1176 (2); US Army Federal Compressor (mod)
EQ: API 550L (48); Chandler Limited Tone Control (8); GML 8200; Mercury EQP1A (2); Neve 1073 (10)
EFFECTS: AMS DMX, RMX 16; dbx 120XP; Eventide

H3000; Lexicon 480L w/LARC, PCM42 (2); Line 6 Echo Pro, Filter Pro, Mod Pro; TC Electronics 2290
PLUG-INS/SOFTWARE: Audio Ease Altiverb, Speakerphone; Celemony Melodyne; Eventide Anthology 2.0; Expansion BFD 1, 2; IK Multimedia Sampltank 2.0; Muse Receptor; Propellerhead Software Reason; Sound Toys Bundle; Spectrasonics Stylus RMX; Native Instruments Absynth; WaveMachine Labs Drumagog; Waves GTR, Mercury Bundle, SSL Bundle
NOTES: Whew! That's a lot of gear for just one band—especially a band that started a studio as a mere "pick-up project." John Rzeznik and Robby Takac, of Goo Goo Dolls fame, initially decided to save this old TV and radio studio for reasons no greater than sentimentality. "We'd recorded at the old studio before and Robby worked here as a kid. When the actual studio went out of business, we bought it out and decided to slowly remodel it and make it part of our thing," explains Rzeznik.

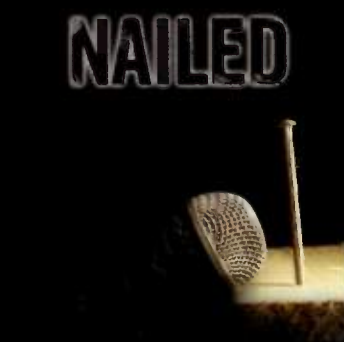
Enter John Storyk of Walters-Storyk Design Group. As the original designer of the room that preceded Inner Machine, Rzeznik says that Storyk was their first choice when it came time to select a world-class architect to re-envision the studio. Storyk explains: "John and Robby's mandate was to create a fresh, live acoustic feel, particularly in the large tracking room. We stripped away the original finishes and treatments and replaced them with a completely new acoustic package including extensive perforated wood surfaced treatments. This raised the RT60 value of the room while still controlling low frequency decay."

According to Rzeznik, after recording countless records in studios throughout the country, he and Takac were basically "tired of paying people tons of money to record [their] records," and decided they should make a place where they could do it all themselves.

"Our goal was to have a place where the clock wasn't running all the time," said Rzeznik. "We decided that if we were going to have the space we would make it non-profit. We'll just keep pouring money into making it as nice as possible." 

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