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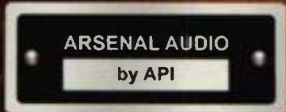*Guitar Rig*
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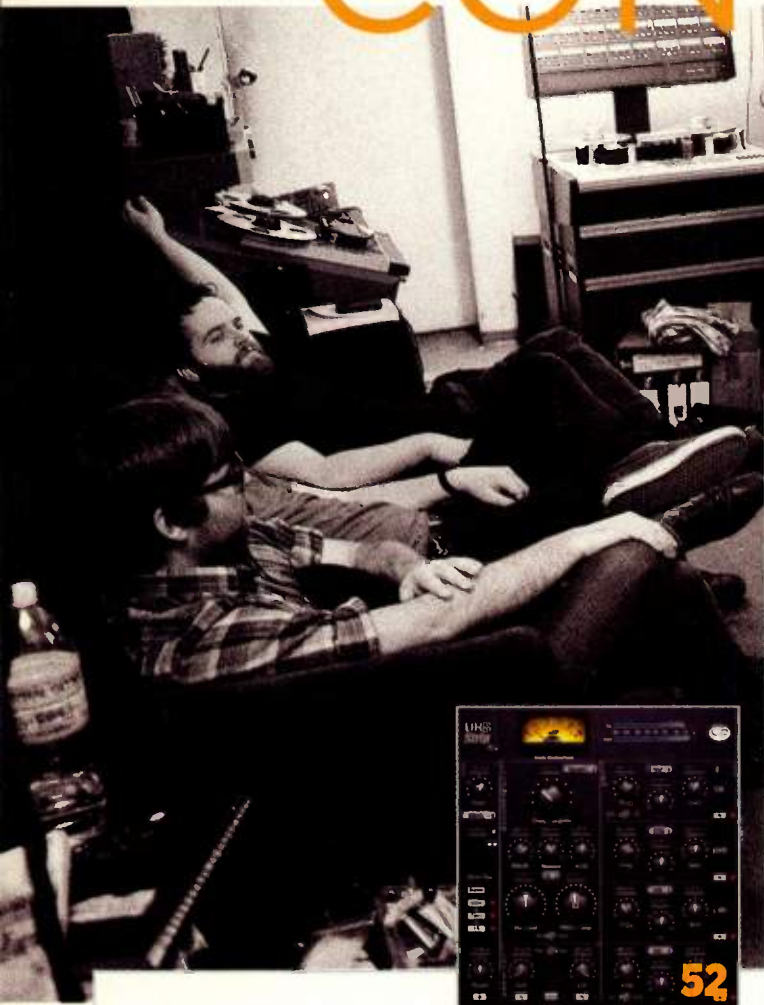Introducing a new Arsenal of high quality audio tools by API.

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Talk Box

ALL I KNOW IS THERE'S A LOT I DON'T KNOW

I don't believe that running a green felt tip pen around the edge of a CD improves the sound. I don't believe that you need to burn-in cables. And I don't believe that the skin effect matters with speaker wires. What I *do* believe is that many audiophile myths melt under the scrutiny of blind testing.

But sometimes. . . .

You may recall the article in the 03/08 issue about engineering a Kathleen McIntosh harpsichord session. After doing the mastering, I gave Kathleen, producer Peter Sheehey, and Maricam Studio's Scott Irving test CDs. They loved it, but wanted to reverse the order of two cuts.

No problem. I called up the same file in CD Architect that I'd used previously, reversed the two songs, and burned another set of CDs.

Then Scott called, saying they liked the sound of the original CD better. Huh? I used the same files, same program, same everything. I really thought they had talked themselves into thinking there was a difference. I told them that wasn't possible, and to do some blind testing.

So one person swapped CDs randomly without the other two looking, and they had to write down which version they thought it was. Kathleen identified which was which 7 out of 7 times. Peter and Scott each got 6 out of 7 right. Statistically, that's way more than just "significant."

I took both CDs home, imported the cuts into Wavelab, and ran the program's file comparison test. The only difference I could find was that the dithering noise distribution was slightly different in each file (and we're talking *extremely* low-level signals). Did I use different noise shaping or dithering by mistake? I found a section at the end of a file from each version, past the fadeout, where the only sound was the dither. I cranked up the level so I could hear it, but the sonic quality was seemingly identical. A phase flip test using Sonar's 64-bit audio engine caused total cancellation, except for the ultra-low-level noise components.

So the computer said the files were virtually identical. Yet three sets of incredibly trained ears were almost infallible in identifying a difference. I was not able to participate in the testing, but upon listening to the two files in my studio, I couldn't hear any difference . . . then again, I was playing back the files through the same D/A converter, without a CD player in between.

Maybe there was some interaction between the CDs and the playback system that caused the difference. Or maybe it was the CD media, or a different burn speed. I'm still investigating, but I *know* one thing for sure: There's a lot I don't know!

DO THE RIGHT THING

Having worked in the big, bad music business for over ten years, I don't always agree with Moses Avalon's conclusions. Nevertheless, I find his musings interesting.

That said, his article in the May issue [*"Legal Affairs"*] is one of the worst pieces of career advice I have ever read. While Mr. Avalon ably points out the advantages and pitfalls of the so-called "360 deal," the idea that one should enter into such a deal on the premise that it can be voided at will is terrible advice. One should understand what one is entering into, and then act in good faith. The idea that one would sign a contract so that it can be broken if things don't fall your way is both dishonorable and bad business.

Firstly, who wants to see artists expending all of their time and creative energies on litigation? Secondly, the notion that a musician can take on a large corporation's legal team without facing enormous legal fees is disingenuous.

These days, believe it or not, most of the so-called "suits" of the music business are hardworking, honorable people who genuinely love music. Many even take pride in the fact that, while their labors will never make them rich, they play a role in ensuring that musicians can continue focusing on making music that enriches everyone without resorting to a day job.

If you decide to enter into a 360 deal, do so with your eyes open and in good faith. If the record company violates the deal, then by all means fight it. But the notion that the artist can grab the advance and then weasel out of the deal on a technicality makes the artist no better than the "suits" of yesteryear.

Glenn Goldstein (via email)

IS CHEATING WRONG?

I enjoyed the Cheat Sheet installment in your May issue [*"Computer Audio Interfaces"*]. One tip left me puzzled, though: On the very last sentence of the very last term, "+48V Phantom Power," it says ". . . check the phantom power voltage at the mic's XLR connector with a voltmeter." Okay, assuming I have my probes in each hand, how

exactly do I then access the pins of a plugged-in condenser mic?

Jon (via email)

Craig Anderton responds:

You have to do it with the mic unplugged. The mic represents a small enough load that the difference in voltage with a mic connected or disconnected is negligible. Hook up the voltmeter with the negative probe to pin #1 and the positive probe to pin #2, and it should read 48V. Then measure the voltage between pin #1 (again, with the negative probe) and pin #3, which should also read +48V. Measuring the voltage between pins #2 and #3 should show zero volts. If the probes are too big to fit comfortably into the connector holes, you can straighten out a metal paper clip and use that as an extension.

VOICING CHANGE

I'm a musician and a computer artist working with flash animation. Recently, I've been looking around for a processor or some software that can do a real good job at changing a person's voice. I was thinking that it would be great, if instead of looking around and hiring people to do voiceover for me, I could use a software or processor to create various voices including a variety of "women's voices."

Do you know of any processors or software available that can help me achieve this?

Brian (via email)

Craig Anderton responds:

On one level, no voice processor will be able to transform your voice into a completely convincing alternate sex when isolated for narration. However, these emulations can be extremely convincing when used in applications such as background vocals, where, for example, changing the "gender" to female does give the vocals female qualities. You'll have better luck changing a male voice into a different type of male voice; for example, I've used Antares' AVOX to sound like a crusty old blues veteran and have actually fooled a few people in the process. I suggest checking out the Roland VT-1 for yourself, as well as vocal-oriented products from DigiTech like the VL4 and, for a software solution, Antares'

AVOX. They're all about as good as what current technology can offer.

A FEW DAYS LATE, A FEW DOLLARS OFF

I think the online master classes are great ideas. One question: I'm a full-time engineer and producer and it seems I'm always working a session when one of these master classes is being aired. Is there any way to listen to or watch these sessions after they have aired? Will they be in some kind of archived library? That would work much better for me, given my schedule.

Peter Green (via email)

Matt Harper responds:

We indeed archive our Artist Master Class webinars (and offer them at a discounted rate because there's no live Q&A). Granted, a lot of the fun comes from signing in during the webcast and engaging the AMC's presenter in a realtime Q&A exchange, but the content covered in each of these webinars is so valuable that we urge those who couldn't attend the party the first time around to download our archives. To do so, head on over to www.visualwebcaster.com/musicplayernetwork/storefront. We just added Executive Editor Craig Anderton's brand-new "Secrets of Signal Processing" webinar; and fortunately, his highly-acclaimed "Mastering in the Home Studio" webinar is still available. Additionally, our sister publications—*Guitar Player*, *Bass Player*, and Keyboard—have some truly killer webinars for all you players out there, including lessons with Larry Carlton, Victor Wooten, Jeff Lorber, Michael Manring, and Jordan Rudess. Check 'em out. You'll be glad you did.

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PUNCH IN

HEAR, HERE!

Louis XIV's Jason Hill on Abiding by an Analog Ethos

BY SHANE MEHLING

Louis XIV may not be royalty yet, but with their new album, *Slick Dogs & Ponies*, the San Diego-based quartet is well on their way. While notorious for their penchant for double entendres and wickedly wild shows, the band has also gained the respect of the rock world for their indisputably rich melodies and bombastic garage rock energy. Wielding a veritable mountain of equipment and ear for retro sounds, singer/guitarist Jason Hill has taken the Renaissance man approach and crafted the sound of his band's newest release in his private studio. Prying Hill away from his console proved itself to be no easy task but we managed to conduct a quick chat about how Louis XIV produces their signature sound at home. Here's what he had to say.

My first question is about how you recorded Mark Maigaard's drums. You've managed a really tight sound, which is a surprising choice given how many modern rock bands strive for huge drum sounds.

That sound drives me nuts; I much prefer a dry drum sound. It's like every song on the radio has the same open sound. It's quite boring. We wanted a tighter sound, something where you could really discern the tuning of the drums. We had a very live room with 20-foot ceilings, so we built a teepee around the drums with blankets to mitigate that damage. It protected our overheads—which are ribbons, and therefore pick things up in a

figure-eight pattern—from any unwanted ambience.

The bass sounds as if you recorded a cabinet instead of taking the DI route.

That's right. I put a [Neumann] U 47 FET in front of a [Fender] Bassman 100 that had two speakers taken out of it to make the remaining two push harder. That's the sound.

What about your guitar cabinets?

For guitars I'd use either a [Neumann] U 67 alone or in conjunction with a TLM-103, which can handle serious SPL. I'll put the TLM 103 on the cone and the U 67 on the back of the cabinet. For other projects, I'm a fan of adding a Gefell into the mix as a room mic but I didn't do that on this album.

Which Gefell mic?

The old Neumann tube ones from '62. They're a bit larger than a U 67. You can really push them; you can put them right on the grille if you want. They seem to have a much different frequency response than, say, an AKG 414 or a U 67 or any of the other condensers I like to use for guitars, so adding them in can definitely add a different dimension to your sound.

***Slick Dogs and Ponies* has a lot of strings in the mix. What made you decide to integrate that element into your repertoire?**

Electric Light Orchestra influenced some of the production as far as string arrangements went. We worked with David Campbell, and we'd play him ELO and how they recorded strings. We wanted to make them an integral part of the record, almost like a fifth member of the band. In many ways the

strings create the dominant melodies of the songs.

How did you capture them?

We had a few girls from a high school band play the violins, and we just set up two [Neumann] U 47s in X/Y. The cello is a single U 47 pointed right at where the musician's bow hit the strings. Compressing that particular track really brought out the attack, but it also added a real richness to the sound.

Do you abuse your compressor often?

[*Laughs*] I love compression. I absolutely adore it. It just depends on how you use it. The technique is definitely overused, even by me sometimes—I'm guilty of crushing things too much. I have heard so many drums that sound like crap because of over-compression. In my opinion, a lot of the problem nowadays is due to the way digital compressors react with the high frequencies of cymbals and guitars. It doesn't sound the same as tape compression or an old [Urei] 1176.

So we're back to the old analog vs. digital debate already?

Don't get me wrong; I bounce between my Studer and Pro Tools. The latter is convenient especially for experimentation. And it doesn't present the same kind of workflow challenges as a tape machine. My 16-track has turned into a 12-track more times than I can count [*laughs*]. I'm a firm believer that you can make great sounds in the digital world, but it's so much harder to get warm sounds. Digital sounds a lot more flat and cold. It's an old argument, but there's a reason why people still record to tape.

So you track to tape, bounce to Pro Tools, edit, and then send back to tape?

Exactly. Though a lot of times I'll use this old Revere tube tape machine I have that just sounds incredible. For this album, all of the piano tracks were recorded onto that, bounced to a Studer, and then shot over to Pro Tools to add layers. It was a master stereo, so I'd go through the channel and out the master compressor, which sounds amazing, especially for drums. It's got a unique sound. But to access it I'd have to go through the headphone jack and into the tape machine. It was totally rigged, and people would say I was out of my mind, but it sounded the best.

How do you approach a Louis XIV mix?

I'll try to throw everything up on the faders and go from there. I don't just start with the drums like some people do. For this album, I actually enlisted the help of Mark Needham for mixing because I had just gotten sick of listening to it. Our last record [*The Distances from Everyone to You*] was an easy mix;

I'd just subgroup all the drums into one or two tracks and often just a single mono signal. Then I'd throw the rest of the instruments on, basically making mono channels out of whatever I had. But for this record we did so much when tracking. Every song has five or six sessions of drums all comped together, where this one snare drum will pop in for two beats on the chorus, and a cello would pop in on the verse. There was so much going on, I had a breakdown. It was like trying to wrangle cats back in the house [*laughs*].

There are some interesting pans on this album. Were those done at your order?

I love hard panning almost as much as I love compression [*laughs*]. I'm a real big fan of taking mono tracks and just sending them all over to one side. Hell, I'll do the same with stereo [*laughs*]. You can't get any better sound than what you'll find on a Beatles record. By today's standards, those drums supposedly don't kick hard enough or whatever, but I fell in love with that sound.

When you are editing and mixing in Pro Tools, do you adhere to the old-school approach of using analog outboard or do you secretly use plug-ins when no one is watching?

I'm not opposed to using plug-ins, but I don't really use them. I've fiddled around with [Audio Ease's] Altiverb because I don't have a real plate though. Still, I try to approach my projects when they are in the box as if I was still on tape. Editing out all the pops is a nice option to have, but I always have to remind myself to stop watching the screen and listen instead. It's not got much to do with the sonic quality; it's about the process. I don't need every cut to be clean, every fade to be perfectly measured. I don't want to stop being musical and start being mathematical. Also, I think I just respond to the sound of the metal of an actual unit [*laughs*]. Is there a sound to that? I don't know, except I think an 1176 sounds great, and the plug-in version, while decent, doesn't sound the same. **ε϶**

Louis XIV (left to right): Mark Maigaard, Jason Hill, Brian Karcsig, James Armbrust.

PUNCH IN

TÊTE-À-TÊT

Four Tet's **Kieran Hebden** on Tracking with Legendary Drummer **Steve Reid** and Keeping His Mixes in the Box

BY MERRICK ANGLE

Four Tet's Kieran Hebden.

For Kieran Hebden, better known as Four Tet, his side project with veteran jazz drummer Steve Reid (appropriately dubbed Kieran Hebden and Steve Reid) is a welcomed break from the "Folktronica" he's so well known for. "It's the fourth record we've done together," Hebden clarifies when asked about the duo's as-of-yet-untitled upcoming release. "Steve grew up in New York and he wanted to do something that captured the feel of the city as he knows it. The music I make on my own is rigidly sequencer-based and produced at home, so we tried something different and went to Avatar studios. Steve's stuff is based around capturing moments of live performance, so we needed a room where we could set his kit up in and jam."

So how does such an unlikely collaboration work in the studio? "Steve is one of the greatest drummers in the world—so it's easy," Hebden laughs. "I wanted to do something that was aggressively electronic, but didn't use any sequencing or looping. For me, it was all about letting Steve do his thing while I triggered these impossible sounds—heavily processed, reversed, and slowed down samples that were performed manually in real time on my Roland SP-555 and SP-303s."

303s? We would have assumed he was an MPC fanatic. "I prefer [303s]," Hebden replies. "The rubber pads are decently sized and just close enough together that I can play them comfortably. Some people swear by the [Akai] MPC 5000, but I think the buttons are too spread out for quick performance."

Running his two SP-303s and his SP-555 through a Pioneer DJM600 DJ mixer and into his PC, Hebden creates what he calls "washes of sound" in Pro Tools. "I mainly work with stereo files of drones, bits of ambient noise, and random percussion samples," Hebden explains.

For somebody as hell-bent on staying out of the box for his performance, doesn't Hebden find it a bit weird that, when it comes time to mix, he stays completely in the box and doesn't even use a control surface? "It's not the most tactile way to work, but I've been doing it this way since Cakewalk Pro Audio 9. I need buttons and knobs and faders live, but when I'm mixing I like to just type in values. It's how my brain is wired. Mixing is math to me." **EQ**

THE GOLDEN CLICK

Can We Define a Successful Record in the Internet Age?

BY MOSES AVALON

In these tumultuous times, is the musician's benchmark still the ever-coveted Gold record? Or, more importantly, should it be? Aside from the obvious reward (money), surely there can be no greater satisfaction than quantifying the winning over of a large audience and hanging it on your wall, right?

These plaques do more than just stroke egos; they are the measuring sticks for the musical community. Without them, we have one less standardized gauge for success in our industry. This may seem irrelevant to the anarchists out there, but if we think a bit past our natural contempt for the self-congratulatory, we might see that losing yet another staple of our industry to the Internet could have great repercussions for all artists.

Imagine a world where this "pay-what-you-please" or "pay-nothing-at-all" distribution fad shows itself to be of little value to people that aren't Trent Reznor and average artists decide that the next step is to bypass conventional distributors totally and adhere to some very creative sales models that likely *do not* involve the publishing of statistics. I don't think it's too farfetched of a scenario to entertain—there are probably tax advantages if nothing else, and the prevalent "screw the record industry" attitude many artists have (including myself, sometimes) could easily grow to the level of completely cutting off the hand that crowns them. After all, the point has been made that some bands don't need the record industry like we all once thought we did, so why not cut that middleman out completely?

Because some form of oversight/governance can be a good thing. Case in point: Back in the day, a record company would provide Gold and Platinum records to their top artists, much like "employee of the month" awards. It was a token of appreciation for an artist who, in a sense, had become a partner with the label (Elvis Presley receiving his 1956 Platinum award was one of the first examples). But such awards had no real public credibility so, in 1958, the RIAA stepped in and took over the task of issuing awards based solely on sales. Since then, those within the music industry and those on the outside (*i.e.* the general public) have had a legitimate criterion to judge the success of an artist.

Financial achievements aside, such a standard may be subjective. But let's pretend for a moment that it's not. With many mega-stars inking deals outside the sphere governed by the RIAA, who will be the next great arbitrator?

WHAT IS A "SALE" ANYWAY?

Truth be told, Gold and Platinum awards have not ever been based on actual units sold. The organization takes liberties with how they define the crucial word "sale." Instead, "sales" are based on the amount of units *shipped* to stores. I have spoken loudly and often to all who will listen to me about why this is stupid, but its relevancy here should be obvious to the people that, bound in a traditional contract, stand to be paid only for units that are actually sold. However, the question at hand is not how to reform the RIAA, but how these practices will be adapted to the Internet, because digital distributors of music don't ship anything. They email a single file of metadata to servers.

Why base an award on that, especially as such would likely only represent the biggest outlets (*e.g.*, Yahoo, Amazon, iTunes, Napster, Rhapsody, E-Music)?

You may ask, "Can't we just track the activity from the hundreds of available services and see who's getting the most clicks and then award 'Gold and Platinum Click Awards?'" Good question. Hypothetically we probably could, and with all the wild promises made by tech companies you'd think creating an integrated database that everybody just uploads to once a month would be child's play. The truth, however, is that the cost would be staggering, and therefore nobody is jumping to provide that kind of service.

Then there is the view that many companies (Wal-Mart, for example) are not interested in releasing such information because it doesn't serve their interests. Considering that the most widely employed sales tracking system in the record industry—a barcode scanner known as SoundScan—doesn't track many online stores and has no way of accounting for millions of "play events" from subscription services, artists are already having difficulties accessing crucial information like how many units they are really moving in the virtual realm. In the future, they may have no way to quantify their success to the public. Think about it: Does anybody really know exactly how successful Radiohead's *In Rainbows* experiment was except for the band themselves?

And what about statistics that are even trickier to verify, like P2P file sharing? Obviously illegal downloads are not "sales" in the literal sense, but consider basic fairness: Should an artist with 100,000 clicks on MySpace be considered more significant than a group with 75,000 downloads on Lime Wire, or vice-versa?

These are tough questions, but we know one thing for sure: In today's world, physical sales of an album are only a tip of the distribution iceberg. Many new uses for music involve licensing of the content and not physical ownership. Thousands of times an hour a piece of music may be streamed, pipelined, and cached via digital distribution systems into millions of websites, new-school jukeboxes at your local bar, maybe even the waiting room of that really hip proctologist you go to. None of these are "sales," as traditionally understood, but all of them generate revenue and royalties.

HOW DO WE DEFINE THE MAGIC NUMBER?

Next up for debate is the issue of "threshold." Historically, the RIAA

certifies a record as Gold when it "sells" 500,000 (the threshold for a Platinum record is one million). Other countries vary. In Canada, for example, Platinum status is awarded after only 100,000 units are "sold." This partially explains all of Brian Adams' awards. The official reason: These plateaus are based on population. Fewer people mean fewer sales, and so it would not be fair to have a threshold based on such hard numbers.

How would this be applied to the hypothetical "Gold and Platinum Click Awards?" Do we take into consideration the entire population of everyone using the Internet? What about the fact that some (richer) parts of the online world have far higher bandwidth and faster servers, thus greater volume of downloads. So instead of population, should we be talking about megabytes-per-second (mbps) as a parameter for territory?

HOW WILL THIS PLAY OUT?

And who can we trust? The answer is probably not the RIAA, though they clearly have served a purpose, skewed as it may be. Still, who can trust them to set an honest threshold when they don't even recognize a significant portion of the industry—namely, downloads of independent music. To quote an *EQ* reader (who inspired this piece), "Does an industry which is below the radar still need the radar?"

iTunes has an objective ranking for what is moving off their servers. Big Champagne offers a chart of much of the P2P activity. Even garage band heroes CD Baby have a page for the artists that have sold more than a couple of dozen units through their site. So, I asked the forward—thinking RIAA (note the sar-

casm) how they are preparing for the future—excuse me, the *present*. They said, and I quote, "[It's] certainly something we are giving a lot of thought to."

Cool. Keep on thinking about it. Ready your fiddles.

I'm having a vision of the near future. I see an artist pictured with her best friend. The friend is her manager and Webmaster. The caption congratulates them for a "Gold Click Award" from Amazon.com for 500,000 play events. The two gals don't mention the RIAA, Best Buy, or any label. They are thanking Facebook.

They are 13 years old. ▄▄

Moses Avalon wishes to thank Jeff for the inspiration to write this piece and to direct readers to the "Letters to the Editor" forum on www.eqmag.com to further discuss this subject.

TOOL BOX

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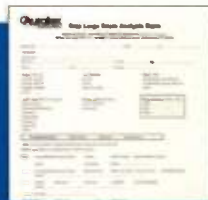
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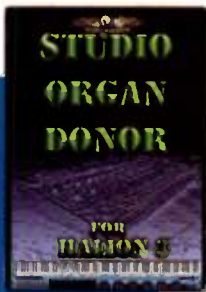www.focalprofessional.com

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Chirp ($39.99) turns a computer keyboard into a virtual MIDI keyboard controller. The software combines a photo-realistic keyboard interface, ten programmable trigger pads, and several controls for easily entering pitchbend, modulation, sustain and note velocity data. www.tanageraudioworks.com

■ BEHRINGER STOMPBOX TRIOS

Five stompbox trios ($149.99 each) create optimized toolkits for metal, jazz and blues-rock guitar, bass, and keyboards. Each dedicated trio includes three effects pedals, two patch cables, and a 10' instrument cable. www.behringer.com
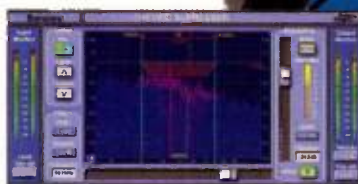
■ GROOVE HOUSE RECORDS "EXTREME GREEN" CD AND DVD PACKAGING

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■ AUDIOWARRIOR STUDIO ORGAN DONOR

Studio Organ Donor library ($49) for HALion 3.1 or higher offers the "Cathedral" Church Organ, which brings out the huge cave-like reverb and pipe attack of a massive Notre Dame-style cathedral pipe organ. www.audiowarrior.com

■ JZ MICROPHONES BLACK HOLE BH-3

The Black Hole BH-3 ($1,995) has a fixed cardioid polar pattern and includes a pad with –5dB and –10dB options. Together with the BH-3, JZ also launched a new shock mount system for Black Hole mics; this package ($350) includes a pop filter with a curved cone shape that's claimed to reduce blasts and blows more than any other pop filter. www.jzmic.com

■ WAVES/TOONTRACK BUNDLE

Waves Renaissance Maxx Native (with 10 processing tools created to deliver the warmth of vintage gear) and Toontrack's EZdrummer (an all-in-one turnkey solution for producing pro-sounding drum tracks) are now offered together as a bundle ($630). www.waves.com, www.toontrack.com

■ SONNOX OXFORD SUPRESSER PLUG-IN

The SuprEsser plug-in (RTAS, AU, VST, but also works with Pro Tools HD and PowerCore systems) is a De-Esser and Dynamic EQ plug-in. It includes a simple mode for quick fixes, and an advanced mode for increased functionality and fine-tuning. www.sonnoxplugins.com

The numbers on the tape machine VU meters read: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

STUDER

Death Cab for Cutie: foreground—
Chris Walla (left) and Ben Gibbard
(right); background—Jason McGerr
(left) and Nick Harmer (right).

Analog Tape, Blood Sugar, and Random Bits of Genius

Death Cab For Cutie's Chris Walla Juggles Creative Anarchy and Old-School Techniques to Record *Narrow Stairs*.

"I don't like to look at my music," Death Cab for Cutie guitarist and indie-rock producer extraordinaire Chris Walla declares. "Was Glyn Johns sitting in the studio with The Rolling Stones and The Who thinking, 'God, I can't wait to look at waveforms?' What are producers doing these days? I'll walk into a studio, and I'll see that the computer screens are placed more strategically than the monitors. It drives me f**king crazy."

As one can easily deduce after listening to any of the incredibly moody Death Cab for Cutie releases readily available at your local hipster watering hole, Walla is a passionate fellow. And there are few things that rile him up more than the current state of recording technology. Though he'll admit to being too easily moved by the topic at hand—and he doesn't pretend to be anything but an old-school recording junkie—even the most ardent tech-fiend has to admit the man is clearly on to something. That is, unless heading up a platinum-selling rock band, crafting a critically-acclaimed solo effort [*Field Manual*], owning two studios, and recording The Decemberists, Nada Surf, Tegan and Sara, and Hot Hot Heat no longer qualifies as a sufficient musical résumé.

CONTINUED

By Ken Micallef
Photographs by Autumn De Wilde

Analog Tape, Blood Sugar, and Random Bits of Genius

"There is no Pro Tools, no Logic, no DAWs at all used on this album," Walla says when asked about Death Cab for Cutie's second major label effort, *Narrow Stairs* [Atlantic]. "I never use that stuff. All our records since *Transatlanticism* have been tracked straight to tape. There is no automation—it's me cutting the half-inch masters together. I have never done it any other way, and I never will. Clearly people *are* making great records in digital platforms, but I am not one of those people. I've screwed around with it a little bit, and I am just not good at it. I am really good at keeping things together with performers in real time. I am not so good at deferring decisions until they are too many."

Thankfully, Walla has a group of musicians like Ben Gibbard (guitar/vocals), Jason McGerr (drums), and Nick Harmer (bass) that can step up to the plate and lay down solid tracks. Together, the group has been referred to as everything from "the new R.E.M." to the poetic heirs to Leonard Cohen's throne. But while Death Cab for Cutie have furthered the college-rock agenda with its previous recordings, *Narrow Stairs* sees the group taking an abrupt left turn, and exploring the dark underbelly of rock. Embracing dissonant and abrasive soundscapes, *Narrow Stairs* is Death Cab for Cutie breaking all the rules the band had imposed on themselves over the course of their past seven studio albums. All the rules except for one, that is. With *Narrow Stairs*, Death Cab for Cutie was intent on creating a great rock album the way their ancestors did—one splice at a time. Here, Walla reveals his studio approach for *EQ* readers.

Both you and Ben Gibbard have forecasted *Narrow Stairs* to be a radical stylistic shift for Death Cab for Cutie. I've heard that punk and synth-based music was an influence on you when writing and recording this album. Is that true?

That made the public record? I love it! I was doing an interview with a German magazine, and they asked me what the new record sounded like. I said, "It's half-way between GG Allin and Fleetwood Mac." I'm a huge fan of ['90s synth-punk band] Brainiac, and Nick is a huge metal fan, so that description is not totally untrue, but it's not really the story. There wasn't really any specific set of reasons why

Narrow Stairs sounds the way that it does. It has more to do with our process than any specific sonic goal. We knew we really wanted to track a record together in a room. The linear four-guys-in-a-room-playing-a-song factor is really the biggest reason for the sound.

**Had the band not recorded that way before?**

We'd never tracked live before. We would record everything instrument by instrument. That is how I learned to record. I actually bought my first 8-track before I bought a guitar. If I wanted to record music with a friend, someone had to engineer, and someone had to play. That is how I recorded everything I ever did in high school, and that is how Ben and I recorded our first music together. When Ben got the idea to record something where he played everything himself, I was totally into it, but that meant that everything got laid down one instrument at a time. My solo record [*Field Manual*] was recorded the same way. It's all overdubs—all little building blocks of music—because I played everything, except most of the drums. With Death Cab, I wanted to get everyone in the same place at the same time and just record it all together for once.

I assume that, for you, tracking to tape is about making decisions in the moment?

From 2004 to this year, a lot of my work has been in analog. It's not a departure for me. On the Decemberists' *The Crane Wife* that I did with [producer] Tucker Martine a couple of years back, nothing ever left the tape machine. It was done at 15 ips with Dolby SR. That was such a great experience. It makes you zoom out on everything. You can't get immersed in whether or not one snare hit was totally perfect. I mean, you can obsess, and you can try to fix it, but if you goof it up, you've wrecked it. There's no non-destructive editing when you're cutting and splicing analog tape, so you end up re-evaluating what your version of perfect is. I think that's a healthy thing to do.

As the members have to concentrate on getting a good group performance, how much does recording live to tape make a band work harder?
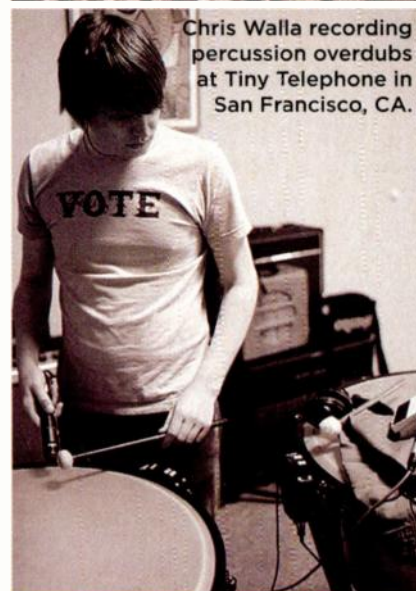
It does make the band work a little bit harder. But, more than that, it makes the band think differently. It's
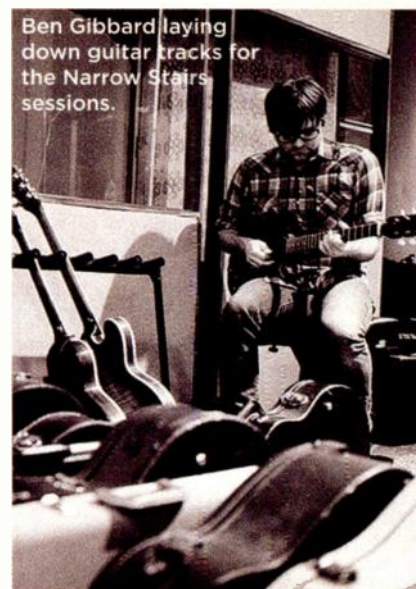
Ben Gibbard laying down guitar tracks for the Narrow Stairs sessions.
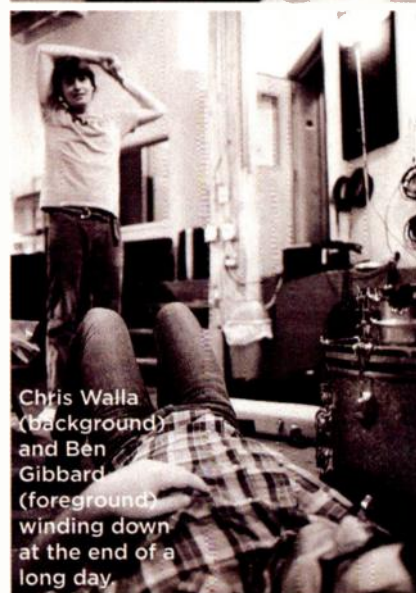
Chris Walla (background) and Ben Gibbard (foreground) winding down at the end of a long day.

Chris Walla recording percussion overdubs at Tiny Telephone in San Francisco, CA.

Analog Tape, Blood Sugar, and Random Bits of Genius

funny to have a conversation like this in the digital age, because if we were trying to make a perfect record the tape machine is not how we would go about doing it. The concept of "good" and "sellable" in regards to this album, is closer to the version of what somebody 30 years ago would have accepted in terms of sound quality. It's a funny context. People ask us if we "fixed" anything on this album. The answer is "yes," but we fixed things that humans can fix in a human way.

Still, you used RADAR on *Narrow Stairs* **to record safety and alternative mixes, as well as using it to assemble two songs. Tell me more about that.**

The whole idea was to keep everything on tape. But there was one song we recorded at Robert Lang Studios that kept doing really weird sh*t. It seems we're in the age of aging tape machines. "Pity and Fear" is like seven performances that were all assembled together. I was dealing with 14 takes of the tail end of that song. Typically, when I am doing two-inch cuts, I will mock them up in RADAR or on a half-inch deck. For that song, I had them mocked up in RADAR, and all the performances were cut up between two reels. When I started cutting them together, I got half way into it, and I realized that, somewhere between tracking Reel One and Reel Two, the tape machine had changed levels from +6 to zero. Everything on Reel Two was coming back 6dB hotter than everything on Reel One. This is in the tracking side, and there's nothing you can do about that with tape. It didn't seem worth sacrificing that set of takes, so I cut the whole thing together on tape, and then went into RADAR and matched it all up level-wise. It's a weird effect, because 6dB on a piece of tape is pretty substantial. You end up with places where the song is really saturated and dense, and then it totally empties out, and then it's really saturated and dense again. The levels are the same, but all the transient information is different.

So that was something I had to do in RADAR, as well as the first song, "Bixby Canyon Bridge." The first minute-and-a-half—before the big change—was actually done in RADAR. That was the only part that was not a tape recording. "Pity and Fear" was the hardest to track, just because of the whole assembly thing. Because I

had to mix it out of RADAR, it ran to 29 tracks.

You've said "people are obviously making great records in the digital format." But don't you *prefer* **the sound of tape?**

I prefer the sound of tape in particular circumstances. I don't prefer the sound of tape just because it is tape. I grew up in the age where having a Fostex 8-track and a Mackie board made you lucky. As people got careless towards the end of that time, tape started to be viewed as something we had to get away from. But I really loved the Tchad Blake records [Phish, Peter Gabriel, Los Lobos, Tom Waits, Crowded House], so I stuck with it. He was using tape—often with two machines locked together. That is where I got into running reels at 15 ips with Dolby SR.

But you ultimately mixed *Narrow Stairs* **in digital, right?**

No. It's half-inch Ampex ATR-102 all the way. There is one conversion at the very end—to CD. And the vinyl we are doing for this record is cut straight from the tape.

Did you do many edits or punch-ins?

There is very little punching-in on this record. For the most part, if there are edits, they are tape edits. On "I Will Possess Your Heart," the drums, bass, guitar, one of the keyboards, and half the vocal all went down live. Then, we went back and re-tracked piano, and did a couple of bass guitar punches and drum punches.

Can you be a producer in the classic Phil Ramone/Phil Spector sense with your own band?

I am more of a producer than a band member these days [*laughs*]. More often than not, it's about helping your bandmates build a sound from the ground up. Everybody has an idea of what kind of sound they want. They might say, "I am feeling that this part is cloudy and blue." Then, we move on from that concept. There's creative input. Take the guitar sound for the first song, "Bixby Canyon Bridge." Ben had dialed his sound in, but it wasn't quite right, so I brought out this old Maestro Rhythm 'N Sound—a trigger box from the late '60s/early '70s. We set it up so that every time he played a string, it triggered the sound of an electronic clave. And we used its fuzz settings for the "straight" guitar sound—which sounds really beautiful. I think it's what Spacemen 3 used on their recordings. Anyhow, that's a gear decision, but it's also a creative decision. I think that's being a producer as much as it is an engineer.

Is there a general rule of thumb you abide by for getting Nick's bass sounds?

The bass sound is typically a mix of a direct signal from the Summit Audio TD-100 direct box and a signal from an old Fender Tremolux head, or an Ashdown ABM EVO II. We'll sometimes record bass cabinets, as well, using either a Sennheiser MD 421 or a Beyerdynamic M 88, positioned
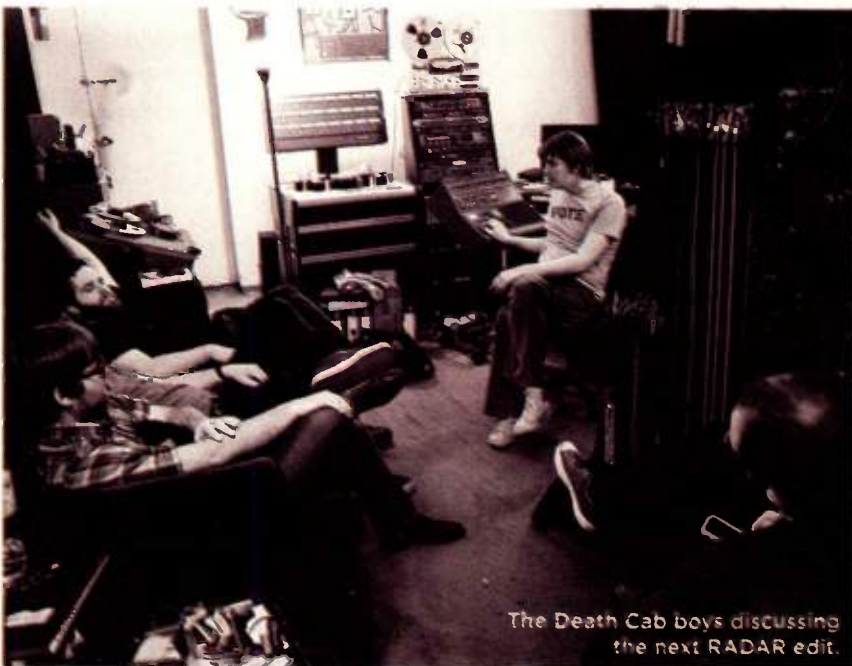
The Death Cab boys discussing the next RADAR edit.

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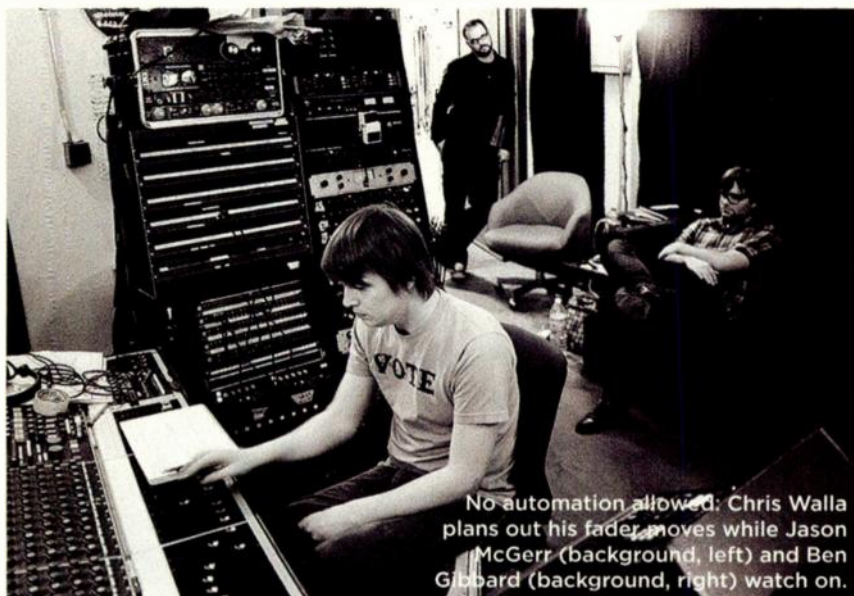
No automation allowed: Chris Walla plans out his fader moves while Jason McGerr (background, left) and Ben Gibbard (background, right) watch on.

right on the cone. All of the signals are then summed to tape.

What about mic placement for your guitar amps?

With guitars, I tend to like the mic right in the middle of the cone, pushed into the grill.

What does dead-center mic placement give you?

It gives you the impression the guitar is going to eat your brain [*laughs*]. I really enjoy that sound. And then I try versions of that placement, angled off axis—particularly with ribbons. I'll angle them at 30 or 45 degrees. For this album, the ribbon was an AEA R84.

Did you use your Dr. Z or Matchless guitar amps on *Narrow Stairs*?

I did use my Dr. Z 2x10 cabinet on the album, but with the Tremolux head. We lean on that Tremolux really hard. Also, our guitar tech builds amps—he calls them Acme amplifiers—and we use them quite a bit. They've got a push/pull on/off switch so you can turn it off without losing your volume setup. They are really cool. They've got a '66 Marshall circuit design—Dave Grohl used one on *The Colour and The Shape*. We couple that head with one of Ben's cabs that he picked up for $35 at a pawnshop. It looks like someone tried, and failed, to make a Fender cabinet [*laughs*].

And you used something called The Magnasync—what is that?

The Magnasync is one of the cornerstones of *Narrow Stairs*. That also belongs to our guitar tech. Ampex had the MX-10, Altec had a few tube mixers, and then there was the Mag-

nasync. It's like an old P.A. amp. It's all tube, with three tube mic preamps and one line-level master output. We used it for the drums. Each drum was individually miked and run through a '76 Neve 5316 console. However, we started taping a second set of mics to the kit, so they were phase-coherent, and we sent those signals to the Magnasync. Kick on channel one, snare on channel two, and then the toms Y-adapted together to get into the third input. We would run out of the Magnasync into the Chandler TG-1 limiter, where we would just crush those secondary mics to death. Then, of course, the signal would hit the tape. That is the drum sound on this album.

How did you mic the drums?

Oftentimes, I'll put seven Shure SM57s on the kit and that's it [*laughs*]. "I Will Possess Your Heart" is all 57s and Sennheiser MD 421s—except for an extra microphone taped inside of the hi-hat. It's this old plastic Panasonic tape recorder mic I've used at different points on a lot of records I've worked on. I just love the sound of it. It turns the hi-hat sound into this little burst of white noise. You have to gaffer's tape the mic to the cymbals to get the effect—you want to lose any kind of resonance.

You didn't really mic an entire kit with 57s and 421s, did you? Even your kick drum?

On "I Will Possess Your Heart"— yes! On other songs, I approached the kick the same way Dave Mattacks [drummer for George Harrison, Fairport

Convention, XTC, Jethro Tull] did. He stuffed a pillow inside his kick drum, and laid a Shure SM91 on top of it. The SM91 doesn't always work alone, though. On some kicks, it just doesn't sound right by itself. In those cases, my technique is to place a Neumann U47 FET or a Beyerdynamic M 88 outside the kick, in conjunction with the SM91. One in, one out.

What about toms?

If it's not a 57 or a 421, it's a Schoeps CMCs positioned either right on top, or, if I want a boomier sound, stuck inside the toms with no heads on the bottom of the shells.

You used the Sequential Circuits Prophet-5 and the 8-voice Oberheim OB-X on *Narrow Stairs*. Do you find recording vintage synths more challenging than newer instruments?

The challenges have more to do with the format than the instrument. If you are on tape, it's all about commitment. If you don't like it, you just do it over. That was very much the deal with recording analog synths. You have to settle on your sounds right off the bat, instead of just programming everything in MIDI, and then assigning sounds later on down the road. But doing takes that way is so much more emotionally stimulating. I really think it's better for your music if you build everything from the ground up.

***Narrow Stairs* has lots of nods towards the Kraut rock scene—it's very experimental. Do you anticipate that these elements will throw your core fans for a loop?**

I think so. But I also think that the album is all held together by Ben's voice and his writing style. It's not completely removed from anything we've ever done. We are such lovers of pop songs, and you can still hear that.

Sure, the hooks are there. But there also seems to be a William Burroughs "random thought" approach to the sounds and arrangements.

Random events are something I am usually going for, though. For example, Ben will throw together loops on the fly in his delay pedal, and I always have a half-inch deck up when tracking so I can grab anything at any point. I would grab his loops on tape, and then cut up the reel, throw it in a shoebox, shake it up, and then tape it all back together [*laughs*].

There are a lot of strange sounds on *Narrow Stairs*. On "Bixby Canyon Bridge," what sounds like human

humming morphs into a fuzz-guitar line. What is that?

The humming turning into the guitar is exactly what it sounds like. It's an AKG BX20 spring reverb gradually washing out Ben's singing. The BX20 is one of three different reverbs I default to. It's a four-foot tall cherry wood box—it's the largest spring reverb ever manufactured! The vocal follows the fuzz guitar line. Then, it's just a matter of crossfading the two tracks in the mix.

"I Will Possess Your Heart" is reminiscent of Pink Floyd in spots. There's an ambient bed of sound underneath the entire track. Is that a synth?

That is a loop that Ben did with a delay pedal and a couple of the organs at Jason's studio in Seattle. Then, there are actual organs later in the song, and a lot of delays on guitars, but it's essentially a single guitar performance.

"Pity and Fear" opens with tablas and an Ennio Morricone-esque guitar. Are those tablas sampled into a loop?

No. That's just some drum machine Ben got from India. I have no idea what

it is. It's strange. I guess they have these little drum machines over there with speakers built into them that are loaded with tabla patterns and onboard sitar drones. You can adjust the pitch of the tabla independently from the tempo—which is cool. It sounds really good.

"You Can Do Better" sounds like a *Pet Sounds* homage with tons of reverb.

There are no artificial reverbs on anything except the vocal—which is from the BX20—and the Hammond A-100 organ's onboard reverb. Everything else is from the room. We did a lot of that song at Robert Lang Studios in Seattle. He has this huge concrete basketball court—a 40' x 40' x 40' room that's perfect for enormous echo. We recorded the snare drum in there with a couple of room mics positioned ten feet away. That's it. We did the bass guitar and sleigh bells in that room, as well.

How many vocal stacks are we hearing there?

There's only one vocal for the entire song—except for when Ben sings,

"holding on to." That's a multitracked four-part harmony.

Is the lushness of the reverb on "You Can Do Better" something you think you could achieve with a plug-in, or do you absolutely need a real BX20 or a large room?

When I did my solo album with Warne Livesey [Midnight Oil, Julian Cope], he used a BX20 impulse in Audio Ease Altiverb. It sounded really good, but it didn't sound like my BX20. Some plates and springs are just [*sighs*]—well, there is nothing quite like them. It's one of the few effects the digital world still hasn't perfected. I'm sure there will be 90 developers filling my inbox with angry emails after reading this, but there is something about a hardware reverb that allows it to not get in the way of what's happening in the song. When reverbs—especially springs and plates—move into the digital world, they become larger and more present than their natural counterparts seem to be. It's a really weird thing, and I don't know why it's that way, but every time I use a digital

reverb, it's because I want it to fill up a lot of space in the mix. That's not necessarily why I'll use my BX20.

And to think CDs were initially marketed as "Perfect Sound Forever."

It's really funny because, 30 years ago, when everyone started using digital, it actually sounded pretty good. All the classical stuff that Philips Records and London Records were doing in the late '70s and early '80s sounds amazing. Steely Dan's *Aja* was a digital record—*Gaucho*, too. They sound great because the technology was research-driven, not market-driven. All that gear was designed because there was such a drive at that point to make records sound great. It was way more complicated than recording on tape, but it sounded awesome. Then, around 1984, everything went to sh*t. The first time I recorded onto the Sony 3324, I thought, "Now this is why the '80s sounds like it does." With all that cheap sh*t, you could record one track and be okay, and you could record a second track and be okay, but, by the time you got to the third

track, where stereo imaging becomes an issue, it all fell apart. Things have gotten a lot better, though. So much of what is made today sounds really good—even though I may not use it. RADAR sounds absolutely fantastic. It doesn't really compromise transients. But you have to use tape with it.

What about tape emulators?

There are all sorts of emulators, and some sound good, but the thing about tape is the control you have over the amount of compression is all level. If I said to you, "I invented this compressor that has zero attack and zero release time, and it sounds awesome, and you can never tell it's working," you would probably ask, "Where do I buy it?" I would say, "It's a tape machine!" That's what it does! When I do a record solely in RADAR, I use everything in my outboard rack to get it to sound like tape. When I do a record on tape, I use maybe one or two compressors in the mix. I recompress the vocals and the bass, and that's it. I don't need to do anything else, because the tape has already

done so much work for me.

Ultimately, when you record Death Cab for Cutie—or any other band— what is your main goal as a producer?

More and more, it's just to get good performances. I am not the sort of producer who is going to throw my dinner at the band if I want them to sound angrier. I am not going to bring a gun to the studio if I want the song to be panicky. That is not my style. But I do want to capitalize on the mood that is happening in the room at any point. I do that by being flexible, and being able to adapt to whatever the situation might be. That's not super easy to do when the tape is running, but I try to settle on a workable setup pretty quick in the event that I hit Record, and something amazing happens. It's about capitalizing on what the band is feeling—getting all those calories from breakfast when they kick in, and getting their blood sugar when it's at its optimum point [*laughs*]. Recording is all about being reactive to your band the entire time. **ea**

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HIGH-VOLUME RECORDING WITH SUNN0)))

by Shane Mehling

Most engineers wouldn't have the guts to do what Randall Dunn takes on. Working with drone gods Sunn0))) means recording guitars at 120db with no drums, no click tracks, and then spending hours sculpting the songs into a tapestry of speaker rattling sound. Sunn0)))'s new as-yet-untitled record promises to expand on their mountainous sound with orchestration, electronics, and the schizophrenic vocals of Mayhem singer Attila Csihar. But the heart of the band lies in the guitar/bass combo of Stephen O'Malley and Greg Anderson. We sat down with Dunn in his home studio to talk about how his techniques make his recordings some of the most singular out there.

Why record at such high volumes?

That's part of what Sunn0))) does, and I wanted to respect their process. Also, Litho Studios handles volume better than any room in Seattle. In some rooms, if you're playing at 120db, the mics seize up and everything sounds horrible. But this room gives instead of takes, and it's great to push that stuff, because one thing I think is often missing from extreme music is *air*. People are always going direct or using Amp Farm.

How do you set up your mics?

The challenge with recording high-threshold music is if the mics are out of phase—or if you have too many mics capturing the same frequencies—then this loud, imposing band gets tiny, and it loses all impact. I've been using these Little Lab phase adjusters that are awesome—you just move the knob until you hear the low end come back.

For mics, I love using Royer R 121s because they tend to capture all the high-volume overtones produced by the guitars. I can put them a foot away from the cabinet—positioned off-axis to avoid the direct sound pressure—and they don't seize up. A lot of

"The arc of mixing a Sunn0))) song is really long," says Randall Dunn (pictured in his studio). "Things slowly build and slowly go away."

Sunn0))) tones don't really develop until you get 20 feet out, so I also put two Neumann U67s far away, with the pad on, through LA2As. The sound is killer—tons of low end with a great stereo image and a lot of high end. Sometimes, you put up a close mic, and it sounds like a little mosquito.

How much layering is involved in a Sunn0))) record?

I'm really into guitar layering and panning the sounds hard right and left. Maybe it's from listening to too many Alan Parsons Project albums [*laughs*]. Getting a good guitar sound doesn't mean each sound has to be amazing. I often pick amps that produce different frequencies so that the final tone sounds like one huge, monolithic amp. For example, I miked a little Supro amp with a ribbon mic, and blended it with the bigger, louder amps.

Did you do any DI tracks in order to re-amp parts later on?

I've been resistant to it because you get phase problems, but this record really changed my mind. Some direct sounds worked, and some didn't, but the ones that did were great. For example, Stephen's guitar is so loud that when he moves you can sometimes hear his strap rustle against his shirt. So I was using a DI track for some re-amping, and I could still hear his strap creak. It was

like a ghost was playing [*laughs*].

Were you recording to tape for the whole thing?

We went 2" analog at 30 ips, and synced with Pro Tools. Some of it went straight to Pro Tools because we couldn't afford that much tape. The songs are long, and when you want to keep multiple takes, it's just too expensive. But that's the only reason. My problem with DAWs is that people aren't listening to music anymore, they're looking at a screen. And everybody wants to edit stuff, rather than play something over until it's right. Not to sound like an old man, but early pop music has a beard on it. It has screw-ups and weird pops. Brian Eno wrote an article about how more and more steps are being placed between the musician and the music. It used to be just a mic to tape, but now you have converters, plug-ins, editing, and so on. Now, people are copying and pasting choruses, and using grid mode—even in metal music. This is supposed to be music that scares your parents, but now it just sounds tame. This is one reason I love tape—it changes your outlook of how to perform music. Musicians *play*, and not to support that talent by allowing so much digital editing to happen is really hurting music. **EQ**

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Carlitos Puerto being recorded with a single Neumann U47.

TAMING THE WILD UPRIGHT BASS

by Paul Grundman

These days, the upright bass is not just used in jazz, classical, rockabilly, and country music. It's everywhere from roots rock to hipster lounge to salsa. It's also known by many names: double bass, contrabass, bass violin, bass fiddle, string bass, and, thanks to some Wikipedia research, bull fiddle. Whatever it's called, however, you'll likely be recording this beast someday, and here are some tips for capturing the instrument's ballsy tones.

FIRST STEPS

The upright bass is a *big* acoustic instrument, but you don't need to be a physicist to get the best sound out of it. Before you start placing mics, listen to the player, evaluate the song being played, and assess the overall sonic arrangement. Remember,

you're not just splashing bass frequencies on a track, you're documenting a player's technique, phrasing, and performance dynamics in the service of a musical work.

THE SINGLE MIC APPROACH

A good starting point—from engineer Scott Sedillo who used the technique to record Carlitos Puerto for a Zane Musa session at Straight Ahead Records—is one mic near the player's plucking hand. Sedillo used a Neumann U47, but experiment with any large-diaphragm condenser. He placed the U47 back

about 12" to 14" from the strings to get a good pluck sound, as well as some roundness and depth. For this session, Puerto was isolated a bit from the rest of the band, and some mover's blankets were affixed to the wall behind him for a bit of sound absorption. Obviously, you have to take care to ensure other instruments don't bleed into your bass sound too much, but, as always, experimenting with what works best for you, the song, and the performance is the best way to determine isolation and sound absorption/diffusion needs.

TWO MICS

In this example, we have the great John Heard—truly one of the greats of jazz bass. Heard was tracking *The Jazz Composers Songbook* at Straight Ahead Records, and Sedillo wanted to put up a second mic to capture the many nuances of Heard's playing. In addition to the U47, Sedillo wrapped a Schoeps mic in foam (which not only held the mic in place, but functioned as a "shock-mount"), and placed it inside the bridge. This dual-mic setup delivered such a great sound that no outboard compression was used down the line. Everything just fit together, and it sounded as if the listener was sitting right next to Heard at a club date. The session was live, so Heard was isolated a bit with gobos, but the setup still allowed him to maintain sight lines with the band to ensure good interplay between the musicians.

BOWING

In another instance, I encountered a *bowed* upright bass. The player already had a transducer mic in the instrument. While these setups don't "hear" the way a microphone does, the sound worked for me because it was for an alternative rock recording. I ran the signal through some compression for added character and gain. I also set up a Røde K2 large-diaphragm condenser in a wide cardioid pattern, and, believe it or not, added some reverb, as well. The result was perfect for the recording. As I say often, any mic works that works for the song. You can't go wrong if you start by standing around the instrument, and listening to the player play. **EQ**

For a John Heard session, engineer Scott Sedillo jammed a Schoeps mic into the bridge.

ONE-HANDED SYNTH TRICKS

by Michael Molenda

Super Adventure Club is one of many hipster outfits across the planet informing its style with '60s film soundtracks and Esquivel-inspired lounge melodies, and spicing up the musical mélange with dashes of whimsical humor. SAC is very good at what it does, but that's not really the story. The shocker is that drummer Jake Wood and bassist Michael Winger sought to expand their sound with keyboards, albeit without actually adding a keyboardist to the group. This necessitated performing their main instruments and their keyboard parts simultaneously, which is a pretty thrilling visual statement live, but the duo also decided to bravely (or insanely) *record* its tracks the same way. (Check out "Former Ladies of the Cold War," "Mexican Gun Fight," and "I Could Tell You But" at myspace.com/ superadventureclubmusic.) No loops. No sequences. No overdubs.

Okay, why not just play basic tracks—drums and bass—and then overdub the keyboards?

Wood: We wanted a live sound, and we had little interest in spending hours doing unnecessary overdubs. Of course, refusing to track one instrument at a time meant that it took a bit longer to get a solid take. Playing keys and drums simultaneously is challenging, but keyboards happen to be instruments that can be easily played one-handed.

What is the overall production concept for SAC?

Wood: To fill as much sonic space as possible with only two people. The keys handle many jobs, because there aren't any guitars. We use them for pads, lead melodies, comping, and synth bass. We also do a lot of pre-production listening to save time during the recording process. We recorded our rehearsals with a room mic, and I would go home

and religiously comb through the recordings to pick out the stuff that worked, and the stuff that didn't.

Winger: I definitely gravitate towards a punk vibe. This is a chance to go balls out and get experimental. We just aimed for great performances, and a trashy punk sound with eerie textures.

How do you assign keyboard parts to each other?

Winger: Jake's a better multitasking keyboard player than me, so his lines are usually a bit more complicated, and he handles the melody parts. My keyboard parts are either pads or quick little accents. Another aspect is that neither of us are trained keyboard players. But most of my favorite bands from the '80s art-punk era didn't know how to play their instruments that well, either. By multitasking with keyboards, bass, and drums, we force ourselves out of our comfort zones, and that has a huge effect on how we write and record. Basically, we're making everything up as we go.

What's your typical recording setup?

Winger: It's all Pro Tools|HD, and I mix in the box using Lynx Aurora converters. We both use Mac Powerbook G4s running Ableton Live 6 and Reason 4. I use an M-Audio Axiom 49 USB MIDI controller, and Jake uses an Axiom 25. Ableton functions as a host for the soft synths.

Wood: We recorded the audio and MIDI from the keys using Digidesign's Mbox 2 Pro and Digi 002 as audio interfaces. We've found that when running a lot of Ableton 6 instruments on our Powerbooks, the sound gets a bit glitchy as they take up a lot of CPU power. As awesome and smart as

Ableton is, Reason seems to be much less taxing on the computer. However, much of our sound has been crafted by tweaking various Ableton operator patches, so we're kind of stuck with it for now. The tracking was split between two locations that couldn't have been more polar opposites: my tiny rehearsal space and the enormous live room at Broken Radio in San Francisco.

How did you process the keyboard parts?

Winger: Recording soft synths direct tends to sound pretty generic and lame, so we like to reamp everything. To me, it's important to get the sound of actual air by using speakers and microphones. I think the synths sit in the mix better that way, and they tend to feel more like you're listening to a real band. And, nine times out of ten, using real amps is going to give you more unique results than piling on more plug-ins on top of plug-ins. The amps we used were mostly a Vox AC15 and a very loud and beefy handwired Victoria. We'd crank the amps to the gills, hit Record, run out of the room, and go have coffee.

I guess that committing to playing and recording everything live tends to keep your arrangements pretty tight?

Wood: Well, at this point in my career, I think I have stepped on enough songwriters' toes that I've become fairly adept at writing parts that fit. Of course, this is also partly due to the fact that one hand on each instrument greatly inhibits the ability to overplay! **EQ**

Michael Winger and Jake Wood.

World Radio History

TRACKING DESTROYER'S GROOVE LUNACY

by Janice Brown

The control room at JC/DC Studios.

Fisher's drums set up in the live room.

Vancouver-based singer/songwriter Daniel Bejar is a member of two indie-rock supergroups—The New Pornographers and Swan Lake—as well as the newly formed duo, Hello, Blue Roses. But Bejar's most personal musical pursuit is the band he fronts himself, Destroyer. Since forming Destroyer in 1995, Bejar has released eight albums with a somewhat rotating cast of characters, although the production team has remained John Collins and David Carswell—also known as JC/DC.

Wanting a raw live sound for the latest Destroyer album, *Trouble In Dreams*, Bejar went to JC/DC Studios in Vancouver, and tracked basics in just two days, with Fisher Rose on drums. At times raucous and unpredictable, Fisher's drumming suits the whimsy of Destroyer tunes, keeping time on the one hand, but also breaking out in fits of manic drum rolls and cymbal excess on the other. Here, Carswell and Collins detail some of the techniques they used to capture Fisher's rhythmic madness.

How was *Trouble In Dreams* recorded?

Carswell: This was a jamming situation, so we set everyone up in the main recording room with all the amps baffled off in a separate room. It wasn't a long, luxurious session of getting sounds. I started recording, and I hoped for the best.

The drums, bass, and some guitar were sent through Wardbeck preamplifiers to a TASCAM MS-16, one-inch analog 16-track recorder.

What kind of drum kit was Fisher Rose playing?

Collins: It's a 1970s Camco—a John Bonham-sized kit with a 28" kick drum, a 22" floor tom, and a deep Slingerland snare drum.

How did you mic it?

Carswell: We have custom mics made by Dave Thomas from Advanced Audio—Apex models retrofitted with Peluso CEK 89 capsules—and we used them as overheads. Then, there was an AKG D112 on the kick, an AKG D12E on the floor tom, a Shure SM7 on the rack tom, and SM57s on the snare top and bottom. The 28" bass drum was a bit of an issue. We put an AKG D112 just inside the hole in the front head, and that mic always sounded good, but trying to get a good room sound for the kick was problematic. It just seemed to go from a ping-pong sound to a basketball sound to a belly flop. Our approach was to ignore the room sound for a couple of weeks, and then deem it "cool" when we started to mix.

There's a lot of cymbal action on this record. How did you deal with such a heavy hand on the cymbals?

Carswell: Usually, I would use the overheads to get the cymbals, and then set up room mics to capture the entire kit. In Fisher's case, however, I kept moving the overheads above and behind him to get them away from the cymbals as much as possible. I wasn't able to use much in the way of room mics unless he was just riding the toms.

What effect did signal processing have on the drum sound?

Carswell: A lot of the drum sound came from the onboard compressors in our Wardbeck console. While we were mixing, we were ramming the snot out of the drums. We also used this Furman compressor that distorts very well, and we tracked the snare through an Empirical Labs Distressor, and sometimes ran the room mics into an Empirical Labs Fatso Jr.

What effects are going on in "My Favorite Year"?

Collins: This is my favorite drum sound on the record. Dave took just one room mic, jammed it through the Fatso Jr., and then sent it through his Electro-Harmonix Electric Mistress flanger.

Were any other notable techniques used?

Carswell: We did a distorted snare submix, which helped us out in the mix, because Fisher would wail on those cymbals, and sometimes, we'd have to gate the hell out of the snare drum to make it sound good. The snare submix added some needed splat in those instances, and we just kept running the signal through the Wardbeck's compressor until there were some chuckles in the room.

What was the mixing process like?

Collins: The idea was to go wild in the recording, get and then sort of weed through it all during the mix. We had done close miking and we had set up room mics so we'd have loads of different sounds to use. We mixed using MOTU Digital Performer and a TASCAM DM-24 digital mixer, with the Wardbeck brought in for submixes.

Carswell: We spent a lot of time mixing, and then we took a break, thinking we would come back and remix some stuff. But we ended up not really touching anything. This was the first time that has ever happened. We just agreed it was done. **EQ**

"I have been collecting two things for 40 years – Acoustic Guitars and Condenser Mics. It shouldn't surprise anyone ADK mics sound fantastic on acoustic instruments!"

– *Larry Villella*
ADK President and Co-Founder

TURNING DREARY VOCALS INTO POP STAR PERFORMANCES, PART I
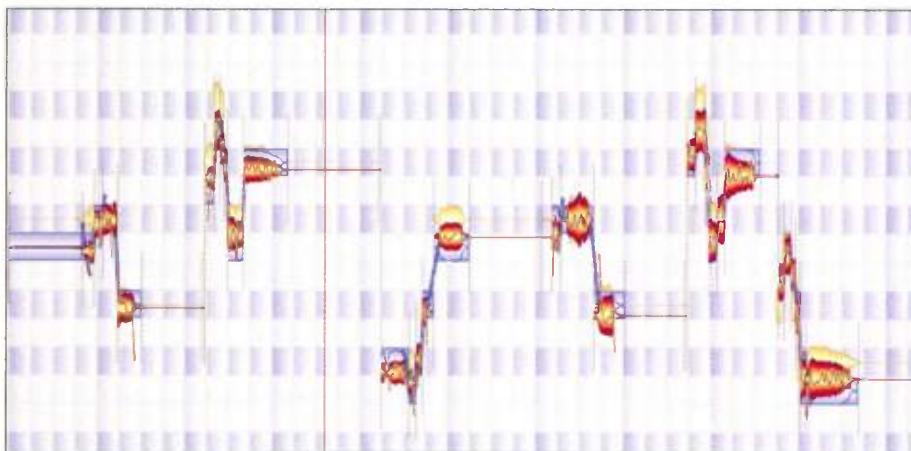
Fig. 1. Evans' pitch-correction map in Melodyne. The demo track is the yellow blobs, the lead vocal is the red blobs, and the correct pitch is shown in the blue silhouettes.

by Devine Evans

In a perfect world, every vocal session would have a singer as amazing as Beyoncé, as diverse as Fergie, and as passionate as Mary J. Blige. On the other hand, how could audio engineers truly master their craft if they were only working with singers on those levels? After all, it doesn't take a genius to make a great singer sound good. So I would like to pay tribute—and say "thank you"—to all of the non-Beyoncés who have helped me develop my vocal-recording techniques. Now, I'd like to share some of these hard-learned applications with *EQ* readers. This month, we'll deal solely with lead vocals. Next month, we'll tackle recording background vocals, harmonies, and a few tricks.

PREPARATION
Well, okay, we're going a little backwards here, because I typically do my lead vocal sessions *after* all the background vocals are recorded, edited, and processed. I feel this gives my

future pop star a more exciting and energetic feeling about their song, because the arrangement is really coming alive. But, as I said, we'll delve into those sessions next issue.

Before I allow my vocalist to begin recording lead vocals, I have my demo singer set the pace by giving me one perfect lead-vocal track with all the feeling, timing, and spot-on pitch I want. Not only will I use this as a guide for our performer to follow, but I will also use it in the editing process as a template for my lead vocal.

COMPING IN LOGIC
As the caliber of singer we are discussing is not likely to give me a breathtaking first take on our lead vocal track, comping is the only option. There are many ways to accomplish the task of creating a perfect composite vocal from four or five less-than-perfect takes, but thanks to the revolutionary design of Apple Logic 8, I now use it to record all of my lead vocals. Logic makes the process of creating a composite vocal painless. With my future pop star in

the booth, my audio track armed, mic preamp set, and monitoring volume low, all I have to do is record take after take. With Logic, there is never a situation where I say, "Man, I wish I would have kept the vocal we did two takes ago," because the software converts all of my audio regions into a take folder.

After I get five or six takes I feel are the best the performer can give us, it's time to start comping. In the Arrange window, all I have to do is select the lead vocal that we just recorded, and choose the Region menu >Folder>Pack Take Folder. As soon as this process is complete, a small arrow pointing to the right shows up. By clicking this arrow, you open the Take Folder, and you're ready to begin. All of the audio takes are listed directly below the most current take, so you simply swipe across any of the previous audio takes with the pointer tool to start the process. You will notice the top track in the Take Folder begins to display an adjusted waveform with all of the selections separated by white
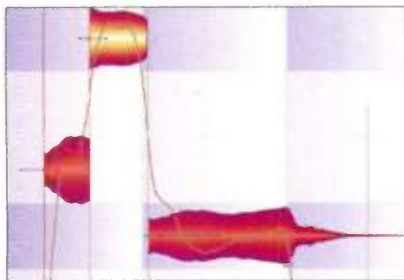
Fig. 2. Melodyne's Edit Time Handle tool.

vertical lines. What makes this amazing is any selection you make on any of the audio regions within the Take Folder will deselect the same section automatically in all other takes. Once we get the perfect comp, I simply export my newly created lead vocal—along with my demo singer's vocal—and import the audio into Melodyne for further processing.

PITCH CORRECTION

During this phase of the process, I spend hours perfecting every note. As I am going to use the guide vocal as the template for my pop star's vocal to follow, I do a quick tune up of the demo vocal's pitch, and then move on to the real challenge at hand—editing the lead vocals. In the upper right-hand corner of Melodyne's Editor window, I can easily shuffle through the two takes pretty quickly. As soon as I select the lead vocal track, the correct timing and pitch of the demo track is shown as yellow blobs, while my lead vocal is displayed with red blobs. When using the pitch tool in Melodyne, a blue silhouette appears symbolizing the correct pitch (see Figure 1). To make this process easy, make sure you have a scale snap set. (Snap options can be found in the lower

left-hand corner of the Editor window.) With all of my settings ready to go, all I have to do is connect the dots. I want all of my red blobs to not only lock into place with the blue silhouette, but I also want every movement in pitch to match the yellow blobs of the demo vocal.

FEELING AND TIMING

With our guide and lead vocals tuned to perfection, I can now begin working on the *feeling* of the lead vocals. For this process, the guide vocal helps tremendously. Not only will it give me an accurate pitch reference, but it will also help me insert portamento onto the lead vocal where there was none before. By placing the pointer tool at the beginning or ending of a note, the pointer tool will give you the option to edit the portamento either one note at a time, or, if you prefer, you

can do the entire track. Adding portamento gives a singer a natural pitch transition and feel at the beginning of every phrase. In the areas of the vocal where vibrato is lacking, I can increase the amount present by using the Pitch Modulation tool, and if the vibrato is completely wild, I can easily gain control of it using a combination of the Pitch Drift tool (which keeps the pitch from drifting all over the place) and the Pitch Modulation tool (which will help increase or decrease the actual amount of vibrato).

By now the vocal is sounding really good, and the only thing left for me to do is make adjustments to the actual timing of the singer's performance. Once again, because our demo singer had such a great performance, the easiest way to breathe life into a dead vocal is to edit its timing to match the rhythm and phrasing of the guide vocal. Melodyne makes this easy with its time-editing tools. This process can be looked at as quantizing without a grid, because instead of using bars and beats as a sync point, I use the demo vocal as the guide. One note at a time, I use the Move Notes and the Edit Time Handle tools to inject a little more feeling into the lead vocal. To move notes, all I have to do is hold the option key, click on a note, and adjust it to match the yellow blobs in the background. When the length of a note is too long or too short, adjustments can be easily made using the Edit Time Handle tool (see Figure 2). Once this tool is selected, a blue horizontal handle appears on every note of the vocal. To adjust, you simply grab one end of the handle and drag it up or down to lengthen or shorten the end of a phrase. I find that if you take your time, and truly explore the depth of this program, you can make natural-sounding miracles happen.

THE CHASER

Once I get the lead vocal to my satisfaction, the last thing I like to do before exporting it back into Pro Tools is create what I call a "chaser"—a software instrument triggered by the MIDI information that provides support to a thin or emotionless performance. The chaser could be created in Melodyne, but I prefer to create my chaser in Pro Tools or Logic. After importing the vocal into Pro Tools, I route the track's MIDI information to a virtual instrument of choice. Now, I can choose a patch, and—just like that—have a software synth playing along with my lead vocal. This is a very effective way of adding additional energy and emotion to a vocal. Of course, it's important to pick a synth sound that has a similar tonality to the pop star's voice so it can go almost undetected in the mix. ᴇϙ

World Radio History

MAKING STRING SAMPLES MORE MUSICAL

by Greg Reynolds

Feeling a bit strung out on all those phony strings from your sample library? Sorry—can't help you there. We suggest you make a friend with a violinist or three. But if you are having difficulties fitting strings into your mix, we suggest you keep reading.

Meet producer/mixer Rob Chiarelli (Christina Aguilera, Janet Jackson, Pink) and violinist/arranger Christine Wu (*American Idol*, Justin Timberlake, Celine Dion). Their names consistently appear on albums and film scores for a reason—they understand that music is supposed to be, well, *musical*.

"A string instrument is a piece of wood—sometimes, hundreds of years old—that resonates," says Wu. "It's a very natural and beautiful sound, and you must preserve that sound as much as possible."

Once you have all your string tracks recorded, then what?

Wu: One of the most important things about mixing the strings is that they should be there where they need to be, but they should not take attention away from anything else.

Chiarelli: I listen to each track individually so I know what I have to work with. Once I get a picture of what the parts are, and how they work within the song, I draw some conclusions. The first consideration is the sound, or the balance of the orchestra or string section. If the dynamic range is too wide for a pop record, then I'm going to have to compress it somewhat. With strings I try to use gentle compression. I don't want to be too heavy-handed.

Specifically, what do you mean by "gentle" compression?

Chiarelli: With strings, I tend to like a real low ratio—1.5:1, 2:1, or maybe 3:1. I don't think a ratio of 10:1 sounds musical. If I need more gain reduction, rather than asking one compressor to do a ton of work with

a high compression setting, I might ask two compressors to do a little bit of work—each with lighter settings. That way, they're just gently riding the gain. If your attack and your release are set properly, the compression should sound pretty transparent.

So how do you determine your attack and release settings?

Chiarelli: The string envelope is pretty slow, so you don't want to have too quick of an attack. Depending upon whether it's an individual instrument or an orchestra, your attack is going to be in the range of 10ms to 30ms, and the release will probably be somewhere between 80ms and 160ms. However, you may have a staccato section that requires a faster release, and if a section has a ton of long notes, you may even need a release time as long as a second.

Which compressor plug-in do you like to use?

Chiarelli: I think the Waves C4 is

probably the most musical compressor.

Do you find yourself using EQ?

Chiarelli: If something is recorded correctly, you don't usually need a whole heck of a lot of EQ.

Wu: From time to time, Rob will ask me to use a different microphone to get a sound that will pop in the track more. We try to anticipate mixing problems when we record, so we don't have to use EQ later on.

Chiarelli: However, we have found that strings recorded in a small room tend to produce undesirable frequencies if the track is heavily layered. So, on a pop record, I might use a high-pass filter to roll off an 18dB slope starting somewhere between 60Hz and 80Hz. That's the area where you're not really affecting the fundamental sound of strings, you're just cleaning up some bottom end that might conflict with, say, an electric bass.

What are your go-to reverb plug-ins, and how do you apply them?

Chiarelli: I like Digidesign Revibe

Rob Chiarelli.

Christine Wu.

and Waves Renaissance. I usually begin with their out-of-the-box standard hall. I don't make a ton of changes to the preset, but I make sure the balance between the samples, the real strings, and the reverb feels rich and real. I start by listening to the strings without any reverb to get a sense of where that balance might be. Then, when I start blending in the reverb, there's a point where it begins to feel about right. It's an instinctive thing, but it also comes from experience. Depending upon the size of the string section, I usually start with a pre-delay between 24ms and 40ms. A good rule of thumb for early reflections is 24ms—which essentially translates to 24 feet from a wall. The reverb time—depending upon the section—is between two and three seconds.

What do you do if, no matter how much you process a sample, it just doesn't sound like it fits in the mix?

Wu: If a sample isn't working, or if it

needs something more, I'll add a couple of passes of real violin and/or cello to give the whole section a texture that makes it sound more realistic.

Chiarelli: Her articulation and phrasing combined with the synth or sampled strings is night and day. The combination gives you a huge sound.

What's the biggest mistake one can make when mixing in a string section?

Chiarelli: I don't like it when I hear something that sounds as if it was recorded in 20 different locations—a vocal with a super-bright reverb, an orchestra with a super-dark reverb, a guitar with a super-boingy reverb on one side and some bizarre reverb on the other side. Don't just start turning knobs—*that's* why records don't sound like records. If you want the vocal in front of the mix, the way to make it more present is to have a little bit less reverb on it, and to have a different early reflection time. Nat-

urally, the orchestra would be behind the singer, so the delay time should be slightly different, and not as loud. The listener is standing in front of the audience, and the diva is out front singing. Therefore, the shortest delay is between the vocalist and the listener, and the largest delay is between the percussion—or whoever is in the back of the orchestra—and the listener. At the end of the day, this thing has to sound cohesive and musical.

Wu: That's why you keep your settings simple. If you get too fancy, you're going to screw up the rest of the mix.

Chiarelli: That's right—it's a game of inches, and you have to make sure the song wins in the end. The string arrangement exists to enhance the melody, so put the most musical surroundings you can around that melody, and make it pleasing to the listener. **EQ**

RECORDING ELECTRIC GUITAR

by Craig Anderton

Cheat Sheet delivers concise, explicit information on specific recording/audio-related subjects. This installment describes the basics of recording electric guitar.

THE INSTRUMENT

The type of guitar, choice of pickups, string material, and tone control settings make a huge difference in the overall recorded sound. Get as close as you can to the sound you want by working with these options first, then start experimenting with the mic and amp. Check intonation prior to the session (and whenever you change a string), and check tuning *constantly*: It's virtually impossible to fix an improperly tuned or intoned guitar in the mix.

MINIMIZING EMI

Power supplies, transformers, dimmers, and other sources of EMI (electro-magnetic interference) can get into your guitar's pickups. Turn all dimmers full on or full off. Turn off any gear that isn't being used. Experiment with the guitar's orientation with respect to other gear, and choose the position that gives minimum interference.

MICROPHONE TYPE

Dynamic mics (like the Shure SM57) are the "old standby" as they can handle high power levels and have a naturally "warm" tone that complements amps. Large-diaphragm condenser mics are also popular, typically with any pad switch engaged due to a greater difficulty handling extremely high SPLs compared to dynamics. They also tend to give brighter highs and lower lows. Newer ribbon mics are gaining popularity for miking amps, because they're not as fragile as older ribbon types. They tend to pick up more room ambience, but remember that excessive levels can damage ribbon mic elements.

MIC POSITION

The relationship of the mic to the amp speaker has a major effect on the sound. Pointing the mic directly at the speaker gives more highs than angling the mic, as a mic's off-axis response tends to pick up fewer high frequencies. However, where you point the mic also matters; for example, pointing toward the outside of the speaker may give a "tighter" sound than pointing at the center. Also, if a cabinet has multiple speakers, try each one—not all speakers, even ones from the same production run, are identical. The distance from the amp also makes a difference. Placing the mic further away from the speaker picks up more room sound and ambience. For best results, listen in the control room while someone else adjusts the mic; or, adjust the mic yourself, while saying what you're doing ("Mic pointing at cone, 2" away"). Listen back to which sounds best, then re-create the setting you described.

MIC LOW PASS FILTERS

Engaging a mic's low pass filter, if present, can "tighten up" the sound as it usually affects frequencies below the range of the guitar. This reduces hum and room rumble but doesn't alter the guitar tone.

RECORDING DIRECT

To preserve your guitar's high frequency response and output level, record into an input with a high impedance (at least 100, and preferably 220, kilohms). Many audio interfaces have an "instrument input" for this purpose. Standard passive direct boxes may not be suitable. If you're using stomp boxes or other effects prior to your audio interface, its impedance is not an issue: Impedance matters only for the first device "seen" by the guitar.

COMBINING DIRECT AND MIKED SOUNDS

The sound coming from the mic will be delayed compared to the direct sound (approximately 1 millisecond of delay for each foot of distance between the mic and speaker). Combining the direct and miked sounds may sound "thin" due to the comb filtering caused by this time difference. In a DAW, temporarily pan both mics to center and nudge the miked sound forward (earlier) in time to compensate; compare the mix of the two sound sources until you achieve the best tone.

MULTIPLE CABINETS

It's common to set up two (or more) cabinets and mic both. Variations in the cabinets and miking create a convincing stereo spread when one cabinet is panned more toward the left and the other panned more toward the right.

MULTIPLE MICS

There are two main applications for multiple mics. One is to have a mic (or mics) close to the amp, and one or more mics in the room to pick up ambience and reflections. The other is to place two mics on a single amp and vary the blend between them to create a particular sound. In the latter situation, it's common to use very different mics (for example, a dynamic and a condenser). During mixdown these can be set to different levels, have one thrown out of phase compared to the other to give "pseudo-EQ" effects, and possibly even have different processing, to create a sound that's very different compared to using a single mic.

BIG AMPS VS. LITTLE AMPS

Using a big amp and cranking it to get your "sound" will also put lots of reflections into the room where you're recording, and when these are picked up, may give an overly-diffused effect. You may obtain better results by cranking a small amp, which may sound the same to the mic but not be as loud. This may also be a necessary solution if you're recording in a location where noise can bother others.

GETTING SUSTAIN WITH RE-AMPING

Re-amping involves recording a dry guitar sound to a DAW, then running it through an amp or amp simulator plug-in on mixdown to allow choosing the perfect tone for the track. However, it also makes sense to play through an amplifier and record both the amp and dry guitar sounds. The amplifier can give more sustain, or even controlled feedback; and if you like the sound, you can always use it and not have to bother with re-amping. An added bonus is that the amp sound will often make a good complement to the re-amped sound, and facilitate creating a stereo image. **EQ**

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SAMSON

POWER APP ALLEY

BY CRAIG ANDERTON

PROPELLERHEAD REASON 4
Yes, Reason can do guitar amp/cabinet simulation

OBJECTIVE Use Reason's signal processing modules to construct a guitar amp simulator.
BACKGROUND As Reason doesn't accept external plug-ins, you can't use conventional guitar amp simulation software within Reason. However, Reason is sufficiently flexible that you can construct a guitar amp/cabinet simulator using only two processing modules.
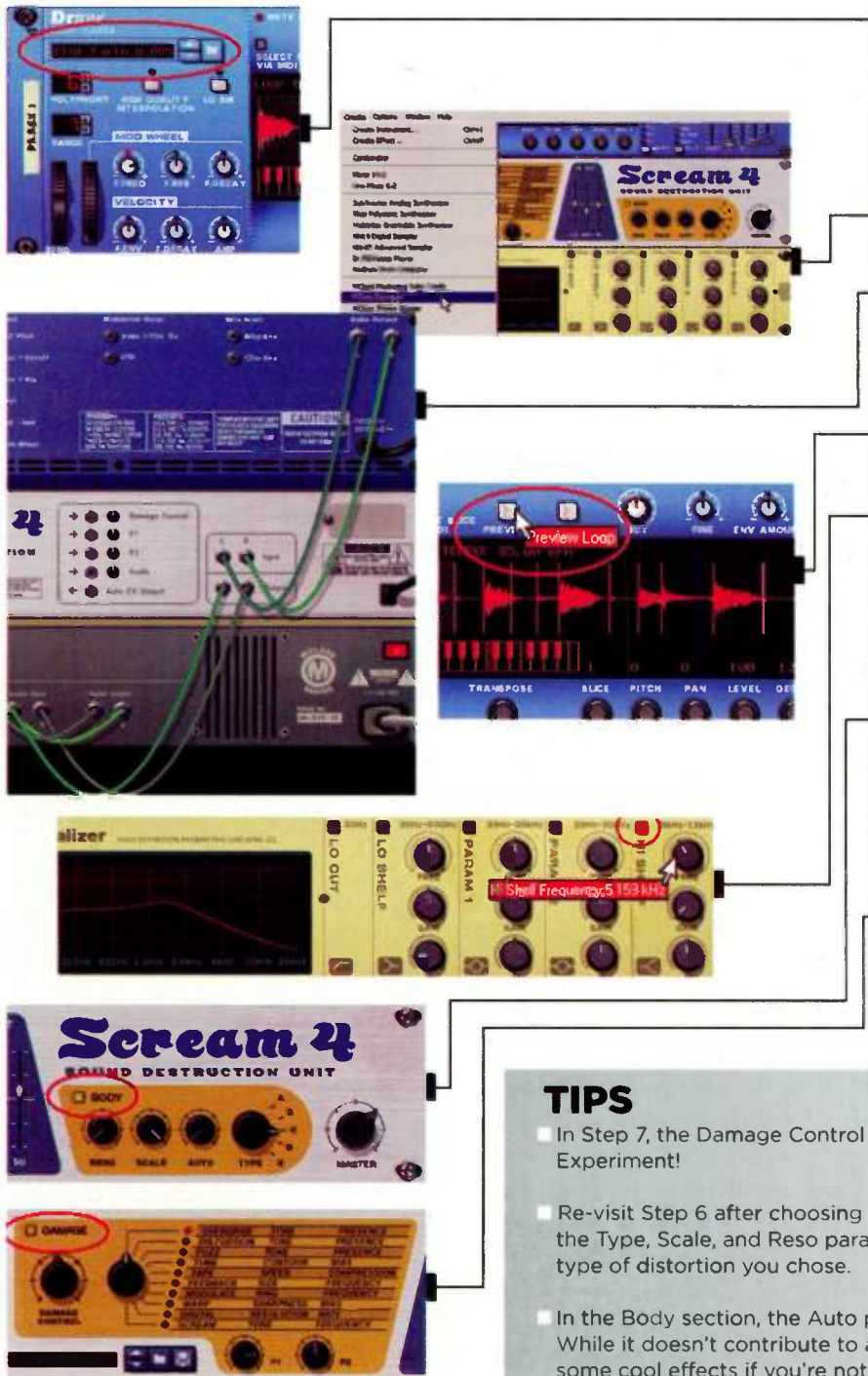
STEPS

1. Go *Create > Dr. REX Loop Player,* then click on the Dr. REX folder button to load a loop with a dry guitar sound. A good choice while experimenting is the ElGt_Faith_G_085.rx2 guitar loop from the Telecaster Rhythm 085 BPM folder in the Reason Factory Sound Bank.

2. Go *Create > Scream 4 Distortion,* then go *Create > MClass Equalizer.*

3. Hit Tab, then verify the patching on the back: The Dr. REX outs go to Scream 4, and its outs go to the MClass Equalizer. The MClass Equalizer outs go to your mixer or output.

4. Click on the Dr. REX "Preview" button so you can hear the loop play.

5. Guitar cabinets don't have much highs over 5kHz. Enable the MClass EQ high shelf, set Frequency to around 5kHz, and to add a little resonance, set Q around 1. Set Gain to minimum. This rolls off the highs and produces a little "bump" around 2kHz.

6. In Scream 4, enable "Body." Types A, B, and C are different guitar cabinet types; Scale chooses the size, with clockwise settings giving smaller cabs. For now, set Type = C, Reso and Auto = 0, and Scale between 100 and 127.

7. In Scream 4, enable "Damage" and choose the type of distortion characteristics you want. The settings shown in the screenshot give a strong overdrive sound, but also try the Distortion, Fuzz, and Tube algorithms—varying P1 and P2 to optimize—for more distorted effects.

TIPS

■ In Step 7, the Damage Control parameter has a huge effect on the sound. Experiment!

■ Re-visit Step 6 after choosing your distortion algorithm in Step 7. Changing the Type, Scale, and Reso parameters let you "customize" your cabinet for the type of distortion you chose.

■ In the Body section, the Auto parameter adds an envelope follower effect. While it doesn't contribute to a more realistic guitar amp sound, it can provide some cool effects if you're not concerned about "authenticity."

POWER APP ALLEY

BY CRAIG ANDERTON

SONY ACID PRO 6
Sync music files with an Acid project's tempo, or vice-versa

OBJECTIVE. Beatmap long, unlooped files so that they can match up with loops.
BACKGROUND. Acid typically uses relatively short loops to create projects. However, it's possible to import long files—even ones with slight tempo variations—and add markers so that the file plays back in sync with the rest of the project, or the project tempo syncs to the file.
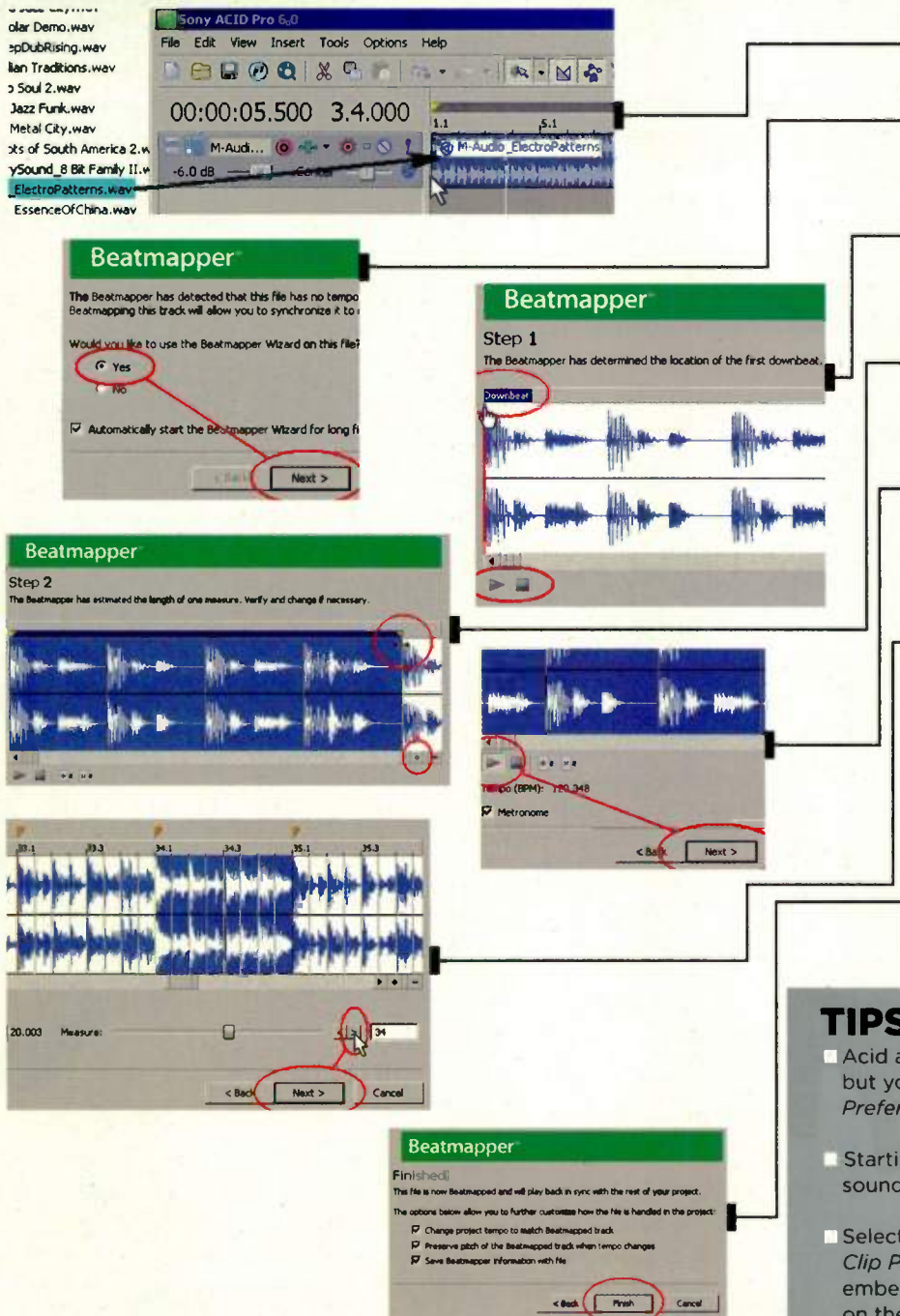
STEPS

1. Drag the file you want to beatmap into an Acid track.

2. When the Beatmapper wizard appears, click Yes, then Next.

3. Move the downbeat marker to the file's first beat, then click Next. Note: The Play and Stop buttons let you audition the file shown in the Beatmapper.

4. Acid estimates the length of one measure. Adjust the end marker to define the exact end of the measure. Zoom in if needed with the (+) button to position the measure end as precisely as possible.

5. Click on the Play button to verify that the highlighted region loops correctly, then click Next.

6. Click on the Play button again, then click on the > button (or click within a measure) to step through each measure and verify that its start and end points are set correctly. When they are, click on Next.

7. The file is now beatmapped, and the wizard shows three options: Change Project Tempo to Match Beatmapped Track (if unchecked, the Beatmapped track follows the existing project tempo), Preserve Beatmapped Track Pitch When Tempo Changes, and save Beatmapper Information with File. Check the desired options, then click Finish.

TIPS

■ Acid assumes files over 30 seconds are not loops, but you can change the default time under *Preferences > Audio Tab*, in the top right field.

■ Starting with Step 4, you can enable a metronome sound as a rhythmic reference.

■ Select a clip after Beatmapping it; click on *View > Clip Properties*, then click on the Save button to embed the Acidization information in the file. Click on the Stretch tab for beatmap editing without having to invoke the Beatmapping wizard.

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VOCALIST

EDAX AUDIO LABS VTP-100

No Transformers Allowed

by Cliff Goldmacher

Edax Audio Labs VTP-100.

While I love the convenience, flexibility, and accessibility digital tools provide, I've always been wary of any new technology that promises a "classic" sound. Like many of you, getting a vintage sound in my studio(s) has been all about integrating choice pieces of hardware into a digital environment—in particular, building a high quality front end to ensure that a good sound is going into my DAW. For preamps, I've always liked Manley Labs and Avalony, and those companies have set tough standards for other manufacturers to meet. But I'd heard good things about Edax Audio Labs' new VTP-100, so I decided to unplug my go-to gear and give it a try.

OVERVIEW

Though aesthetics have very little to do with performance, the VTP-100 looks really sharp. But while I appreciate the brushed aluminum knobs and the old-school VU meter with the subtle red backlight, I was attracted to the VTP-100 because it's feature-rich. With mic, line, and DI inputs, a high pass filter, overload indicator, switchable 48V phantom power, peak hold, 20dB pad, phase-reversal switch, headphone amp out, and a Re-Amp Tube (Edax describes this as "a Hi-Z unbalanced output stage for driving musical amplifiers"), it's safe to say that Edax wanted to cover all the bases. Add the notched gain knob, and you can color me impressed. By regulating the input gain with discrete clicks (controlling the gain in 5dB steps), all fine-tuning is left to the output knob, making it easy to get a good signal level into my DAW.

However, I have one gripe about the VTP-100: Though I'm happy to make the necessary compromises for gear that doesn't come with a rack-mount apparatus, the fact that the VTP-100 doesn't come with pads for the bottom of the unit resulted in exposed screw heads that left deep, permanent scratches on my studio furniture—and studio furniture is not cheap. On the other hand, even though rack ears don't come with the unit, they can be purchased separately for $80 list (for either the mono or two-channel version).

IN USE

Jimmy Dulin, one of my engineers, put the VTP-100 through its paces on acoustic guitar and vocals. His comments: "It felt great to run sound through it. It has the sound of a good tube pre, with maybe slightly less 'beef' to it due to the lack of a transformer. My first impression is that it would be a solid complement to a source that's a little dark or muddy." He also said "There's plenty of gain there, so it would probably be good for low-output mics like ribbons . . . it kind of felt like a tube version of an API."

With that kind of endorsement, I was anxious to hear it for myself. I started with a snare drum overdub. Like wearing running shoes with an Armani tux, it felt simultaneously weird and wonderful to plug a $100 SM57 to a boutique pre. However, the VTP-100 added a presence and detail to the snare that the signal otherwise would have lacked.

I also had a pedal steel player run a line from his Line 6 POD into the VTP-100. I was glad to hear that the VTP-100 imparted a bit of genuine tube goodness between the POD and the input of my Pro Tools rig. The design's simplicity was apparent in how easy it was to get a good input level, then tweak the output level to keep a strong signal through the chain.

Finally, in a rather random series of overdubs, I was able to test the VTP-100 on accordion, harmonica, and violin. In all three cases, I used a large diaphragm Shure KSM-44 running directly into the VTP-100. I really like the neutral tone of the KSM44 in general and running it through the Edax just brought an additional warmth and mellowness to these instruments that, in my experience, have the potential to cut a bit too much in the mix.

CONCLUSIONS

While my needs for a tube pre are generally fairly simple (*i.e.*, provide a solid, clean front end for my DAW), the VTP-100 provides a wealth of useful options, not the least of which is its re-amping feature. Overall, the unit is extremely well thought-out and designed, and it can provide a great early link in your recording chain if you seek some good old-fashioned tube warmth. **EQ**

PRODUCT TYPE: Half-rack class A tube mic pre.

TARGET MARKET: Project to professional studio owners looking to add tube warmth to the front end of their recording chain or diversify their pre options.

STRENGTHS: Low noise, warm tones. Simple to use. Transformerless output design.

LIMITATIONS: Needs pads for the exposed screws on the bottom if you don't buy the optional-at-extra-cost rack ears.

LIST PRICE: $960

CONTACT: www.edaxaudio.com
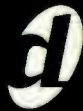
M-AUDIO PROFIRE 2626

Eight Pres and 26 I/Os for Under a Grand?

by Jeff Anderson

Not even five years ago, I would have laughed had you told me that I could get eight pres and 26 x 26 I/Os for less than a grand . . . and I'm still skeptical about the kind of audio quality possible at a "prosumer" price point. But old-school preconceptions shouldn't inhibit my playing with new-school products, so I tried to keep my prejudices at bay as I started working with M-Audio's new ProFire 2626 interface.

M-Audio's ProFire 2626.

OVERVIEW

The 1U ProFire 2626 is a Mac/PC-compatible FireWire interface, featuring eight mic pres with M-Audio's Octane technology. As a standalone unit, it can function as an analog eight-channel mic/line preamp (the user can choose whether the analog ins, including mic pres, are routed to both analog and digital outs or just the optical outs, which allows the optical ins to be routed to the analog outs), or as an eight-channel 24-bit/96kHz converter (four channels at 176.4/192kHz). Additionally, the unit provides 26 x 26 I/O through multiple simultaneously-available connections.

Utilizing an onboard DSP mixer and router, the ProFire 2626 lets you select from 52 streams of audio, then send them to each of the unit's 26 outputs via stereo pairs. You can configure the unit's 26 audio inputs as desired to have up to 18 input channels simultaneously. Use the internal clock, or slave to an external clock.

The rear panel has eight XLR ins for the pres and eight TRS 1/4" line ins that bypass the mic pres, eight 1/4" TRS balanced outs, and two complete sets of optical I/O. These 1let you chain extra pres with ADAT light pipe outputs to your system. There are also sets of coaxial S/PDIF, MIDI I/O, and a BNC word clock I/O, all accessible via a breakout cable.

48V phantom power is selectable by groups of four (*i.e.*, channels 1–4, 5–8). Each of the preamps offers

55dB of gain and has a –20dB pad. Furthermore, the ProFire 2626's front panel sports a user-assignable master volume knob, two 1/4" unbalanced TRS ins, and two 1/4" balanced TRS headphone outs, each with their own volume knob.

IN USE

The ProFire 2626 sounded too good to be true, especially in regards to Pro Tools M-Powered compatibility. Sure, the ProFire 2626 is compatible with nearly every major DAW, but I'm sure many of you wondered what I did: Is there now a way to utilize over 18 I/Os with Pro Tools that doesn't require taking out a second mortgage for an HD rig?

Sorry, but no. As is clearly noted on their website, "96kHz and 18 x 18 I/O maximum with Pro Tools M-Powered." Can't say I'm surprised, though. . . .

Nonetheless, I definitely enjoyed working with the ProFire 2626. The pres sound good—not much color, fairly transparent. As a one-stop solution, this unit is a great deal, but just used as a standalone outboard box, I found the pres clear enough to warrant running drums, guitar, and vocals through it on a rock session without even hooking it up to my computer . . . and I have many, many boutique pres in my collection from which I can choose.

Using the ProFire 2626 with a wide variety of DAW software on both a MacBook Pro, and a Windows machine running XP, I became quite fond of the DSP mixer application; it allows adjusting all your routing within just a few simple windows. The ability to route your signals any way

you desire is incredibly cool, and once you've adjusted the settings, you can save everything, make presets customized for your studio, and recall on demand. The implications of this on your workflow should be pretty apparent—it saves a lot of time and headaches.

CONCLUSIONS

The ProFire 2626's functionality and versatility kinda scares me. As a studio owner who's spent a lot on pres, A/D converters, etc., units like this make me feel like I've wasted a lot of money. I mean, what's next? Large format consoles for $5,000? It's not that far of a stretch when you consider that you can get 26 ins and outs for under a grand *and* eight pres that sound pretty damn accurate. While the ProFire 2626 is not entirely without limitations, this is definitely one of the best deals for small studio owners I've found yet. **eq**

PRODUCT TYPE: FireWire interface with eight preamps and 26 x 26 I/O capabilities.

TARGET MARKET: Small studios seeking a one-stop interface solution with multiple pres and lots of I/O.

STRENGTHS: Great value. Lots of I/Os. Good-sounding pres. Can slave to external clock. User-friendly DSP mixer. Bundled with Ableton Live Lite 6.

LIMITATIONS: Full I/O capabilities not utilized with Pro Tools M-Powered. 48V phantom power is set in groups of 4.

LIST PRICE: $899

CONTACT: www.m-audio.com

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TAPE SIMULATOR
SOFTWARE SHOWDOWN

VIRTUAL REELS GET REAL

by Craig Anderton

I'm not necessarily one who worships at the Church of the Iron Oxide. In fact, when the Alesis ADAT was announced, I could hardly wait to get rid of analog tape. The hiss, stretching, modulation noise, biasing, head cleaning, head alignment, head lapping (scary stuff!), demagnetizing, test tone tapes, and all those other "accessories" to the analog tape experience drove me up the wall. So when digital became feasible, and *the signal that came out was the signal that went in,* I was relieved.

But . . . tape did have that distinctive sound, and one you could customize by biasing (which affects hiss, distortion, and level). You could bias hot for more "zing" with higher noise, or bias low. Or you could choose an in-between setting you happened to like. Some crazed fanatics (uh, that would be me) would re-bias

machines in the middle of a session to achieve, say, a different drum sound compared to the other tracks. You could also alter the pre-emphasis/de-emphasis EQ to change the tonality.

So when I wanted that sound, I'd hook up my venerable TASCAM Model 32 two-track into a mixer's insert jacks, roll tape in record mode, hit the tape hard, and record the results into a digital recorder. Nor was I alone: Several big-name engineers, like Bruce Swedien, often record to tape—then capture it immediately to digital before it self-destructs.

This trend did not go unnoticed in the software community, and soon, we had effects designed to give "that" tape sound without the hassles and issues. Well, sort of; actually these tape sim products seem to fall into three main categories:

- Software designed to simulate particular tape sounds as accurately

as possible, where an "Ampex" preset really sounds like Ampex tape.
- Programs that are more "inspired" by the effect tape has on a sound, and take liberties that go beyond straight emulation.
- Suites designed for a specific function, where tape saturation is only one of the components. For example, the suite may be dedicated to vintage sounds, or it might relate to mastering tools.

The idea of actually being able to eliminate tape, or in some cases go beyond what tape can do, perhaps sounds too good to be true—but is it? I'll tell you one thing: The results were not at all what I was expecting.

All products were tested using Windows XP. Those requiring Pro Tools were tested using Pro Tools LE. Signal sources included drums, program material, various synths, guitars, and electric bass. And now, in no particular order, let's start crunching.

MCDSP
ANALOG CHANNEL

Analog Channel is a "mini-suite" for Pro Tools that includes the AC-1, which emulates analog channel amp circuits, and the AC-2—the focus of this review—which emulates analog tape machines. I wish we had the space to cover the AC-1, which is a valuable plug-in in its own right . . . but we must move on.

The AC-2 takes the whole tape thing very literally, giving control over bias, equalization, playback speed, head bump, low frequency rolloff, playback head type (which affects the head bump and low frequency rolloff characteristics), tape formulations, and tape saturation recovery times. (Thankfully, they didn't take the realism *too* far—I was concerned there might be a feature where the more you used the plug-in, the more the highs self-erased.)

McDSP AC-2 from the Analog Channel suite.

With stereo, each input can be thrown out of phase, and there's an "auto" output level option that maintains a fixed output level, even if you hit the "tape" hard with the input controls, or push the bias. You can link the in and out controls in stereo.

In use, the AC-2 has what I hear as McDSP's sonic hallmark: a smooth, musical sound, even when you're pushing it pretty hard. The bias control reminds me of the trimpots I'd use to underbias a bit to get a brighter response; a helpful, read-only graph shows how changes in EQ, head

bump, low frequency rolloff, bias, and tape speed affect frequency response.

Overall, the AC-2 makes the right choices between staying totally faithful to the original and improving on the possibilities, and the sound quality is exceptional. 'Nuff said.

TRITONE DIGITAL COLORTONE PRO

TriTone Digital's ColorTone Pro takes a convolution-based approach.

After installing Pluggo Runtime and ColorTone, you're ready to get into this convolution-based processor. ColorTone is not just a tape simulator; its 46 impulses include filters, compressors (yes, you'll find an LA2) and tube EQ. I was also able to load the impulses included with Sonar's Perfect Space reverb.

For tape simulation, convolution handles reproducing the tonal quality of particular tapes and machines. A Warmth fader generates harmonics and saturation effects, and a Blend control is the key to getting cool sounds but is a bit difficult to explain: It mixes the processed and unprocessed signals based on the input signal's amplitude, so that a higher input signal means more processed signal (or you can dial in the reverse effect). One particularly handy button, Lock, automatically reduces the output when you slam the input.

None of this is intuitive; don't expect "turn switch on for tape saturation effect." Then again, that's ColorTone Pro's strength: Once you *do* start to understand how the controls affect the sound, you can do some wonderful effects. It doesn't try to add hiss or other undesirable tape characteristics, but instead, isolates particular tape sounds and lets you apply them—but then modify them further, like adding more level, compression, expansion, etc.

Can it make tracks sound better? Yes. Just expect to spend some time checking out the generous selection of impulses, as choosing the right one for the source material makes the difference between "yeah, whatever . . ." and "wow!"

VOXENGO ANALOGFLUX SUITE

TapeBus, from the Voxengo Analogflux Suite.

Voxengo may not have major name recognition, but the company makes quality software. Analogflux Suite contains four programs designed to give the analog feel: TapeBus (the subject of this review), Delay, Impulse (simple convolution processor), Insert (simple modulation noise "warmer"), and Chorus. The Chorus is outstanding, by the way.

TapeBus has eight controls, all with obvious effects on the sound. There are also seven convolution-based tape options (along with off, leaving only the other processors) that provide different sonic characters.

In addition to a Rec Gain function to set the amount of crunch and a control for Saturation amount, there are pre-saturation Low and Hi EQ, with high filter center frequency and gain. A Curve control changes the saturation curve, which alters harmonic content.

All the "science" in TapeBus is transparent: This is one of those rare plug-ins where you can insert it on a track, put all the controls at 12 o'clock, and it just plain works. Audibly, it sort of combines compression, an "exciter"-type sound, and EQ; it can give huge presence to drum tracks, and if you don't go too crazy, even works with program material. The included presets provide an excellent idea of what to expect. In fact, they may be all you need . . . although it's well worth experimenting with the controls, as they can make a big difference in the overall sound.

If you want a plug-in where you don't have to think to make it sound good, but if you're willing to think you can make it sound even better, you'll definitely appreciate TapeBus. It hits the sweet spot between ease of use and serious processing.

FREE AS A PLUG-IN

Want to get started with Tape Sims? In addition to demo versions of some of the products being reviewed, there are some free sims that may lack the feature sets of the "big guys," but nonetheless do a credible job. The following programs are Windows-only, though.

Cakewalk Sonar includes a tape sim plug-in, FX2 Tape Sim, that often gets high marks in the Cakewalk forums, and I can understand why: Despite an interface that hasn't been overhauled in so long it has Cakewalk's logo from the

Continued

PSP AUDIOWARE MIXPACK2

Garrett Haines reviewed PSP's Vintage Warmer 2—which is more than just a tape emulator—in the 05/07 issue, so there's little point in re-hashing that info. However, PSP also makes a cool bundle called MixPack2, which includes the MixSaturator2—and it's most definitely relevant to this roundup. (The rest of the bundle includes a low-end enhancer, high-end enhancer, compressor, and noise gate.)

MixSaturator2 has three main elements: A bass section with Frequency, Warmth, and Level controls, a high frequency section with Frequency, Level, and Softness (high-frequency compression), and a sort of "master" section that chooses one of seven non-linear algorithms (3 tape, 3 tube, 1 digital) and dials in the amount with a Saturation control. In addition to buttons that enable these various processing sections independently, there's also a mix control. This allows changing the

PSP Audioware's MixSaturator2 from the MixPack2 suite.

balance of distorted to dry signal.

What surprised me most was how effective this is with program material when used subtly. While the low-end "bass bump" is outstanding, I preferred using the high frequency section to add clarity rather than doing the most accurate possible tape simulation (although you can compress the highs if desired). The mix option is also welcome as you can set up a really dramatic effect—then dial it back so it supports, rather than overtakes, the program material.

MixSaturator2 by itself is impressive, in large part because it can go from

barely noticeable to Godzilla-level smashing. But when you consider the other tools in the bundle, it becomes extremely cost-effective as well because you'll likely use the other processors. For bundle value, this is tough to beat.

SYSTEM REQUIREMENTS: Windows XP SP2 or Vista, Mac OSX 10.4/10.5, Universal Binary
FORMATS: Windows VST/RTAS, Mac AU/VST/RTAS
LIST PRICE: $199
CONTACT: www.pspaudioware.com

DUY DAD TAPE

Here we have yet another approach, as the effects are subtle and sweet; there's no way to get a "caricature" of tape with DaD Tape, and in some ways, that's a good thing. Options are limited, but realistic: a choice of six tape recorder types (including vintage tube, solid-state, and op amp-based) at three tape speeds (7.5, 15, and 30). DaD Tape is also unique in that it models noise reduction types, from noisiest (noise reduction off), to two noise reduction types, to noiseless. This is very effective, and really does produce the character that noise reduction added to the "analog tape sound."

That's it, except for the obligatory input control that determines how hard you're going to slam the tape (short of internal overflow, of course),

DUY DaD Tape emulator.

and an output control for overall level.

DaD Tape is all about generating harmonics from the original signal, although there seems to be an element of tape compression: When setting the output level for what I thought was about the same level, the output meter definitely hit lower peaks than when bypassed. It's hard to do "wrong" settings or get an ugly sound; usually, a little experimentation will produce a gently enhanced sound, with a bit more sparkle and girth. In addition to individual tracks, I tried DaD Tape with program

material, and it even rocked with that.

Despite the current Euro-to-Dollar exchange rate, which should have put the price at around $450, DUY has held the line at $349. And that's a good thing, because this is a plug-in with grace and subtlety.

SYSTEM REQUIREMENTS: Windows XP, Mac OSX 10.3.9, Universal Binary
FORMATS: Windows RTAS; Mac RTAS/AU/VST/MAS
LIST PRICE: $349
CONTACT: www.duy.com

Pro Audio 9 days, it provides the functionality needed for some very decent tape simulation effects. There are controls for tape speed, EQ curve, amount of crunch and warmth, low frequency boost for head bump effects (although it's either on or off, and on is a bit too heavy-handed for my tastes), and even the ability to add in hiss. It takes a bit of fiddling to find the sweet spots, but it's a great way for

Sonar fans to get into tape sims with zero investment—and actually, those sweet spots can be very sweet.

If you're into VST format plug-ins, check out Jeroen Breebaart's **Ferox** from www.jeroenbreebaart.com/audio_vst.htm. This is a surprisingly good plug-in, particularly because it folds in some tape delay

Continued

VIRSYN VTAPE

Here's another vintage-oriented suite (with Delay, Flanger, and Saturator). The Saturator is a subset of the other programs, providing Hiss, Flutter, and Bias controls, along with a low/para-metric mid/high EQ. And while this article is about tape simulation, I'd be remiss if I didn't mention that the VTape Flanger is the closest I've *ever* heard to true, '60s-style tape flang-ing—right down to the motor inertia. Brilliant. The delay is fantastic too, 1with multiple taps, and filtering in the loop. Both of these include the Saturator "module." But I digress.

Saturator is designed to sound like a real tape recorder; for example, it's one of the few sims that lets you dial in hiss, and the only commercial one that offers flutter. As a result, just as some plug-ins let you take pristine audio and make it sound like it came from a scratchy record, this one lets you make it sound like it came from tape.

Like tape, hitting the input harder increases the compression/saturation. And while the EQ may seem out of place, it isn't: "Real" tape recorders had trims for pre-emphasis and de-emphasis (boost and cut, respectively, of high frequencies), and how you set these made a big difference on the overall frequency response.

Like other VirSyn products, the interface is clean and straightforward; if you have to think to figure this out, you should probably consider another profession. All controls work in an obvious manner, and have an equally obvious effect on the sound. Overall, Saturator is less versatile than many other sims, but more accurate—and part of a groovy suite of plug-ins that takes you back to the '60s.

SYSTEM REQUIREMENTS: Windows XP/Vista, Mac OSX 10.4/5 or later, Universal Binary
FORMATS: Windows VST/RTAS, Mac AU/VST/RTAS
LIST PRICE: $261
CONTACT: www.virsyn.com

DIGIDESIGN REEL TAPE SATURATION

Although part of the $495 Reel Tape Suite, which also includes tape delay and tape flanging, the Reel Tape Satu-ration plug-in is available separately. While I mentioned at the beginning that all these plug-ins are really quite different, here's an exception: The McDSP AC-2 and Reel Tape Saturation are quite similar in how they approach the goal of faithful tape emulation. However, Reel Tape Saturation offers a more limited degree of control, with three machine/head types (and no head bump control) compared to McDSP's six; both have two tape types, bias, speed, and input controls. Unlike the AC-2, though, one of the machine options is "lo-fi" (Wollensak, anyone?), and you can also "calibrate" your tape to +3, +6, or +9. Like VirSyn's VTape, RTS allows introducing tape hiss into the signal (incidentally, either one of these makes a good white noise generator if you want to do rain and similar sounds).

In typical Digi fashion, this plug-in gives you what you need, has an obvious interface, works efficiently, and does the job. It seems purposely limited to doing tape effects; you can't really "stretch" the settings to give less tape-like, more "exciter"-type effects. For example, the bias control covers an extremely realistic range, whereas the McDSP control lets you overbias and underbias beyond the limits found in typical tape recorders.

The bottom line is that Reel Tape Saturation does one family of things, but does it well: You can slap it on a signal and—with a minimal amount of tweaking—get a convincing tape crunch that indeed adds that vintage "analog tape" quality to digital audio.

SYSTEM REQUIREMENTS: Windows XP, Mac OSX 10.4 or later, Universal Binary
FORMATS: Windows/Mac, TDM/RTAS/AudioSuite
LIST PRICE: $295
CONTACT: www.digidesign.com

effects that are lots of fun and quite authentic. But it will also get you started at adding that fabled "tape sound." (Attention DAW manufacturers: If you want to add a tape sim to your program, try contacting this guy and offering him some money.)

Another freebie, THD from www.digitalfishphones.com, is no longer supported but worked just fine in my system. The effect is subtle, and isn't really a tape simulator as much as a "warmer" that draws its inspiration from tube preamps and tape machines. Although I didn't find it too useful on program material, it can be a very fine addition to individ-ual instruments—I love what it does to drums, and it's almost a "plug-it-in-and-forget-about-it" kind of plug-in.

CRANE SONG PHOENIX

The Crane Song Phoenix translates their hardware expertise into software.

Phoenix is Crane Song's answer to "warmth" plug-ins. Unlike software that models tape alone, Phoenix takes into account the interaction of tape, the machine's electronics, and set-up equalization curve.

The suite contains five plug-ins: Luminescent, Iridescent, Radiant, Dark Essence, and Luster. Luminescent is the most subtle of the five. Iridescent adds a more pronounced bottom/midrange. Radiant brings a more aggressive compression curve, while Dark Essence is even more saturated. Luster covers the widest range, starting more gently than

Luminescent, but becoming as hard as Dark Essence when the process is at full scale.

Phoenix is TDM-only, but very DSP-efficient. Users can expect to get about 20 instances out of a single HD (non-Accel) chip at 44.1kHz. This efficiency is appreciated because this plug works best when it's placed on individual tracks. For example, Iridescent on individual drum tracks can provide you that 15 ips gravy that classic rock lovers crave. Overly spashy hi-hats (and sibilant vocalists) can be tamed with Dark Essence. Luster is a

URS CLASSIC CONSOLE STRIP PRO + URS STRIP

The URS Strip Pro uses tape emulation as just one element in a channel strip.

And now for something completely different: a channel strip "construction kit" where you can select from 30 input stage algorithms, 60 compressor/limiter algorithms, and 5 selectable EQ algorithms. Both the input and compressor algorithms include tape emulation options, so if you want, say, an input strip with a Class A transformer-based input stage coming from 1/2" 30 ips tape that goes into tape-type compression with vintage 1951-style EQ, no problem.

If you seek hardcore tape crunching, or simulations of different types of tape, look elsewhere—this plug-in

is really all about tailoring a channel strip to the sonic qualities you find most appealing. That might involve, say, choosing the 15ips input characteristics to pick up a bit of head bump, and balance out some of the "air" introduced by running the high-band 1951-style EQ. Some differences are subtle, and some more obvious; going through all the options to find out what you like is time-consuming, but offers plenty of rewards. With a plug-in this versatile, it's very helpful that the documentation is both clear and comprehensive, especially with respect to figuring

godsend for keyboards, organs, and synth patches.

Again, you'll get the best results by tailoring an instance of Phoenix for each component of your mix. That said, adding Luminescent on a bus can bring an analog-like glue without overdoing the effect. For my money, Phoenix is the benchmark for warmth-type plug ins. As long as users invest the time to explore the tonal possibilities of the titles, the results will be top notch.
—*Garrett Haines*

out how the sidechaining works.

It almost seems incongruous to include this excellent plug-in in a tape sim roundup, as the tape sim aspect is just a part of the program's overall character. But if you're looking to pick up some of the vibe of tape without hitting people over the head with it, whether for an input stage or for compression, this is a lovely plug-in. Anything I ran through it benefited in some way—and that's saying a lot.

MASSEY PLUGINS TAPE-HEAD

We ran a full review by Garrett Haines in the 09/07 issue, so we won't repeat ourselves here. But to give the highlights, Tape-Head is simple (Drive and Trim controls, with a Normal/Bright switch), CPU-efficient, and effective. As Garrett said, "Just because [tape sims] never sound exactly like tape doesn't mean that you can't color your sound in a subjectively pleasing way. It's all about learning how to use them right, and the Tape-Head is good. Very good."

Although you won't find a plethora of modeling options, the advantage of this approach is you just tweak the Drive knob until you have the desired amount of crunch, decide whether you want it a little brighter or not, then set the Trim control to compensate. Tape-Head isn't all things to all people, but download the demo and try it on individual tracks and program material. You might be surprised at what $69 can do.

CONCLUSIONS

If you need to do general purpose tone-shaping, tweaking, saturation, and distortion, it's hard to beat PSP's MixPack2. I could even see these plug-ins being used by adventurous mastering engineers, and the price is right: At $40 per plug-in, with no filler, you're getting a great deal that's pretty much compatible with everything. It has a more impressionistic than literal interpretation of "tape sound," but for some, that will be an advantage rather than a drawback.

The VirSyn VTape suite, on the other hand, is all about a literal interpretation of tape sound. While the Saturator is cool, to me the stars of this suite are the Flanger and Delay, both of which incorporate the Saturator element. (Having used the same Record Plant flanging setup that was used for *Electric Ladyland*, I know what tape flanging is supposed to sound like . . . and apparently, so does someone at VirSyn.)

Voxengo's AnalogFlux suite is somewhere between PSP and VirSyn. It perhaps doesn't do pure tape as authentically as VirSyn, but is more effects-oriented than PSP's offering. The price is hard to beat, as it's less than half of MixPack2 and a third of VTape, so if you want some solid tone-bending and effects, this does a commendable job without the level of specialization of the other suites. This is definitely an over-achiever.

If you like simple, good, and inexpensive, you can't go wrong with Massey's Tape-Head. It has no bells and whistles, but gives good crunch and accomplishes its stated task efficiently. Although Voxengo's suite gives you more bang for the buck, Tape-Head has its own character . . . download the demos for both, and make up your own mind.

Digidesign's Reel Tape Saturation is the most literal attempt to emulate tape: It emulates well-known machines, specifies particular speeds, and models tape the same way that, say, their Velvet models an electric piano. If you want the most literal tape emulator, this is a good one (Pro Tools only, of course). But speaking of Pro Tools-only, there's McDSP's AC-2. This is sort of like Reel Tape Saturation, but gives more machines, a wider control range (especially bias), and thoughtful features like automatic output leveling. The bottom line is if you stay within the proper boundaries, you can get convincing, beefy tape sounds—but you can also go beyond those boundaries, achieving sounds that use tape as a point of reference but not a final destination. This is a pretty addictive plug-in, and the AC-1 (which is the other part of the bundle) is also extremely desirable.

I suspect that for a lot of people, DUY's DaD Tape will be an almost "set-and-forget" type of plug-in where they find particular settings they like for particular instruments (or program material), save it as a preset, and use it a lot. The effect is subtle enough, yet pleasing enough, that you won't need to hit the bypass switch much. If you want to go nuts with science-fiction head bump options, add in flutter, and the like, this isn't the plug-in for you. But if you like subtle enhancements—and don't mind the "exchange rate surcharge"—this is a refined, intelligent plug-in.

The ColorTone is the maverick of the bunch, with its convolution-based design that does a lot more than just tape emulation. It offers serious value, especially given its versatility, but it's also the most difficult to use of the lot—not because of any design or interface flaw, but because it really does take an original approach that requires some acclimation. This plug-in is for those to whom tape saturation is another color in the palette, not the main focus.

And finally, URS. Granted, their Strip Pro is by no means the ultimate tape simulator, yet it incorporates tape simulation in strategic ways that really bring this plug-in into a class of its own. If you're looking for a hardcore tape sim, this probably won't do it for you. But it amply proves there's more to tape emulation than just cranking up the virtual record gain, and watching the meters pin. It's almost like this reproduces the spirit of tape, rather than its body. And yes, that's a major compliment.

When I started this article, I had no idea what lay ahead. I was expecting a bunch of me-too products, but boy, was I wrong: Each program has its own way of expressing a high degree of ingenuity. They all have very different personalities; what I've tried to do is describe those personalities the best I can, to help you understand where they're coming from. Whether you just want a couple dials for crunching, or a sophisticated suite that takes tape simulation beyond where their mechanical forebears ever went, these are some pretty amazing programs. They'll definitely become an important part of my musical toolkit in the years ahead—which is something I wasn't expecting at all. **EQ**

SONY: AFTERHOURS EDM—ELECTRONIC DANCE MUSIC

Ah yes, dance music—made for loops, and available in infinite permutations and combinations. *Afterhours EDM* provides 15 construction kits, each with around 20 loops. Pinning a label on the music is tough; it leans toward progressive house, but depending on the kit you'll find some trance, chill, acid, and even techno elements thrown in as accents, making this a very versatile set.

One of the best features is the utter lack of filler: Every loop works, and mixing and matching between construction kits is a snap. In fact, it seemed a little too good to be true, so as a test I collected some random loops from different kits, and mashed 'em up—even that sounded great. Part of the reason for this is that many loops are simple elements (snare part by itself, bass parts broken down into multiple loops, etc.), so they become the musical equivalent of Lego blocks.

Best of all from my selfish standpoint, this is ideal for video. If you've seen my webinars for *EQ* or videos for Harmony Central, you know I like to throw some uptempo music in the background. *Afterhours EDM* is ideal for that; the loops themselves are generic enough to fit in a wide variety of contexts, but the material is done so well that the *results* of using those loops is anything but generic. I'll be getting a lot of use out of this CD in the months ahead. —*Craig Anderton*

Contact: Sony Creative Software, www.sonycreativesoftware.com
Format: CD-ROM with 520MB of loops; 15 demo songs in Acid format; 16-bit/44.1kHz
List price: $39.95

NINE VOLT AUDIO: TEXTURAL REX

What's the easiest type of file to convert to the REX2 format? Drums, of course—but you'll find zero drum loops here. Instead, this DVD-ROM contains melodic, percussive, and textural fills that work seamlessly with Stylus RMX, Reason, or any other program that reads REX2 files. Additionally, the loops are duplicated in Apple Loops and Acidized WAV formats.

The loops—often duplicated in different keys, recognizing that REX files are better at time- than pitch-stretching—are duplicated as two sets, one organized into folders indicated by BPM, the other with 82 "suites" of related files. Nineteen of the suites have "a" and "b" version loops that are designed to complement, and work with, each other.

As to the loop sounds, think step-sequenced, electronic "effect" sounds that are tonal and percussive; many have synced delay effects. In a dance mix, these are the sounds that come in after the drums stop, make a statement, and then continue playing in the background. The title is accurate—we're talking textures—but you can also think of them as either part of the rhythm section, or icing on the rhythmic cake.

When deciding what to review for Sounds, I try to find products that either fill a specific need admirably, or are just plain very well-produced. *Textural Rex* is both, and can add a much-needed element to electronic productions. —*Craig Anderton*

Contact: Nine Volt Audio, www.ninevoltaudio.com
Format: DVD-ROM with 541 loops in REX2/Stylus RMX/Acidized WAV/Apple Loops format; 16-bit/44.1kHz
List price: $79.99 (download or DVD-ROM)

BIG FISH AUDIO: GARAGE BREAKS
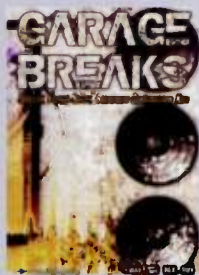
These 40 construction kits, identified with tempo and key, average about 11 loops each, including a mixed demo file. While there's definitely a garage/punkish vibe, a lot of the loops would fit in a Chemical Brothers CD—and given the tempos (125 to 160BPM), they could slide into a FatBoy Slim set, too.

Instrumentation is drums, bass, and guitar, with an occasional synth part, effect, or horn riff. The drum parts sound programmed, or at least played with pads into a sequencer-with-quantization/electronic drum set combo; but the intense playing—coupled with a lot of ambience and effects—give an engaging combination of very tight and very raw.

Bass gets some respect in this set, forming the foundation of many of the pieces and working well with drums. I would have liked to see more alternate parts, but I can cut and paste. The guitars grind, wah, fuzz, gnash, and generally misbehave.

It's hard to pigeonhole this set. It's grungy and funky, but not as anarchic as the *Punk and Indie Rock* set reviewed in the 08/07 issue. And while it has an electronic veneer, it remains true to the sledgehammer garage ethic; there's a lot of power in the loops, yet it doesn't smash you over the head as much as seduce you first—and *then* smash you over the head. This is pretty cool, and if a band sounded like this, I'd buy their CD. —*Craig Anderton*

Contact: Big Fish Audio, www.bigfishaudio.com
Format: DVD-ROM with about 936MB of unique 24-bit/44.1kHz WAV content, duplicated for Apple Loops, REX files (where possible), and Stylus RMX
List price: $69.95

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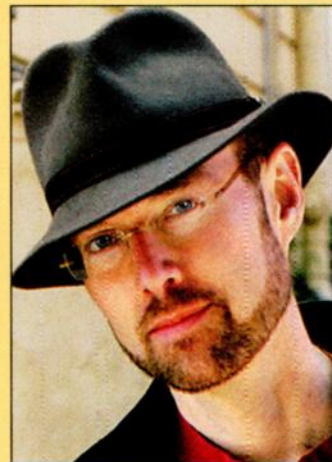
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by **David-Lucas Burge**

It all started in ninth grade as a sort of teenage rivalry . . .

I'd slave at the piano for five hours daily. Linda practiced far less. Yet somehow she always shined as the star performer at our school. It was frustrating.

What does she have that I don't? I'd wonder.

Linda's best friend, Sheryl, bragged on and on to me, adding more fuel to my fire.

"*You* could never be as good as *Linda*," she would taunt. "*Linda's got Perfect Pitch.*"

"What's Perfect Pitch?" I asked.

Sheryl gloated about Linda's uncanny abilities: how she could name *exact notes and chords*—all BY EAR; how she could sing any tone—*from memory alone*; how she could play songs—after just *hearing* them; the list went on and on . . .

My heart sank. *Her EAR is the secret to her success* I thought. How could I ever hope to compete with her?

But it bothered me. Did she *really* have Perfect Pitch? How could she know notes and chords just by *hearing* them? It seemed impossible.

Finally I couldn't stand it anymore. So one day I marched right up to Linda and asked her point-blank if she had Perfect Pitch.

"Yes," she nodded aloofly.

But Perfect Pitch was too good to believe. I rudely pressed, "*Can I test you sometime?*"

"OK," she replied.

Now she would eat her words . . .

My plot was ingeniously simple . . .

When Linda least suspected, I walked right up and challenged her to name tones for me—*by ear*.

I made her stand so she could not see the piano keyboard. I made sure other classmates could not help her. I set up everything perfectly so I could expose her Perfect Pitch claims as a ridiculous joke.

With silent apprehension, I selected a tone to play. (She'll *never* guess F♯, I thought.)

I had barely touched the key.

"F♯," she said. I was astonished.

I played another tone.

"C," she announced, not stopping to think.

Frantically, I played more tones, skipping here and there all over the keyboard. But somehow she knew the pitch each time. She was AMAZING.

"Sing an E♭," I demanded, determined to mess her up. She sang a tone. I checked her on the keyboard—and she was right on!

Now I started to boil. I called out more tones, trying hard to make them increasingly difficult. But each note she sang perfectly on pitch.

I was totally boggled. "*How in the world do you do it?*" I blurted.

"I don't know," she sighed. And that was all I could get out of her!

The dazzle of Perfect Pitch hit me like a ton of bricks. I was dizzy with disbelief. Yet from then on, I knew that Perfect Pitch was real.

"How in the world do you do it?" I blurted. I was totally boggled. (age 14, 9th grade)

I couldn't figure it out . . .

"How does she DO it?" I kept asking myself. On the other hand, why can't *everyone* recognize and sing tones by ear?

Then it dawned on me. People call themselves *musicians*, yet they can't tell a C from a C♯? Or A major from F major?! That's as strange as a portrait painter who can't name the colors of paint on his palette. It all seemed so odd and contradictory.

Humiliated and puzzled, I went home to work on this problem. At age 14, this was a hard nut to crack.

You can be sure I tried it out for myself. With a little sweet-talking, I got my three brothers and two sisters to play piano tones for me—so I could try to name them by ear. But it always turned into a messy guessing game I just couldn't win.

Day after day I tried to learn those freaking tones. I would hammer a note *over* and *over* to make it stick in my head. But hours later I would remember it a half step flat. No matter how hard I tried, I couldn't recognize or remember any of the tones by ear. They all sounded the same after awhile; how were you supposed to know which was which—just by *listening*?

I would have done anything to have an ear like Linda. But now I realized it was way beyond my reach. So after weeks of work, I finally gave up.

Then it happened . . .

It was like a miracle . . . a twist of fate . . . like finding the lost Holy Grail . . .

Once I stopped *straining* my ear, I started to listen NATURALLY. Then the simple secret to Perfect Pitch jumped right into my lap.

Curiously, I began to notice faint "colors" within the tones. Not *visual* colors, but colors of *pitch*, colors of

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Behringer		www.behringer.com	37
Berklee Music	866-BERKLEE	www.berkleemusic.com	49
Blue Mircophones	818-879-5200	www.bluemic.com	27
Cakewalk	888-CAKEWALK	www.cakewalk.com/SONAR	5
Conservatory Of Recording Arts & Sciences	888-604-4075	www.audiorecordingschool.com/eq.html	39
DigiTech		www.digitech.com/products/Vocalistlivepro	47
Downloadablesoundz / Sonic Reality		www.downloadablesoundz.com	55
Equator Audio Research	888-772-0087	www.equatoraudio.com	61
Euphonix		www.euphonix.com	25
Eventide	201-641-1200	www.eventide.com	11
Full Compass	800-356-5844	www.fullcompass.com	55
Full Compass / Shure	800-356-5844	www.fullcompass.com	35
M-Audio	866-657-6434	www.m-audio.com	21
Mojave Audio	818-847-0222	www.mojaveaudio.com	58
Music Player Network Artist Master Class		www.visualwebcaster.com/musicplayernetwork/storefront	40
Native Instruments	866-556-6487	www.native-instruments.com	C2
Ocean Way / Sonic Reality		www.oceanwaydrums.com	41
Peterson Strobe Tuners	708-388-3311	www.strobosoft.com	29
Pinta Acoustics	800-662-0032	www.pinta-acoustic.com/eq	55
Planet Waves		www.planetwaves.com	7
PreSonus	800-750-0323	www.presonus.com	C4
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Samson	631-784-2200	www.samsontech.com/studiodock	43
sE Sound Engineering	617-623-5581	www.sonicus.net	24
Sonic Circus	888-SC4-GEAR	www.soniccircus.com	23
Sonic Reality	800-232-6186	www.studioprofiles.com	59
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Steinberg		www.steinberg.net	C3
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World Radio History

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ROOM w/a VU

by Angelina Skowronski

STUDIO NAME: Infrasonic Sound Recording Company
LOCATION: Los Angeles, CA
CONTACT: www.infrasonicsound.com
KEY CREW: Jeff Ehrenberg, Pete Lyman, Meghan Pochebit
CONSOLES: Inward Connections modified Trident 75; API 1608
COMPUTER: Apple G5 dual 2.3GHz processor w/ 3GB RAM, 24" cinema display
SOFTWARE: Digidesign Pro Tools 7.4 HD|2; Steinberg Wavelab 6
RECORDERS: Alesis Masterlink; Neumann Vinyl Lathe w/ VG66 racks; Otari MTR-90 two-inch 16- and 24-track head stacks, MTR-12 half-inch and quarter-inch; Panasonic SV 3800; Studer A827 w/ JRF half-inch heads; TASCAM Pro Dual Cassette Deck
AMPS: Crown D-75A; Perreaux R200i
MONITORS: Barefoot MM27; Dynaudio BM15A; Event 20/20; ProAc Studio 100, B and W; Yamaha NS-10m
MICS: AEA R84; AKG D112 (2), 451e (3), C60 (2); Beyerdynamic M160 (2); Coles 4038 (2); Heil PR 20, PR 30; Josephson C42 (2); Korby 67, 47, 251, c12; Neumann TLM 103, UM57; Realistic PZM; Røde NT3 (2); Sennheiser 421 (4); Shure Beta 52, Beta 56, SM7 (2), SM57 (6), SM58; Sony C-536p (2), C-57 (2)
PRES: API 512c; Audix 35102; Chandler/EMI TG-2; Demeter H-Series; Helios Type 76; Neve 1064; Shadow Hills GAMA (10); Vintech/Neve 1272
DI: Countryman Type 85; DOD 260; Inward Connections Guitar Signal Splitters; Little Labs Red Eye; Radial JD1; Tech 21 SansAmp Bass Driver (original)
OUTBOARD: ADR F760X-N (2); API 550 (2), 560 (2); Calrec AM6/17A (2); Chandler Germanium; Cooper Time Cube; dbx 160 VU, 162 VU, 165A VU; Ecoplate II Plate Reverb; Empirical Labs Distressor (2); Inward Connections DEQ6; Joe Meek SC2; Lang PEQ-2; Orban 622B; Pultec EQH2; Purple Audio MC 77; Roland 201, 501 tape echo; Shadow Hills MC; Universal Audio LA2A; Urei 1176 (2); Ursa Major Space Station
INSTRUMENTS: Epiphone Alley Cat, Riviera w/ Bigsby; Fender '60s American re-issue P-bass w/ rosewood neck, '60s American re-issue Jazz bass w/ rosewood neck; Gibson Grabber; Hammond B-3 w/ Leslie; Hardman Upright Piano; Innovations Maple snare; Jagard Acoustic; Jay Turser JTB-2b; Korg MS2000, Poly-61; LinnDrum; Ludwig Coliseum snare, Maple kit, Supraphonic snare, Vistalite kit (Bonham re-issue); Moog Micromoog; National Dobro; Rogers kit, Brass snare; Slingerland piccolo snare; Tama Custom Black Beauty snare; Taye Studio Maple kit; Yamaha Studio Maple snare
AMPLIFICATION: Acoustic 360/361; Ampeg Reverb Rocket, SB-12 Portaflex, SB-15NC Portaflex, SVT head w/ SVT 8x10; Fender Champ, Fender 2x12; Marshall JCM "Slash" 2555; Reverb Rocket; Silvertone; Traynor Guitar Mate w/ custom mod; Vox VBM1
NOTES: Having hosted a wide variety of artists such as The Mars Volta, Beck, Jamie Lidell, Mellowdrone, and Saosin (as well as house label darlings Qui—fronted by ex-Jesus Lizard madman David Yow—and the Omar Rodriguez-Lopez Quintet), Infrasonic Sound Recording Company has quickly become one of the hottest spots in the greater Los Angeles area to cut an album. And given the surplus of studios in the area, the fact that such a buzz exists around a studio that was started by a couple of guys from the local punk scene is in itself incredibly impressive.

Drawing inspiration from Olympic and Abbey Road studios, owners Jeff Ehrenberg and Pete Lyman insisted on having a ton of open space. With a 32x38 tracking room (and only two small isolation booths), Infrasonic is exactly the type of studio that attracts bands who love to track live. "We like to bring the band into one room and use that bleed to our advantage," the duo says.

It's an ongoing learning process for the Infrasonic team, and they are only too happy to pass along what they've learned to the musicians with whom they work. Lesson one? "Spend the majority of your time tracking, not mixing. If you get good tones and good performances, your record will mix itself." *eq*

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