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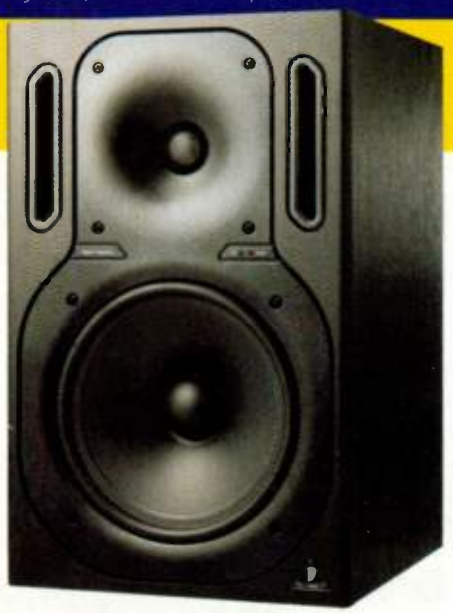

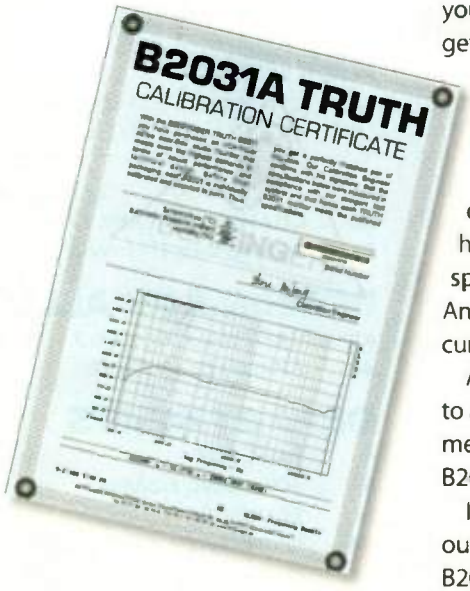

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AUGUST 08 CONTENTS

FEATURES

16 **?UESTLOVE**
The Roots' drummer on teaming up with Al Green to produce the neo-soul masterpiece *Lay it Down*.

SPECIAL GEAR FEATURE!

46 **USB MIC ROUND-UP**
A shootout of the best new USB mics—complete with practical info on making your USB bus work for you in the studio.

PUNCH IN

8 **LYRICS BORN, FINK, DAVID KAHNE ON WORKING WITH PAUL MCCARTNEY, WHAT A FUTURE WITH NO RECORD INDUSTRY LOOKS LIKE**

TECHNIQUES

24 **GUITAR TRAX**
Signal Bleed and Ballsy Blues

26 **BASS MANAGEMENT**
Three Steps to a "Live" Rumble

28 **KEY ISSUES**
Stompbox Fever

30 **DRUM HEADS**
Rocking Hard with Bus Compression

34 **VOCAL CORDS**
Turning Dreary Vocals into Pop Star Performances, Part II

38 **MIX BUS**
Stems and Hidden Tracks

40 **CHEAT SHEET**
Propellerhead ReCycle

REVIEWS

46 **USB MICS:** FEATURING BLUE SNOWBALL & SNOWFLAKE; MXL USB.007; AUDIO-TECHNICA AT2020 USB; SE ELECTRONICS USB2200A; SAMSON CO1U, CO3U, Q1U, & GTRACK

56 **CHAMELEON LABS 7720**

58 **SOUNDS:** OCEAN WAY DRUMS

POWER APP ALLEY

42 **CAKEWALK SONAR 7**

44 **APPLE LOGIC PRO 8**

DEPARTMENTS

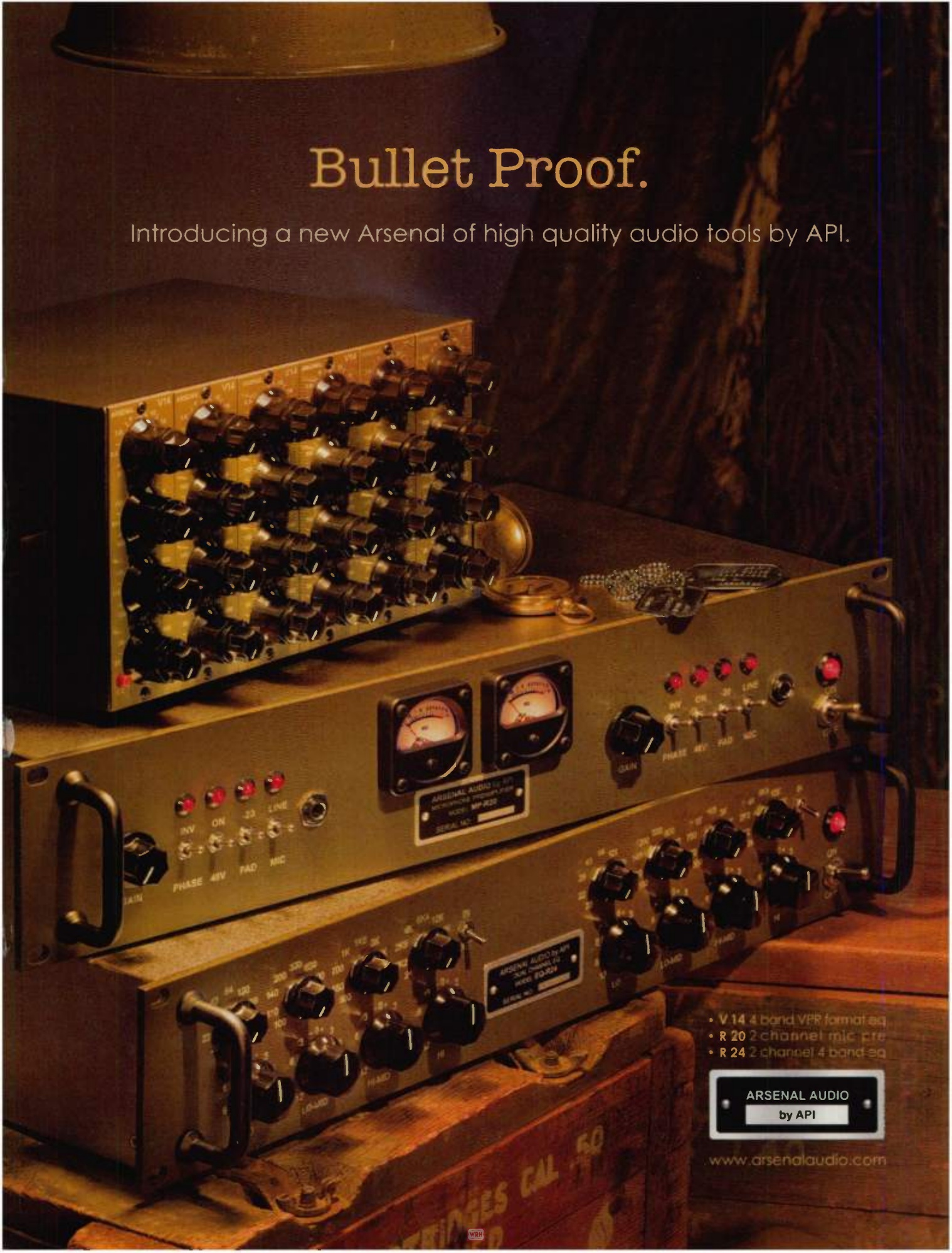
4 **TALK BOX**

6 **SOUNDING BOARD**

14 **TOOL BOX**

64 **ROOM WITH A VU:** WELCOME TO 1979, NASHVILLE, TN

Cover image by Dimitrios Kambouris/WireImage.com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Talk Box

THE REVENGE OF THE SINGLE

Singles used to be the dominant pop music lifeform, starting with the 78. In the '50s, the 45rpm single ruled; albums were often hastily-assembled groups of songs, with a couple hit singles and a bunch of filler. It was only in the '60s that the idea of an album being a single, cohesive experience that you listened to from start to finish started to gel. Some theorize this was related to the drug culture—if people were going to be cemented to their couches and staring at lava lamps anyway, they had the time to listen to, say, Pink Floyd's *Dark Side of the Moon*.

But today, people digest their musical entertainment via portable music players, satellite radio, and Internet stations. Furthermore, we now have a media smorgasbord: The big three TV networks have proliferated into hundreds of cable channels, independent record labels (taken as a whole) have more market share than some of the giant record companies of yesteryear, and videogames have come back from their lull with a vengeance. People multitask among computers, cell phones, and game consoles. Does the album fit today's lifestyle?

I don't think so, and I'm convinced the CD's declining sales figures are not only about piracy, but also this lifestyle change. Consumers want to be able to pick their favorite tracks, assemble them in playlists, and listen to them based on their schedule—not that of an artist saying "Please sit down and listen to this for an hour."

Yet while some bemoan the waning influence of the CD, musicians who "think singles" can benefit. You no longer have to create something that holds someone's attention for an hour; you just need to come up with one amazingly groovy, contemporary tune at a time, that can hold someone's attention for a few minutes. Nor do you have to go through the hassle of releasing it as a physical product: There are plenty of online opportunities. Did you come up with a great track? It can be in the distribution pipeline *tomorrow*—no more waiting until you have enough material for a CD. And if you're into video, coming up with a short video is a lot easier than coming up with an hour or so of material.

Take advantage of this new world to put some spontaneity in your musical life. Get your music out there while it's still fresh. Yes, the competition is stiffer, and the public more fickle, than ever. But you're good enough to break through the noise with an original, catchy, infectious piece of music that will make you the talk of YouTube . . . right?

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Executive Editor Craig Anderton, canderton@musicplayer.com
Editor Matt Harper, mharper@musicplayer.com
Managing Editor Debbie Greenberg, dgreenberg@musicplayer.com
Contributors Jeff Anderson, Moses Avalon, Corey Bloom, Devine Evans, Paul Grundman, Michael Papatonis, Greg Reynolds, Will Romano, Michael Ross, Angelina Skowronski, Jonathan Stars
Art Director Patrick Wong, pwong@musicplayer.com
Staff Photographers Paul Haggard, phaggard@musicplayer.com, Craig Anderton, canderton@musicplayer.com

Publisher John Pledger
Group Publisher Joe Perry
jperry@musicplayer.com, 770.343.9978
Advertising Director, West Coast & New Business Dev. Greg Sutton
gsutton@musicplayer.com, 925.425.9967
Advertising Director, Midwest Jessica Sullivan
jsullivan@musicplayer.com, 661.255.2719
Advertising Director, East Coast & Europe Grace Newman
gnewman@musicplayer.com, 631.239.1460
Advertising Director, Southwest Albert Margolis
amargolis@musicplayer.com, 949.582.2753
Specialty Sales Advertising Director Mike Montgomery
mmontgomery@musicplayer.com, 650.238.0307
Specialty Sales Advertising, North Allison Smith
asmith@musicplayer.com, 650.238.0296
Specialty Sales Advertising, South Will Sheng
wsheng@musicplayer.com, 650.238.0325
Production Manager Amy Santana

MUSIC PLAYER NETWORK
Group Publisher/VP John Pledger
Editorial Director Michael Molenda
Senior Financial Analyst Bob Jenkins
Production Department Manager Beatrice Kim
Sales Operations Director Lauren Gerber
Web Director Max Sidman
Web Editor Lania Cortez
Motion Graphics Designer Tim Tsuruda
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Please direct all advertising and editorial inquiries to:
EQ, 1111 Bayhill Dr., Ste. 125, San Bruno, CA 94066
(650) 238-0300; Fax (650) 238-0262; eq@musicplayer.com

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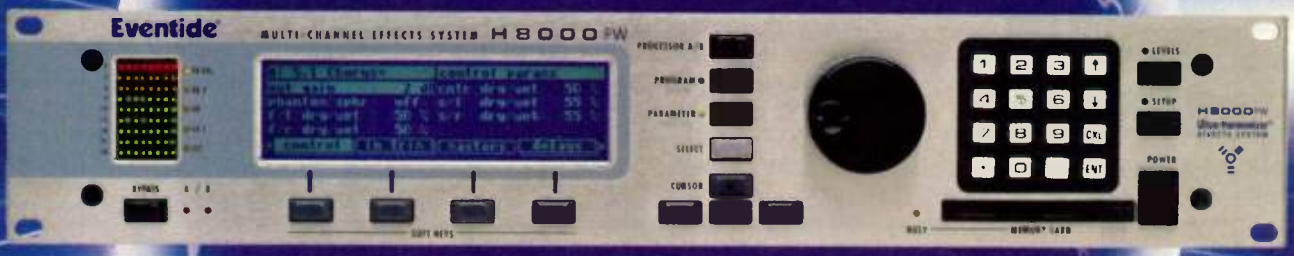

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SOUNDING BOARD

CANNED SOUNDS

I loved the "Recording Acoustic Guitars in the Control Room" article [*"Guitar Trax" —06/08*], but I have one question for the author [*Cliff Goldmacher*]. I'm in the same boat as many with a home studio: The control room is the tracking room, and I'm forced to monitor my acoustic sounds in my headphones. I currently use a pair of AKG K 240s, but they seem quite bass-heavy. When I get acoustic sounds in the 240s that sound right, they don't translate to my monitors or the outside world very well. Can you recommend a pair of headphones that work well in this scenario?

Thanks for a great mag!

Kirk Lynch (via email)

Cliff Goldmacher responds:

I've tried a couple of different sets of headphones for tracking acoustic guitar. Ironically enough, I'm currently using the AKG K 240s. However, I think there is a bigger issue here than what type of headphones you use while tracking. Honestly, I'm not sure your best bet is to rely on your headphones when dialing in your sound.

I'm assuming that you have a pair of nearfield monitors in your control room. If not, you should look into investing in a pair, as you never want to monitor solely with headphones. You can use your headphones as a guide, but you should dial in your sound—settling on mic placement and such—using your monitors.

If you still find that the 240s don't suit you, I recommend the Sony MDR-7506. These headphones, in my opinion, are much less bass-y and have a brighter high end. For sessions such as the ones we are describing (*i.e.*, recording quieter instruments in the control room), a good pair of in-ear monitors—like the Shure SE530—can be very helpful, as they'll ensure your tracks won't be plagued by click bleed.

Good luck on your next song!

WHERE'S THE LOGIC?

Thanks for your latest article on "Guitar Amp Modeling" [*06/08*], it's just what I needed and I think your mag is great!

One question: Why was there no mention of Apple's products, like Logic 8's Guitar Amp Pro and Mainstage, alongside the usual suspects like [*Native Instruments*] Guitar Rig 3 and Waves GTR? I have found that Guitar Amp Pro sounds just as good, in some cases better, than some of the other products mentioned in the article.

Is this due to a political issue with Apple? Do you know where I can find a truly objective evaluation of guitar amp simulators that directly compares Apple's products to other amp sims?

Tim Reeves (via email)

Craig Anderton responds:

EQ certainly has no political issues with Apple—check out the review of Logic Studio in the 12/07 issue, the Power App Alley on creating Apple Loops in the 06/08 issue, or any of the other pieces we've written about Apple products.

We restricted the article in question to include only amp sims that are available as stand-alone products. We also didn't give full coverage to products that we had previously reviewed. For example, we didn't cover the amp sim bundled in Cakewalk Sonar, either.

However, as mentioned in the article, this was a collaborative effort with *Keyboard*, whose article on amp sims was more "review-oriented." You can read the full article online at www.keyboardmag.com. You'll find a review of Guitar Amp Pro in there, along with other guitar amp simulators—including ones we had reviewed previously in *EQ*. And of course, expect to see continuing coverage on amp simulators and related techniques in future issues.

TAPE FIXES

In the 06/08 Mix Bus [*"Matching Out-of-Sync Analog Tape with DAWs"*], Jonathan Stars suggests using a time compression/expansion algorithm to compensate for tape machine speeds or tape stretching. There is a better way to approach this situation than what Mr. Stars advises, as using a time compression/expansion algorithm that keeps constant pitch regardless of the length adjustment can result in out-of-tune tracks and unwanted artifacts.

The best thing to do is to first match up the speed manually during the transfer by using the varispeed control on the analog deck, then fine-adjust by processing the files using an algorithm that is a simple speed up/slow down process (where the pitch naturally changes with the file length)—not one that does time expansion or compression.

Danny Caccavo (via email)

A TOUCH OF INSPIRATION

Thanks to Craig Anderton for the 06/08 Talk Box [*"Was Sly Stone Right?"*]. As a musician who has worked at "making it" for most of my life, it was a truly inspiring article. I fully agree with everything he said.

I've entertained thousands of people over the years, recorded a few CDs—I've even been recognized on the street. I always used to dream about being a big star. Nowadays I have a studio in my garage, and I'm looking just to upload my tunes to the net. As Craig said, as long as my music reaches someone out there emotionally, I've accomplished something.

Today, being a star looks a lot less attractive. I'd be real happy to make a living off of music but, as it is, I work a day job, and make music in my leisure time. That's not too bad. As a matter of fact, it's all good!

Phil Herrle (via email)

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

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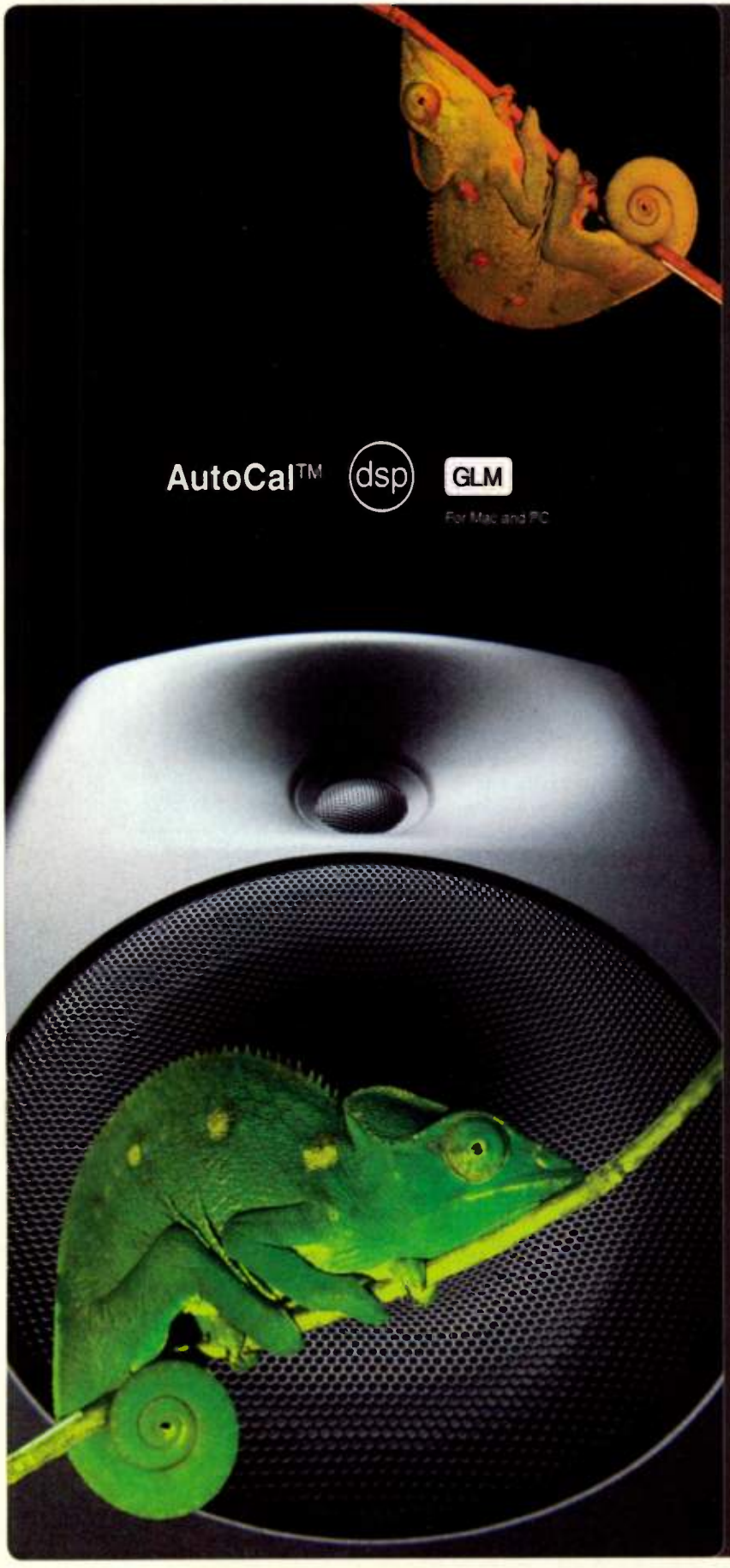

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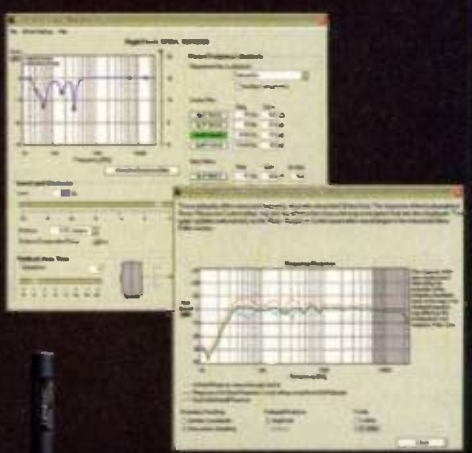

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PUNCH IN

JUST RAW

4 Quick Questions with **Lyrics Born**

BY COREY BLOOM

Throughout a decade's worth of releases and more than a few stints producing his peers, Lyrics Born (Tom Shimura to his friends) has been seen as one of those "other level" MCs. His knowledge of music has broadened significantly and his vision of hip-hop as an elevated and advanced strain of popular music has expanded exponentially by each album. Refusing to break his tradition of constantly evolving with each new track, Shimura changed his entire methodology for the recording of his third offering *Everywhere at Once* [Epitaph]. Abandoning his trusty Akai MPC-3000 (and with it the sample-based sound he was known for), Shimura utilized strictly live instrumentation when tracking *Everywhere at Once* in his recently built home studio. With a more vital, organic sound than ever before, Shimura has penned a new chapter in the saga that is Lyrics Born . . . and he couldn't be more enthusiastic about traveling the road ahead of him. We caught up with Shimura for a quick Q&A about the making of *Everywhere At Once*.

For *Everywhere at Once* you stepped away from the MPC, and utilized studio musicians for the first time. How was that transition for you?

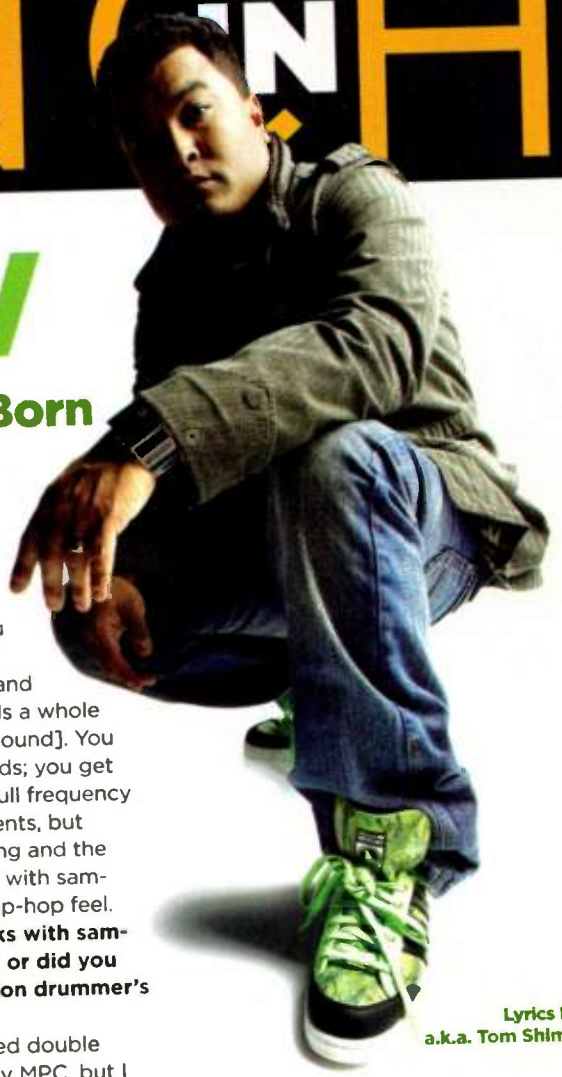
I had some experience producing [live] bands, such as The Poets of Rhythm, but this was the first time I worked this way on a whole album. I loved it. Quite honestly, it was a lot faster than composing and performing everything on the MPC. I still looped a lot, but it was with source material from the band, and I sequenced in Pro Tools. I still wanted to have that quantized hip-hop feel—that real precise, metronomic feel—but when you are looping real tracks you've recorded with a band instead of samples, it adds a whole new dimension [to your sound]. You get the best of both worlds; you get the clarity, warmth, and full frequency range of the live instruments, but when you have the looping and the multiple layering of kicks with samples, you really get the hip-hop feel.

You layered your kicks with samples? Were they canned or did you cull them from the session drummer's takes?

Here and there I added double kicks and snares from my MPC, but I never tracked anything inside the unit. I just performed with it.

You're going into your Pro Tools HD3 system with a nice front end—a Universal Audio 6176 and an SSL XLogic G Series preamp. I see you also have two Tube-Tech PE 1C EQs. Is that your only bit of outboard? Are you working mostly with plug-ins?

I have an old [Roland] Space Echo too. I don't use a lot of outboard effects of keyboard modules. When I do use effects, I tend to rely on plug-ins, as they tend to be more tweakable and have recall features. I use the filters in my MPC, and I have a Neve 1073 that I use for sweeps because of the sonic quality it gives. But when I'm trying to paint a picture with effects, I rely mostly on plug-ins for the convenience factor.



Lyrics Born a.k.a. Tom Shimura.

You manage to incorporate a broad range of musical stylings on your albums yet maintain a sonic cohesion. How, as an artist, do you achieve that?

If I find a sound I like, I'll stick with it throughout an album. I give myself room to experiment, but I keep my source sounds uniform. Everything from the instrument choices to what types of compressors I use I settle on . . . we're painting different pictures but using the same colors. That's how you get consistency and cohesiveness with your sound, even if you are changing "styles" within a track and laying down a funk beat with a rock guitar. EQ

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THE ART OF SUGGESTION

David Kahne on Producing Paul McCartney

BY MICHAEL MOLENDA


David Kahne.

Producer David Kahne's career has zoomed from engineering San Francisco obscure punk and new wave acts in the late '70s for 415 Records, to becoming an A&R executive at Columbia and Warner Bros., to producing vocal legend Tony Bennett and one of rock's icons, Sir Paul McCartney. As he helped mold 2001's *Driving Rain* and last year's *Memory Almost Full*, Kahne is, in fact, one of the few "repeat" producers McCartney has enlisted besides George Martin. Here, the versatile producer—who revels in guiding artists without imposing a personal production sound—relates what it's like sitting in the studio with a Beatle.

Some producers have a vision and a sound in mind that requires the artist to fit into their world.

I'm definitely not that guy. If the artist is capable of delivering a great performance, well, *that's* why I want to work with them, so I wouldn't want to impose any methods that would prevent them from being comfortable. I also don't put any restrictions on an artist as he or she works through a challenge, or reaches for a goal. Here's an example of that hands-off approach from Paul McCartney's *Memory Almost Full*. We first recorded "Nod Your Head" as a piano song—just Paul playing piano to a click track—and I loved the dissonance of the *A* in the bass and an *E*♭ on the right hand through most of the song. I didn't specify anything to Paul, other than an opinion that the dissonance got me hoping the song might be way more aggressive than a piano and vocal. So Paul grabbed his old Epiphone Casino—the one he played "Day Tripper" and all that stuff on—and plugged into a Pete Cornish overdrive pedal and a Marshall, although he usually played through a Vox amp. The pedal was cranked, and when he hit it, the guitar went insane! Paul's tech rushed over to turn off the amp, but Paul stopped him, and he started moving around the room to try to control the feedback. I think I told him, "Just start playing and it will quit." He was playing the *E*♭ as I hit Record, and he started playing to the track as soon as he heard the groove come in. It was a very aggressive guitar sound, and it inspired the way he played drums and sang. The final track had the vibe I was hearing myself, but if I had pushed too hard at the beginning to get there, he may have been a bit resistant. Letting the song take shape his way was the key.

How does one critique and collaborate with a legend like Paul?

I'm not going to say it's like working with anybody else in the world! But if I think something could be better, I have to say it—even though I can't wipe away who I'm saying it to [*laughs*]. It's a little tricky sometimes, but Paul *wants* the truth. When he's working on a new song, he's completely open. There's absolutely zero complacency in his musical life.

As he has an amazing grasp of rock history and styles, and can do so many things brilliantly, how do you focus all of that varied talent into a cohesive production concept?

Well, Paul knows what he wants, so you kind of have to follow his cues. But when I first met with him, I said I really liked the raw vibe, aggressive guitar sounds, and zooming around on the bass that he brought to "Oh Woman, Oh Why" [from *Ram*, 1971]. So we went for that vibe on *Driving Rain*—although the results weren't as cohesive as on *Memory Almost Full*—and then he did *Chaos and Creation in the Backyard* with Nigel Godrich, and we continued with the approach on *Memory*. I really like the grittiness of "Mr. Bellamy," "Only Mama Knows," "That Was Me," "Vintage Clothes," and "Nod Your Head," because I love it when Paul is really singing his ass off. He's completely unique when he does that. I mean, he can obviously sing beautifully in many different ways, but that aggressive approach was more what I wanted.

I remember hearing your Pearl Harbor and the Explosions single in 1979, and, as a snotty San Francisco musician at the time, I thought it sounded awful. But when I listened recently to your 1979 production and the cleaner re-recording you did for the band's 1980 Warner Bros. album, the aggro indie version kicked the crap out of the major label track.

That's actually *the* example of my production life! I engineered six songs, and there was tons of stuff I didn't get right, but I thought, "Wow, this feels really good." Nobody would sign it. Then, Howie Klein put out "Drivin'" on his 415 Records [*a San Francisco indie label*], and it did really well, so all the labels were back offering ten times the money they could have got it for in the first place. Of course,

once the Explosions got signed to a major label, we had to go in and re-cut everything—which took a long time because it was all done very carefully—and it didn't feel right to me at all. I was the producer, but there wasn't anything I could do about it. I hate that concept of, "Oh yeah, we can improve on this," because, most of the time, you can't. When something is getting real reactions from people, there's always a reason for it. But getting signed can be like when you're going to marry someone, and you say, "I love you. You're amazing." Then, you get married, and you say, "Could you change your hair and get some fake tits?"

Sad. . . .

I've seen bands ruined by that sort of thing. When I was head of A&R at Columbia, I would hear the A&R people say the weirdest things to artists. I would see the artist's face fall, and I'd think, "Wow. You don't want to crush that guy's spirit, because it doesn't have to slip away very far before the music starts to lose its distinctiveness." To me, once the artist's commitment goes away, it's over.

This is one reason that I hate compromise. I want to be 100 percent happy, and I want the artist to be 100 percent happy. I once had a conversation with someone about a mix. The guitar was really bright and in the foreground, but it made the voice sound way bigger. In fact, I wasn't even listening to the guitar—other than noticing it made the voice sound great. Well, this person thought the guitar was too loud, and asked, "Can we just tuck it back a little bit?" I hate that phrase, and you hear it a lot. "Just tuck it in a little." It's one of those phrases I always assumed was in some '80s TV movie where the A&R guy was on coke, but somehow it got put in the A&R handbook of "things to say in the studio." Anyway, I said, "No. If I do that, the mix is going to fall apart." He said, "I'll meet you halfway—can't you turn it down just a little bit?" But if I turn down the guitar 2dB, I'm changing the whole foreground of the mix. I ended up pushing the guitar back, and giving the person a reference CD. He came back and said, "You know what? You were right. You just moved the guitar a little bit and the mix fell apart." I felt that was a great moment, because I had a really strong idea of what something should be, and I figured out a way of maintaining that idea, rather than putting it somewhere between one idea and another idea. That's the spirit of compromise, and it doesn't often work too well in music.

When I was finishing *Memory Almost Full* with Paul, he said, "When you put out a record now there's all this crap you have to go through. I finish my record, and I'm happy with it. It sounds good to me. But when I turn it in, I feel like all I do is disappoint people." [*Laughs.*] But Paul will not compromise one molecule of his music. Not for the record company, and not for anyone else. To see that commitment to self-expression in an artist is fascinating. Sometimes, it feels pretty hopeless to try to get that going with an artist in light of what record companies need today. When I get the opportunity to work with somebody as great as Paul, you can see that self-expression and the emotion that's pouring out of the music. When you can experience somebody really going for it, I just think it's the greatest thing in the world. EQ

The Kahne Method

Utilizing a Dangerous Music Mixer and a RME MADI system, David Kahne concocted a best-of-both-worlds scenario where all his analog and digital processing is immediately available at all times.

"I have access to my Federal AM-864 and Fairchild 670 tube compressors, my Chandler compressors, my hardware SSL XLogic Alpha Channel, my Roger Nichols plug-ins, the Neve 33609 plug-ins, and a bunch of hardware and software EQs," says Kahne, whose main audio engine is Steinberg Cubase 4 running on a PC. "It's pretty seamless—I don't have to patch anything. It's all wired all the time because the MADI system is so flexible."

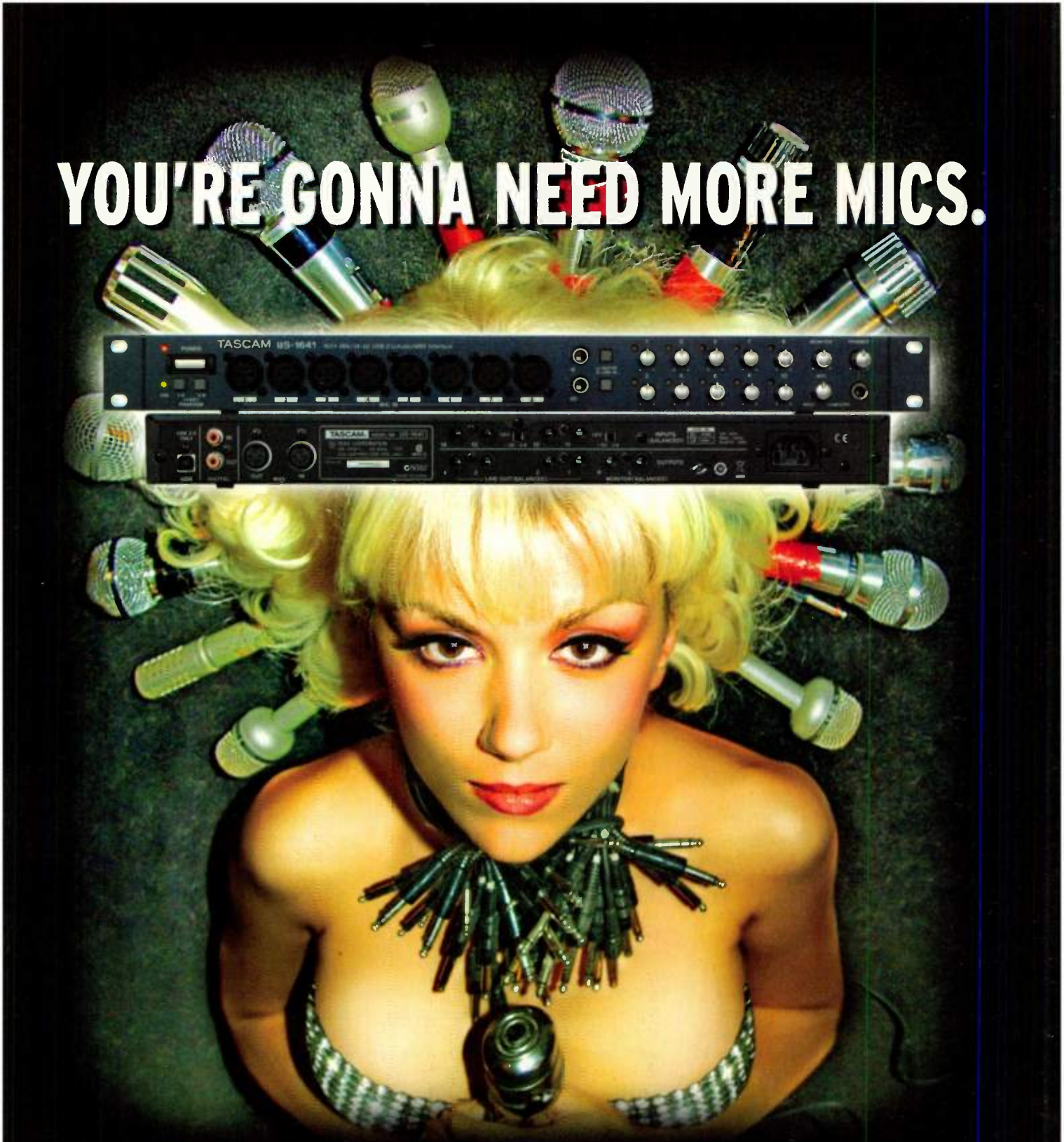
Kahne uses four Dangerous Mixers (a total of 64 channels) for summing direct to an Alesis MasterLink because he doesn't like mixing in the computer. "I could hear a lot of phasing and weird stuff in the summing output, and the headroom was really low coming out of the computer, so the mix would start to crap out," he explains. "When I got the first Dangerous box, I could feel the audio open up completely."
—Michael Molenda

This Month on EQTV

Join us at EQtv—*EQ's* own video channel chock full of tips, tricks, tutorials, behind the scenes footage of some of the hottest sessions, and tons more. To check it out, visit www.eqmag.com and click the pretty little link, or go direct to www.eqmag.tv. You'll be glad you did.

This month you'll see: In the Studio with Lyrics Born. Extra Bus Compression Tricks for Recording Drummers. Stem Mixing Tips for Pro Tools Power Users . . .

AND TONS MORE!!!



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PUNCH IN

DA VINCI ON A NECKTIE

magining a World Without Record Labels

BY MOSES AVALON

If you haven't noticed, we as a society are not only experiencing a radical transition in the way we buy and consume music, but also in how we relate to it. Case in point: I (and I'm sure many of you) remember when the average young music consumer was proud of their record collections, when record sleeves were viewed as critical components of the overall package—works of art in and of themselves. Recording artists were encouraged by their fans to take advantage of their packaging opportunities as auxiliary canvases on which to express their vision. Record buyers found all kinds of practical uses for the jackets as well—shelf liners, wallpaper, framed art, etc. The real fans even memorized the liner notes. It was that world that I fell in love with; one that was about making money by affecting culture with a *tangible* product: a 45-minute statement broken down into ten or 12 songs. An album.

These days one's "record collection" exists on a hard drive. Due to this, we are quickly losing touch with what was once an important aspect of an artist's visual identity. And we stand to lose much more of the musical experience if this trend keeps up.

LIQUID AUDIO, LIQUID WORLD

As music's mediums move more and more into a ubiquitous "liquid" form—existing everywhere, but less noticed—it moves into opposition to the way music has historically existed in our lives: as a listening experience, unique to itself and apart from other day-to-day functions. In the liquid future, music may well be everywhere all the time, but we might not notice it as much.

High-tech companies are pushing this "liquid agenda" only because it suits their needs: selling gadgets and Internet-based services. This necessarily means being able to communicate the message to the public that they can provide accessibility and portability to everything you want—legally or not. To them, music is a mere tool to sell technology, the free toy at the bottom of their cereal box.

Conversely, record companies (and indeed most content companies) have an almost opposite agenda: They need to sell the music as a unique experience, which necessarily entails controlling copyrights and venues where music is heard and bought. Mired in the traditions of how to do this—specifically, to make money with albums—record companies have been fighting what tech-head companies call "progress" for years.

For those who have been in the music business for a while, it's easy to have a knee-jerk reaction towards this "progress." Many musicians and producers were initially attracted to the music business for reasons that may no longer be relevant.

Record companies have taken quite a beating in the press since 2001, and they've largely deserved it.

MP3 PLAYER (HATERS)

But before we point our fingers at the high-tech companies for the previously mentioned transgressions, we should entertain the idea that it's entirely possible that the public altered their musical consumption methods because they've outgrown their past entertainment needs, such as pop hero worship and arena rock spectacles. Perhaps the twilight years of that culture are ahead of us, the years where music takes its place, with many other art forms, in the tapestry that has become *the life aesthetic*: Rembrandt on a postage stamp, Picasso wallpaper, Da Vinci on a necktie. I have no doubt that there was a curator somewhere who publicly objected the first time he saw a print of the Sistine Chapel's ceiling as bathroom tile. No one listened. Commerce marched on. The only difference for music is that instead of irate art historians, it has major labels and their lobbying entity, the RIAA, fighting for air as their inventory slips into the Bit Torrent-ed public domain.

One has to wonder if the folks at Disney had the right idea in 2004 when they convinced Congress to extend the length of a copyright to 99 years. Perhaps Disney knows something about art and the public domain that we ordinary folks do not? Just look at what the public generally does with great works when they don't have to acquire permission from their authors: The work takes on sillier and sillier forms until one day we see a XXX movie staring Mickey and Minnie.

While our laws grant the right for such things, we as a society don't have to expedite the demand of it. If we let go of music as an art form and let it too retire into the public domain, we might as well start placing our orders for that new Jim Morrison lawn jockey that plays "Light My Fire" or the Janis Joplin anti-hangover pill; we're waving in all those companies that see music solely as a commodity.

IN DEFENSE OF THE LABELS

Obviously the kind of companies mentioned above are not likely to be staffed by musicians or people who have worked closely with musicians over the years, entering into business partnerships to market their hard work. That's one claim the record companies can make; they are more like *you* than many just by virtue of a shared vocation.

Record companies have taken quite a beating in the press since 2001, and they've largely deserved it. They've been accused of not understanding the needs of the market and thumbing their nose at the changing technology. They've been called

opportunistic capitalists. And they are.

But record companies are also fighting to preserve something wonderful about their product: music's ability to play an *important* role in our culture; one that in the past has helped raise the collective awareness. Given that, if you're going to ride the tech-stimulated anti-label zeitgeist, you need to be aware that doing such also means resigning yourself to a possible future where the medium is reduced to little more than cultural wallpaper, stripped of much of its artistry, its meaning, and its social consciousness.

It also means a destabilization of industry economics. Perhaps in favor of a better one, but so far, the butcher's bill has been massive downsizing of label rosters by almost 50 percent. All of this just for the sake of convenience for consumers? Is that worth the trade-off to you, as a musician?

So ask yourself: Are the real enemies of music's future the record companies? When you come up with an answer, head over to www.eqmag.com, visit our "Forums", and give me feedback in our "Letters to the Editor" section. I await your responses. EQ

RIGHT FROM THE START

Fink Keeps it Simple for *Distance and Time*

BY GREG REYNOLDS

It's easy to get carried away when making an album. You might blow your rent check on the newest gadget or feel inspired to triple every guitar line just because you have an unlimited track count. But even the biggest gear nerds—such as Brighton, England-based blokes Fink —will attest that sometimes it's best to just keep it simple. With their latest release *Distance and Time* [Ninja Tune], guitarist/vocalist/namesake Fin Greenall (who has produced Amy Winehouse and many others), and cohorts Guy Whittaker (bass) and Time Thornton (drums), spent less than three weeks creating their newest slab of dubbed-out minimal folk. Holed up in The Lookout Studios with Lamb mastermind Andy Barlow, the band got with the program and banged out an album's worth of tracks in less time than many bands spend getting drum sounds. "On some of the tracks you can hear fire crackling in the background," Greenall says. "That's not a cheesy effect. We were huddled around the fireplace when we were tracking, trying to keep warm and play our parts with frozen fingers. We just wanted to get out of there [*laughs*]."

The warmth of Fink's tracks has little to do with the proximity of open flames to the performers, Barlow assures. According to the producer, Fink's sound is all about capturing the most realistic sounds possible and avoiding posthumous processing like the plague. For instance, Greenall's ever-present nylon-string acoustic, which is outfitted with a Headway "The Snake" under-saddle pickup, wasn't tracked direct. "A direct acoustic sound is not the sound a perfomer or the audience hears when then are playing," Barlow says. To create a realistic image of the instrument, Barlow insisted on a miking strategy that mimicked the perspective of both performer and audience: A Neumann U 87 six inches up from the neck, placed where Greenall's left ear would usually be and another Neumann U 87 straight out from Greenall, in the middle of the room where an audience member may sit. "We did compress in," Barlow says, "but only slightly. We'd keep a really low ratio on a Summit Audio TLA-100A to keep the transients in check, but that's all."

The "fix it in the mix" philosophy, Barlow says, is never an option. For example, on the song "Blue Pancakes," Whittaker's Tacoma 6-string bass provided way too much sustain. Rather than killing it digitally during the mix Greenall recalls Barlow taking the MacGyver approach during tracking. "Andy recommended sticking a big sock down on the saddle to dampen it down, resulting in an indie-dub bass sound," he says. "Initially Guy was mortified at doing that but he started to dig it because it really worked well . . . he could play it a lot harder and the notes would die a lot quicker so he could start pummeling it for the take."

Greenall further stresses that the key to a great Fink recording is in his bandmates making simple gear choices and not relying on some "magic box" to provide their sounds for them. "The less of a drum kit you have, the more creative you have to get with the few pieces available," Greenall uses as an example. "Dynamics should be achieved by the artists performance, not by volume draws and automation in Pro Tools." EQ

Fin Greenall.

TOOLBOX

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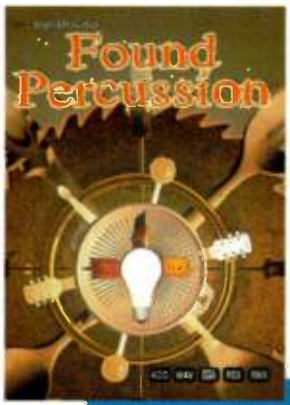

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Al Green (left) and ?uestlove (right) discussing their next move.

Here I Am Again

?uestlove and Crew Bring Retro Styles and Modern Beats to a Soul-Renewed Al Green

The voice sent shivers down your spine, and, if you were in the right mood, it also stirred feelings of romance, sensuality, and sexual longing. Throughout the '70s, Al Green was one of soul music's most successful artists, and his smash hits—"Tired of Being Alone," "Let's Stay Together," "I'm Still in Love with You," "Here I Am," "Call Me," and others—were crafted by producer Willie Mitchell with open arrangements that showcased the singer's voice by staying out of its way, while simultaneously presenting slinky grooves, dancing guitar lines, lush background vocals, tasty horn punctuations, and super-smooth string and organ pads.

But after an infamous tragedy in 1974, where a girlfriend doused Green with boiling grits while he was preparing for a bath and then killed herself with his gun, the singer began embracing his faith and ebbing away from secular music. By the '80s, Green was more or less a gospel artist, although he continued to dabble from time to time with soul music.

Now, 38 years since Green's soul masterpieces began thrilling audiences, Blue Note Records has released what is arguably Green's finest record in decades, *Lay It Down*. It's an album that hits the spot in your soul that only Green can reach. Before the singer belts out the first note on the title track, the listener's ears are shuttled back to the sound of his classic, Mitchell-produced records of the '70s. The late, great Chalmers "Spanky" Alford kicks off the tune with the same "church" guitar that Mabon "Teenie" Hodges brought to Green's classics, and when the pillowy kick drum and sparse strings enter, you can practically smell the polyester. Green and Anthony Hamilton sing a few hook-y choruses, and by the time Green starts to solo, it is clear that the master is back—and with him the music that helped inspired a whole generation, providing fodder for countless samplers.

But *Lay It Down* is no mere exercise in retro. Instead, it was meant to represent contemporary musicians, engineers, and producers paying tribute to the music that was such a major influence on today's hip-hop, R&B, and neo-soul genres. And that's why, when the time came to assemble *Lay It Down*, Blue Note flew in one of hip-hop's most highly-regarded musicians/producers—the Roots' Ahmir "?uestlove" Thompson. The drummer/producer believed that, with *Lay It Down*, he and his crew could introduce Al Green to a new audience *à la* Rick Rubin with Johnny Cash, or Jack White with Loretta Lynn. So with co-producer Richard Nichols, guitarist Alford, keyboardist/co-producer James Poysner, and engineers Russell Elevado, Jon Smeltz, and Jimmy Douglass in hand, ?uestlove set out to revitalize the Memphis master.

"They assumed I would give him the neo-soul makeover," ?uestlove says. "But if Blue Note thought they were going to get Al Green does John Legend, they were wrong."

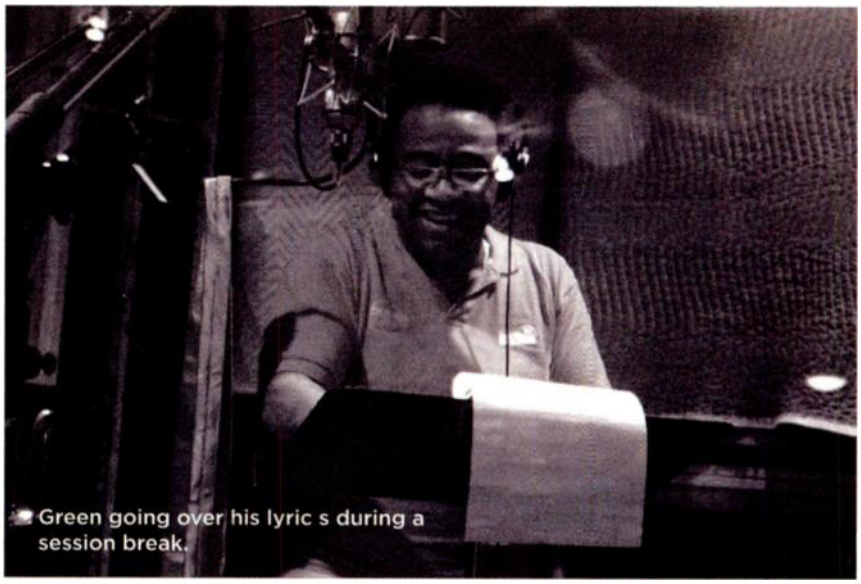
When the initial tracks for *Lay It Down* were recorded at Electric Lady Studios in New York, the original idea was to work with a purely analog signal chain, so ?uestlove and Green's engineering team started by recording directly to two-inch tape, using the studio's Pro Tools rig only as a backup. "If you have to switch a tape reel mid-session, you lose whatever precious moment was happening during that switch," Smeltz explains. "For that reason, even if you aren't looking to record to Pro Tools at all, it's always smart to keep the DAW running as a virtual second tape machine."

This preemptive approach proved prescient, as, indeed, one of the band's first takes would otherwise have been lost in a reel change. It was after this narrowly-averted disaster that the team abandoned their tape machine in favor of recording the rest of the album's jams entirely in Pro Tools. Despite the vintage grit that tape could have added to the overall sound—especially on ?uestlove's drum tracks—Smeltz

By Michael Ross
Photographs by Ginny Suss

was happy with the switch. "The sound quality of Pro Tools has gotten to the point where I feel I'm able to get the event I recorded back from the equipment," he says. "If I front end my rig with the same analog gear I have always used, Pro Tools doesn't seem to hinder my ability to capture that special sound people attribute to the analog world."

Though the crew settled on using modern technology to track *Lay It Down* early on in the game, ?uestlove and Green decided to eschew the opportunity to multitrack their way through the album. "Initially, we were going to go in and just jam some stuff out, and then re-do the vocals," says Nichols. "But Al actually sang the stuff in the room with [?uestlove] and the guys. Everyone was playing together, and I think that had a lot to do with the way the album sounds."



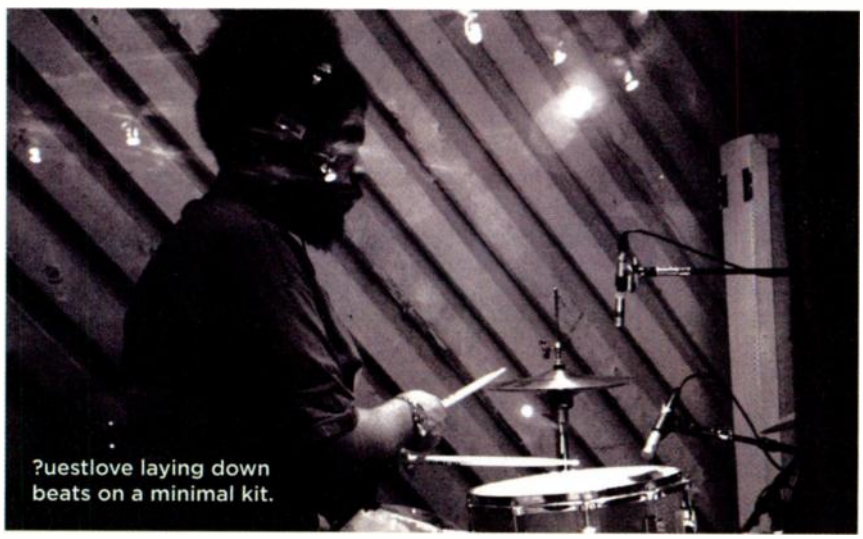
Green going over his lyric s during a session break.

Though jamming on tunes is a tried-and-true method of creating band material, it was a new process for a solo artist like Green, who was used to composing with Willie Mitchell, and then laying his vocals down only after the rest of the tracks had been put to tape. "We brought the Roots approach to Al, which is about doing a bunch of stuff live, and then grabbing source material," explains Nichols. "It was a bit foreign to Al. He asked, 'What am I supposed to do?' I said, 'Just sing whatever comes to your mind, and we will follow you. You can hum a note or clap your hands.' It was confusing to him for a while—meaning only ten or 15 minutes!"

Once he got comfortable Green amazed his comrades with his improvisational abilities. "On the song 'Lay It Down,' we kept 60 percent of it freestyle," relates ?uestlove. "We asked, 'Do you want a second to write to this?' But Al said, 'Nah, I've been writing all along.' I said, 'Where's the paper?' He said, 'It's in my head. Just play the song—I got the feelin'.' We started playing, and I couldn't even drum to it. You'll notice I didn't even start drumming until the last chorus. I couldn't play because I was jawdroppin' that he was making up lyrics off the top of his head. I'm not used to people catching on that quick."

Smeltz agrees that the sessions were almost supernatural in their flow. "When a band gets together, writes songs on the spot, and, after four days of rhythm tracks, you have almost 13 songs—well, that's an incredible accomplishment," he adds.

According to Nichols, recording live also reduced the icon worship factor. "You could think, 'Hey, I'm in a room with *Al Green*!' But you could only do that for a fraction of a second, because you had to be on top of what he was doing. The process also gave him a lot of freedom. At one point, he said, 'Do you mean if I sing this way, you guys are going to play that way? If I slow down, you are going to slow down?'"



?uestlove laying down beats on a minimal kit.

Of course, playing together in the same room with minimal isolation led to an enormous amount of signal bleed. "There is a lot of bleed on there," Nichols says. "But I think what gave those old classics their signature sound was a lot of 'unwanted' noise introduced into the recording. But it's not just using old noisy gear that gets that sound. We were using tons of vintage equipment—Neve desks and all—but you could use all the same gear and it would sound really clean if all of the instruments were recorded separately. So we decided to set up all the guys in close proximity to one another in order to capture that old-school vibe. If you soloed the organ track, you would hear Al's vocal and ?uestlove's drums and all kinds of things in there. Sometimes, you'd even hear something happening underneath a track that you couldn't

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Here I Am Again

?uestlove (foreground) pulls the highs back while Green (background) watches on.

recognize. Bleeding sounds can glue things together that way. These days, everything is separated, and it can sound really cheesy."

Jimmy Douglass—whose credits go back to early Aretha Franklin and Otis Redding recordings—came in at the mixing stage, and he was thrilled when he heard sounds that took him back to the days he worked under legendary producer Tom Dowd. "Pretty much every instrument leaked into Green's mic," Douglass says. "That gave me the inspiration to mix like an old fool—it got me all excited and crazy!"

For all the effort put in to recreating the glorious sound of Green's Memphis-era recordings, ?uestlove, Nichols, and the engineering team were equally concerned with making *Lay It Down* palatable to a younger crowd. "To a generation weaned on hip-hop and massive pop production, drums are more of a foreground instrument than they were in the past," Nichols states. "So people grab drum breaks from old records, put a bunch of compression on them, and when all the instruments fall out, the drums sound huge. No one would have processed drums like that on the original recordings because it wasn't in vogue. But now, for bands like the Roots, that's the standard approach. We had to partially adopt that approach to update the album's sound, and have the drums sound like hip-hop drums."

"It's all about the drums and bass," adds Smeltz. "I made them sound really modern, and then I pulled them back into a classic Al Green mode. For a project that integrates sounds from

a different era, it's all about striking a balance. You get that modern drum sound, and then you pull the hi-hat fader back a little bit, or roll off the top end of the snare so it sounds a little more round."

Douglass had a similar method for attaining balance in the mix. "Imagine that we are standing in the middle of the road, and we can go to the left—which is the way of that thick, round, analog sound—or we can go to the right, and make it sound nice and crisp in the modern way," he says, describing his philosophy for mixing ?uestlove's drums. "I mixed more to the left to ensure the drums had more of that old school character."

?uestlove was committed to making the old soul/new hip-hop connection a part of his drum performance, but to make that happen required a bit of subterfuge. "There are two ways to see Al Green from a hip-hop perspective," he explains. "There's the pure Al Green sound that you get from listening to his records, and then there is hip-hop's interpretation of it. So I asked myself, 'If I was the RZA, what part of the tune would I want to take for my fellow Wu-Tang members like Method Man or Ghostface Killah?'

"There were some songs where I wanted to play as if I was in Al Green's band led by Willie Mitchell," ?uestlove says. "And then, there were some songs I wanted to play like I was the RZA sampling Al Green. The intro to 'What More Do You Want From Me' clearly illustrates that frame of mind. I was playing that Al Green record groove, and then laying more drums on top of it, because RZA would take an Al Green loop and do the same thing. But you don't know how hard I fought for that intro. I didn't want Al to sing on top of it, and I didn't want to reveal to Al what my agenda was—to have that moment for rappers to grab onto. I mean, a name like Ghostface Killah could possibly scare Al to death. He might say, 'Wait a minute, you want to use my music for a man named Ghostface Killah?'"

As a large portion of the magic of Green's classic recordings can be credited to the drumming of Al Jackson Jr. and Howard Grimes, ?uestlove was also tasked with nailing the slinky feel and fat sound of his predecessors for *Lay It Down*. "The funk sound I am known for is that 'crack' snare," says ?uestlove. "But I knew I might have to have a deeper sound to best match the feel we wanted for this record. So I did two takes of 'You've Got The Love I Need.' One was reminiscent of 'Mighty Love' by the Spinners. It was very hard on the two and the four, as if I were playing it live. Then, I did one with an understated, sort of Charlie Watts-ish, nonchalant feel to it. That's the one I ended up using. I noticed that the lighter I hit the drums, the better they sounded on playback. I had thought you had to have John Bonham's heavy hand to make yourself heard, but that kind of approach doesn't sound as good when you end up heavily compressing the drum tracks.

"Now, I think I'm going to play light as hell on Roots albums, and on any other records I do," ?uestlove says. "Playing that way establishes a pulse that's understated, but it's in your face at the same time."

Here I Am Again

Applying copious amounts of compression to ?uestlove's drum tracks on *Lay It Down* is a technique lifted from the hip-hop production playbook. It was a calculated move on behalf of the production team with the goal of adding some modern urban attitude to the mix. "The samples you hear on hip-hop albums are basically just an old drum sound that has been squashed," explains Douglass. "The artist has taken the sound off a record that had been mastered already, and then that sound is stuck into a sampler which squashes it again, and it ends up totally grainy."

"In the mixing stage, I like to overcompress," adds ?uestlove, who wanted to mimic the sounds of sampled drums. "I go through four or five different stages of compression. I high the signal lightly with a Neve 33609 when we record to tape, and then I compress the signal again—but a little harder. Then I apply bus compression, and, finally, I compress it once more in the mastering stage."

The drummer says his heavy-handed and liberal use of compression gives his snare the large, spreading bottom that is redolent of Al Jackson's sound on Green's earlier records. Though ?uestlove's snare exhibits some distortion, Nichols laughs at the thought that this is indicative of poor engineering. "I'm sure it is distorted," he says. "I once told an engineer that I wanted something to sound like an old record, and he asked, 'You want it to sound like a bad recording?' I said, 'Sure.' Having certain aspects of a recording sound imperfect is part of achieving the feel of those old recordings."

According to Smeltz, ?uestlove's distorted drum tracks aren't simply the result of squashing and limiting.

"It's Line 6's Amp Farm," the engineer confesses. "I use Amp Farm on his hi-hat all the time. It's one of his signature sounds. You can hear some of the grind from the hi-hat—which is recorded using a Shure SM81—bleeding into the snare. Sometimes, I'll even split his bottom snare mic into two channels, and use Amp Farm on one of the channels, assigning it to a separate fader, and layering it under the dry track."

For ?uestlove's kick drum sound, Smeltz uses a Neumann U47 FET as the outside mic, and an AKG D112e as the inside mic. The Neumann is routed to a Moogerfooger Low-Pass Filter pedal, which Smeltz uses to tune the kick to the bass a little better, and also extend the drum's resonance. ("That's the glue that binds the kick drum and bass sounds together," he says.) The D112e is employed mostly to capture the attack of the kick.

As much as Smeltz is a fan of using analog outboard gear and quirky pedals to dial in ?uestlove's oftentimes bizarre drum sounds, he admits that he sometimes prefers using plug-ins when mixing. "I have all the actual Moogerfooger pedals," Smeltz says, "but I tend to mix with [Bomb Factory's] Moogerfooger plug-ins because the recall feature makes my life so much easier. Of course, plug-ins are really cool, but don't expect a Universal Audio 1176 plug-in to sound like a real 1176. But I don't really care what a plug-in is trying to emulate if I can get a good sound out of it."

When it came to establishing a balance between old and new sounds for *Lay It Down*, having both Smeltz and Douglass working on the project was exactly what ?uestlove and Green needed. Smeltz's experience runs the gamut from the smooth soul stylings of Teddy Pendergrass to the remixing experiments of King Britt, and Douglass' ears have been employed by everyone from Donny Hathaway to Timbaland and Justin Timberlake. While the duo worked independently, they both agreed that handling the mix out-of-the-box, and with as much analog processing as possible, was the only way to go.

"It just felt right," says Smeltz, "I mixed at Legacy on the studio's SSL J9000. They have 24 Neve 1081 EQs right behind the desk, and they also have an old plate reverb that's dirty and noisy. I loved the way it sounded."

"I tried to avoid using plug-ins," adds Douglass, "because I wanted to keep the mixes from sounding brittle and harsh. All of my EQ, compression, and effects were from outboard gear."

A dry perspective is another signature of the Al Green sound present on *Lay It Down*. Recording the instruments in a dead room was key, and to retain the natural sound, Smeltz and Douglass went light on applying reverb or any other effects that would dramatically alter the sense of organic ambience. "I use slight delays a lot—they give you the illusion of reverb, but they don't give you the noise and clutter of reverb," explains Douglass. "There *is* reverb on the record—I have a Sony DRE777 that I've used to sample every room in Manhattan—but you can't really hear it. My whole thing is that once you can tell there is reverb on the track, you've used too much. Reverb is supposed to enhance the sense of space, not take over the sound."

While everyone agreed the amount of bleed and noise on the tracks were a plus, they also wanted to ensure the final mix was clear enough to be marketable in this day and age. "Part of the looseness and openness of the drums came from tracking them mostly with room mics," says Douglass. "It wasn't as tightly miked as a lot of drums on modern records. For example, there was one song where the toms weren't very present, and I had to get them up there to sound like that old Philadelphia kind of pop. ?uestlove didn't hit them that hard, and if you tried to bring them up, you would be bringing up a combination of mush and sidewash. Those tracks required gating to take out some of the noise, compression to bring up the volume, and EQ to ensure the tones didn't step on everything."

The fact that ?uestlove and Green's team all had one foot in the vintage soul camp definitely helped the album deliver sounds that hearken back to the golden age of soul. But for all involved, *Lay It Down* was more than an attempt to recreate the sounds of the '70s—it was a unique opportunity to reconcile the recording methods of the present and the past. The team succeeded at integrating tried-and-true engineering practices and stellar performances with modern recording technology, and the end result is an album full of original Memphis sounds lightly buffed for the iPod age. "It sounds like an old record with the veil lifted off," says Douglass.

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SIGNAL BLEED & BALLSY BLUES

Guy's enormous amp setup for the *Skin Deep* sessions.

by Will Romano

"When I record, the first thing I think about is, 'How does the band sound live,'" says Nick Moss, a guitarist/producer who recently completed a bodacious double CD of retro-modern Chicago blues, *Play It 'Til Tomorrow* with his band The Flip Tops. "I want the band to sound as if you were in a club listening to us playing live. Some records are way too separated. I don't want that on my recordings, so I don't close mic anything. The closest I'll get a microphone to an amp is about six to eight inches away. Does that mean I'll get some signal bleed? Sure. But who cares?"

The concept of allowing disparate signals to bleed into a bunch of different mics is probably considered daring in the age of multiple takes, swipe comping, and sonic isolation, but it makes plain sense when you are tracking the blues. After all, the blues has never been about exploiting technology, and, back in the days of live-in-the-studio tracking, bleed was inevitable. But artists and engineers found a way to make coagulating sounds work for them, and, in the process, turned out some of the greatest blues recordings ever. Here are two examples of how signal bleed can produce ferocious blues-guitar tracks.

BUDDY GUY'S MULTIPLE AMP ATTACK

Producer Tom Hambridge (Susan Tedeschi, Lynyrd Skynyrd, Johnny Winter) speaks fondly of his experience recording legendary Chicago blues guitarist Buddy Guy for the 72-year-old's *Skin Deep*.

"We would start playing, and, by minute four of the song, I'd signal the engineer to start rolling," Hambridge says. "That way, the band would already be in the groove before the first note was recorded. Buddy's amps were louder than hell. We just dimed 'em [*turned the volume on the amps all the way up to 10*]. My philosophy for those sessions was, 'Go ahead and let Buddy's guitar bleed into the overheads.'"

To capture Guy's signature ringing-and-stinging attack, a total of six amplifiers were run simultaneously. Starting with two Chicago Blues Box amps, engineer Vance Powell employed a dual-mic approach, positioning a Neumann U67 and a Shure SM57 side-by-side and up close to each grille.

"Those are Buddy's first-choice amps," says Powell, "but I wanted to give Hambridge some other sonic choices, so we added a Marshall Super Lead 100 and a matching 4x12 cabinet that was miked with an SM57. Then, there was a '59 Fender Bassman

miked with an AEA R92 ribbon. That's a versatile mic that clearly picks up high-end stuff, but it's also great for documenting lower registers. An early '60s Fender Vibroverb was matched with a Royer R-121 ribbon to get a natural and balanced tone, and a 100-watt Mesa/Boogie 1x12 combo was miked with a Royer R-122 ribbon—which is a little more focused when capturing low-end frequencies than the R-121. The mics were each positioned about an inch from the grille cloths. This approach picked up the sound of the amps, but not the room, so I placed a Neumann M50 about ten feet from the wall of amps, and about seven feet in the air. When Buddy played through all six amps—wide open in the room—it created this great, huge sound that bled into everything. But with that kind of massive, organic sound to work with, who cares about separation?"

THE TINSLEY ELLIS MEAT WALL

Guy isn't the only blues guitarist to crank up and use bleed to his advantage. Georgia-born Tinsley Ellis is known by recording engineers for what they affectionately call his "meat wall" of sound.

"[Producer] Eddie Offord was the first guy who allowed us to have all the amps, drums, and vocals in the same room with no separation," says Ellis. "I still try to set up that way as much as possible. I love the sound of a screaming guitar bleeding into those expensive drum mics [*laughs*]."

"I only have one large recording room in my studio," says Jim "Jimmy Z" Zumpano, Ellis' longtime engineer. "I've built 'guitar lockers' into one wall for isolation purposes, but you have to close mic them when the isolation boxes are closed up, and that gives you a sound that can be too tight for blues."

So for Ellis' newest release, *Moment of Truth*, Zumpano's "lockers" went unused. Placing a Shure SM57 a half-inch off of the bottom right speaker on Ellis' Fender Super Reverb, and a Royer R-121 approximately six inches behind the back of the cabinet resulted in a decent sound, but didn't produce the type of live sound the guitarist wanted.

"We ended up adding in a Neumann TLM 170 as a room mic," Zumpano says. "The 170 has a very open and wide pickup pattern, and it's a warm-sounding mic. I put the mic approximately three paces away from the amp, shoulder-high, and pointed it a bit off-axis to the cabinet. I adhere to the Jimmy Page theorem of 'distance equals depth.' You have to move away from the amp to catch the vibe of the room. More often than not, away from the amp is where the magic happens." EQ


Using stompboxes to process your keyboard signals can give you that grit and warmth your synth effects lack.

STOMPBOX FEVER

by Paul Grundman

Hey! Let's get out of the box for a while. Steal your guitarist's pedals, and use them to create your own original sounds. It's not too hard to do, and you'll be that much more original. In fact, if you are an engineer or producer, you might just look like a seasoned innovator!

Back in the '70s, Jan Hammer—whose career did *not* begin with the music he composed for the original *Miami Vice* television show—used external effects to create some of his keyboard sounds. Many players of the era did this in the prog, pop, and fusion worlds, but Hammer was exceptional in his ability to really push it like a guitarist. Armed with ring modulators, delays, and phasers, he traded solos with stage mates, and when he used distortion coupled with his Moog, it created a sound that was as powerful as any multiple-Marshall roar.

There's a lesson to be learned here.

So I set up a recent session with some friends, and I hijacked the guitarist's pedal array: a Line 6 MM4 Modulation Modeler and a DL4 Delay Modeler, a volume pedal, a wah-wah, and a Boss Blues Driver—all running into a Fender amp. At this point, you might be saying, "But my keyboard has built-in effects—why go to all this trouble?" Well, I don't feel that going through tons of menus to find effects parameters is as conducive to creativity as simply turning a (very) few knobs on a stompbox.

Let's experiment with a less-than-ideal source sound, such as a preset that's somewhat dry or has a short decay. Perhaps you've always blown right past that program on your synth because it just doesn't do it for you. But think of that sound as your building block—much like an electric guitarist would consider a dry amp tone. Now, get your foot on a delay pedal and play with the delay time and mix level until you find the perfect blend of a wet/dry signal to lift your solos up to the "awesome" point. If the pedal offers preset delays—echos, slapbacks, long repeats, ping-pongs, etc.—try them out, as well. The sounds you hear might even inspire a new song! The beauty of this pedal approach is that it not only improves sounds you think are bad, it also enhances sounds you already feel are great. With the right delay working for you, your tones can sound bigger, wider, and more dimensional.

Of course, you can combine pedals just as you can layer effects in a DAW or keyboard workstation. I used the Line 6 Modulation Modeler's chorus and tremolo quite a bit, and the ring modulator is so hot that it made my basic Rhodes sound seem like something out of, well, Jan Hammer's tone library. In fact, every sound I put through this box either commanded more attention, became more intriguing, or morphed into something more musical.

I really had fun when I hit the Blues Driver in concert with the wah pedal. Many players may still think of wah-wah as the sound that drove disco music, but don't forget that Hendrix and Metallica were/are wah lovers, and they ain't no disco darlings. I clicked in this signal chain for a repeating three-note lick on a clavinet sound, and even the guitar player seemed a bit jealous of the thick, meaty tone I was getting.

The trick to getting pedals and keyboards to work best together is (aside from making sure levels are matched properly) to send the signal chain into a guitar amp in order to get the right crunch and warmth. A keyboard amp usually won't do, because they are typically designed to deliver clean and articulate sound reproduction. You want a tube guitar amp that can deliver the rage! If you desire the best of both tonal worlds, you can use a splitter (or stereo processor with two outputs) to send your signal to a right nasty tube amp *and* a pristine, full-frequency keyboard amp. Or you can even send the effects (delay, modulation) to a clean amp, and use another amp for overdriven and distorted tones. Checking in with your guitar-playing friends for setup options, and experimenting with a number of pedal chains should provide you with tons of new sound-sculpting ideas. I can't say enough about the fun I've had stepping on stompboxes—it makes the whole experience of being a keyboard player even more exciting. So get out there, get busy, and rock and roll! EQ

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ROCKING HARD WITH BUS COMPRESSION

Fig. 1. The dbx 266XL can be used in stereo mode by pressing the yellow button in the middle. When the button is engaged, the settings on channel one control both sides of the unit.

by Michael Papatonis

If you love the sound of '70s rock drums, you should know that one of the main reasons drum tracks from that era sound so head crushing is because of the format they were recorded on—namely, tape.

But why does tape make drums sound so good? The answer is tape compression, which occurs when the recording levels are driven hard and the hot signals hit the tape. Saturating tape causes transient signals to get chopped off, leaving a fuller sound because more of the body of the source or room tone is squeezed into the mix. In effect, air is sucked into the sound, the "smack" is chopped off, and the body is turned up. This is part of the secret to John Bonham (Led Zeppelin) and Roger Taylor's (Queen) thunderous tom sounds.

NO TAPE? NO PROBLEM!

So you don't have an old Studer or Ampex tape machine. Does that mean you are S.O.L? Not necessarily. While the best way to get the sound of tape is to record with tape, applying bus compression to your drums can produce a similar sound. The best part? All you need is a hardware or software stereo compressor.

What is bus compression? In the case of drums, this technique involves busing (or summing) your drum tracks together by routing some or all of the individual tracks to your stereo bus—creating what is known as a submix—and then applying compression to the submix.

Many people apply a small amount of compression at the stereo bus (also called the left/right bus or the mix bus) to glue the overall mix together before mastering, and that's cool. However, applying processing at the mix bus affects all of the tracks, and that's not what we are trying to do here. We want to compress the drums independently, so we need to make a submix using a separate stereo bus.

SERIAL VERSUS PARALLEL

Before you start compressing the submix, you need to decide whether to use serial or parallel processing. Serial processing, in this context, is when you apply compression to the drum submix, and the compressed submix will comprise the song's total drum sound. In other words, the original drum tracks will not be sent to the mix bus. Conversely, parallel processing means that you keep your original drum tracks in the mix bus, and blend in the compressed drum submix to add some punch and vibe. If you want to keep your drums sounding fairly natural, you might want to take the parallel processing route. However, if the compressed submix is exactly the drum sound you want for your mix, just say "damn the torpedoes," and use serial processing.

I prefer serial processing, as it's a much simpler technique. On the other hand, parallel processing provides more options when it comes time to mix, such as allowing you to make your compression a little more transparent. Parallel processing also allows you to leave certain elements of the drum kit out of the submix—such as the overheads—that you may not want to hit with the bus compressor. There is no right or wrong here. Trust your ears, and use whichever technique meshes best with your workflow.

Note: With parallel processing, it is important to make sure you have virtually no latency on the processed submix, as latency causes phasing problems (or even actual delay) between the submix and the original drum tracks. This is rarely a problem when working with hardware mixers and compressors. Plug-ins, however, inherently have some latency, so make sure you use delay compensation in your host program.

SETTING UP AND DIALING IN

With the drums subgrouped to a stereo bus, you can now apply compression to the submix. You have a few options in terms of physically

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DRUM HEADS

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implementing the compressor. If you're working completely in the box, you can simply add a plug-in compressor to the subgroup track. If you're using a standalone, stereo hardware compressor, you will need to either insert it into the master buses, or send the master buses' outputs to the unit and return the processed signals to two channels.

Whether you're using software or hardware, you'll want to use the compressor in stereo mode (see Figure 1) to avoid any undesirable ping-pong effects within the stereo field. Stereo mode tells the compressor to treat both sides the same when the threshold is broken on either channel. This way, louder sounds panned to either side won't get compressed while the other side is untouched. Again, while there is no right or wrong in applying compression, you should understand your compressor—and how it will affect your drum sound—before you start twisting knobs and pushing buttons.

I like using a fast attack, as this allows the compressor to clamp down on the transients of the drum strikes. Compressing the smack of the drum fattens the tone the way tape compression does, because

> Get the drums sounding the best that you can *before* you create the submix.

you are pushing down the loudest part (the transient), and getting it closer in volume to the room tone. This creates more headroom (because the loudest part has been compressed), which therefore allows you to turn the signal up with the makeup gain, emphasizing more of the body of the drum and the tone of the tracking room.

If you're using a fast attack, I also recommend using a medium to fast release. Once you've manhandled the transients, you don't want the compressor to hang out too long and squash the body, as well. In fact, you can actually thin the sound out if you compress too much of the signal. Slower releases *can* be more useful when parallel processing, because the "over-processed" sound is really more of an effect that you're blending with the original tracks, rather than a final drum sound.

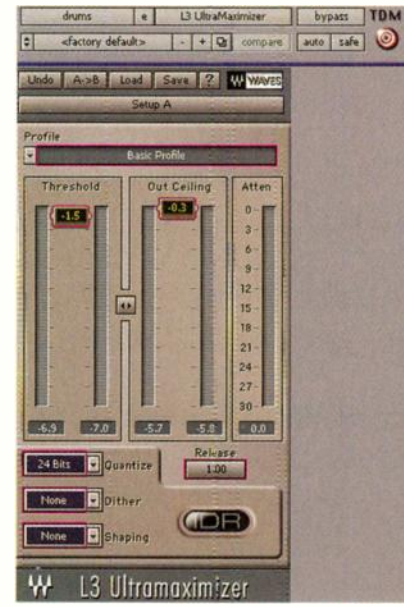

Fig. 2. This Waves L3 Ultramaximizer setting was used on a drum submix. Note the higher threshold setting, which produces less compression.

Lower compression ratios and higher thresholds can help you create your desired effect without making things sound too processed. Try somewhere between a ratio of 2:1 and 4:1, and a gain reduction of 2dB to 4dB. That being said, certain mastering limiters (with inherently higher ratios) could be effective when used sparingly. For example, the Waves L3 (see Figure 2) can help create a very thick drum tone if you don't overdo it. For a more exaggerated, over-compressed sound, higher ratios and lower thresholds with more gain reduction are the way to go, as this heavy-handed approach can be very effective when parallel processing.

Keep in mind that a compressor's parameters greatly influence one

another. For instance, a fast attack allows for makeup gain, while a slower attack might not leave enough headroom. Also, an effect somewhere in the middle can be reached by using higher ratios and higher thresholds (like the L3 example), or lower ratios and lower thresholds.

You must also be aware of all the equipment in the signal chain. Every piece of gear—be it hardware or software—imparts its own sonic characteristic to the tracks. Using the exact same settings on different equipment will yield different results. In the end, just turn the knobs until it sounds good—with "good" meaning "appropriate for the song" or "pleasing to your ears." You don't have to clone what your favorite producer deems as a good drum sound, unless that's your idea of bliss, as well.

WORDS TO THE WISE

It's common to apply compression to individual drum tracks in addition to the submix. One approach is to get the drums sounding the best that you can *before* you create the submix, allowing the bus compression to be the icing on the proverbial cake. However, you may find that you don't need as much processing on the individual channels once you get the submix in place. For this reason, you might want to try dialing in the individual tracks with the bus compressor active from the beginning.

Some people are eager to compress and re-compress every track on a recording. I highly recommend you not be one of them. While applying bus compression to drum submixes can really add to your sound, this technique isn't appropriate for every mix. A jazz drum recording, for example, probably wouldn't benefit from a squashed sounding "rock" drums on a laid-back jazz drum track where the player is using brushes and playing very dynamically. Mixing approaches are all relative, and though you don't always need to apply processing sparingly, you do need to apply it *appropriately*.

TURNING DREARY VOCALS INTO POP STAR PERFORMANCES, PART II

by Devine Evans

Even after you've beaten a less-than-stellar lead vocal into submission, you may need to apply a little more polish before you can call it a day. I've found that a few single-line harmony parts can increase energy, as well as distract listeners from the main vocal. Although harmonies can be added anywhere throughout the song, I especially like to add these additional notes in the transitions from the verse to the chorus.

Harmony synthesizers, pitch plugins, auto doublers, and other such processors offer infinite possibilities for creating harmony parts from an existing lead vocal. My personal preference is to do all my pitch modifications in Celemony Melodyne. To begin, I simply export a two-track mix of all the background vocals, a mono track of the vocals I will use to create the pitch variations, and a stereo mix of the music tracks. Once I open Melodyne, the first thing I do is set the session's tempo to match the tempo of the incoming audio files. As with most DAWs, the tempo can easily be adjusted on the transport bar (Shift-Command-T on a Mac, or Shift-Alt-T on a PC). Once the tempo is set, I can now import the audio files I exported from Pro Tools to begin the modifications.

In Melodyne, there are a few things I always check to ensure the accuracy of my edits. The first thing I do is set the Scale Snap on, so I can properly analyze and transpose the vocals without any surprises. With the Scale Snap selected, I stop by the Prefs menu, and make sure the box that says "Consider original scale notes on Scale Snap" is checked. This enables Melodyne to understand which notes were—or were not—a part of the original scale. This is important, because as we generate new harmonies with different scale degrees, it will not force the original scale to snap to the new scales.

Now, I open up the arrangement view (Shift-Command-A on a Mac, or Shift-Alt-A on a PC), select the audio, go to Edit and choose Paste Special Menu, and then select "Copy-and-Paste selection to Parallel Track." This will create a new track with an exact replication of the original audio file. Of course, this is going to introduce phasing, but, lucky for me, Melodyne makes this problem easy to fix. All I have to do is select the duplicated region, go to Edit, scroll down to Edit Pitch, and select "Add Random Offset to Pitch Center." This randomizes the pitch center of the notes to simulate natural human fluctuations in pitch. This is one of the best ways I have found to ensure two copied audio regions have unique qualities. With the pitch center randomized, I now click and drag each note to the appropriate interval to create my harmony parts. With the new harmonies in place, I like to make a few minor adjustments to timing and formants. I do this to add a little more character to the vocal—making it even *more* different than the original file. As soon as I am pleased with my results, all that remains is to export my files and import them back into Pro Tools.

FEEL INJECTION VIA WHISPER TRACKS

The next time you listen to a song by Michael Jackson or Mariah Carey, pay attention to the techniques they use to increase the sense of passion in their words. You may notice these singers are masters of what I call "the breath to tone ratio." A good ratio for this technique would be 70 percent tone to 30 percent breath. You want to hear the notes clearly, but you also want the intimacy of hearing the presence of breath (or air) change the feel and texture of the performance. There are five keys to recording successful "whisper tracks":

[1] The performer must perform the exact phrasing and intonation of the main vocal part.

[2] They must sing as if they are whispering into the ear of a men's magazine model like Vida Guerra, and that means no *tone* at all.

[3] The performer must *over* annunciate the lyrics for maximum clarity.

[4] Keep the headphone levels down! The vocalist will be whispering at such a low volume that you will need to boost the gain on your mic preamp quite a bit. The last thing you want is to increase headphone bleed to a ratio of 60 percent headphone bleed and 40 percent whisper. That would make this whole process painful and pointless!

[5] Mute the lead vocals throughout the entire phase of the whisper track recording process. Believe me, you don't want to deal with the challenge of editing out a lead vocal that slipped through the headphone defense system.

The actual recording process should pretty much be a breeze. The most important things to look out for are the little pops and clicks that a whispering mouth can make. Once I have stacked two stereo

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pairs of whisper tracks, I'm done.

Now that I have four amazingly recorded whisper tracks, I can begin the editing process. To begin, I solo each track for maximum focus. In addition to the quest to eliminate room noise—or any other glitches that slipped by me during the recording process—I do a simple "s," "t," and breath check for each whisper track. Especially at the end of a phrase, nothing sounds worse than eight out-of-sync "esses" that sound like a flutter of open hi-hats, 16 "t" sounds that have a sixteenth-note triplet feel, or 32 breaths that sound like an audience reacting to a scene. The goal here is to make sure timing and clarity are flawless in every performance. If the problems are minor, I use Synchro Arts VocAlign Pro. In life or death sessions, I prefer to perform each edit and time alignment manually, one "s," "t," or breath at a time.

With everything recorded and edited to perfection, I quickly solidify the presence of the whisper tracks with a few signal processors. At the top of the signal chain is GRM Tools Bandpass. As air transmits strongest in the midrange frequency, I bring focus to the mids by completely removing a lot of the top and bottom. Filtering out low end helps me eliminate as much room noise as possible, and cutting highs increases the clarity of the whisper tracks. Next, I slap on a Waves R-Comp, because I don't want the compressor to react to anything other than the specified frequencies of my filtered vocals. I tend to go with extreme compression settings, which are great for helping whisper vocals kick in and provide maximum support to the main vocal. The next step is to "double" de-ess my vocals using two Waves DeEsser plug-ins. I set the plug-ins to two different frequencies—6kHz and 10kHz—mostly to catch any sneaky "sss" sounds that may have slipped through the filters at the top of my effects chain. Occasionally, I like to add the SoundToys Tremolator—no need to talk tech, it just sounds cool! Once my tracks are filtered, compressed to death, de-essed, and Tremolated, I send my "W-FX" track to a stereo aux return, where I enhance or alter the stereo field to taste using Waves S1 Imager.

BRINGING IT ALL TOGETHER

Because I work in various platforms, I do a lot of importing and exporting. It is absolutely imperative I remain extremely organized with every move I make. Once all the editing, comping, creation of harmonies, and imported MIDI tracks are brought back into my master session, I spend a lot more time fine-tuning every vocal throughout the entire song. Sometimes, making a song perfect means I need to undo one or two moves, or it could mean that I need to undo *everything*. The key to being a professional is being willing to do whatever it takes for as long as it takes to make something right. If you give your clients this level of commitment, the rewards and reputation you earn will follow you through your entire career. EQ

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STEMS AND HIDDEN TRACKS

by Jonathan Stars

For me, one of the handiest features of working with a software mixer over a physical mixer is that I can hide channels I don't need to see. In this article, I'll explain how to use stems and memory locations to group and hide channels in the Pro Tools mixer.

Using stems is the same as creating subgroups or buses to premix parts of your session to a fewer number of faders, usually for processing. The way I use it most often is to take individual percussion instruments and combine them onto a single stereo fader. I've also used it to simplify working with background vocals, horns, and strings. After hiding the source tracks, you can really reduce the clutter of your mix.

In Figure 1, you can see a few channels of the mixer in a session I've been working on called "I'm Gonna Rock"—a song I wrote with my 9-year-old niece. In order to fit all 21 tracks on my 18-inch monitor I have to use the Narrow Mix setting under the View menu. It's not my favorite way to work, because in order to squash each channel, Pro Tools abbreviates text up and down the strip. And there's less throw in the horizontal pan sliders. Like many people, I use external percussion instruments such as BFD, Strike, Drumagog, and Reason, and I like to be able to keep all my volume controls and automation in Pro Tools, rather than switching between applications. So Reason just sits in the background, and the MIDI is right there in Pro Tools.

Fig. 1. Narrow Mix setting.

Fig. 2. Send settings.

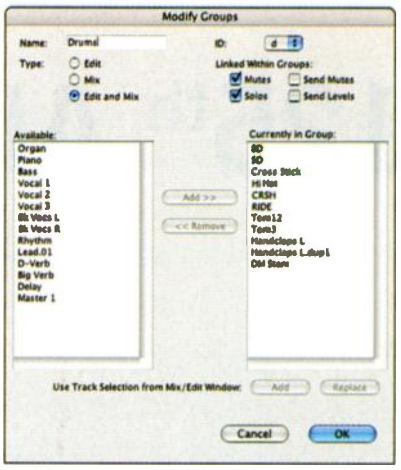


Fig. 3. The Group dialog.

STEMMING

In this session, I have eight percussion instruments and a stereo set of handclaps. Instead of sending them to the mains on Audio Out 1-2, I sent them to stereo Bus 1-2. Then, I created a new stereo Aux Input track. It's important not to just create another audio track, because it won't accept input from the buses (I pulled some hair out over that one). On the Input button, I selected Bus 1-2, and I set the output button to Out 1-2. In Figure 2, you can see a Tom track on the left being sent to the DM (drum) Stem on the right.

At the same time, I created a second Aux channel and set its Audio Input Path selector to Bus 1-2—just like the stem. On this channel, I inserted a D-Verb set to Small Ambient to give the drums and handclaps a little room sound. If I'd wanted to put the handclaps in their own space, I would have added a send selector to each of the percussion and handclap tracks, and I probably would have used Bus 3-4 for percussion, and Bus 5-6 for handclaps. As it is, I did send the snare and toms out to an additional bus so I could add a more spacious auditorium-type reverb.

GROUPING

Then, I muted everything except the percussion tracks, and did a rough mix of them in relation to each other—both in volume level and stereo panorama. The easiest way to do this is to create a Group for the percussion tracks, and then click the Solo button on any of those tracks. I Shift-clicked on each of the percussion tracks and the DM Stem, went to the Track menu and chose Group. In the Type area, I selected the Edit and Mix button, and I checked the boxes next to Mutes and Solos as in Figure 3. So far, so good. But then it started to bug me that the percussion tracks were all the way over on the left of my mixer, and the Aux tracks were on the right. Oh, sure—I could move the Aux tracks over next to the percussion. After all, they're just virtual tracks. But I like to keep my sessions consistent with the processing over near the Master fader. So here is where I started hiding tracks.

HIDING

As all tracks were currently showing, I created a new memory location titled Show All. Now here's the cool part: In the Time Properties area, I clicked the None button, and in the General Properties area, I checked the box next to Track Show/Hide. This doesn't create a memory location at all. It just remembers what tracks are showing. Brilliant!

After I had that set of tracks memorized, I created other "locations" with fewer instruments. In the track window, I displayed the Track List pop-up. Then, I clicked on all non-percussion tracks (excluding the effects channels) to hide them from the mix window. Next, I created a new memory location titled Just Drums. Finally, I redisplayed the other tracks, and hid all the drum tracks except for the stem. I created a location for that

called Hide Drums. Now, by typing the key combinations for those "memory locations" on my numeric keypad, I can hide and display the drums at will. (How you recall memory locations differs, depending on whether Numeric Keypad mode is set to Classic, Transport, or Shuttle.)

SOLOING

One thing that happens when you solo a stem track is that the source tracks don't play, leaving you with silence. That's just not going to work! The way around that in this example is to set the percussion tracks to Solo Safe. Simply Command-click (Macintosh) or Ctrl-click (Windows) on the solo button for each of the percussion tracks. The Solo button will turn gray. Now, I can hide the tracks and control whether they all play or not by soloing or muting the single stem channel. So after a little organizing by stems, I only need to concern myself with ten full-width channel sliders, rather than the 21 narrow channels I started with.

OTHER POINTERS

If you add other tracks to your session, you may need to edit your show/hide memory locations. Select a location, and add or subtract tracks until it looks the way you want. Then Control-click (Mac) or Start-click (Windows) on the memory location. Once the Edit Memory Location dialog appears, simply click OK.

But be careful! If you Option-click (Macintosh) or Alt-click (Windows) on a location, you'll delete it! The keys for Delete and Edit are very close to each other. The good news is you can Undo if you mess up. You may also need to add or subtract from any Groups you've created. Just double-click on the letter to the left of the group name to bring up the Modify Groups dialog. Then, double-click items on the left to add them to the Group, or on items to the right to remove them from the Group.

Finally, if many of your sessions use a similar setup, I suggest you make a template. That way, you'll have all your tracks with their names, stems, groups, and memory locations already set up. Save the current session under a different name and location. Then, remove all the MIDI and audio tracks and any automation. I also clear the tracks from the Regions list. Be a little cautious about that process. When presented with the Clear Regions dialog, the Remove button is the correct choice. If you use the Delete button, you'll permanently remove the regions from the other session on your hard drive. Not good!

THE END

So there you have it. You can simplify your mixing by using stems and hiding tracks. You'll only have to use this technique a few times before it becomes second nature. There are some wonderful tools here. Start using them!

CHEAT SHEET

PROPELLERHEAD RECYCLE

by Craig Anderton

Cheat Sheet delivers concise, explicit information on specific recording/audio-related subjects. This installment describes techniques for Propellerhead Software's ReCycle, which can time- and pitch-stretch digital audio files.

GETTING STARTED

Before creating a loop, enter the original file's length in the Bars and Beats fields. Observe the Original Tempo field to the right: If it's double the original tempo, halve the number of bars. If it's half the original tempo, double the number of bars.

ADD SLICES BASED ON TRANSIENTS

ReCycle stretches tempo by slicing the file at transients into discrete blocks of sound. To add slices at transients, drag the Sens slider to the right until a marker appears at each transient. This works well for simple, highly percussive files.

ADD/REMOVE SLICES MANUALLY

To add a slice marker, click on the Pencil tool, then click on the waveform where the slice should occur. To remove a marker, use the Arrow to click on the top of the marker (the triangular head), then go *Edit > Delete*.

ADD SLICES ON A 16TH-NOTE GRID

Go *View > Show Grid*, then *Process > Add Slices at Grid*.

ADD SLICES ON AN EIGHTH-NOTE GRID

Temporarily enter *half* the number of Bars in the Bars field. Go *View > Show Grid*, then *Process > Add Slices at Grid*. Return the Bars field to the original value; slices appear on each eighth-note.

REMOVE CLICKS CAUSED BY TRANSIENT PLACEMENT

Choose the Arrow tool, and click within a slice in the waveform view to audition the slice. If you hear a click at the beginning or end, move the starting or ending marker respectively until the click becomes inaudible. Usually this requires only a slight tweak, by moving the marker to a zero-crossing point (zoom in if needed).

REMOVE CLICKS BY ADDING AN ATTACK TIME

If moving markers doesn't eliminate clicks, enable the Envelope section by clicking on its Effect On/Off button. Add a slight attack time (1–10ms). This will "soften" the slice's initial transient and often remove stubborn clicks.

NAVIGATE THROUGH SLICES

In ReCycle's "transport" section, click on the "Fast Forward" button to move to, and play, the next slice. Click on the "Rewind" button to move to, and play, the previous slice. The "up" button plays the current slice.

REMOVE ALL SLICES

Type Ctrl-A and go *Edit > Delete*.

EXTEND SLICE DECAY

If you slow down a loop, a gap opens up between the end of one slice and the beginning of the next. Set the Stretch control to 0% and listen. If the loop sounds okay, leave Stretch down. Otherwise, turn up Stretch to extend the slice's decay until it fills the gap between slices. If you speed up a loop, Stretch is usually best at 0%.

CROP LOOP

Drag the left and right locators on the bottom of the waveform view to the desired trim points, then go *Process > Crop Loop*.

CREATE PERCUSSIVE EFFECTS

Normally, Decay is set to Inf so that a slice plays through to the end. To make slices more percussive, turn down Decay to give each slice a short decay time.

CREATE COMPLEX RHYTHMIC PATTERNS

You can silence individual slices, thus creating complex "gapped" rhythmic patterns. Use the Arrow tool to click on the marker that starts a slice you want silenced (thus creating a gap in the pattern). To select additional slices to silence, Shift-click additional markers. Go *Process > Silence Selected*; the slices will be replaced by a blank space in the waveform view. To hear them again, uncheck Silence Selected.

NORMALIZATION OPTIONS

Go *Process > Normalize*. You have two options: Whole File, which normalizes the entire file by bringing its maximum peak to 0dB, or Each Slice, which brings the peak of *each* slice to 0dB.

ADD COMPRESSION

ReCycle includes a compression-like function. Enable the Transient Shaper section by clicking on its Effect On/Off button. Threshold is like a compressor's threshold control, while Amount acts as a ratio control. The Gain meter shows the amount of gain reduction being applied.

FIX EQ-INDUCED DISTORTION

ReCycle has an EQ section with low cut, high cut, and two parametric mids. If you use this to add excessive gain, the sound can clip. Use the Gain control (to the left of the Tempo control) to reduce the overall level.

THE TWO WAYS TO SAVE A REX FILE

ReCycle lets you save a file as a single REX-format file, or save each slice individually. To save as a single file, go *Process > Export as One Sample*, then click on Save. To save each slice individually, uncheck Export as One Sample, choose the file format (*e.g.*, WAV or AIF), then go *File > Export*. Choose the sample rate (11.025–96kHz) and bit depth (16/24 bits), and check "Export MIDI File with the Same Name" if you want to create a MIDI file that can trigger the individual slices when both are loaded into a host program. Click on OK. Careful: This might produce a lot of files (one for each slice), so it's a good idea to create a folder and save into that.

SAVING AS A STRETCHED WAV/AIF FILE

Set up the slicing and all controls (Attack, Stretch, Pitch, Tempo, etc.) so that the file sounds exactly as desired, including pitch and tempo. Then go *Process > Export as One Sample*, click on Export, choose the file format (*e.g.*, WAV or AIF), select the sample rate and bit depth as described above, then click on OK. The result will be a digital audio file, stretched according to ReCycle's settings.

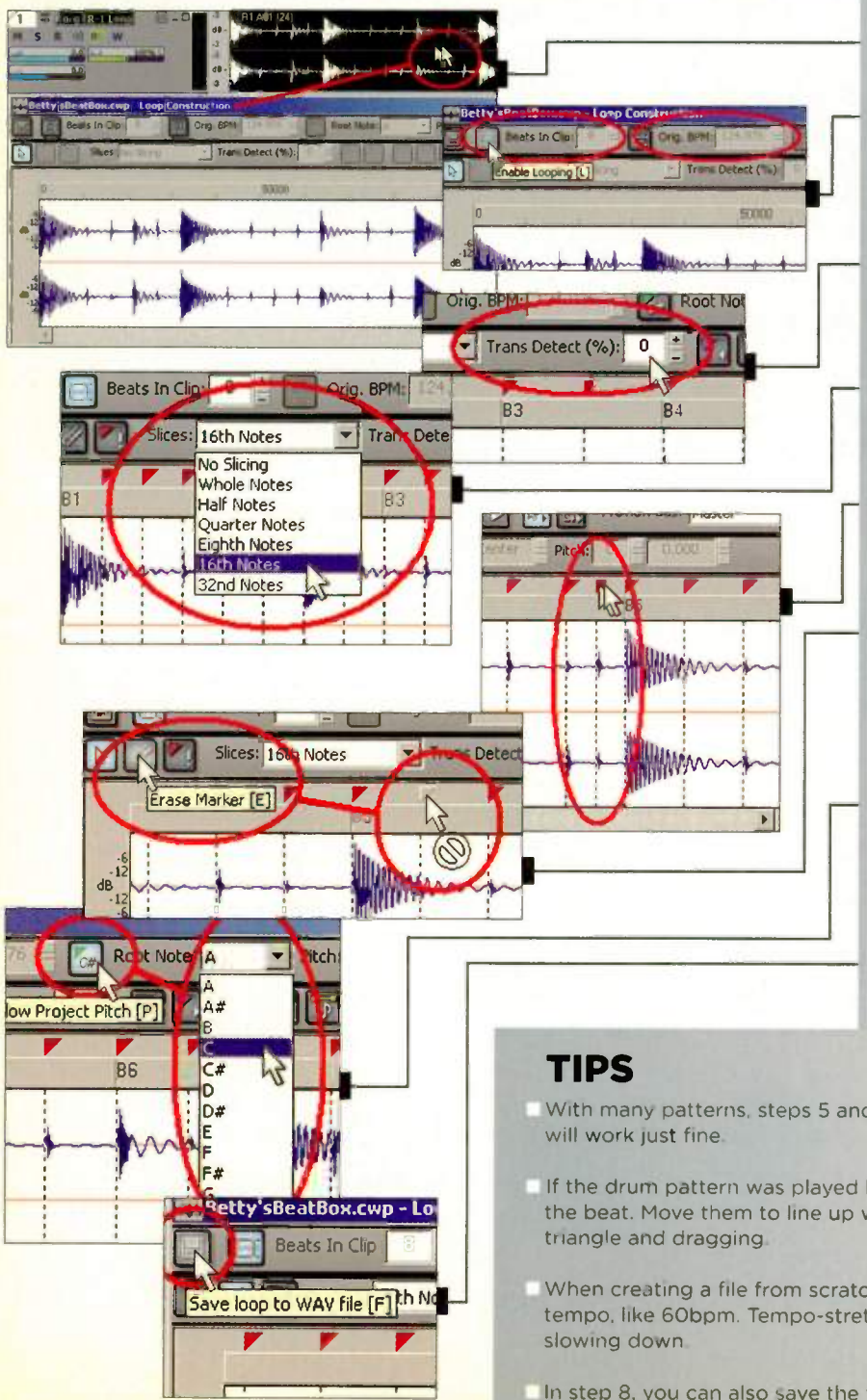
BY CRAIG ANDERTON

CAKEWALK SONAR 7

Creating stretchable files doesn't have to be difficult

OBJECTIVE: Convert rhythmic loops into Sony-format "Acidized" files in the easiest possible way.

BACKGROUND: "Acidizing" a file so it stretches over a wide range of tempos can be difficult with complex material. But with simple rhythmic loops, if you're more interested in speeding up than slowing down the tempo, you can "Acidize" the file in a few easy steps.



STEPS

1. Double-click on the file to be stretched to open the Loop Construction window.

2. Click the Enable Looping button. Sonar estimates the number of beats in the file; if correct, the *Orig. BPM* field displays the original tempo. If not, enter the correct number of beats in the *Beats in Clip* field.

3. For *Transient Detect*, enter 0 and hit Return. The transient markers that control slicing will jump to the current value in the *Slices* field.

4. In the *Slices* field, choose the rhythmic value that matches the pattern (*e.g.*, with a 16th note-based pattern, choose 16th notes).

5. If a beat doesn't have a transient marker, like a 32nd note accent in a 16th note pattern, add a marker in the strip with the other marker triangles by double-clicking above the transient.

6. If there's an unneeded transient marker (*e.g.*, in the middle of a sustained eighth note cymbal crash where nothing happens underneath it), remove it by clicking on the Erase tool, then clicking on the marker you want to remove.

7. If the material is pitched (*e.g.*, synth arpeggiation), click the *Follow Project Pitch* button and select the file's original key from the drop-down menu. With unpitched material, leave this field grayed-out.

8. Click on the floppy disk button to save the file; it will contain the additional stretching metadata.

TIPS

- With many patterns, steps 5 and 6 may not be necessary as 16th note slicing will work just fine.
- If the drum pattern was played by a human, transients likely won't fall right on the beat. Move them to line up with the transient start by clicking on the red triangle and dragging.
- When creating a file from scratch that you want to stretch, choose a slow tempo, like 60bpm. Tempo-stretching works better for speeding up than slowing down.
- In step 8, you can also save the file by dragging the clip to the desktop.

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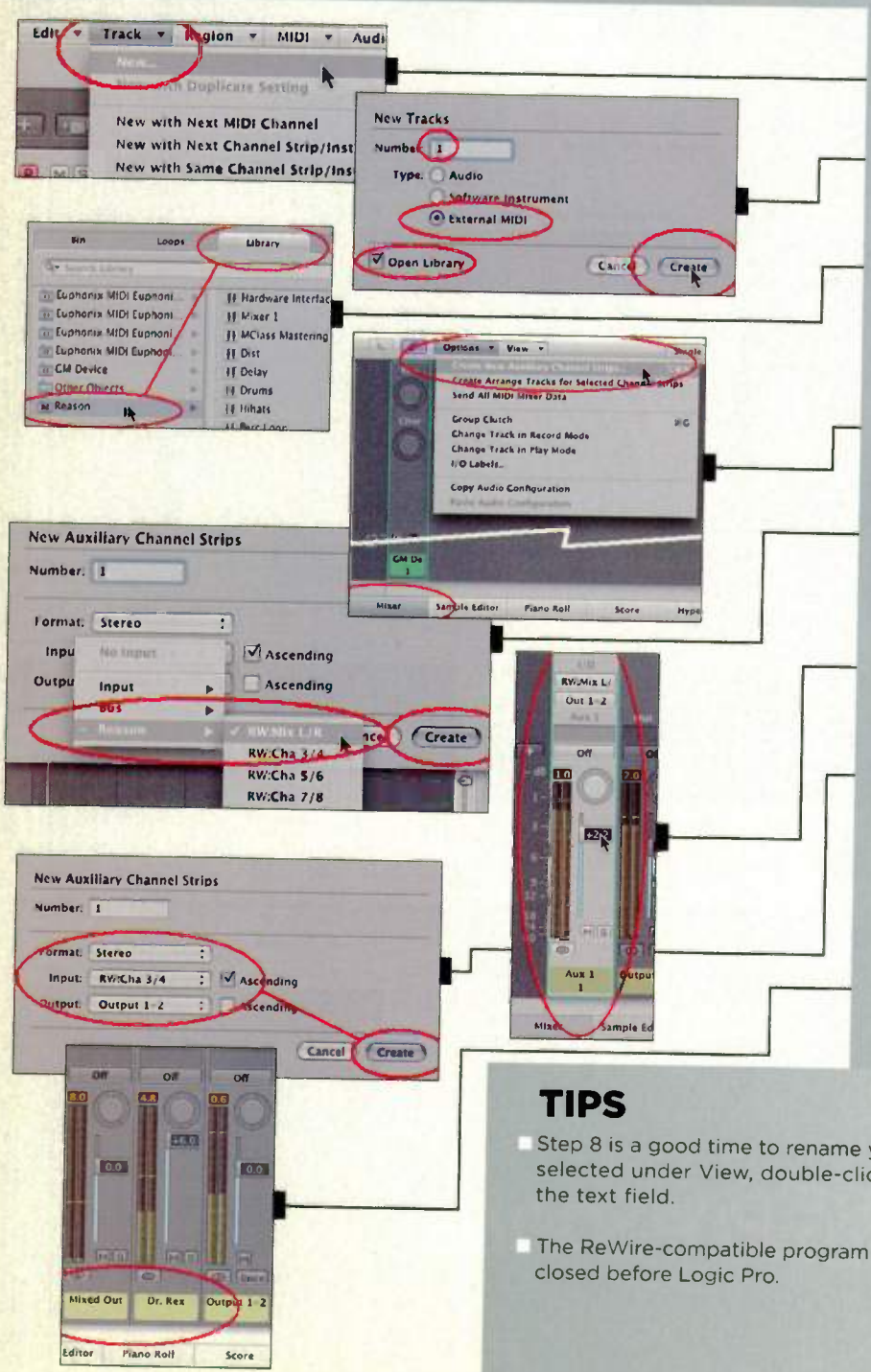
BY CRAIG ANDERTON

APPLE LOGIC PRO 8

Expand Logic Pro with ReWire-compatible synthesizers and programs

OBJECTIVE: ReWire programs like Ableton Live or Propellerhead Software Reason into Logic Pro 8.

BACKGROUND: ReWiring with Logic Pro to stream audio into Logic Pro's mixer used to be complex, but version 8 simplifies the process greatly. We'll show how to ReWire Reason's mixed output into Logic, then how to assign Reason instruments to individual tracks. Make sure Reason is *not* open before opening Logic.



STEPS

1. Assuming there's an open Logic project, click on Track and select New.

2. In the New Tracks dialog box select 1 track, External MIDI, and Open Library. Then, click on Create.

3. Under the Library tab, your ReWire devices appear. Double-click on (in this example) Reason, or whatever ReWire device you want to use. The ReWire device will launch.

4. Click on the Mixer tab, and under Options, select Create New Auxiliary Channel Strips.

5. Specify the Format (stereo), Input, and Output. Under Input, select Reason and RW:Mix L/R to pick up Reason's mixed output; then click on Create.

6. Assuming the Mixer tab is still selected, you'll see Reason's output appear as a track.

7. You can also bring individual instruments into tracks. Repeat steps 4 and 5, but this time select a different input, then click on Create. Here Reason output channels 3+4 are being selected, because Dr. REX has been patched into these outputs in Reason itself.

8. A new track appears with the individual instrument. Keep repeating step 7 until you've assigned all desired instruments.

TIPS

- Step 8 is a good time to rename your tracks. Assuming Track Name is selected under View, double-click on the track name and enter text into the text field.
- The ReWire-compatible program has to be opened after Logic Pro, and closed before Logic Pro.

MICS MEET USB—THE UNIVERSAL *STUDIO* BUS

NOT ONLY HAVE USB MICS COME OF AGE, SO HAS THE USB BUS

by Craig Anderton

What's that? USB stands for Universal *Serial* Bus? Okay, but when you consider what it does in the studio, it's understandable some might think it has the alternate meaning in the title.

Of course, there are so many USB audio and MIDI interfaces—as well as controllers—that we're not even going to go there. Instead, we're going to delve into USB mics, and sprinkle additional tips and techniques on getting the most out of USB. So, let's get on the bus—it's quite a ride.

USB MICS: STUPID IDEA OR INSANELY GREAT?

Plugging a mic into a USB port seems weird: Mics are *analog* devices, and so it shall ever be. Except it isn't any more, because we have USB mics that plug into your computer's digital innards. Say what?

Some "real" recording engineers don't take USB mics seriously, because of a few inherent limitations—but after working with USB mics for well over a year, I've become a fan. Let's look at the limitations first, then get to the good stuff.

- **You're locked into a specific A/D converter.** A standard analog mic can plug it into any A/D converter for digital recording, so you can take advantage of technological improvements and match your needs to your budget. A USB mic's A/D converter can't be changed—but A/D conversion technology has matured to the point where quality differences among A/D converters are relatively small. While that $70 USB mic might not have the "converters of the gods," it's not going to suck.
- **USB mics are disposable.** The computer world changes so fast there's no guarantee the USB bus will even exist in ten years—but your 1950s vintage mic will still plug into a preamp. Although sE Electronics hedges their bets with a dual-output mic, that adds to the cost and so far, is not the norm. So yes, it's likely your USB mic will have a limited life span. But thanks to aggressive pricing and the convenience factor, your USB mic will have paid for itself many times over by the time you have to retire it to your personal Museum of High-Tech Things that Are Now Doorstops.
- **USB was never designed for audio.** There are two problems with audio over USB: voltage (there's no +48V for phantom power) and, for lack of a better term, "dirt"—peripherals on your USB bus (*e.g.*, hard drives) can spray clicks and noise onto the bus. Proper filtering can reduce the noise, and voltages can be multiplied; how well a manufacturer addresses these two issues is one of the main differences among USB mics.

And now, let's look at the good stuff—because if there wasn't good stuff, I wouldn't be writing this article.

- **Exceptional convenience.** USB mics have been a great addition to my mobile computing world of recording and video narration/editing compared to bringing a mic, preamp, and bulky XLR cable. What's more, no one has ever noticed a difference between the narration I record on the road with the USB mic

and the narration I record at home with a full setup.

- **Instant annotation for sessions.** Why take written notes for sessions? Just record a track with comments and annotations. I don't have a huge mic locker, and I don't want to use my $995 tube mic just for taking notes. But when the mood hits I can feed a USB mic into a track, and hit record.
- **Recording rehearsals.** Yes, those cute little portable recorders are great for recording rehearsals. But USB mics often provide better sound quality, and a better choice of patterns, than the ultra-small mics included with typical recorders. Take your laptop to the rehearsal, plug in a USB mic, and go.
- **Songwriting.** I've sometimes used a USB mic with a laptop to sing an idea for a song. Nothing too exceptional there, but the current generation of USB mics is good enough that if you record a really great take that you can never quite duplicate, you can fly in that part, add a little processing if needed, and have something that's useable for your final recording.
- **The "I just need one more mic" situation.** Surely you've had those occasions where you needed "just one more mic" and your mic locker comes up empty. Break out your USB mic, plug it in, and capture that one extra signal source.
- **All the other obvious stuff.** Podcasting, interviews, taking audio notes—they're all candidates for USB mics.

BETTER USB PERFORMANCE

Software isn't all that gets updated: Take your motherboard. For example, for me Line 6's USB-based UX8 worked fine at 44.1/48kHz, but not 88.2/96kHz. The computer manufacturer (PC Audio Labs) recommended updating my motherboard, and that solved the problem.

Updating a motherboard is not always trivial. PC Audio Labs had a utility available online that you burned to CD-ROM, then booted the computer from the CD; from there on, the process was pretty much automatic. However, it's not always that easy—check your motherboard manufacturer's website for details. Should the flash process misfire (power your computer from an uninterruptible power supply!), you could lose your motherboard until the flash memory is physically replaced. Consider having a pro shop do it for you.

CONNECTING USB MICS

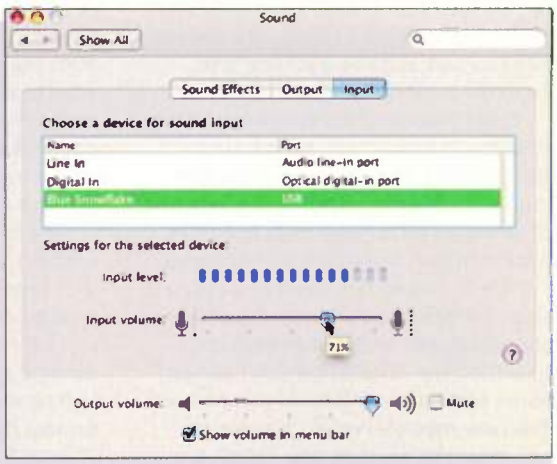
USB mics aren't quite as simple as just plugging a standard mic into a patch bay. Here's what you need to know.

Patch the USB cable from the mic directly to the computer. Most companies recommend not plugging their mics into a USB hub. If your computer doesn't have a lot of USB ports, a USB hub can expand the number of USB ports for low-bandwidth devices such as mice, printers, and keyboards, thus saving computer ports for your music devices.

A better way to add more USB ports is by plugging a USB port card (*e.g.*, PCI) into your computer. Get one with as many ports as possible; you'll fill them up sooner or later. Avoid combo USB/FireWire port cards, as some FireWire interface manufacturers report problems with the FireWire section. If you install a USB port card, use it for your audio peripherals; plug electrically "dirtier" peripherals, like USB hard drives, into your computer motherboard's USB ports.

Most USB mics will work with either USB 1.1 or USB 2.0. See the section "Sorting Out USB Speeds" on page 50.

With Mac OS X machines, Core Audio will recognize the mic and it will operate at relatively low latency. Simply call up System Preferences, click on Sound, click on the input tab, and select the mic as the input source, as shown in the screen shot.



With Windows, there are two options. USB mics are *class-compliant* devices that will show up as input devices with Windows XP (and generally Vista), similarly to how they do with the Mac. Specify your mic as the Sound Recording device by going *Start > Settings > Control Panel > Sound and Audio devices,* then clicking on the Audio tab. However, this will likely have considerable latency. Check the manufacturers' websites for custom ASIO drivers for their mics or mic interfaces (*e.g.*, CEntrance, which uses a universal ASIO/GSIF/WDM driver for the MicPort USB mic adapter). ASIO4ALL (www.asio4all.com) is another low-latency driver option that will generally give better performance than standard Windows drivers. Many manufacturers also offer small applets designed to give more flexibility, such as phase reverse or gain control.

As to Vista, how it handles USB audio is somewhat different compared to XP, so check the manufacturer's website for compatibility. Most USB mics are 32-bit Vista-compatible.

If you're a complete newbie to installing USB mics, check out Sweetwater's helpful PDF tutorial at www.sweetwater.com/sweetcare/techlib/support/USB_Microphone_Guide.pdf.

THE WORLD OF USB MICS

Let's take a look at some representative USB mics (all prices are list prices). This isn't meant to cover Everything That's Out There because, well, there isn't time or space. Instead, we'll cover representative mics that indicate the breadth of what's available. All were tested on a Mac running OS X 10.4.11, and recorded into BIAS Peak LE 5.2. Playback was monitored through a Mackie Onyx Satellite feeding ADAM A7 speakers and Audio-Technica ATH-M40 headphones.

BLUE MICROPHONES

(WWW.BLUEMIC.COM)

BLUE got an early start with the Snowball ($139 with desktop stand and cable), a dual-capsule condenser mic with a 3-pattern switch that selects among cardioid, cardioid with -10dB pad, and omni-directional responses. Of the two capsules, the cardioid is optimized for voice and sounds relatively neutral, while the omni-directional has a brighter, more present high end that I generally preferred. Resolution is 16-bit/44.1kHz. It works with any mic stand with a standard thread, but the package also includes a tripod desktop stand.

One limitation for recording is the Snowball's lack of any monitoring facility—and you know what monitoring through a computer is like in terms of latency. Not a huge deal, but USB mics that can monitor are very handy.

The Snowball has been re-designed since its introduction, with a better-sounding chip and higher gain structure than the original (which needed some software applets for assistance). The new model is much harder to clip than the original (the -10dB pad option certainly helps for loud sources), and the higher gain makes it more useful with low-level audio source.

BLUE's latest entry is the Snowflake ($79), one of the least expensive (and most convenient) USB mics you can buy. Even if you never plan to use a USB mic, the cardioid-response Snowflake is inexpensive enough that you can have one sitting around for, if nothing else, getting better sound with Skype than the weird little mic built into your laptop's screen. I suspect that over time, though, you'll find other advantages of mic life in the USB lane. Like most USB mics, it offers 16-bit/44.1kHz resolution.

The Snowflake weighs next to nothing and folds up in a small case that holds the mic element and even a USB cable (included). You can also pull off the plastic case back, leaving a metal clip that can hook over your laptop screen. The mic not only rotates front and back, but swivels. The USB connector is a mini-USB type, saving further space and making the package even smaller.

And what about the sound? This little condenser mic exceeds expectations. It hypes the high end a bit and is subtly "peaky" in the upper mids (actually, though, that's a good thing for voice applications); I wouldn't record the Vienna Philharmonic with it. But for narration, quick acoustic guitar sketches, and recording rehearsals, it's surprisingly good—and the price is right.

USB FOR GUITAR

Wouldn't it be nice if you could plug your guitar right into your computer? Now you can, thanks to USB.

IK Multimedia's Stealth interface is a small USB gizmo: Plug your guitar into it (and optionally headphones), and your guitar becomes an audio source for your program of choice. You'll still have the usual latencies caused by running your guitar through a computer, but it does have low-latency ASIO drivers and works with Core Audio.

Another option is IK's Stomp I/O, which is primarily a footswitch control for their "powered by AmpliTube" series of programs (AmpliTube 2, AmpliTube Jimi Hendrix, AmpliTube Metal, and Ampeg SVX). However, the Stomp I/O also includes a USB audio interface, so you can use it with guitar—no need for other audio interfaces. And Native Instruments' Guitar Rig Session includes not only their Guitar Rig XE software, but also, a quality USB interface.

But if you really want to cut out the middleman, there's Behringer's iAXE USB guitar line, which plugs directly into your computer. Granted, the $120 street price means you're getting more of a beginner's guitar than a Paul Reed Smith, but for laptop jockeys on the road it simplifies life: Just bring the guitar and a USB cable. And once you change the strings and set up the action to your liking (setup tools are included), it's more playable than you might expect. Extra points: It includes low-latency drivers for Windows, NI's Guitar Rig combo software, Kristal multitrack recorder, and Audacity editing software.

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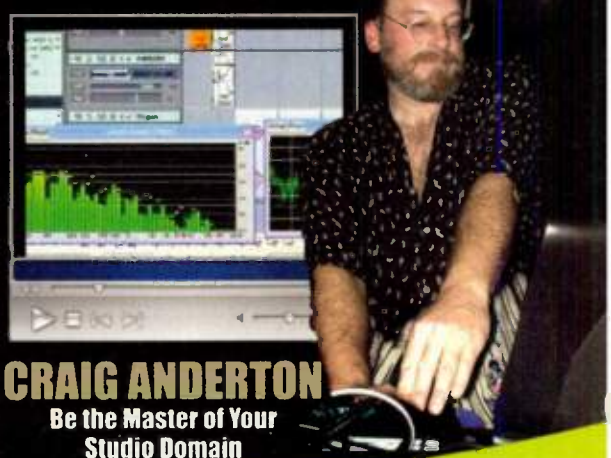

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FINALLY: NO MORE EXCUSES NOT TO BACK UP

You know you should back up your data (which is on a separate drive from your operating system—right?), but don't "because it's a hassle." So, grab a 500GB, 750GB, or even 1TB USB 2.0 hard drive. Just before dinner, plug it into your computer, and copy over all your data. Do this at least every couple of weeks, and when your data dies a horrible death (which it will), you'll be soooo glad everything's backed up. You can even buy packages at office supply stores with a hard drive and backup software that makes the process even easier.

sE ELECTRONICS

(WWW.SEELECTRONICS.COM)

sE made a name for itself with the sE 2200a, so sE adapted the cardioid, large diaphragm, gold-sputtered 2200a to the USB2200a ($499). However, it wasn't just a straight adaptation, and sE has added a couple ideas other manufacturers would do well to steal—I mean, emulate.

Most importantly, while the USB2200a is a USB mic, it also includes an analog, XLR out (that requires +48V) so the mic's lifetime is not tied to USB's lifetime—good move. What's more, both outputs are available simultaneously, so you can record straight with one out and at, say, -10 for the other as a "safety" in case of overload on the primary channel. It also includes headphone monitoring with a mix control (and headphone minijack) for zero-latency monitoring, -10dB pad, low-cut filter, and a "Mac/PC" switch that optimizes levels for the way the two platforms handle audio (there's also a third position you can try).

Sound-wise, the USB2200a is "honest" and neutral, with a smooth response over the frequency spectrum. I'd use this more for, say, piano and other acoustic instruments where I wanted a natural, warm sound.

Although it records at 16-bit/48kHz and outputs at 24-bit/48kHz, sE claims the USB2200a will lock to 88.2/96kHz clocks with "most software, writing files as 16 bit and, with the automatic conversion (bit stuffing), 24-bit files."

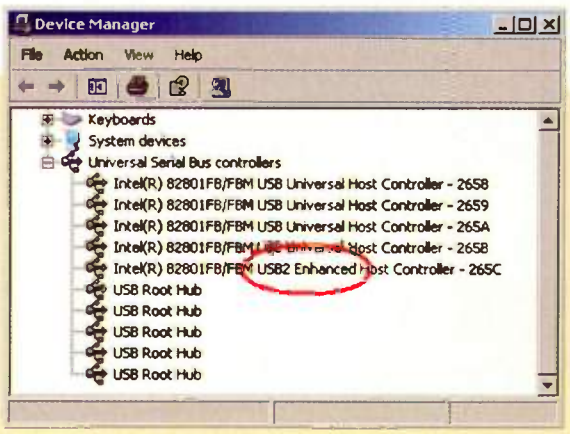
Bottom line: It's about $100 more than the non-USB version, but that buys you portability to go along with quality electronics.

SORTING OUT USB SPEEDS

USB 1.1 is *slow*—good for computer peripherals, and audio interfaces up to about four channels at 44.1kHz, but that's about it. USB 2.0 is much faster.

You'd think a port labeled "Full Speed" would be USB 2.0-compatible, but actually, that term applies to USB 1.0 and 1.1. USB 2.0 is called "High-Speed" and has a maximum rate of 480Mbps, as opposed to USB 1.1's 12Mbps. Got it?

Thankfully, USB devices are totally compatible. A USB 1.1 device will work with a USB 2.0 port, and a USB 2.0 device will work with a USB 1.1 port—but only at 1.1 speeds, of course.



All modern Macs use USB 2.0 ports. USB has been standard on Windows machines going back to Windows 98SE, so with older machines you may not know if it has 1.1 or 2.0 ports. To find out, right-click on "My Computer" then go *Properties > Hardware tab > Device Manager*. Expand the Universal Serial Bus Controllers tree; if you see "enhanced" for a host controller, then your computer has USB 2.0. You should also see standard controllers too, which handle 1.0 and 1.1 devices transparently.

SAMSON

(WWW.SAMSONTECH.COM)

My first USB mic was the cardioid C01U ($134.99), based on Samson's C01 mic. Substantial and efficient, I use it a lot for narration on video projects edited on the road because it's a little "forward" in the upper mids, bringing out intelligibility in vocals. While it lacks a bit of "air" in the high end compared to more costly mics, the overall frequency balance works well. It features a 19mm internal shock-mounted diaphragm, but includes a nice extra: custom software "SoftPre" drivers for Mac and Windows that offer low-cut filters, phase change, gain control, and metering. It's reasonably-well accessorized, with a swivel stand mount and 10' USB cable; resolution is 16 bits, and it supports 8/11.025/22.05/44.1/48kHz sampling rates.

Samson also makes the C03U ($389.99), a USB version of the multi-pattern C03, with switchable super-cardioid, omni, and figure-8 pickup patterns. It also features a 16-bit/48kHz A/D converter, low-cut filter, and -10dB pad switch; it comes with a USB cable and carrying pouch.

If you prefer dynamics, the Q1U ($89.99) is a super-cardioid dynamic mic with a neodymium element. Its A/D converter runs at 16-bit/48kHz, and the package includes a tripod desk stand and carrying pouch.

Finally there's the GTrack ($232.49), reviewed in the 01/08 issue. To summarize, it goes one step further than a USB mic, offering a USB interface where you can choose mic in, instrument in, or stereo line in. It also has level controls for headphone/line out volume, mic sensitivity, and the instrument/line ins. There's zero-latency monitoring in mono or stereo from the inputs, as well as the option to monitor playback from the computer.

The package includes a desktop

mic stand and extension cables for instrument and headphones (a good idea, as the GTrack jacks are 1/8"), and USB. GTrack is fairly heavy; I'd put it in my suitcase, not carry-on. Nonetheless, the combination of a good-sounding mic, interface, mixer, and monitor, all in one relatively compact package, is very appealing.

MARSHALL ELECTRONICS

(WWW.MXL-USB.COM)

MXL's USB mics were some of the first models that made people realize they were for more than just, say, podcasting. The USB.007 ($219.95) is a stereo, gold large diaphragm condenser mic with two capsules (identical to the ones used in their 990 mic, in an XY pattern). It comes well-accessorized: Rugged travel pouch, desktop mic stand, mic stand adapter, 10' USB cable, wind screen, manual, applications guide, and (how's this for a bonus?) free downloadable stereo recording software.

Using the mic is straightforward. Set the low/medium/high switch for the corresponding level you expect to record, plug in the USB cable, and go. You'll find the USB.007 sounds really good—at least on a par with any other mic in the same general price range, and it can withstand seriously high SPLs (they spec it at 137dB). What's more, the stereo image is impressively convincing—much more spacious and realistic than I expected. Like most other mics, it's 16-bit resolution but handles both 44.1/48kHz natively. Overall, this is a very sweet mic that offers really good value and smooth sound quality—I wouldn't hesitate to use this for "keeper" takes with serious portable recording. Yes, it's that good.

USB MEMORY STICKS: YOUR EXTRA HARD DRIVE

USB memory sticks can serve as solid-state drives that hook right into your computer. This is particularly good with laptops, which typically have only a single, 5400 RPM internal drive.

If you store your project on a USB drive, it will play back tons of tracks without hard drive issues like seek times. USB sticks don't record as fast as they can play, but still, I've been able to record a couple dozen simultaneous tracks to a USB 2.0 stick (and a hard drive would have given up sooner). To back up the stick data, just bounce it over to your hard drive.

Another good application for USB "drives" is with samplers that stream samples from disk, like TASCAM's GigaStudio 4. Although USB memory stick capacities still haven't reached the point where it's practical to store your beloved 60GB orchestral library, 4–16GB is still a lot. Besides, the way memory capacities are going, just wait a year. . . .

AUDIO-TECHNICA

(WWW.AUDIO-TECHNICA.COM)

Audio-Technica's AT2020 needs no introduction: This side-address, cardioid condenser mic with a low-mass medium diaphragm has become a mainstay in project studios, both for its reasonable price ($169) and high performance. It also handles a quoted 144dB SPL.

So it's no wonder that A-T adapted the 2020 for the USB world with the AT2020 USB ($249). Why the heftier price? Well, it sure sounds like they put some serious effort into the electronics, because the USB version has the same kind of "open" quality and low noise as the non-USB version (as expected, the output is 16-bit/44.1kHz). It also has a relatively "hot" output that will let it drive anything within reason, and the bass is tight, solid, and defined, with what sounds like just a bit of a high-end lift for added intelligibility.

Accessories include a tripod desk stand, pivoting stand mount, threaded adapter, 10' USB cable, and storage pouch. You won't find any additional applets or software, but the AT2020 USB works out of the box seamlessly with XP, OS X, and Vista.

In use, the AT2020 USB feels solid, sounds very quiet, and has the same quality of sound associated with the AT2020. It's great for when you want to go beyond podcasting into the world of quality recording.

MAKE IT LONGER

The typical recommended USB cable length is 5 meters, which may not be enough if your computer is in a "machine room" and you need to feed it with a USB peripheral. Solution? USBthere, Startech's line of USB extenders (www.startech.com). For example, their 2-port, bus-powered extender (approx. $140) runs USB 1.1 up to about 165 feet over standard CAT-5 Ethernet cable. But for USB 2.0, a one-port extender will set you back $700 and a 4-port, $800.

For an inexpensive USB 1.1 option, check out IOGear's GUCE51 USB (shown in picture; around $80). It's single-port, and extends to a claimed 198 feet using standard Ethernet cable.

I'VE SEEN THE LIGHT

Kensington's USB Flylight (www.kensington.com) is a small light that plugs into your USB port—great for working with laptops under low lighting. It typically costs under $20, and the flexible neck lets you aim the light wherever needed.

OUT OF SPACE, BUT NOT OUT OF MICS . . .

Other popular USB mics include the Røde Podcaster ($349), a dynamic cardioid USB mic; we didn't give it the full treatment here because Røde says it's tailored for voice. However, while it's great for podcasting, some musicians also swear by it for recording vocals. Nady's USB-1C ($229.95) features a large, pressure-gradient condenser gold-sputtered diaphragm, cardioid polar pattern, and FET preamp. And there are others, but let's wrap up.

CONCLUSIONS

USB mics started out as the Rodney Dangerfields of the mic world, getting no respect. But over time, that opinion has changed. Laptop jockeys and podcasters were the first to appreciate the simplification USB mics provide. Then songwriters got into the act, realizing that they could nail vocal ideas anywhere they had a laptop—and could often get up and running faster with a desktop system, as well. Now, even audio engineers recognize that when you run out of mics, pressing a USB mic into service can not only save a session, but often, produce results on a par with non-USB, upper-middle-class mics.

Even if you have no interest in USB mics, at least get an inexpensive one. You'll find uses you never considered, such as speech recognition for your computer, online telephony, and other applications that don't necessarily involve music. Then one day, you'll need to get down a song idea or do some narration, and you'll be hooked. The Snowflake is a fine choice due to its convenience, low price, and decent all-around performance. The Snowball is a logical step up from that.

If you're a songwriter with a laptop, consider a USB mic with zero-latency monitoring and a headphone jack (make sure you check out the GTrack). That eliminates additional gear you'd otherwise need. If you have to use a particular non-USB mic because it flatters your voice, then the MicPort Pro is an excellent option if you need monitoring (it can also provide high-quality audio from your laptop—I take it on trips). For tighter budgets, the MXL Mic Mate is ideal.

Or you can hedge your bets and get a solid, high-quality mic like the

BUT I WANT TO USE MY OWN MIC!

You have your own favorite mic, but it's not USB. Fortunately, both CEntrance and MXL make interfaces with an XLR connector at one end, a USB connector at the other, and electronics in between.

The MXL Mic Mate ($99, www.mxl-usb.com) is the simpler of the two, with +48V phantom power, 3-position analog gain control, 16-bit resolution, and like other MXL USB mics, 44.1/48kHz sampling rates. The USB output works with any standard USB cable.

We reviewed CEntrance's MicPort Pro ($149.95, www.centrance.com) in the 03/08 issue. It's similar to the Mic Mate, but the extra expense goes to adding a headphone jack (with volume control) for monitoring, mic level control for zero-latency monitoring, and 24/96 resolution. There's also a +48V phantom power switch.

For either adapter, I'd recommend throwing a female-to-male XLR cable in your backpack. While it's convenient to plug your XLR mic into either adapter directly, sometimes you might not want the extra length/weight. FYI: CEntrance is about to introduce the AxePort interface for guitar, but it was not yet available for review.

USB.007, sE USB2200a, or AT2020 USB. These mics illustrate why people have more than one mic in a mic locker: The MXL's stereo capabilities and sonic accuracy are welcome in a USB mic, the AT2020 gives a hotter, more present sound that's great for cutting through a mix, and the USB2200a's smooth, neutral response is ideal for capturing a variety of acoustic instruments, including percussion. These are all fine mics on their own that you can use in recording situations, but if you need portability, you have that as well thanks to USB. The USB2200a is of particular note, because while it's more costly, having the analog and USB outputs is a nice touch—and it has monitoring options if needed. And don't overlook the C01U, just because it's been around a while; it's a good compromise of price and performance.

Granted, not everyone needs a USB mic. But for those who do, the time has come where you no longer need to make any sonic apologies for using one. eq

LET'S BE CLEAR

Q8

Are your mixes not what you expected? Numerous obstacles exist in even the best designed studios that prevent you from achieving that perfect mix. Our solution: The Q8 - the latest in the acclaimed Equator Q Series monitor line.

By incorporating time and phase-accurate Zero-Point Reference™ Co-Axial transducers with cutting edge DSP, the Q Series deliver a level of performance that until now was unimaginable.

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*Automated SRC Software & Mic optional - Manual Control Software included

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CHAMELEON LABS 7720 STEREO COMPRESSOR

Chameleon Labs 7720 Stereo Compressor.

by Jeff Anderson

Chameleon Labs' 7720 1U rackmount Stereo Compressor is sparking a lot of conversation amongst "pro-level" recording enthusiasts. While there are plenty of stereo compressors on the market, the 7720 appears unique in that it resembles certain high-end hardware compressors in functionality (such as the SSL Buss Compressor), yet it streets at a modest price. So we grabbed a unit to see if we could answer the obvious question: Does the 7720 really offer professional sound quality at a low price, or is this just another cheap knockoff?

OVERVIEW

Electronically balanced and utilizing THAT Corporation VCA circuitry, the 7720 is based on what Chameleon Labs calls a "trusted design" (hint: reread the intro). The best part is that Chameleon Labs has made a few tweaks to said "trusted design"—tweaks that were informed by consumers during the design process. See if you can spot them, then head over to www.eqmag.com, log in to our "Letters to the Editors" forum, and tell us what the changes are—and if you think they were a good call.

Front panel controls are Threshold (-20 to +20), Attack (0.1, 0.3, 1, 3, 10, 30msec) Release (0.1, 0.3, 0.6, 1.2secs and Auto), Ratio (1.5:1; 2:1; 4:1, and 10:1), and Output. Additionally, the 7720's Meter knob lets you meter, via a retro VU meter, either the channel's input level, output level, or compression amount; other features are a compressor in/out switch, Sidechain switch (accessible via a rear XLR jack), and a High Pass Filter for the detection circuit (it doesn't affect the audio itself) that will EQ your selected frequencies down 3dB with a 12dB/octave rolloff (cut settings are 60, 90, 130, 200, and 440Hz).

Around back, you'll find the XLR ins and outs. (Note that while the 7720 is a stereo compressor, it can be used as a mono compressor by simply using only the left in and out.) You'll also notice the two power options: DC or AC 24v. While the unit comes with a mid-line power supply—not a wall wart, but an outboard AC transformer—the optional CPS-1 rackmount dual power supply ($110 MSRP) includes grounding.

IN USE

After pulling the 7720 out of its box, I noticed there was no power plug ground. When I read in the manual that "DC filtering and regulation is accomplished inside the 7720 itself," things became a little more clear, and when I failed to detect any ground hum or buzz, my fears were allayed. But a word to the wise: Purchase the CPS-1 if you're using dirty power, or hear any noise in your audio lines.

I decided to test the 7720 in a singular scenario that showcased one of the more practical and widespread applications for a stereo compressor: compressing a drum submix. This particular submix consisted of kick, snare, toms, and a bit of overheads. The goal was to compress the submix, then add it under the original tracks to "glue" the drum sound together.

According to the Chameleon Labs site, the 1.5:1 ratio setting "allows the user to maintain control over the dynamics of the input signal without squashing the life out of the mix." Giving this setting a try, I have to echo that statement. This controlled the level of the drums without imparting that pumping, pulling sound. This is a great setting when using the 7720 as a bus compressor across your entire mix.

However, for a submix "helper," I needed a squashed sound, so I set the ratio to 10:1, threshold to -12, attack to 0.1, used Auto release, set the meter to "Comp", and watched the needle get knocked all the way down to -10. The result was a healthy pump that added a nice effect when mixed under my original drum tracks.

I wanted to see if the high pass filter could control the pumping so that it wasn't so overbearing. Setting the filter to 200Hz took away some of the pump's "attack" (presumably because it was knocking down some of the "mud" frequencies in the kick drum). My final setting, however, was 440Hz—it kept just enough pumping for a good effect without letting it get out of hand.

CONCLUSIONS

I feel very comfortable saying that the 7720 is worth a whole lot more than what Chameleon Labs is charging for it. It offers some unique features that can't be found elsewhere, and the unit's sound quality ranks up there with other compressors that charge five times the admission fee. I will be buying at least two of these! EQ

PRODUCT TYPE: Stereo compressor with sidechaining.
TARGET MARKET: Bargain-hunting recording musicians who want a quality stereo compressor in the prosumer price range.
STRENGTHS: Great sound. Huge bang-for-buck ratio. Expanded feature set offers more options than similar, better-known units.
LIMITATIONS: Nothing significant.
LIST PRICE: $679
CONTACT: www.chameleonlabs.com

LET'S BE CLEAR

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Chameleon Labs' 7720 1U rackmount Stereo Compressor is sparking a lot of conversation amongst "pro-level" recording enthusiasts. While there are plenty of stereo compressors on the market, the 7720 appears unique in that it resembles certain high-end hardware compressors in functionality (such as the SSL Buss Compressor), yet it streets at a modest price. So we grabbed a unit to see if we could answer the obvious question: Does the 7720 really offer professional sound quality at a low price, or is this just another cheap knockoff?

OVERVIEW

Electronically balanced and utilizing THAT Corporation VCA circuitry, the 7720 is based on what Chameleon Labs calls a "trusted design" (hint: reread the intro). The best part is that Chameleon Labs has made a few tweaks to said "trusted design"—tweaks that were informed by consumers during the design process. See if you can spot them, then head over to www.eqmag.com, log in to our "Letters to the Editors" forum, and tell us what the changes are—and if you think they were a good call.

Front panel controls are Threshold (-20 to +20), Attack (0.1, 0.3, 1, 3, 10, 30msec) Release (0.1, 0.3, 0.6, 1.2secs and Auto), Ratio (1.5:1; 2:1; 4:1, and 10:1), and Output. Additionally, the 7720's Meter knob lets you meter, via a retro VU meter, either the channel's input level, output level, or compression amount; other features are a compressor in/out switch, Sidechain switch (accessible via a rear XLR jack), and a High Pass Filter for the detection circuit (it doesn't affect the audio itself) that will EQ your selected frequencies down 3dB with a 12dB/octave rolloff (cut settings are 60, 90, 130, 200, and 440Hz).

Around back, you'll find the XLR ins and outs. (Note that while the 7720 is a stereo compressor, it can be used as a mono compressor by simply using only the left in and out.) You'll also notice the two power options: DC or AC 24v. While the unit comes with a mid-line power supply—not a wall wart, but an outboard AC transformer—the optional CPS-1 rackmount dual power supply ($110 MSRP) includes grounding.

IN USE

After pulling the 7720 out of its box, I noticed there was no power plug ground. When I read in the manual that "DC filtering and regulation is accomplished inside the 7720 itself," things became a little more clear, and when I failed to detect any ground hum or buzz, my fears were allayed. But a word to the wise: Purchase the CPS-1 if you're using dirty power, or hear any noise in your audio lines.

I decided to test the 7720 in a singular scenario that showcased one of the more practical and widespread applications for a stereo compressor: compressing a drum submix. This particular submix consisted of kick, snare, toms, and a bit of overheads. The goal was to compress the submix, then add it under the original tracks to "glue" the drum sound together.

According to the Chameleon Labs site, the 1.5:1 ratio setting "allows the user to maintain control over the dynamics of the input signal without squashing the life out of the mix." Giving this setting a try, I have to echo that statement. This controlled the level of the drums without imparting that pumping, pulling sound. This is a great setting when using the 7720 as a bus compressor across your entire mix.

However, for a submix "helper," I needed a squashed sound, so I set the ratio to 10:1, threshold to -12, attack to 0.1, used Auto release, set the meter to "Comp", and watched the needle get knocked all the way down to -10. The result was a healthy pump that added a nice effect when mixed under my original drum tracks.

I wanted to see if the high pass filter could control the pumping so that it wasn't so overbearing. Setting the filter to 200Hz took away some of the pump's "attack" (presumably because it was knocking down some of the "mud" frequencies in the kick drum). My final setting, however, was 440Hz—it kept just enough pumping for a good effect without letting it get out of hand.

CONCLUSIONS

I feel very comfortable saying that the 7720 is worth a whole lot more than what Chameleon Labs is charging for it. It offers some unique features that can't be found elsewhere, and the unit's sound quality ranks up there with other compressors that charge five times the admission fee. I will be buying at least two of these! EQ

PRODUCT TYPE: Stereo compressor with sidechaining.
TARGET MARKET: Bargain-hunting recording musicians who want a quality stereo compressor in the prosumer price range.
STRENGTHS: Great sound. Huge bang-for-buck ratio. Expanded feature set offers more options than similar, better-known units.
LIMITATIONS: Nothing significant.
LIST PRICE: $679
CONTACT: www.chameleonlabs.com

The Kontakt Player 2 hosting Ocean Way Drums. Note the configurable mixer toward the bottom.

SONIC REALITY: OCEAN WAY DRUMS

The competition for amazing-sounding drum samples is fierce—which is great, because the drum sounds on my tracks keep getting better every time a manufacturer decides it's time to put out a better library than "the other guy." But really, what can anyone bring to the party that hasn't already been done?

In this case, it's the combination of Ocean Way Studios (great drum room), Allen Sides and Steven Miller (great engineers), multiple miking setups (great options), NI's Kontakt Player 2 (KP2 for short; great host instrument, compatible with XP/OS X and VST/RTAS/AU), and Sonic Reality, who've definitely been around the block a few times when it comes to sampling. Of course, a good pedigree doesn't guarantee a good product, but it certainly got my attention.

First up: installation of both the KP2 "host" for the samples and the 40GB library itself. This is a good time to train your pet monkey to shuffle DVDs in and out of your computer, as that's a lot of content and it takes a while to get it on your hard drive. When you think about how short drum samples tend to be, this is your first hint that there's a *lot* of ambience captured in those samples.

Second up: listening. And believe me, it takes a while because there is a *huge* selection of drum sounds. I started off by loading some kits to get an overview, and the first few were stellar—crisp, present, with lots of velocity samples, and a solid room sound—all you could ask for. Thinking that maybe I got lucky, I checked out the 19 kits (each with 12 presets in both snare-on and snare-off versions) and you know what? They were *all* good.

The KP2 advantage. But the story doesn't end there. With KP2, each drum sound is essentially its own instrument, addressable over its own MIDI channel, with up to 13 mono/stereo mic channels. For example, a snare might have left and right main and "under" snare mics, three room mics, overhead, and, oh, a couple other mics thrown in (like "thwack," an *über*-compressed sound) for good measure. You can go from dry and tight to wet and wild with a few knob twists. And yes, the room sound is as good as the hype—and you can dial in as much of it as you want.

The other advantage of the instrument approach is that you can apply KP2's processing to individual channels. Each can have up to four insert effects, including compressor, limiter, inverter, saturation, lo-fi, stereo modeller, distortion, phaser, flanger, chorus, reverb, delay, 19 different filters, and a convolution reverb. (Regarding the latter, there are no impulses included; however, KP2 will accept impulses from Kontakt 2 and other sources in stand-alone mode, but not when inserted as a plug-in.) You can even go so far as to degrade the otherwise crystal-clear sounds with total abandon. Don't laugh (and Allen Sides, don't cry): With a little tweaking, you can get really strange, twisted, electronic-sounding drums.

What's more, there are four aux buses available, with the same roster of effects as individual channels. And, you're not limited to just the channels programmed into a kit—you can have up to 32 mono outputs (a kit with 19 snares, anyone?), as well as configure multi-channel outs. Yes, you can use all those room mics on multiple instances of an instrument to set up a very cool surround drum kit.

Mapping. There are two possible mappings for each drum. Sonic Reality's "I-Map" is basically a variation on General MIDI mapping and is suitable for triggering with a keyboard, but designed to handle the increased sophistication needed for these drums. The second mapping is for "real" drummers, who want to trigger the kit with Roland V-Drums. The I-Map thing is definitely cool, as it makes it easy to play from a keyboard, and the V-Drums map is a thoughtful touch. These are also explained on the accompanying video DVD.

Conclusions. I was a little skittish about the price—until I realized it's about as much as an 8-bit Drumulator drum machine cost back in the '80s. And it only takes is about five minutes of listening to realize that a huge amount of work went into miking, setting up, sampling, and mapping these drums. The editability is icing on the cake, but it's pretty rich icing—you can do a lot with these sampled sounds. Overall, Ocean Way Drums delivers 100% on its promise: great-sounding, extremely flexible drum sounds that go beyond the norm. —*Craig Anderton*

FORMATS: 6 DVD-ROMs with 40GB of samples and 1 educational video DVD; 24-bit/48kHz resolution
LIST PRICE: $995
CONTACT: Sonic Reality/Ocean Way Drums, www.oceanwaydrums.com

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Antares Audio Technologies		www.antarestech.com	23
Arsenal Audio by API		www.arsenalaudio.com	3
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Behringer		www.behringer.com	1
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CDIA Boston University	800-808-CDIA	www.cdiabu.com	57
Conservatory Of Recording Arts & Sciences	888-604-4075	www.audiorecordingschool.com/eq.html	39
DigiTech		www.digitech.com/products/Vocalistlivepro	27
Downloadablesoundz / Sonic Reality		www.downloadablesoundz.com	57
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Full Compass / Shure	800-356-5844	www.fullcompass.com	57
Genelec		www.genelec.com	7
Mojave Audio	818-847-0222	www.mojaveaudio.com	53
Music Player Network Artist Master Class		www.visualwebcaster.com/musicplayernetwork/storefront	49
Ocean Way		www.oceanwaydrums.com	31
Peterson Strobe Tuners	708-388-3311	www.strobosoft.com	41
PreSonus	800-750-0323	www.presonus.com	43
Primacoustic	604-942-1001	www.primacoustic.com	20-21
SAE Institute		www.sae.edu	C2
sE Sound Engineering	617-623-5581	www.sonicus.net	51
Sonic Circus	888-SC4-GEAR	www.soniccircus.com	54
Sonic Reality	800-232-6186	www.studioprofiles.com	33
Sonic Reality / Downloadablesoundz		www.downloadablesoundz.com	57
Sontronics		www.sontronicsusa.com	25
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Tascam		www.tascam.com	11

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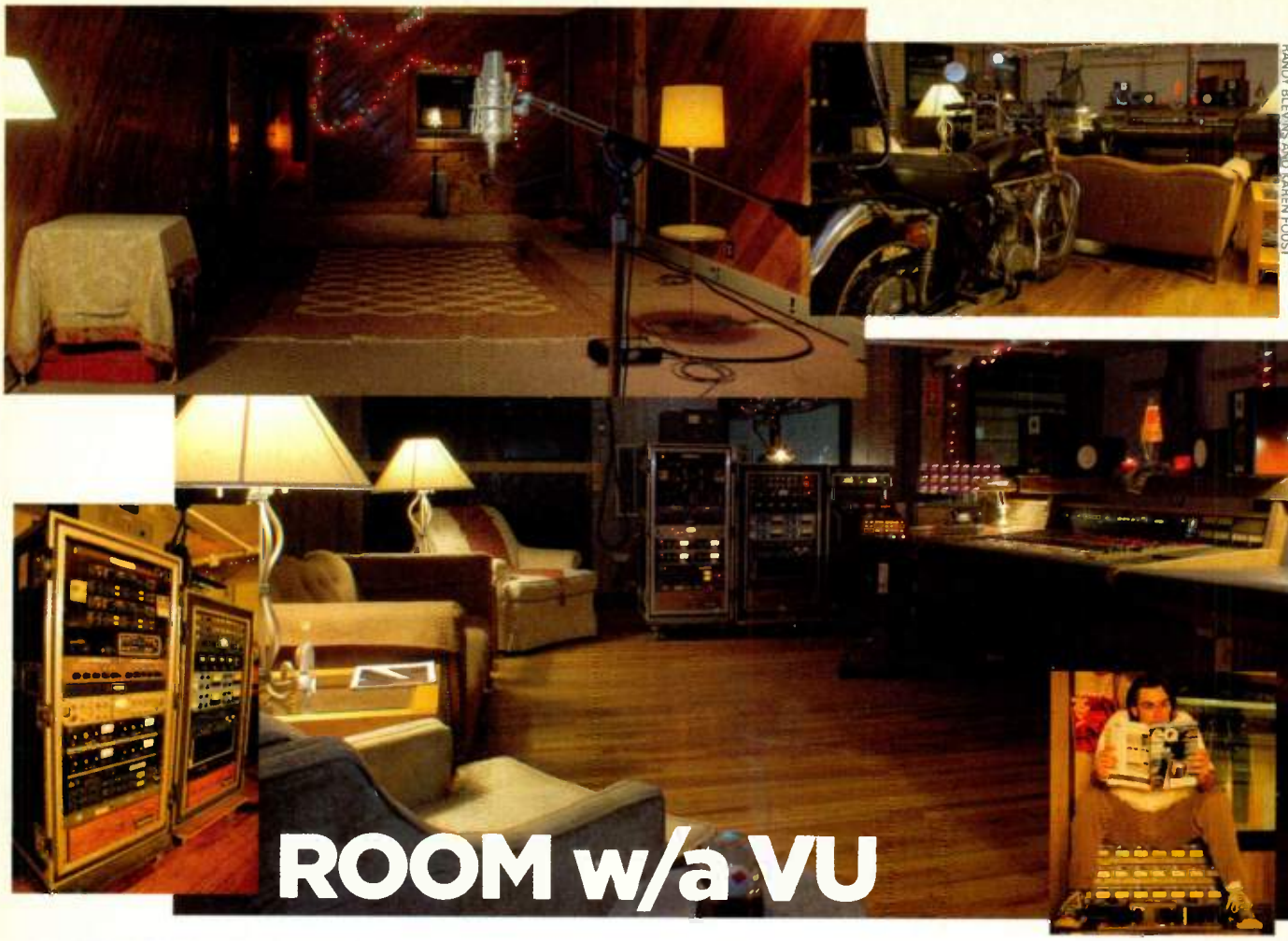

RANDY BLEVINS AND KAREN FOUST

ROOM w/a VU

by Angelina Skowronski

STUDIO NAME: Welcome to 1979
LOCATION: Nashville, TN
CONTACT: www.myspace.com/welcometo1979
KEY CREW: Chris Mara, Matt Allen
CONSOLE: 1978 MCI JH-428 (upgraded with Advent op amps, sealed relays and Transamp mic pres)
TAPE MACHINES: Ampex ATR-800 1/4-inch; MCI JH 24/24 two-inch (16-track head stack also available), JH 110B 1/2-inch
AMPLIFICATION: Crown DC 300, DC 150; Hafler Pro 5000
MONITORING: Focal SM8s; Yamaha NS10s
MICS: AKG D112, C12a; Audio-Technica AT-4033 (2); Neumann U87 w/Bill Bradley mods, U87; Sanken CU-32; Shure SM57 (7), SM91 (2)
PREAMPS: API 512c (custom built from vintage API parts with Jensen input/output transformers) (4); Trident TSM channel strips (4); Vintech X73 (2)
DYNAMICS: Altec 1591 pre/compressor; Avalon VT-737SP; dbx 160 vu (4); Drawmer 1960; Gates Level Devil; Pandora stereo compressor/limiter (2); Sontec DRC 202; TL Audio pre/compressor; Valley People Dyna-Mite compressor/limiter (2)
EFFECTS: AKG BX-20; Lexicon LXP-15; Real Reverb Chamber
NOTES: In the face of a seemingly endless sea of DAW-based studios, Chris Mara decided to buck the trend and build a very large—yet intimate—all-analog tracking facility geared toward independent artists who wanted to step back in time every time they stepped back into the studio.

"I wanted to put together the largest studio equipped with the best-sounding gear that any independent artist could ever hope to afford," states Mara when asked about the philosophy underpinning the 6,000 square foot studio. "Finding a building that didn't require much build out, and slowly collecting the gear over the past ten years, really helped me keep it affordable."

The sole occupant of an ex-record pressing plant, Welcome to 1979 is truly a throwback to the yesteryears of analog recording. "As everybody and their mother has a Pro Tools rig these days, I've found my niche is offering serious square footage, a great-sounding console, and a solid two-inch machine," Mara explains. "A lot of bands love getting out of the box. In fact, a lot of guys have been coming in to track and overdub on analog, then bringing their rigs over to transfer when they wrap things up. It's a best of both worlds situation.

"Analog is experiencing a serious resurgence," Mara observes, flashing a boyish smile while gazing around a room full of goodies. "Even though the whole integration thing is huge—and has been for a while—I see a lot of people trying to stay in the analog world as long as possible. I even have bands bringing in their existing projects on Pro Tools to run tracks through the console, tape machine and outboard gear. That's cool with me—I have tons of tape and a hell of an assistant to keep things running smoothly."

And you know how important that is if, like Chris, you're going to party like it's 1979. EQ

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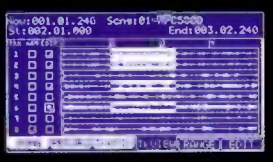

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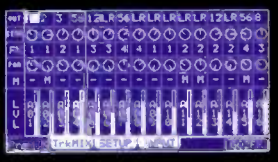

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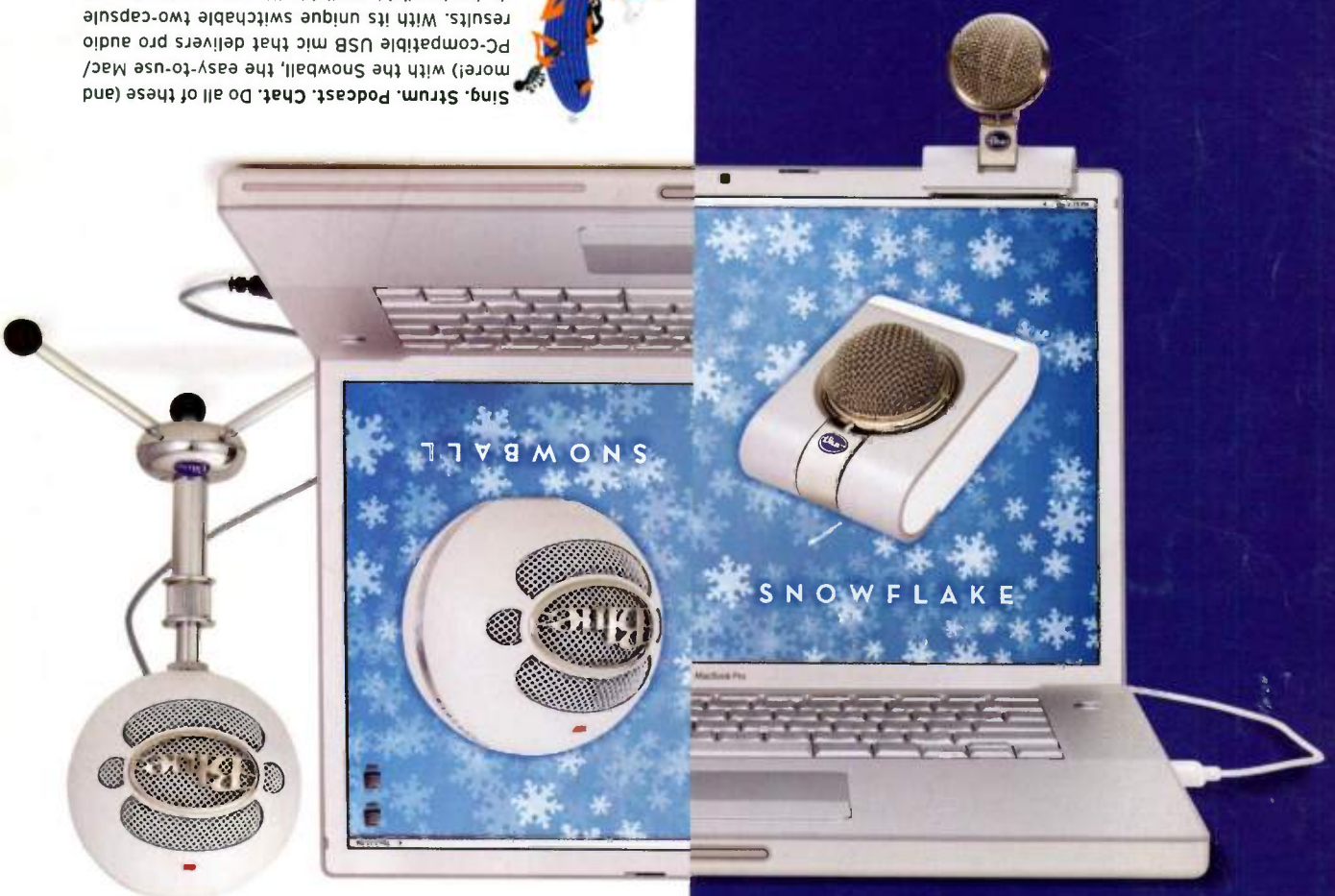

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