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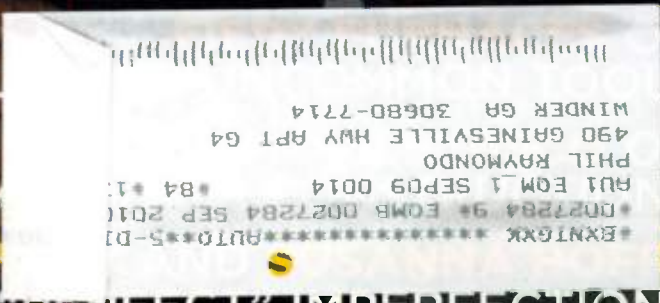
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It's been eight long years since R&B singer Maxwell has peered from behind the curtain. Finally, he's back with his trilogy, *Blacksummers'night*. Maxwell, co-producer Hod David, and engineer Jesse Gladstone discuss limiting the sonic palette, creating subtle surprises in the mix, and stretching a mic cable down 11 stories.

26 FIERY FURNACES

Brother-and-sister duo Matthew and Eleanor Friedberger, along with producer Jason Loewenstein, relay how they challenge pop structure in songwriting and record with unconventional (and cheap) software and hardware for their album, *I'm Going Away*.

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Talk Box



www.eqmag.com Vol. 20 No. 9, September 2009

THE GOAL TRUMPS THE PROCESS

Recording is fun. If you don't think so, then you're definitely reading the wrong magazine! The process of coming up with an inspiring riff, coaxing new sounds out of gear, and zeroing in on the perfect mix can be not just inspiring, but educational—recording your music is kind of like holding a mirror up to your psyche.

Throughout this process, though, it's vital to keep your ultimate goal in mind: Creating music that *moves* the listener. When that's the foundation for what you do, recording goes more smoothly, and the decision-making process becomes simpler.

For example, are you agonizing over whether mic preamp A or mic preamp B is going to be the right choice for your vocals? Then ask yourself if one preamp has a better chance of moving the listener than the other preamp. If not, then just plug in and sing! Spending time on your vocal will likely up its impact more than any preamp could.

Keeping the ultimate goal in mind can also help justify something that might seem at odds with logic. For example, there are plenty of examples where no one could tell the difference on playback between a track recorded through a "real" amp and one through a simulation of that amp. So you might as well go with the amp sim, right? It's easier, more convenient, allows for re-amping at any time, and doesn't require miking. But will you *feel* better playing through an amp? Does the moving air and speaker fighting against the damping of a closed-back cabinet get you all tingly? If so, choosing to record through an amp will likely have results that *do* affect the listener.

Adopting a goal-oriented approach can also make a big difference when you're mixing. A surprise, unintentional fader jump that you would normally "smooth out" might actually be just the thing to throw a curve ball at the listener and keep matters interesting. Dramatic changes in panning, processing, and other aspects of mixing that may not follow "the rules" (kick drum *not* in the center!?) can sometimes be the key to greater listener involvement.

Best of all, when you're concerned solely with the goal, you won't waste time on trivialities that no one notices. Instead, everything you do has to answer only one question: *Will this increase the emotional impact on the listener?* If the answer is "no"—and be honest with yourself—then don't waste your time. Instead, move on to something where the answer will be a resounding "yes."

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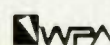
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NOT SO STUPID AFTER ALL

Your roundups are very good, but I thought that doing one on “New Recording Options” was a stupid idea—don’t your readers already all have DAWs? But I read it anyway, and guess what, it wasn’t stupid after all. You’re right that recording shouldn’t end when you close the door to the studio. I got a Zoom H2 (you said nice things about it in a different issue) to record band rehearsals and it’s really helped us. Now I might get a portable studio to record our live gigs. I don’t want to have to drag a computer around with me, even a laptop.

While you’re reading this, will you do a roundup of keyboard controllers? I want to replace my old M-Audio Oxygen 8 with something that has more “studio” features.

Jason LePage, Montreal, Canada

Executive Editor Craig Anderton responds:

I’m glad you found the roundup useful after all. As to a controllers roundup, check out *Keyboard* magazine’s website at www.keyboardmag.com. You’ll find a lot of info on controllers, and because all the *Keyboard* staff is into recording, they evaluate controllers from a stage and studio viewpoint.

CUE THE APPLAUSE FOR MOLEND!

In my first-ever reading of your magazine, one piece in the July issue especially caught my attention. Unfortunately, it caught my non-musician wife’s attention as well.

Michael Molenda’s Mixing article (“Quit Obsessing Over Details!”) article has me cooked. She said that Molenda might just be her new best friend though she only read the headline. “I think I’ll write my first ever ‘Letter to the Editor,’” she said.

I have always written off my wife’s criticisms of my perfectionist bent to a lack of understanding of my “musical world.” According to Molenda it turns out that she has always been right. Then again she’s been right about everything else in our 28 years of marriage, so I suppose I shouldn’t be surprised.

Bill Jaynes, The Kaselehlie Press

PARALLEL COMPRESSION TIP

Craig Anderton’s “Truth About Touch” article (04/09 issue) has become required reading for bass players at my studio, and then in the 06/09 issue, he listed 10 great tips for mixing bass. However, I’d like to add one important detail to the tip about duplicating the bass track and compressing one of the copies. If you do this on some DAWs, be aware that it can create path delay problems due to plug-in latency—sometimes even if the app claims to have automatic path delay compensation.

The remedy is simple: Add the same compressor plug-in to both tracks. Make the settings neutral (1:1 ratio) on the dry track, then set the compressor on the other track however you like. Parallel compression can also work well on drums, but you would put the plug-ins on duplicated buses rather than copy each track. I’ve seen Eddie Kramer use this trick on drums (on an analog SSL console where plug-in latency is not an issue).

Tony Correlli, Granelli Audio Labs

Executive Editor Craig Anderton responds:

That’s an excellent point—thanks! Incidentally, some producers even add parallel compression to the entire finished mix, mixing it in at a fairly low level to help “glue” the music together without altering the dynamics.

TOUGH AUDIENCE

I just received the July issue, and as usual, it’s great. However, when I

opened up the mag to “Sounding Board,” I saw some seriously harsh (and I’d add, rude) remarks from a couple of readers about the magazine and/or its editors. It’s incomprehensible to me as to how a reader could write with such hostility and arrogance in a professional setting such as this magazine, but kudos to Craig Anderton for responding to their letters in such a civil and informative fashion.

To balance some of those remarks, I thought that I’d write in to say that I’ve been reading Craig’s articles in this magazine and others for probably 15 years now. The number of tricks, tips, and fundamentals I’ve learned from his articles is innumerable. And I’m not alone—nearly all of my colleagues that are working at the top of the music and audio industries would readily express their appreciation of Craig and writers like him who spend their lives sorting through endless software and gear so that the rest of us can make informed choices.

Thanks everybody—the contributions you make are deeply appreciated!
Jeff MacDonald, Los Angeles, CA

Executive Editor Craig Anderton responds:

We all appreciate the kind words, it’s a nice reward on top of the existing reward of having a great gig! As to rude readers, it goes with the territory but don’t think Sounding Board is representative—we give priority to negative letters over positive ones, because we don’t want readers with complaints to feel we’re not giving them a voice.

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 egeditor@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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REELING IN THE '70S

Matthew Sweet and **Susanna Hoffs** Turn Back the Clock on *Under the Covers Vol. 2*

BY BILL MURPHY

There's a creative minefield to navigate whenever an artist decides to do a covers album. Are you interpreting the music in a new and interesting way, or

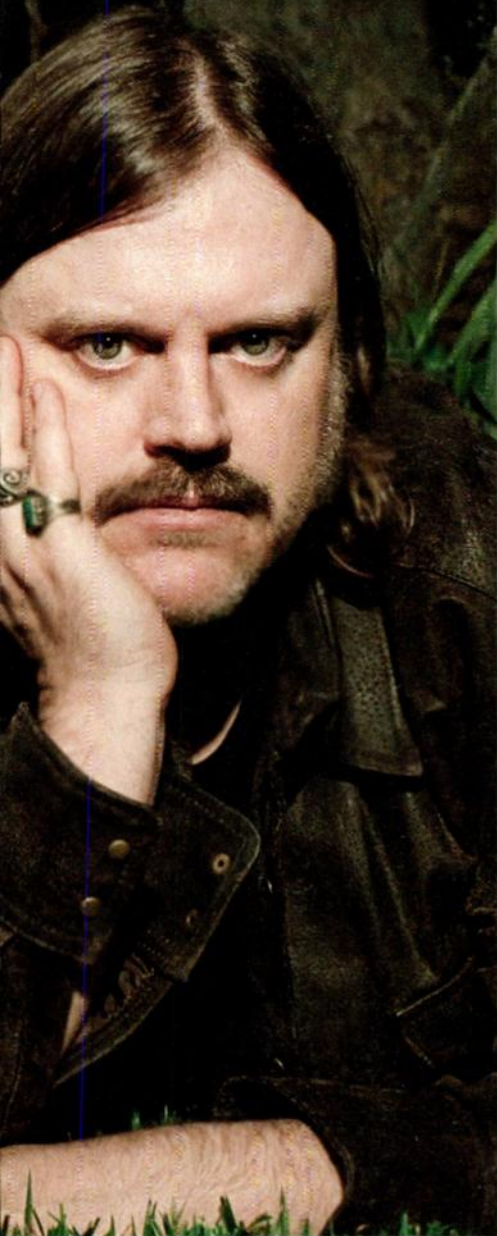
merely desecrating sacred ground? Did any real thought go into how each song would flow into the next, or is the whole thing just a transparent mish-mash, for diehard fans only?

For alt-pop icons Matthew Sweet

and Susanna Hoffs, who have been collaborating on and off for over a decade, the motivating factor was simple: allow the spirit of the song to lead the way.

"I was never that into doing covers," Sweet confides, "because I think

Susanna Hoffs and
Matthew Sweet.



people have a tendency to 'make it their own,' and I often find they just end up with a weird version of the original. From my experience, when you can create an exciting landscape to be in, *that's* what makes it more faithful to the original."

In the case of *Under the Covers Vol. 2* [Shout! Factory], the landscape is the 1970s—a logical step beyond the '60s

bent of *Vol. 1*, and a time when pop music was a many-splintered thing that hugged the blues-rock swagger of mavericks like Rod Stewart and Derek and the Dominos in the same embrace as the earthy psychedelia of Todd Rundgren and the pastoral Brit prog-folk of Yes. Tracked largely at Sweet's Lolina Green Studio, nestled in the back of his secluded home in the Hollywood Hills, the album's 16 songs capture a mood and *sound* of the era.

"We realized in learning these songs that they were very spontaneous," Hoffs explains, "so they had to be recorded in a spontaneous way because obviously they didn't have endless tracks and endless amounts of choices back then. And there are a lot of imperfections on those records—or I should say those records are perfect in their imperfections. It was all about the *feel*. It wasn't about a perfectly in-time drum track or a perfect vocal. They're about emotion and feel and the spirit of the song."

Of course, it helps when you have Lindsey Buckingham (on Fleetwood Mac's "Second Hand News"), Steve Howe (on Yes' "I've Seen All Good People") and Dhani Harrison (son of George and a standout on "Beware of Darkness") along for the mission. They were eager to contribute when they understood how reverently Sweet and Hoffs had kept to each song's intent.

"We tried to learn the main parts pretty much as they are, but like Sue says, it would drive you out of your mind to make it perfect, because records back then were *real*," says multi-instrumentalist/singer Sweet, who played a Fano electric guitar through 65amps 65-London and Swart amps, and enlisted help from longtime collaborators Ric Menck (drums) and Greg Leisz (guitars). "There was a looseness to [music from that era] that there isn't now, so to try to capture that exactly would be too hard. The way we do it is by not playing with clicks and not doing modern stuff—just playing it like it would have been played then."

With one notable exception—Sweet doesn't record to tape. He's a Pro Tools veteran, having first used the program in the mixing phase of his 1991 power-pop breakthrough, *Girlfriend*. These days he

records and mixes entirely inside the box with a Pro Tools HD 8 setup outfitted with two Accel cards, Digidesign's 192 I/O, and a CI24 console.

So how does he conjure the thickly compressed guitars of The Raspberries' "Go All the Way," the distant piano echoes of Todd Rundgren's "Hello It's Me" or the full-blanket spread of the drum kit on Big Star's "Back of A Car"? Besides an array of microphones and preamps that lean vintage—including AEA stereo ribbon and Telefunken Ela M mics, and Universal Audio's 2-610 and TAB Funkenwerk's V78M preamps—Sweet relies on McDSP plug-ins and Audio Ease Altiverb's Bill Putnam Echo Chambers (chambers 2, 4, and 5 at Cello Studios in L.A.) so he can paint with an analog brush in the digital realm.

"When McDSP's Retro Pack came out last fall," Sweet recalls, "it sounded so good that I had to go back and replace almost everything, even though we were already mixing. For the last few years I've been using the AEA ribbon mic for the drum overhead, and when you run that through the [4040] Retro Limiter, it really squashes the cymbals, very much like what the Beatles got at Abbey Road."

For anyone used to the signature Stevie Nicks-like clarity of Hoffs' vocal work with The Bangles over the years, there are some pleasant surprises. She nails the Rod Stewart rasp on "Maggie May," and takes Jon Anderson's complex melodies to task on "I've Seen All Good People." With Sweet's help, Hoffs recently installed a sister Pro Tools studio in her own house, where she voiced most of the album's background vocals (as well as the lead for Little Feat's "Willin'") on an Ela M 251. The two traded sessions online via Pando when they weren't working together at Lolina Green.

"One revelation about working with Matthew is that he's broken down all these rituals I had about over-analyzing and over-perfecting," Hoffs says. "Sometimes when you first try a song, you think you can perform it better the second time, but there's something magical about that first take. You don't always need to clean it up and make it perfect, because the emotion is already there. That has a lot to do with why these songs will always have a place in my heart." 🗨



Joe Henry.

RUBBER-BAND BLUES

Joe Henry on Stretching Time to Write and Letting Go to Record

BY KYLEE SWENSON

When it comes to autobiographical songwriting and studio preproduction, Joe Henry is a disbeliever. But that hasn't held him back musically. As a producer, Henry has worked with the likes of Elvis Costello, Solomon Burke, Ramblin' Jack Elliott, and Aimee Mann. As a writer, his credits include Madonna and Me'shell Ndegeocello. His 11 studio albums, ranging from country to rock and soul, are nothing to shake a stick at, either. Henry's latest, blues-inflected effort, *Blood From Stars* [Anti-] was borne

from meticulous rewriting, followed by a whirlwind recording process.

"I've never gone into a studio without songs really set in stone, as far as pieces of writing," Henry says. "For this particular batch, I worked harder than ever to write and finish the songs, and at the same time, I found myself very free and spontaneous with them when I was recording."

But his attention to detail doesn't stop with individual songs. Henry wants every one to work together as a whole "to push the story forward." What's unusual is that the story is completely fabricated.

"There's that great quote from Picasso, 'Everything you can imagine is real,'" Henry recalls. "I think a lot of people coast as writers because they think, 'If I'm willing to be completely truthful, then it will be a good song.' I think that's ludicrous. In that regard, truth is wildly overrated. I find it easier to give voice to human frailty and doubt when I'm not writing about myself. As a writer, you have two significant choices: You can look in—which is a very finite space—or you can look out."

In the past, Henry made "detailed demos" for his collaborators to draw

inspiration from. This time, he made no demos at all.

"I don't want musicians to be limited to my imagination," he says. "Once people hear a song in a certain way, it's hard to forget that they've heard it. It's like when people say things in court that get stricken from the record. How can a jury disregard something that they've heard?"

In his Garfield House Studio in South Pasadena, CA, Henry played songs on guitar or piano for *Blood From Stars*' cast of characters, the musicians took notes, and they were off to the races and recording within minutes. The album took less than five days to produce (hours were 11 AM to 7 PM), and it was performed almost completely live.

To give themselves options in the mixing process, Henry and engineer Ryan Freeland avoided mic bleed as much as possible. Pianist Patrick Warren and guitarist Marc Ribot were in the main room, but Ribot's guitar amp was "in a doghouse under the stairs." Bassist David Piltch and keyboardist Keefus Ciancia went direct. Drummer Jay Bellerose was isolated in his own room, as was sax/clarinet player Levon Henry (Henry's son). And Henry sang in the vocal booth. Pro Tools ran continually while the musicians were playing.

"What I want to get on 'tape' is that moment of discovery somewhere in take two, three, or four, where people have the song but it's so new that nobody is doing anything by rote," Henry says.

The loping, bluesy track, "The Man I Keep Hid," was recorded in one take.

"In the third verse where I sing, 'Something startled you late last night,' you can audibly hear the door to the drum room close. Ryan was standing over the drum kit moving mics, and he slammed the door behind him because it was the first time we played it. Nobody's thinking this is a take, of course. Sometimes, the moment of revelation that you're hearing is that completely unmannered, unselfconscious stepping into the song when musicians are just playing it to discover what it is. Frequently, that's as musical a song ever gets."

In making the album, plug-ins and a Shadow Hills compressor represented some newer gear, but *Blood From Stars* benefited mostly from a collection of vintage gear. Bellerose's antique drums ("which have very particular rattly, flappy papery sounds," Henry says) were recorded with ribbon mics: RCA 77DXs for overheads, Royer 122s over the snare and floor tom, and an RCA BK-5 in front of the kick drum.

Henry's 1912-era upright Steinway piano was captured with a combination of ribbon and tube mics.


"We have an RCA 77DX toward the treble end, where the lid opens at the top," Henry explains, "and between the back of the piano and the wall, I have an old Sony C37A tube mic. Ribbon mics like the RCA are very grainy, vivid, and textured, and the Sony mic adds a bell-like warmth of the low end to the picture."

Ribot played through Henry's '50s Gibson CF-100E cutaway acoustic, '57 Gibson ES-175, '52 Fender Telecaster, and a Spanish gut-string guitar. Amps included a mid-'50s Gibson tweed and a '65 Fender Blackface Deluxe through an old reverb tank.

A combination of Neumann M 49 and AEA A440 mics were used side-by-side, an inch apart, for Henry's vocals.

"There's a character in my voice that I quite like, and then there's a range in my voice that's less flattering, in the high mids. I think the combination of those two mics allowed even that range of my voice to stay fat and warm and not annoying. We also used a vintage Teletronix LA-2A compressor to clamp down on that edgier part of my high-mid range, to make it a little distorted, and to blunt the blade of that frequency—making it grainier."

Some '50s Gates Sta-Level and Level Devil compressors, the Retro Instruments Sta-Level replica, and some Ampex and Pultec preamps figured into recording, too. But all that vintage gear wasn't responsible for making a great album in under a week.

"Making a record in three to five days is not for people who can't or don't want to make decisions," he insists. "My attitude about recording is that there are all kinds of ways that a song can work. We just have to find one of them and commit to it. Some people are troubled that it could always be different. I am liberated by the fact that it could always be different. We just need to find a way right now for this song to feel like a living thing." 

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ALL MOD CONS

Simian Mobile Disco's

Modular Synths Make for Striking Techno-Pop

BY PATRICK SISSON

Only one sample appears on *Temporary Pleasure*: Todd Rundgren triumphantly singing "I was born to synthesize" on top of churning layers of modular synthesizer melodies. As far as statements of purpose go, it's a fitting one for Jas Shaw and James Ford of British duo Simian Mobile Disco. Their 2007 debut *Attack Decay Sustain Release* and collaboration with Justice, "We Are Your Friends" (with their previous band, Simian), made them the prodigies of the late '00s synth-heavy electro-house scene. Their follow-up finds them moving toward more hands-on construction and composition of synthetic sound.

"We haven't been into that noisy electro thing for awhile," Shaw says. "In the shadow of Justice, whom we like, there seemed to be a lot of bands copying and completely missing the musicality, melody, and chords. A lot of the stuff aping them concentrates on the noisiness."

The duo's experience playing in techno clubs informed the tight, spacious sound of *Temporary Pleasure* [Wichita], recorded in the duo's recently renovated East London, Pro Tools HD2 and Mac G5-based studio. But their minimalist approach was a challenge.

"You have to choose what you do very carefully, as everything is exposed," Ford says. "We're into the idea of using fewer elements but making each element really strong, not piling on loads of shit."

Each song on *Temporary Pleasure* contains roughly a dozen instrumental tracks. The bulk comes from the maze of cords that is their modular synthesizer

setup, composed of Analogue Systems and Doepfer modules.

"With the modular synth and enough thought, analysis, and modules, you can generate any sound," Shaw says. "You can make a string section, you can make lightening. I love the fact that it never sounds exactly right."

The duo has plenty of other synths, such as the ARP 2600 and Moog Prodigy. And a Siel Orchestra (check the Kraftwerk-like piano lead on "Off the Map") and Roland Juno-60 got extended play. But it was mostly about the modules.

On "10,000 Horses Can't Be Wrong," filled with delicate, liquid notes, the main chord progressions were meticulously constructed on their modular synths, a complexity a poly-synth couldn't replicate.

"We'd get a couple of oscillators on the modular working together, and the amp envelope would be quite short, not much attack, a little bit of decay, no sustain, and the filter envelope would close quickly to get a *donk* sound," Shaw says. "We did several passes of the same third, one pass on the fifth, and one on the octave, building the chords out of different passes."

Another favorite trick was what they called "*zonging*," which produces space-y, resonant notes. Utilizing an Ibanez rack delay, Shaw and Ford would set the delay really short and turn up the feedback. They also used a Boss RPS-10 on "Ambulance," which chugs along toward a stratospheric set of trickling high notes.

Although Shaw and Ford typically record guest vocals through a Universal Audio LA-610 preamp and Urei 1176 compressor, some outboard

gear was used to manipulate vocals in experimental ways. Jamie Lidell's voice was mashed up on "Off the Map" using a rare EMS Synthi HiFli guitar synth, recording different takes with vibrato, distortion, and ring modulation.

"When Jamie came, we just plugged him into the HiFli and got quite a mangled sound," Shaw says. "It was just the quickest thing. Often, you just want to get things done while you're still excited."

On "Audacity of Huge," sung by Yeasayer's Chris Keating, vocal takes were recorded to a Studer ReVox B67 reel-to-reel tape machine and panned left and right, which created a wide stereo effect due to the slight fade of the tape.

Meanwhile, the bulk of the beats were made on modular creations to steer clear of clichéd sound palettes. "You can make your own swing by laying out sixteenth notes and moving them around in free time until the groove feels good," Shaw says. "You can get some really odd feels that way."

And the guys would layer kick drums to get a punchier sound. Three different parts—a sub-y, tuned wave from a filter on the verge of self-oscillation, a click-y kick made out of white noise, and a non-tuned low kick, made out of cross-modulating low sine waves or filtering down white noise—allowed them to shape the sound. The non-tuned component was useful if the root note moved around a lot.

"With electronic music, it's easy to get faceless, anodyne perfection," Shaw says. "Our analog gear is all a bit wonky and non-linear and doesn't do all the things you want. There's nothing worse than getting exactly what you expect." **EQ**



Simian Mobile Disco—Jas Shaw (left) and James Ford.

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BACHELOR PARTY

Patrick Wolf Records his Most Hi-Fi Album Yet

BY RICHARD THOMAS

"There's this snobbery where people think that someone who is involved in technical work has to look a certain way," says Patrick Wolf, sipping a gin and tonic backstage at L.A.'s Roxy Theatre. "I'm one of the biggest geeks in the world, but because I choose to do quite glamorous things in all of my press shots, people immediately think, 'What would happen if he got in front of a mixing desk?' People don't understand how I can do both."

Wolf maintains a polite disposition, but it's clear he's been battling this pretense for quite awhile. Though he's produced each of his four albums, engineered two, and co-mixed his latest, he fields more questions about his fashion sense than his recording techniques. An exemplary violinist well versed in the art of composition, Wolf combines his appreciation for the classical with a lust for electronica, blending ukuleles, mountain dulcimers, and reed organs with white-noise washes and IDM-styled percussion. *The Bachelor* [Bloody Chamber Music] furthers these eclectic pairings, albeit on a much more expansive (and expensive) scale.

"I wanted everything as hi-fi as possible," he says. "I hired a 12-piece string section and a gospel choir. For pianos, I wanted to be playing Bösendorfers, not Yamahas. I did a lot of work with the Cristal Baschet, glass harmonica, and Ondes Martenot, and I hired the best engineer in Paris for that."

While Wolf programmed his beats in Logic using a cache of samples left over from his Atari days, tracking was done at some of the finest studios in the U.K. Drums were recorded through the vintage EMI TG console at Olympic Studios, and

the choir and strings were done on an early '90s Neve VR60 at Assault & Battery. Looking to dole out a bit more responsibility in an effort to focus on the songwriting, Wolf enlisted the help of Jonathan Shakhovskoy (U2, Crowded House) as a co-producer and co-mixer.

On previous albums, Wolf consistently tracked his vocals with the Shure SM57, mostly because valve mics muddled up his already bass-heavy voice. For *The Bachelor*, Wolf's chain was a Soundelux 251 into a Great River ME-1NV preamp with just a tiny bit of compression.

"The 251 has the top brightness and the detail in the middle, but it also has great bottom end that serves his voice really well and stood up great in the record," Shakhovskoy says.

Rather than use big plate or hall reverbs, Shakhovskoy used a Fulltone Tube Tape Echo unit, not as a long delay, but more as a slap echo to add a bit of depth. Another of Shakhovskoy's standard vocal practices is to use a UA 1176 or a 2-LA-2 to grab the slower and more dynamic vocal sounds, then follow that up with a bit of SSL channel compression.

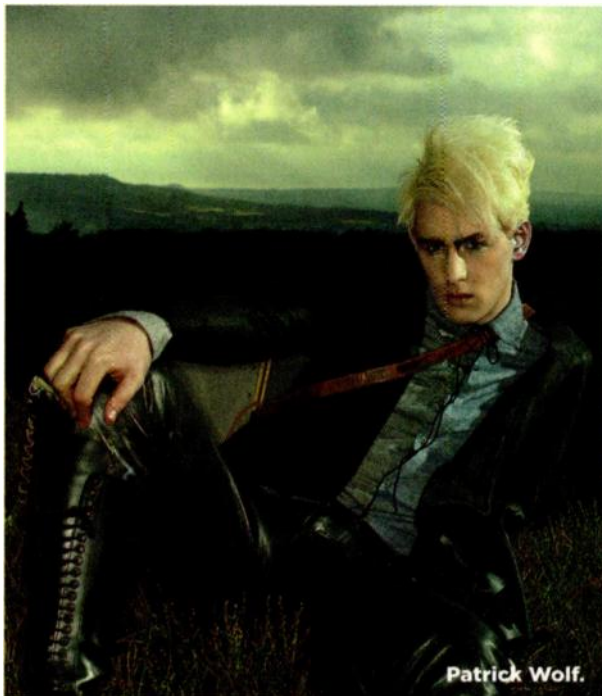
For the string section, Shakhovskoy used a mixture of spot and room mics to obtain a tasteful presence that fit with *The Bachelor's* pastoral vibe. Violins, violas, and cellos were miked with Schoeps CMC 5s, Neumann U 67s and

U 47s, and AKG C 414s, respectively, with the cello mics placed at the lower end of the body and about a foot off the bridge to accentuate the bowing.

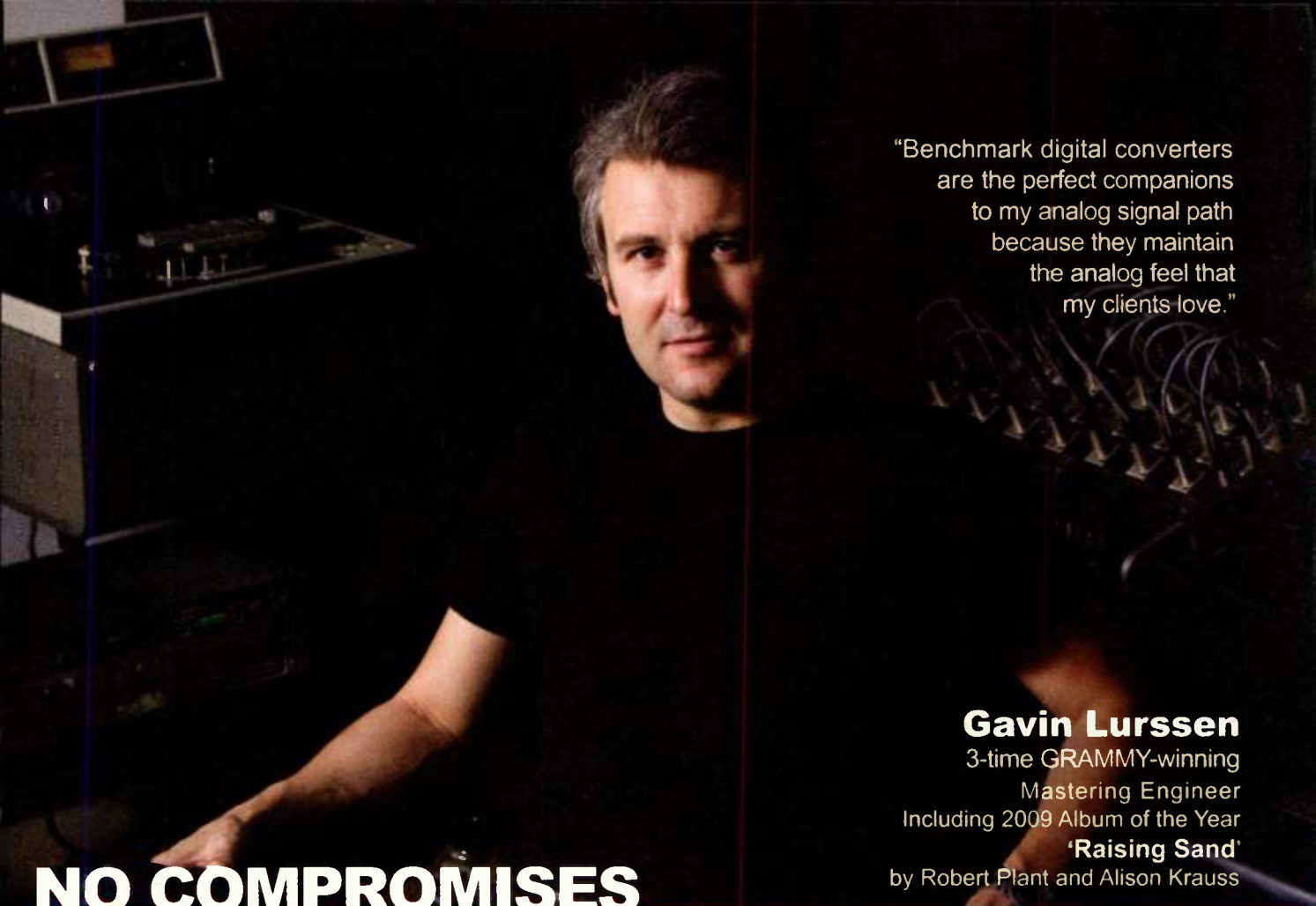
"Ultimately your choices for bottom end in strings depend on what's going on in the arrangement of the song," Shakhovskoy says. "In more commercial music, you've always got a bass guitar in there that's going to take up some of the real estate that a cello would occupy. With Patrick's music, there's a lot more space."

In cases where a song did have lots of synthesized bass, the cellos were played up an octave, rather than EQing out 100Hz of low end on the strings.

"On *The Magic Position*, I got a string quartet from the Royal Philharmonic and got really punk by just putting some horrible condenser mic on the entire group," Wolf says with a laugh. "This one was different. I think this is the most expensive album I've ever done. I had this list of things that might sound psychotic to other people, but was so right in creating the sound I wanted." **EQ**



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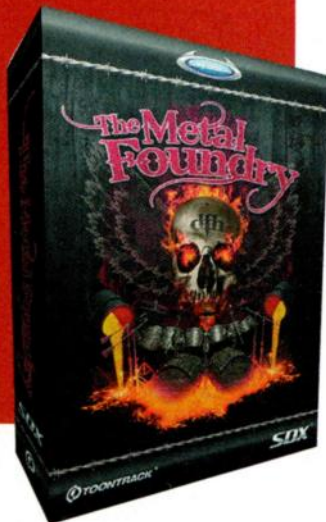
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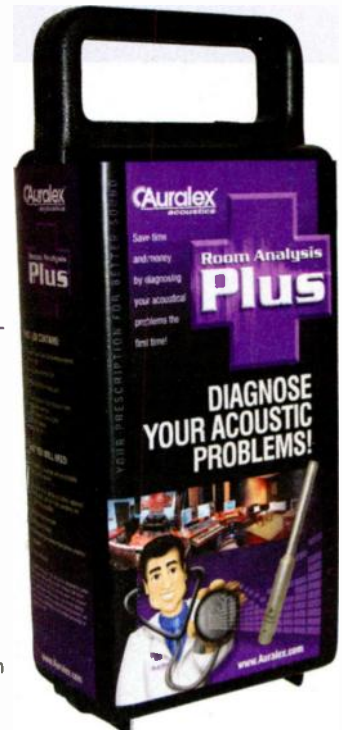
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CATCHING FIRE

**After Eight Years, Maxwell Turns
the Studio Heat on High for the
Intricate, Sophisticated
Blacksummers'night Trilogy**

by Kylee Swenson

CATCHING FIRE

When Maxwell was 14 years old, he heard a song in a commercial advertising the movie *She's Having a Baby*, and was awestruck. The song was Kate Bush's "This Woman's Work."

Years later, Maxwell fortuitously signed to Bush's label, Columbia, and released his own album, *Maxwell's Urban Hang Suite*, in 1996. Not only did his debut help forge the neo-soul movement—along with R&B singers such as Erykah Badu and D'Angelo—but millions of women swooned.

Soon after, when he was asked to do a cover for an *MTV Unplugged* performance and live album, he chose "This Woman's Work." It was no easy feat for any singer considering Bush's mezzo-soprano to soprano range. But blessed with a captivating falsetto, Maxwell pulled it off with chilling perfection. Not that singing the song live is a cakewalk for him. "Let me tell you, it's a song I can't wait to be done with every night," Maxwell admits. "It's very tough to get to that place in terms of notes, and I sing in different ways throughout the show, so I'm always concerned that I will blow out my falsetto before I get to 'This Woman's Work.'"

But he doesn't regret his decision to bring the song into his repertoire: "She's such a genius, such a visionary, and she inspires me to stay sophisticated, to believe that people can be more than the basic words and lyrics that we hear everyday." Maxwell, who also admires the new wave of Kate Bush-alikes, including Bat For Lashes, still has a framed letter from Bush thanking him for doing the cover.

Much like Bush, who had a strong and steady career for years and then went under the radar for more than a decade, Maxwell hasn't been in the public eye for a long time. It's been eight years since his last album. "I just wanted to reboot, recalibrate the system, and get my batteries in check because I want to love what I do," he says. "I don't ever want to feel like I'm just trying to get a paycheck, especially with music."

Now he's back with a vengeance. His fourth studio album is the beginning of a trilogy of releases coming out over the next few years. The first is *BLACKsummers'night* (Columbia), later to be followed by *BlackSUMMERS'night* and *Blacksummers'NIGHT*.

SUBTLE SURPRISES

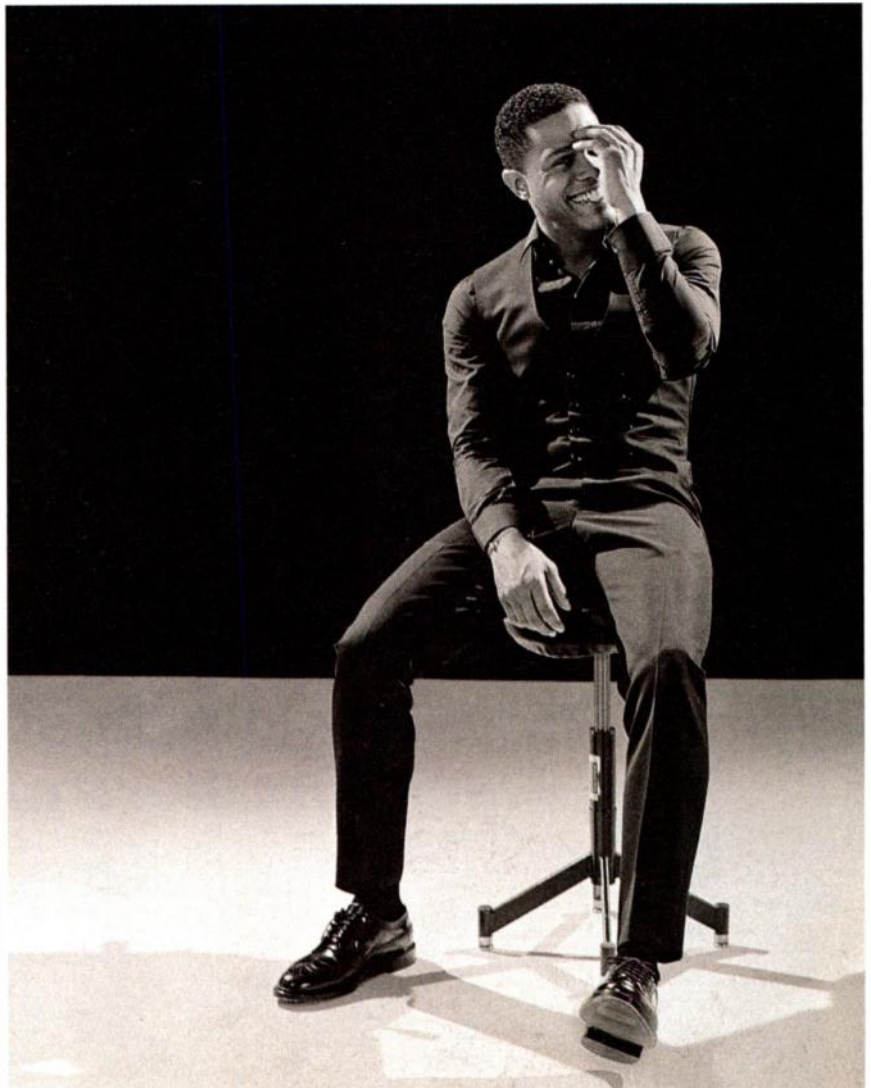
Getting back into the swing of things after such a long time out of the studio, Maxwell looked to longtime songwriting and production partner, Hod David (who Maxwell has known since he was 19). The first thing they agreed upon was to make a grittier-sounding album than they'd done in the past. The second goal was to limit the sonic palette to give the album an overarching theme. "We wanted to make the album sound like one color, instead of every song having a different thing, like, 'Here's the song with strings, and here's the song with a drum machine,'" David says. "So we made the conscious decision to keep it within the realm of certain instruments and then tried to change up the sounds within those instruments."

Organ, electric piano, horns, bass,

guitar, and drums were mainstays throughout *BLACKsummers'night*. Within the scope of those instruments, the musicians worked hard to tweak sounds in order to change the vibe from song to song and hold the listeners' attention. But it wasn't just about varying the sounds.

Between Maxwell's Pro Tools demo studio and David's studio, the two bounced ideas back and forth. When songs took shape, Maxwell and David fine-tuned them in such a way that things wouldn't get redundant. "It's not like, 'Second verse, same as the first,'" David says. "For the most part, the bars will change or the instruments will be different or the chords are different from verse to verse."

And it's not just for the listener's benefit. "We do it even to hold our own interest," David says with a laugh. "To



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The Professional's Source

CATCHING FIRE

me, doing the same thing like you did the first time but with just a different lyric gets a little bit, you know, boring."

Sometimes just a short cameo of a guitar solo can add a new level of interest, as on the emotionally urgent "Fistful of Tears." "I just try to go with what Max is saying in the song," says David, who plays guitar throughout the album. "I don't want to get too much into guitar-solo world. I'm just trying to say through the guitar the same thing that he's saying in the song."

Similarly, Maxwell recorded cameos of vocals to contribute to the element of surprise. "He's trying to not do the typical, so all of the sudden there's a background vocal, and then it just goes away," David says. "So you don't ever get too accustomed to anything. It's like, 'Why did that happen? And why is it gone now?' You just really notice it that way."

But sometimes after piling on so many small parts, David pulls in the reins. "Sometimes I might put on a ton of different things, and then hate it," he says, "and then you're like, 'What was the thing that happened originally, and why did I want to go away from that part? Why wasn't it really satisfying to me?'"

The constant adding and subtracting of ideas is part of the process, but David has to remind himself to take a few steps back to look at the whole picture: "You gotta be really conscious of, is this something that's gonna work live? What can happen is you can get too much into a patchwork of stuff, too many different sounds and tones, and that might sound cool to you. But then you're like, 'Does this sound real? Can a dude play this in front of me right now?'"

VERY VINTAGE

BLACKsummers'night was recorded on a Pro Tools|HD 2 system at three New York City studios: Bowery Digital, Chung King, and Platinum Sound.

While software was important for recording, it was mainly used as a reference and for editing purposes. "I would mic everything with two mics: One of them going to Pro Tools and one of them going to a Studer 2-inch machine," David says. "The 2-inch sound, by the time it would come back into Pro Tools, is delayed, so you

can't really record like that. So you have to have a Pro Tools mic that you record with, and then you get the tape mix and shift it over in Pro Tools, and then you get rid of the Pro Tools track. Or sometimes you keep it if you like the sound of both, or sometimes just keep the Pro Tools track because for whatever reason it sounded better. But a lot of it is 2-inch."

The solution enabled the musicians to track in real time without having to worry about latency issues. And it didn't require double mics on absolutely everything, according to engineer Jesse Gladstone. "On the drums, for instance, we would have two kick mics, one for the 2-inch and one for Pro Tools," Gladstone explains. "Then the overheads went to Pro Tools, and most other mics—snare, toms, room mics—all went to tape for the most part."

Although Gladstone respects software in terms of its flexibility and capability, he only uses it when he has to. "The analog realm just sounds so much better," he says. "I'd have to say I'm a big fan lately of API and Neve gear. For the most part, that's what we used to track all the instrumentation. Then having the 2-inch before Pro Tools, we got a very full and rich sound, which in my opinion doesn't exist much in this modern era of music."

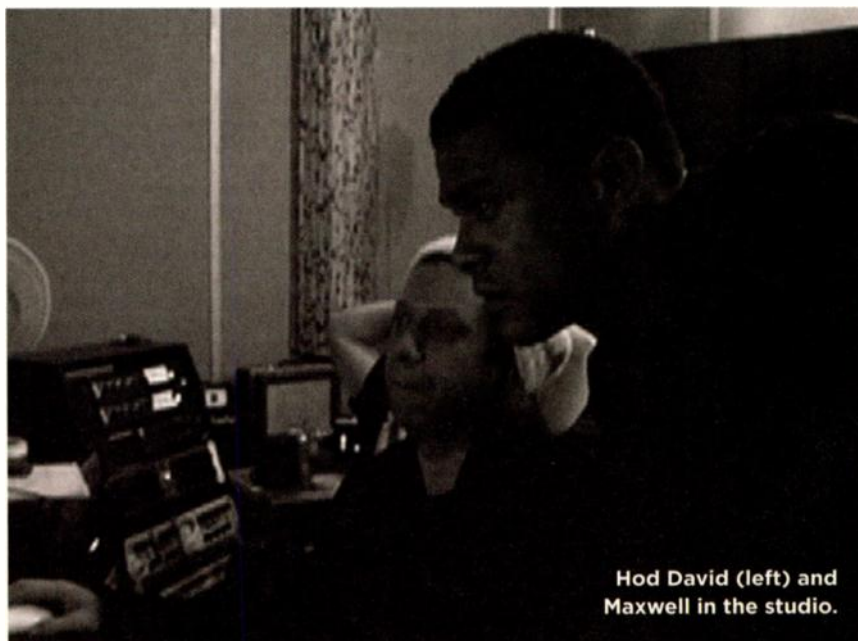
Adding to the vintage vibe was a Premier spring reverb unit, which the guys used on everything from guitar

to vocals and horns. But for horns on the opener, "Bad Habits," it was all about vintage ribbon and tube mics. "We used an RCA 44 ribbon on the trombone, a Coles 4038 ribbon on the trumpet, and a Neumann U 47 fet on the sax," Gladstone says. "Then for the room mic, which was a direct Pro Tools mic for monitoring, we used another U 47 fet. It all went through an API lunchbox. We really just went for the most natural vintage sounds we could get."

CAUSE & EFFECT

The number of keyboards played on the album by David, Federico Pena, and Shedrick Mitchell (who stuck to Hammond B3 organ) were limited. Instead, they varied sounds with programming and various effects, particularly delay. Case in point was the urgent, pulsing groove of "Help Somebody," which originated with a cut up and delayed piano part created from David's Korg Triton. "That piano is the birth of that song," David says. "That song had been around for a long time, and we even tried to replace that sound a few times and always failed. Then we just gave up on it. Sometimes the first thing you put down is what makes the song work. Even if the sound is cheap or whatever, it's just the thing that always sounded like the song."

Meanwhile, the music-box-like bells that pan from left to right on the album's first single, "Pretty Wings,"



Hod David (left) and Maxwell in the studio.



also came from the Triton, along with delay from the keyboard and some distortion from a Line 6 Amp Farm plug-in that David says "mutates and warbles through."

Synthetic sounds, other than on "Phoenix Rise" (which makes an unexpected foray into the trance realm, followed with a jazz twist), generally play short transitional parts in songs. Such is the case with the squeaky sound on "Bad Habits," which David culled from his Korg MicroKorg. "I might bug out and make a bunch of sounds, and out of that we pull a few of them," he says.

When it comes to guitar effects, David would rather use pedals, amps, and outboard gear than plug-ins. He often uses a Line 6 DL4 delay, which allows him to tap in the tempo and dial in sounds fast. "To me, half the battle is always how quick you can get something from your head to the tape, even though I'm way into sound, too," he says. He used the DL4 for the buttery smooth guitar on "Pretty Wings," which he played direct on his Strat-like Alleva-Coppolo guitar. He also plays an Epiphone Sheraton (often through a Fender Princeton amp) and a Gibson Jumbo acoustic.

For the acoustic guitar breakdown in "Stop the World," David got just the sound he wanted by miking the Gibson with an Electro-Voice RE20 and Shure SM57 through a couple of Neve pre-amps. "If I don't have to EQ anything and it sounds like it's already mixed somewhat, then it's good," he says. "If it's something that requires a lot of work to get it to sit right, then it might not be the right sound."

But David will sometimes dull the

highs on acoustic guitar. "A lot of people want to brighten the acoustic," he says. "I tend to darken it. I try to get the woody sound out of it more than the steel sound. With the acoustic, sometimes I'll boost a little bit in the low mids, but sometimes I'll just take off a little top end and leave everything else kinda flat."

RHYTHM NATION

Bass was recorded on both 2-inch and Pro Tools. For the tape signal, bassist Derrick Hodge played through a '70s Fender Jazz Bass through an Ampeg B-15 amp, miked with an Electro-Voice RE20, and he also went direct through an Aguilar tube DI box into Pro Tools.

Drums were played by Chris Dave on a '60s Ludwig kit and a Pearl snare. "It's a very thin snare, but it's tuned down. If you tune down a thinner snare, it gets a cool sound," David says. To encapsulate that sound, Gladstone placed SM57s on the top and bottom

of the snare, sending both signals through Neve 1073 preamps. The top snare mic went through one side of a Summit DCL-200 compressor, and the bottom mic went straight to tape, but both signals also went to Pro Tools.

"We used a similar setup between songs with minor differences between them," Gladstone says. "But for the most part we tried to keep it as close as possible. We wanted the album to sound like a whole piece of art as opposed to songs recorded here and there."

Before recording live drums, many songs started with Maxwell programming beats on an Akai MPC3000. Most of the time, the drum machine part was taken out as songs developed, but in the case of the horn-heavy soul groove of "Cold" (a song Maxwell wrote about trying unsuccessfully to rekindle a relationship), his syncopated MPC beat stayed and Dave played over it.

But the programming wasn't the most inspired moment on "Cold." "We were in my mixing engineer Glen Marchese's car," Maxwell says. "It was raining, and the windshield wipers needed to be changed because they were louder than anything I'd ever heard in my life. [Laughs.] I said, 'Whoa, this sounds dope. We should try to record this.' So we were 11 stories up at Chung King Studios, and Jesse Gladstone drops down a mic, someone dragged the cable over to the car, we recorded it in the rain, and then we sampled it, put a beat around it, and made the basic rhythmic structure that you hear in 'Cold.'"

Gladstone says it took about 15 cables connected together stretching

PAN IT LIKE THE STAGE

Producer Hod David on his panning philosophy for *BLACKsummers'night*: "A lot of stuff is panned how you would see it onstage. So if you were watching the band, you would see the horns are usually on the right side, and the guitar more on the left. But [on the record] I put the hi-hat to the left, which is opposite of how it would be from the audience perspective onstage. The hi-hat would technically be on the right, but for whatever reason, I can't stand hi-hats on the right side in the mix.

"And if there are two guitars on a track, then usually the meatier guitar, the guitar that's playing the most, is on the left, and then we throw the guitars that come in and out of the mix on the right side. Even the organs, which are in stereo, are more on one side than the other.

"Panning is a big thing to me on how things fit into the mix because if you just put something more on one side than on the other, you hear it more. So any quandary you have starts to get addressed that way."

CATCHING FIRE

400 feet down to do the job. "Not only was it long but surprisingly heavy," he says. The resulting rhythmic rub, which was recorded into an SSL preamp into Pro Tools, goes throughout the song and is even sampled during live performances.

THE VOICE, NOT THE GEAR


Maxwell's voice is far from ordinary: It can be husky and masculine or leap up into a gorgeous falsetto. So obviously his is a voice that requires a very special microphone. Or does it?

"For this album, we went more lo-fi on his voice," David says. "We didn't stick a super hot, sensitive mic in front of him, which is what you would think you would do with someone with such a voice as his, that you'd want to capture all the detail and how beautiful it is." Keeping with the gritty vibe of the album, Maxwell sang through a Shure SM57, SM58, and an Electro-Voice RE20. On just one song, they used a Neumann U 67. (Neve preamps and LA-2A compressors completed the chain.)

Maxwell felt that singing through cheaper mics gave the album a "darker, warped" sound. "Those are the mics people use when they're doing club gigs to 300 people in a bar," he says. "Pro Tools is so pristine and so precise, and technology is so amazing now that you lose that feeling of old records with a lot of hiss and bleed-through. So we try to recreate that. For example, we don't use too many gates on the kick drums because you lose the actual life of the drums. Those little details add a weird buffer or shellac over the entire record."

When it's time to record vocals, David and Gladstone set up the signal chain to Maxwell's liking, then turn the controls over to him and leave the room. From there, Maxwell produces his own vocals, including leads, harmonies, and doubles, never defaulting to obvious methods. Case in point are the harmony vocals on "Cold," which he wanted higher in the mix than the main vocal, "so that they could pop out just a little more on the radio," he says.

And his background vocals keep



Bring It!
How do you record vocal parts? Do you lay down multiple layers of doubles and harmonies, or do you keep it simple? Post your comments in the forum at www.eqmag.com.

you guessing, with tasteful harmonies here and there. "On songs like 'Stop the World' and 'Fistful of Tears,' I tried to make it without too many backgrounds," Maxwell says. "I have them spooned about, but I didn't want to go down the '90s stacking vocals route. It makes things a little too dense, so I choose wisely."

And like most perfectionists, there's always something he wishes he could change after the fact. "It's never really a done record for me," Maxwell says. "If I could re-record every album I ever did, I would do it again, just because with time, just like we age, so does a song. It gets older, and then I go, 'Wow, now it's 14, so what as a 14-year-old would it look like to me?'" **EQ**



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Bring It!

What's your view on adding a dose of "strangeness" to your songs? Do you manipulate sounds, develop unconventional song arrangements, or both? Post your comments in the forum at www.eqmag.com.

STRANGE WAYS

The Fiery Furnaces Fearlessly Tackle Bizarre Songwriting, Uncommon Recording Tools, and a Pig

by Ken Micallef

The music of sibling duo Matthew and Eleanor Friedberger has been described as quirky and playful, even annoying. So it's no surprise that as The Fiery Furnaces, the Friedbergers draw on everyone from Harry Nilsson and Van Morrison to The Who and Karlheinz Stockhausen. On their eighth album, *I'm Going Away* [Thrill Jockey], the Friedbergers pursued a minimalist recording approach that depended as much on home studios and affordable equipment as engineer/producer/bass player Jason Loewenstein's pet pig, Emmett.

"Jason's pot-bellied pig made us stop at 5 o'clock every day," Matthew Friedberger says from his home in Germantown, New York. "Emmett would get too restless after a while, so we would have to stop. So, essentially our recording schedule was determined by the pig."

Beyond swine concerns, *I'm Going Away* benefited from Loewenstein's in-the-box approach and preference for relatively inexpensive software and hardware. Based out of his small

Williamsburg, Brooklyn studio, Jake-Rock (www.jakerock.com), Loewenstein's setup includes a home-built ASUS-based Q6600 Quad computer running Cockos Reaper 3.02 and Stillwell Audio plug-ins (Bad Buss Mojo, The Rocket, Event Horizon), with a PreSonus FirePod preamp/interface, Line 6 TonePort UX2 interface (for guitars and bass), and a handful of Shure, AKG, and Audio-Technica microphones.

DON'T FEAR THE REAPER

In addition to recording *I'm Going Away* for the Friedbergers, Loewenstein has worked a handful of local New York acts with tight recording budgets.

"I don't do this as an aesthetic," says Loewenstein, formerly one half of popular indie duo Sebadoh. "If I had unlimited funds, I would have a roomful of crazy gear. I was in a semi-famous indie band, but I'm not famous as an engineer, so I charge bands a very minimal amount of money, and I

have to make good records with the gear I own. When I bought the PreSonus FirePod for \$600, I thought that was a lot of money."

"Working with Jason is a totally different experience, because he doesn't use Pro Tools and all the typical plug-ins," Friedberger says. "So much in recording is about using the method that you know works because you are always rushed for time. It's great with Jason because it's none of the gear I know. It was fun to be in his shareware world. We did a simpler record using Matt's desktop computer and Reaper software but recording traditionally, often just me putting on one overdub after another with the computer. Even though it was done in different recording spaces, the approach was like home recording."

I'm Going Away was essentially recorded live with little studio trickery, with tracking taking place at various locations across New York City. Drums and bass were recorded (along with scratch vocal and guitar

STRANGE WAYS

tracks) in drummer Bob D'Amico's Bedford-Stuyvesant basement; piano and guitar overdubs took place at Eleanor Friedberger's Greenpoint, Brooklyn home; vocals, remaining overdubs, and mixing happened back at Loewenstein's JakeRock Recording in Williamsburg. Thoroughly guerilla, Loewenstein transported his desktop and array of hardware effects (in a guitar case) and mics (via backpack) in his car to each location. His choice of Reaper as recording platform informed every decision.

"Reaper was created by Justin Frankel, who made Winamp," Loewenstein explains. "He's a musician, so he wrote this amazing platform, which is the same ideology as Pro Tools or Logic. You have your edit and mix windows, all your channels can have mixed media, and there's MIDI in different formats of audio, all in the same track. It's got a really good nested folder system, and the internal routing is incredible. And it's super robust. The full commercial license is \$225; noncommercial use is \$60. There's no difference between the hobbyist and professional program."

And how does Reaper compare to more expensive DAWs?

"I've used early versions of Pro Tools and the last Cubase version, and Reaper stacks up incredibly well," Loewenstein says. "Updates are expensive with those platforms, but with Reaper the updates are free for the next two version numbers. Reaper releases new patches twice a week.

It's not packaged, it's downloadable, and if you post problems on the site (reaper.fm), the developers themselves read them and often fix problems within a day. They're bug-testing the entire time. Once people find out about Reaper, it's going to be a problem for these other companies."

PERFECT PLUG-INS

Loewenstein used Reaper's native plug-ins for compression (ReaComp) and delay (JS Delay), but depended on Stillwell Audio for the bulk of effects, including the Bad Buss Mojo distortion, The Rocket compression, and Event Horizon limiting plug-ins.

"Bad Buss Mojo is not an analogifier, which is what it sounds like to me," he says. "It makes things sound more edgy. It's an awkward plug-in until you play with it. Then you learn with your ears what it's doing. It emulates overdriven amplifier circuits—not tubes, but solid state with way too much voltage. That is the attraction of some of the more sought-after boards. Bad Buss Mojo is very useful if you don't mind it being dirty and you want to control the level."

But according to Loewenstein, Stillwell's The Rocket takes the cake.

"The Rocket is the finest software compressor I've ever used," he says. "It's super versatile, it can be a master bus compressor, it can make things tiny and squashed, or it can be a bass-drum expander. It's worth its weight in gold, and the registration price is only 50 bucks (Bad Buss Mojo and Event Horizon are \$40 apiece). I used The Rocket on everything for *I'm Going Away*. In spots where I would usually use tube compression on vocals, like a two-stage compression scheme, I didn't need that anymore using The Rocket. It can be very colored or very uncolored."

Another effect that also had obvious benefits was Reaper's Varispeed plug-in, ReaPitch. In "Drive to Dallas," Matthew Friedberger plays what sounds like a hair metal guitar solo performed at 45 RPM, but the end product was created in ReaPitch.

"That's another cool thing



ELEANOR

about Reaper," Friedberger says. "You know how you can turn the motors higher or lower on a tape deck and they call it Varispeed? You can actually record Varispeed in Reaper, which is something I don't think any other software platform can do. There is literally a slider down at the bottom and you control the speed of the entire session through the slider. So if you turn it down and record something and turn it back up, what you just recorded will sound faster when you're done. We recorded 'Drive to Dallas' very fast, with a hammer-on guitar solo, and put it through the crazy Reaper software distortion, then turned it back up to normal speed."

WHO YOU CALLIN' "CHEAP"?

Adding to the el cheapo sweepstakes, Loewenstein used a Line 6 TonePort to DI guitars (discontinued, \$139) and PreSonus FirePod for vocals (relaunched as the PreSonus FP10 and selling at online retailers for \$399.95). His budget studio leaves him plenty of change for a Happy Meal and a subway token.

"Using the FirePod means I don't have to run around with a mixing board. And its preamps are great," Loewenstein asserts. "I'm as materialistic as anybody, and I have to watch it. If I got into buying high-end gear, I would go broke fast and not make any records."

Fortunately, with help from the FirePod, Loewenstein didn't get into any credit card debt for the making of *I'm Going Away*.

"We recorded all the vocals for the



entire record through the same pre-amp settings on the PreSonus," he says. "It's a simple machine with a pre-amp gain level for each input. I set Eleanor's channel at 11 o'clock, and that gave me just enough ambience in my little room to establish a four- to eight-inch [vocal miking] distance. Eleanor goes close on the mic for the quiet passages and lean backs for the yelling. She has great mic technique."

Ultimately, Fiery Furnaces' "strange" music has more to do with inspiration than technique. *I'm Going Away* began with the Friedbergers' gleefully madcap songs and ended with Loewenstein's JakeRock Recording rig. When compared to the Friedbergers' earlier recording methods, *I'm Going Away* is the most traditional release of their career—but the one recorded in the most truly modern fashion.

"If you love a record like The Who's *Tommy* or a Nilsson record and you want to imitate it, you have to make it different so it can add something new and be legitimate," Friedberger says. "What's the point of



Jason Loewenstein.

KRAMER LOEWENSTEIN WILLIAMSBURG

copying it? It has to be your version of that record and be at a slant. But if you think about The Who, what is a typical Who song? There's a big difference between 'Substitute' and 'Behind Blue Eyes.' The same for Nilsson: He has standard pop songs, but also some really bizarre songs. If that is your template, you'll go to some

weird places structurally in your songwriting.

"The huge, super successful rock records of the late '60s and early '70s, they were really strange. They sound normal to us now, after a million listens. But if you want to make a record along the same lines as those, it's going to sound really strange." **EQ**

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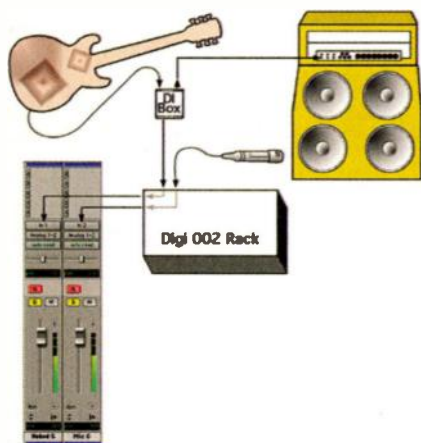


Fig. 1. The guitar signal is split with a direct box and recorded both direct and through an amp and speaker combo.

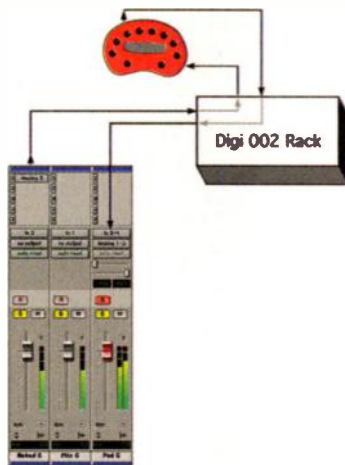


Fig. 2. The straight guitar track is sent to an amp simulator, and recorded onto another track.

by Jonathan Stars

A couple of years ago I was working on a song where I added a rockin' guitar part, and, as I do a lot more recording than playing these days, it took quite a few passes before I got enough good bits for a decent comp track. Then, by the time I got all the other instruments and vocals onto the song, the guitar part sounded a little thin. I couldn't bear to go back and re-record the darn thing. I spent a lot of time with various effects before I turned it back into something acceptable, but I couldn't help but wish I had been able to choose the amp sound at mixdown. That's when it occurred to me that I can! Well, not actually for that track, but ever since that day, I've saved my amp selection until later. Here's the basic 411 on how I delay my tonal decisions.

Go Naked

The big idea here is to record the guitar naked. (Uh, the naked guitar sound that is, not you.) Take the output of your guitar, and run it through a direct box (or a half-normalized jack

in a patch bay) in order to split the signal. Send one part of the signal to the guitar amp, and let the player rip it up with a sound that inspires them through the amp they love. Put a mic in front of the speaker and capture that performance. At the same time, take the other part of the signal (the "naked" direct one) and record it onto another track (Figure 1).

So Many Sounds to Choose . . .

As you get close to mixdown, take that thin guitar sound and run it through an amp simulator—I used a Line 6 Pod—and choose the sound that best suits the final set of tracks. You could even send the signal out to a real amp if you think that will give you more of what you're looking for. In Figure 2, notice that track 1 is set to output on Analog 3, which goes to the Analog 3 output from the back of the Digi 002 into the Pod. In order to listen only to the sound of the Pod, I set tracks 1 and 2 to No Output. I recorded the Pod in stereo.

Once you've selected a sound you like, try mixing in some of the original miked track, taking care to ensure all



Your Turn!

What's your re-amping strategy and/or favorite amp simulator? What's the worst guitar tone you've ever laid to tape or hard disk? Comment by posting a link in the EQ forum at www.eqmag.com.

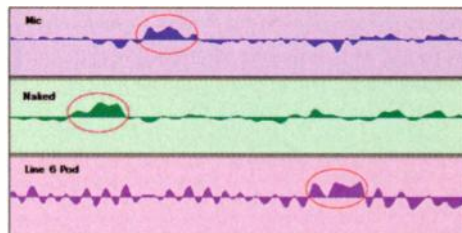
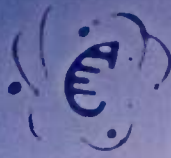


Fig. 3. Here are the timing differences between my three tracks that were caused by not using low-latency monitoring. It didn't matter. The timing anomalies actually made the guitar sound big and fat.

tracks are in phase. In Figure 3, the timing difference between the signal paths appears to be severe, but it only amounts to about six milliseconds. You can always move a track backward or forward in time to line everything up, but you might find that subtle timing variations make the guitar sound fatter. In my case, the Pod was recorded without switching to low latency monitoring, but it actually sounded better that way when mixed in with the miked guitar.

No More Sonic Anxiety

The main point is that whether you record digital or analog, you don't have to be stuck with the original guitar sound if you take a few moments to plan and prepare. You have choices—*many* choices. Even after you hear the mix on a few different playback systems, you can change the guitar sound again if it bothers you in some way. Go ahead—give it another go around. Try a bunch of different amp simulations or other treatments, and take the time to really determine which sound drives the song best. You'll never have to suffer from "tonal remorse" ever again. **EQ**



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**Your Turn!**

What's your favorite bass-miking technique? Share it with *EQ* readers by posting a link in the *EQ* forum at www.eqmag.com.

MIC THAT BASS!

by Kent Carmical

Mic a bass amp? The mere thought can cause the brain to lock up due to the heavy conceptual hassle of dragging a bass amp into whatever space you call a studio, putting a mic in front of it, and firing the monster up. After all, isn't that what direct boxes were invented for? Can't you just plug into your audio interface and get to bass-ifying with a well-crafted bass-amp model?

Yes, you can. And there's nothing wrong with that. However, there's also a bounty of low-end booty to be had by capturing the sound of a bass amp chugging in a room. It's more trouble, but the process also affords you the chance to discover tones that are unique to your taste, rather than use what someone else modeled and packed into a plug-in. Furthermore, miking a bassist's rig is the best way to document that player's live sound. So let's ban the direct box and plug-ins, and see what mics can do for your project's bass sound.

Prep It

To start, I dragged out an early '70s Fender Bassman head and matching gigantor cab. Unfortunately, the 30-year-old cab rattled and buzzed like it had a sack of maracas duct taped to it. After removing the 800 screws holding the back on, I tightened up the screws holding the speakers to the baffle, and screwed the back of the cab down so tight it may never

be removed. Remember—as when recording a drum kit, you have to listen for any physical anomalies that will compromise your sound and eradicate them. In the case of the bass, this may also mean removing items from the studio that make noise when the amp is raging, setting the cabinet on a foam pad if you hear less-than-wonderful rumbles or buzzes, and so on.

Dynamic Mics

Now, it was time for mic selection and positioning. I went with a Shure SM57 first, and jammed it right up against the speaker—just as if I were miking a guitar amp. The result was a magnificent reproduction of crappy bass tones from every lousy punk band that ever recorded their noise to a cassette 4-track. That's an attitude, of course, but I wanted a more "produced" punk tone, so I moved the SM57 about ten inches away from the front of the cabinet. The added airspace allowed the bass waveform to breathe a bit, resulting in some chunk with a lot of midrange grit.

At that point, I wanted to achieve more of an old-school thump, so I swapped the 57 for an Electro-Voice RE20 large-diaphragm dynamic. Just switching the mic—and leaving it in the same, ten-inches-from-the-speaker position—immediately delivered a Motown-like wallop with a fat low end and meaty mids. I was able to fatten up the tone even more by patching in a compressor with the

Ratio set between 2:1 and 3:1, and the Threshold between -5dB and -10dB. Is this fun, or what?

Condenser Mics

Emboldened, I sought one of the holy grails of bass sounds—Paul McCartney's warm, *Sgt. Pepper*-era punch. I knew from reading about Beatles engineer Geoff Emerick that they used condensers and tube mics back then, so I positioned an Audio-Technica AT4050 condenser set to its cardioid pattern about two feet away from the amp. I dug the added low-end detail the 4050 delivered, but something wasn't quite right. Remembering (from photos) the open layout of Abbey Road studios, I set the mic to its figure-8 pattern and moved it a couple of feet away from the amp. This captured more room tone and resonance, and after adding some compression (Ratio at 4:1; Threshold at -10dB), the sound definitely evoked some Fab Four vibe.

Swap and Switch

This being a free country and all, why limit yourself to a single mic, mic type, or mic position? I placed a Sennheiser MD421 six inches from the cab, dropped a Royer R-121 ribbon about two feet back, and captured a totally rockin' bass sound with so much wallop and punch that it almost brought me to my knees. Your monster bass sound may be just a few miking experiments away, so try always anything and everything. **EQ**

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World Radio History



PEDAL YOUR WAY TO BETTER PARTS

by Craig Anderton

If nothing's plugged into your keyboard's footpedal jack (or there's no pedal feeding MIDI continuous controller data to a soft synth), you're passing up one of the best ways to create more expressive keyboard parts. Many synths let you assign an external footpedal to any parameter, including effects. But which parameters are good targets for pedal control? Well, since you asked . . .

1. Volume and Filter Cutoff

These are the obvious choices, so let's move on.

2. Distortion Drive

Distortion is an increasingly popular onboard effect for synths, but take a cue from guitarists and differentiate between *rhythm* and *lead*. Nothing says "pay attention to this part!" like putting the pedal to the metal, and going from a somewhat soiled sound to overloaded screaming.

3. Oscillator Fine Tune

You know that cool flanging effect that happens when you detune one oscillator compared to another? Use a pedal to vary the fine-tuning, therefore controlling the beating between the two oscillators. Faster beating gives a more intense feel, while slowing, rolling flanging sounds more ambient/relaxed.

4. Amplitude Envelope Decay

This is particularly effective for percussive synth-bass parts (and open/closed high-hat with drums). The parameter you'll want to control depends on how the envelope generator works for

percussive sounds. With an ADSR envelope, set Attack and Decay to minimum, Sustain to full on, and tie Release to the pedal. Changing the release can change the sound continuously from really tight, percussive effects to longer sounds with longer decays.

5. Sub-Octave Level

If you don't have a sub-bass option, add an oscillator tuned an octave lower and set to a simple waveform (sine or filtered triangle). Assign the pedal to the sub-octave level, and add in some beef when the song needs extra *gravitas* (the bridge and chorus love this kind of treatment).

6. High Frequency EQ

Most synth effects sections have some kind of high-frequency EQ, like a shelving EQ, parametric, etc. Have the pedal control the high frequency level; with the highs pulled back just a bit, a digital synth will sound more "analog" and often, sit better in a track. On the other hand, when the synth needs to be more prominent, increase the highs. If there's no dedicated EQ but there's a lowpass filter in the signal path, you can accomplish the same general effect by using the pedal to raise or lower the filter cutoff slightly.

7. Delay Feedback and/or Mix

Long, languid echoes are great for accenting individual notes, but might get in the way during staccato passages. Controlling the amount of echo feedback lets you push the number of echoes to the max when you want really spacey sounds, then pull back on the echoes for tighter, more specific effects; setting echo to minimum usually gives a single slapback echo



Ex. 1. The String Studio soft synth by AAS lets you set any minimum or maximum parameter value for pedal control (or control by any other controller). Here, the Delay Mix is being controlled by Controller 4 (footpedal).

instead of a wash of echoes. An even cooler trick is to increase the delay amount and feedback at the same time so that as you push down on the pedal, you not only get more echoes—they're also louder. 🎧

DON'T FORGET THE OPTIONS!

It would be boring if pedals always *had* to change a parameter from the absolute minimum to maximum setting—for many effects, you want finer control, where the pedal covers a smaller range.

Fortunately, devices that accept external parameter control usually let you adjust the incoming control signal's *amplitude* and *polarity*. Amplitude determines the overall range; some synths even let you specify a minimum and maximum amplitude (Example 1). This corresponds to pedal all the way back and all the way forward, respectively.

Polarity sets whether the incoming signal adds to, or subtracts from, the target parameter value. For example, when controlling filter cutoff, pushing down on the pedal with positive polarity would likely raise the cutoff frequency, while negative polarity would *lower* the filter cutoff from its existing value. With a minimum/maximum value option, you'd set the minimum value higher than the maximum to reverse polarity.

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5 WAYS TO THUNDERING TOMS

by Michael Molenda

Enhance the Source

This is one of those unavoidable situations where a crap source sound will produce a puny and horrible result—no matter how much you process the disaster later on. So, if your drummer hasn't changed his or her heads since the Clinton presidency, it's time for some tough love. Aging heads tend to sound paper-y, ringy, and unfocused, and the old guys usually have a tough time cutting through a mix with explosive impact. A good set of fresh heads, however, should provide a foundation of resonance and tone from which to capture a tremendous boom.

Unfortunately, crafting a great tom sound doesn't stop with buying new heads. Sooner or later, you must deal with the sublime torture of tuning those pups. Here's the typical dilemma: Some drummers are great at tuning drums, and some drummers suck at it. In the drum-tone-and-click-track obsessed '80s, engineers would sometimes kick the drummers off the throne, and start cranking the drum keys themselves. While a few engineers were adept at terminating rings, buzzes, and other anomalies, the activity didn't do a lot for retaining the "tonal personality" of the drummer.

My tactic is to let drummers tune their drums, but if ringing or flappy sounds compromise the recording, I'll step in and suggest taping heads, muffling heads, or leaving one tuning peg completely loose—all the stuff

engineers have done for ages to rein in fractured drum sounds. You may want a specific tom sound that the drummer isn't getting, and choose to tune everything yourself. There's no right or wrong—unless the drummer pounds your face in for messing with his or her tone—but keep in mind that whatever sound goes in, will very likely come out. This is about recording technology—not magic.

Choose the Right Mic

Obviously, the mic is a critical component of the signal chain. Audition dynamics, condensers, and ribbons to see which types of mics deliver the most glorious impact. I've had great luck on rack toms with those small, clip-on dynamic mics. They usually capture a snappy swack as the stick hits the head, as well as a warm, low-mid resonance. For floor toms, I like a large-diaphragm dynamic—such as a Sennheiser MD421 or an Electro-Voice RE20—in order to document a meatier thud and boom. However, I've also had great luck with large-diaphragm condensers (if I want a bit more midrange and high-end resolution and a hint of room sound) and ribbons (for a more organic sound).

Put the Mic In Its Place

Whether you go for a clip-on or the ol' mic-on-boom-stand routine, a classic method is to position the mic about an inch over the top rim, and pointing towards the head. If the drummer has two heads, use a mirror image of this technique for the bottom head, but

take care that phasing doesn't rear its head and "thin out" the combined-mic tone. Always listen carefully to the sound the mics and mic positions deliver, and don't be afraid to move mics up, back, sideways, down, or forward if the resulting sound prompts you to shout, "Oh, yeah!" Experimenting is key—as is joy.

Compress Carefully

A good, vibey compressor is a wonderful tool for dialing in thick, warm, and resonant tom sounds. But that same wonderful device can also screw you big time if you go nuts and squash the sound too much. Too much of a good thing can bring the snare, cymbal, kick, and hi-hat sounds into your tom track, limiting the amount you can boost the toms in the mix without also bringing up a wash of everything else. (On the other hand, the messy, squashed thud and sizzle approach didn't hurt those early Who records.) Start at a ratio of 2:1, and a threshold of -3dB, and then tweak until the toms knock you out of your chair.

Wet It!

As with compression, you should take care not to slaughter your toms with indistinct waterfalls of reverb. However, a tight small-plate can add a bit of dimension and sustain to each tom hit. If the reverb program is too bright or diffuse, tweak the parameters until you get a subtle, yet powerful slap that intensifies the ramrod effect of the drummer's majestic pounding. **EQ**

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REAL WORLD VOCALS: TRACKING ZAK CLAXTON

by Phil O'Keefe

Some people think recording vocals just means putting up a mic, setting levels, and hitting record. But really, recording is a process—and it starts with the tracking.

With Zak Claxton scheduling is always tight, so part of the process is capturing as much material as possible during what little time we do have together. This forces an efficient workflow, but also one that takes multiple options into account, because it's just not possible to have him come in and do a quick overdub later if needed.

TRACKING METHODS

I adjust the tracking methodology to suit the singer's preferences. Some people like to go "old school" and track, come in and listen, and then decide what they want to punch in on to improve; others prefer to go until they feel they made a mistake, then, using a bit of pre-roll, continue on. Some singers prefer to do several uninterrupted passes, then comp, which is my default method. I like the "performance" aspect of it, and the uninterrupted flow often works well for the singer. But really, whatever makes them comfortable is best—I don't want vocalists distracted by anything, so they can focus in on the performance.

As to gear, we started with a Soundelux ELUX 251 running into a Neve 8801 channel strip. I used a bit of compression on the Neve, but only few dB on the loudest peaks, and no EQ. A Stedman pop filter placed about 3-4" from the mic kept plosives under control.

PLAYLISTS: VOCALS UNDER THE MICROSCOPE

Each "pass" is done on a single track, but I use Pro Tools' playlists

feature and put each take onto a separate playlist of that track (Figure 1). In Pro Tools 8, you can then "fan" those playlists out so that they're all visible simultaneously: Highlight an area of the song, and use the solo button on each playlist for auditioning the take. Once you decide which section you like, just highlight it, hit the arrow button, and it's placed automatically into the main track. I compile to a new, empty playlist called "Ld Vocal Comp;" it's a fast and efficient way of comping.

Note how some playlists are "full takes," while others contain only certain sections of the song. As we do the passes, I make mental notes about any potential problem areas. If needed, we go back in and concentrate on fixing just those lines or phrases.

PIECING TOGETHER THE COMPOSITE VOCAL

After tracking comes finalizing the comp. There are several criteria in choosing the "best" performance; phrasing and pitch are important, but I also want to hear how the vocal builds, scrutinize the vibe and emotion, and make sure it will work with the phrases or sections that precede and follow it—you don't want any formant or timbral shifts to give away the edit. I also listen for noises, such as mouth smacks and pops; if they can't be edited out, I may pick another take for that section, or use an alternate take if something is far enough out of tune that pitch correction might be perceptible.

Figure 2 shows a screenshot of the final comp. Note the several different colored sections to the waveforms—these indicate which



Fig. 1. Takes arranged in a playlist.



Fig. 2. The final composite vocal.

pass (playlist) they came from.

After the comp is done, I do manual crossfades among the sections. I could just select the whole track, hit Ctrl-F, and apply fades automatically; but manual editing prevents problems like having a fade between the breaths from two different recordings—this creates an unnatural-sounding "double breath." I also make certain I'm not accidentally cutting off the beginning or end of any words, and while I'm at it, edit out any sections where the performer isn't singing. But I never edit out all of the breaths: A singer who doesn't breathe is unnatural. If any breaths are too loud, I'll use volume automation to soften them.

Then it's time to make the vocals fit into the mix . . . but that's another story! **EQ**

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**Your Turn!**

Got a groovy tip for recording a band in a crap rehearsal space? Share it with *EQ* readers by posting a link in the *EQ* forum at www.eqmag.com.

TIPS FOR RECORDING BAND REHEARSALS

by Kent Carmical

Unless you are lucky enough to practice in a recording studio, documenting your rehearsals is going to require some compromise. Lets face it—the typical rehearsal room is a Petri dish of filth and horror. The putrid smell of stale cigarette smoke, rotting fast food, and spilled beer is almost enough to drive a street-hardened bum to fits of retching. They're not the best joints for bringing in DAWs and expensive microphones. In addition, many rehearsal rooms are acoustically challenged, making that multiple-mic technique you've been itching to try a very bad idea, as room reflections and signal bleed from various instruments mutate your music into a sonic sludge that even the most advanced audio tweezers cannot remove.

The good news is that you don't need a big system to record your rehearsals, and perhaps even capture high-quality tracks you can build upon later in your home studio. A simple, digital stereo recorder with built-in mics from manufacturers such as Sony, Samson, TASCAM, Zoom, and M-Audio can offer stunning sound quality with minimal hassle. The convenience of these portable digital recorders does not, however, mean you can just put them any old place, press Record, and blast away, confident your tracks will sound like a Steely Dan album. Best results come from experimenting

with where you place the recorder, and keeping tabs on the volume of each instrument in the band.

Start by positioning the recorder about six to ten feet from the band at roughly waist height. (Remember, the farther you place the recorder from the band, the more room ambience will be picked up.) Now, record a take and listen to the results. How does the mix sound? If the guitars are crushing all the other instruments, turn them down. If your guitar player whines about losing his tone, try facing the amp towards the back wall. It's always better to turn down the offending instrument(s), than to turn up the ones that are not cutting through the mix.

The toughest instrument to get a good sound from using the stereo-recording method is usually the kick drum, which can get lost in the mix. If your drummer hasn't already, have him remove the front head of the kick in order to aid projection and impact. Also, don't let the singer (or anyone else) stand directly in front of the drummer, as their bodies can act as "meat gobos" and absorb some energy and articulation from the kick. Placement of bodies and instruments can be critical in some spaces—especially if you want to hear every element of the band clearly. You never know what aspects of the room—or the mess within it—can accentuate or attenuate specific frequencies until you move things around, experiment

with the placement of the recorder, and control your band's performance dynamics. It *is* a bit of a drag monitoring all these sonic elements, but once you get a mix you dig, you can record all day without worrying about anything except delivering exciting performances.

Even though you are not using a multitrack, you can still use EQ to fine tune sounds—you just have to do it at the source, instead of after the fact. For example, an overall boominess caused by lousy room acoustics can plague your recordings. So roll off everything under 80Hz on the bass amp. Not only will this alleviate the boom, the diminished low-end woofiness may help that "problematic" kick drum punch through even more. Keyboards can also add a bunch of low-midrange schmutz, so use onboard EQ or filters to cut 500Hz by a couple of dB at a time until you reach the desired amount of clarity. Your guitar player may need to tweak his or her "live" sound a little differently than normal in order to blend in with the band mix, as well. Once again, listen to "test" recordings to determine optimum tonal adjustments and volume levels. And if getting your sound involved some movement of your gear, simply put tape markers in place so you can easily put everything back in the optimum spot when you load in after a gig. It's all about making the process easy, hassle-free, and repeatable. 🎧

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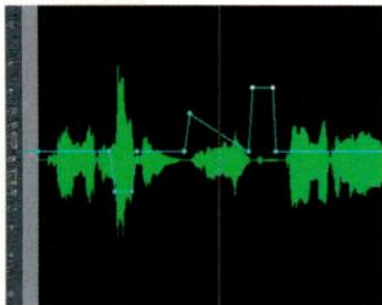
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Tweaking the vocal's volume envelope can help clarify the lyrics.



Typical settings in a multiband compressor for de-essing.



Your Turn!

What are your essential mix questions? Share them with *EQ* readers by posting a link in the *EQ* forum at www.eqmag.com.

20 QUESTIONS YOU SHOULD ASK YOURSELF

by Bruce Bartlett

1. Can you hear everything? This seems obvious, but sometimes a musical part gets hidden. While the mix is playing, listen just for the sound of each track, and make sure it's there. No matter the genre of music, the minimum requirement for a good mix is that you can hear all the instruments and vocals—nothing is missing and nothing sticks out. Sometimes you need to mute or turn down some tracks to make a hidden track come out.

2. Can you understand the lyrics? If you can't tell what the words are in certain spots, raise the vocal level with a volume envelope (automation). Also, you might compress the vocals, make sure they have enough clarity around 5kHz-10kHz, and maybe reduce the level of instruments that compete in the same 3kHz-6kHz range as the vocals. Don't overdo vocal effects. Some engineers use this guideline: The lead vocal in rock music should be just loud enough so you can understand the lyrics without straining. In ballads, traditional country, or folk music, the lead vocal can be a few dB louder than that.

3. Is there too much reverb or other effects? A little goes a long way. If the mix seems to be distant, rather than present and engaging, try

adding about 25ms of pre-delay. Also try reducing the reverb sends a dB at a time, and see how little you can get away with. Some engineers ask, "Can I notice the reverb only when it's turned off?"

4. Is there enough stereo spread? If you pan vocals and most instruments to the middle, you have essentially a mono recording. Spread things out a little. Try panning two similar guitar parts hard left and right, or pan guitars left, and keys right.

5. Is each instrument's sound appropriate for the song? For example, a twangy bass or an edgy kick seldom work in a ballad. Turn down the upper mids if those sounds are too bright and distracting.

6. Is the mix appropriate for the genre? For example, if you're mixing punk rock, a clean, tight sound probably won't work. If you're mixing a folk song done by an acoustic group, you probably don't want to hype the highs and lows. Instead, leave the tones natural.

7. Is each instrument in its own spectral space? If multiple instruments play in the same range of frequencies, they can cover up each other's sound. Then, they blur together and sound indistinct. You might roll off the lows in the guitars

so they don't compete for space with the bass guitar. Then, thin out the kick and keep the bass full, or vice versa.

8. Is the mix competitive with commercial CDs? Plug a CD player into your monitoring system. Put in a CD (or several) of the same genre that you are mixing. Switch back-and-forth between your mix and the CD playback. You'll quickly hear if your mix has enough bass, midrange, and treble compared to the commercial CD. This can be very enlightening.

9. Are the vocals too sibilant? Are the "s" and "sh" sounds too piercing and annoying? Some singers are very sibilant, or the mic used on the singer is too bright. Solutions: Use a de-esser, which is a multiband compressor set to compress only the range from about 3kHz-20kHz. A high-frequency cut around 7kHz-10kHz helps, too.

10. Are the vocals too loud or too quiet sometimes? Either apply compression, or adjust the vocal levels with automation. The latter sounds more natural.

11. Do the vocals sound too small or squashed? Usually, that means you are applying too much compression. You might reduce the compression ratio to 3:1 or less, and/or raise the threshold so that the gain reduction is 6dB or less.



12. Is the overall sound harsh, or is it warm and pleasant? If it's harsh, maybe there is too much 2kHz-4kHz in the mix. Or maybe there's some distortion caused by excessive track levels or clipping plug-ins. Try reducing the amount or type of compression, too. If the mix sounds edgy, reduce the highs a little, or use a tube or tape plug-in.

13. Is the overall sound muffled? If the mix seems lackluster or weak in the treble, maybe you need to boost the upper mids or highs a little. Try boosting electric guitars around 2kHz-4kHz, vocals around 5kHz-10kHz, toms around 5kHz, kick around 4kHz, and cymbals around 12kHz. Or cut a little around 250Hz-600Hz instead.

14. Is the mix dynamic? Do the choruses get more sonically exciting than the verses? If not, you might need to bring up the overall level a dB or two in the choruses, switch to a different guitar timbre, add a doubled vocal, increase

the reverb-send level, add harmonies, increase the panning width, and so on.

15. Is the mix creative and exciting? Are you employing unusual effects or instrument sounds? Or are they like everybody else's record? Try to do something different, but tasteful.

16. Are solos at the right level? Generally, a guitar solo should be just as loud as the lead vocal. Guitar licks in the holes (vocal pauses) should be quieter than that so they are not too distracting.

17. Does the mix seem to have a focal point? At any part in the song, is there something that grabs your attention, or is everything equally loud? You know the vocal is too quiet when it doesn't stand out from the background a bit.

18. Are vocal harmonies at the right level? Generally, a harmony vocal's level should be below the lead vocal just enough so that the melody of the

lead vocal is clear. If a harmony line is too loud, the listener isn't quite sure who's singing the melody line.

19. Is the arrangement too busy? If too many instruments play at the same time, a mix can turn to mush. Consider having guitar licks just in the holes, not playing continuously. Think call-and-response. Start the mix with fewer instruments, and gradually bring them in so that the mix builds.

20. Is the mix musical? This one is hard to define in tech terms. Can you feel the emotion expressed in the lyrics? Does the song make you want to move or dance? That depends on the song and its performance, but it also depends on the mix.

When you no longer hear anything you want to change, the mix is almost done. A day later, come back with fresh ears, and see if anything needs tweaking. If not, congratulations on crafting a great mix! **CA**



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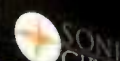


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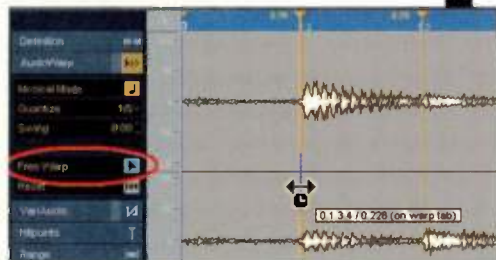
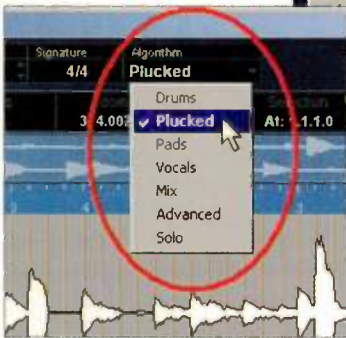
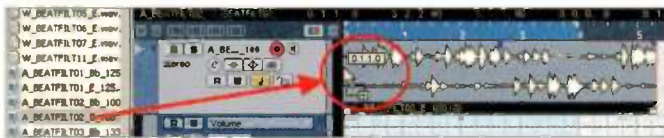
BY CRAIG ANDERTON

STEINBERG CUBASE 5

Get your loops to play nice together—or at least play at the same tempo

OBJECTIVE Import loop files that are faster or slower than the project tempo, and time-stretch/compress them to match the tempo.

BACKGROUND Cubase 5 offers several ways to stretch tempo, including DSP, recognizing files stretched according to Sony's "Acidization" process, creating "hitpoints" in percussive files (see the 06/06 Power App Alley), and being able to import REX files. This method uses Cubase's "Musical Mode" option.



STEPS

1. In the Transport section, set the desired project tempo.

2. Bring the audio file you want to use as a loop into a track (e.g., via drag-and-drop). Note that because this one-measure file's tempo is slower than the project tempo, it lasts longer than one measure.

3. Double-click on the file's waveform to open the Sample Editor, click on the AudioWarp tab to reveal its parameters, then click on the Musical Mode (note symbol) button to conform the loop's tempo to that of the project.

4. Choose a rhythmic value from the Quantize drop-down menu that matches the loop's rhythm (e.g., 1/16 if the loop has a 1/16th-note high-hat pattern).

5. While still in the Sample Editor, audition different stretching algorithms and choose the one that sounds best.

6. If you need to add orange transient markers at unmarked transients to produce better stretching (e.g., a 32nd note in an otherwise 16th-note pattern), click on Free Warp. The cursor changes to a clock with two sideways arrows (magnified for clarity in the screen shot); click on the waveform wherever you want a transient marker. Close the Sample Editor, and you're done.

TIPS

- In Step 6, you can also move a marker by grabbing its triangular handle and dragging it left or right. Zooming way in can simplify placing the marker *exactly* on a transient, which typically gives the best stretching results.
- Cubase 5 stretches files in Sony's Acidized format and Propellerheads' REX format, as instructed by the metadata embedded in those file formats.

Batteries not included.*



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ZOOM

BY CRAIG ANDERTON

CAKEWALK SONAR 8

Organize that mess of plug-ins into a logical structure

OBJECTIVE: Sort plug-ins into folders to make finding and selecting them easier.

BACKGROUND: Sonar lets you organize audio and soft synth plug-ins in lists that appear when you insert an effect. You can have multiple lists (such as plug-ins organized by manufacturer or by type, including folders and sub-folders), and choose among them. Re-ordering is done mostly by drag-and-drop: Drag items into folders, out of folders, into subfolders, and the like, as well as add separators between categories of effects.

STEPS

1. Go **Tools > Cakewalk Plug-In Manager**. Choose a plug-in category in the left pane (e.g., VST Audio Effects). The middle pane shows all registered plug-ins in that category. The right pane is your "workspace" for creating a new layout.

2. Exclude all plug-ins that don't work in Sonar. Click on the plug-in to select it (ctrl-click for multiple plugs), then click on **Exclude Plug-in**.

3. Select all plug-ins in the middle pane (click on the first entry then shift-click on the last), then click on **Add Plugin** to transfer these over to the workspace.

4. Click on **New Folder**. Name it (by manufacturer, category, or whatever makes sense to you), then drag the appropriate plug-ins into that folder.

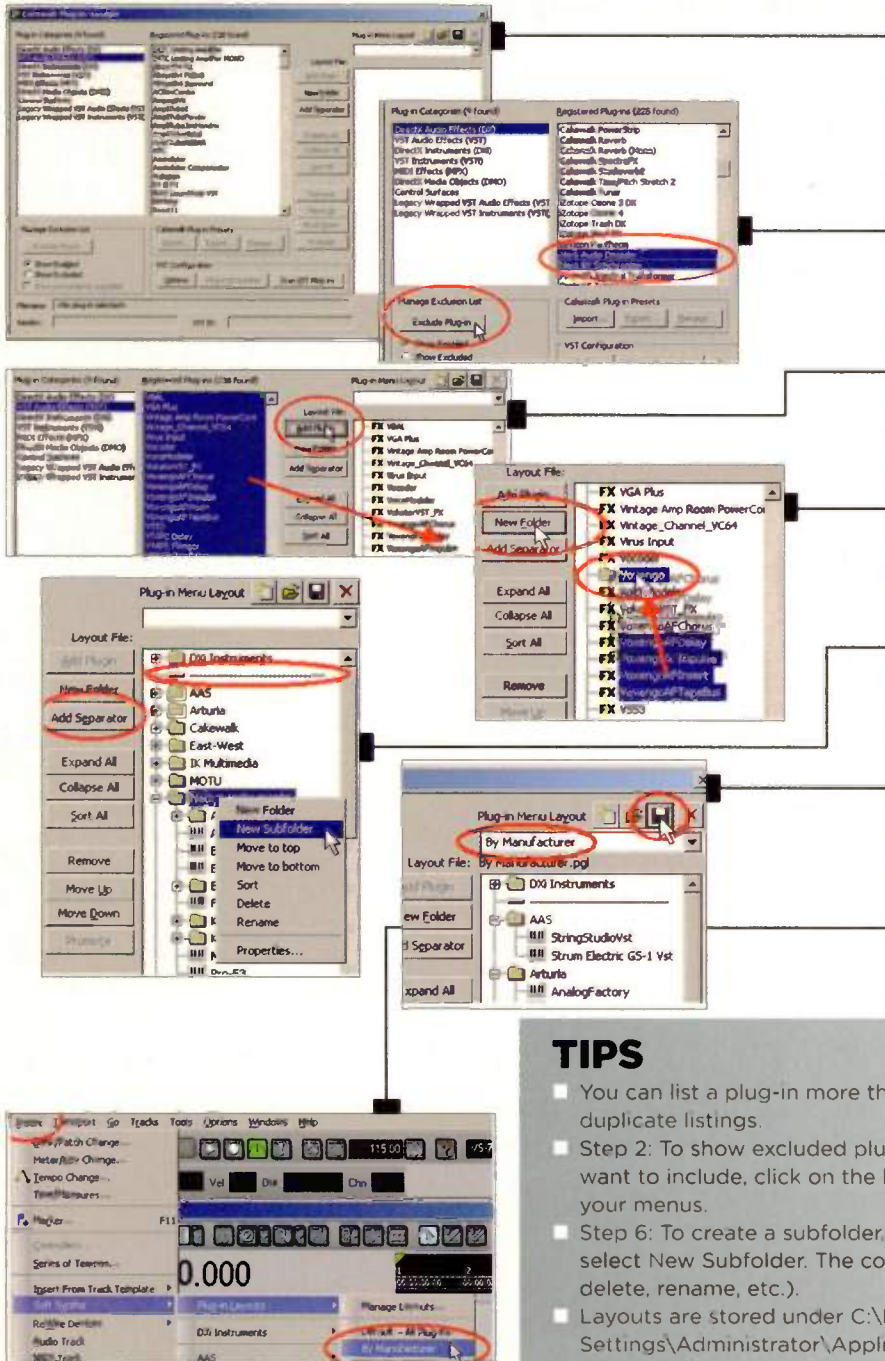
5. You can add divisions between categories (click on **Add Separator**, then drag into position), and add sub-folders within folders (see Tips).

6. When you're done organizing your plug-ins, type a name for the list in the upper field, then click on the **Save** (floppy disk) button. Click on **Close**, and you're done.

7. When you insert an effect or soft synth (including from within an FX bin), choose your desired **Plug-in Layout**.

TIPS

- You can list a plug-in more than once, e.g., create a "Favorites" folder with duplicate listings.
- Step 2: To show excluded plug-ins, click on **Show Excluded**; click on what you want to include, click on the **Enable Plug-in** button, and they'll reappear in your menus.
- Step 6: To create a subfolder, right-click on a folder in the workspace, and select **New Subfolder**. The context menu has several other options (sort, delete, rename, etc.).
- Layouts are stored under **C:\Documents and Settings\Administrator\Application Data\Cakewalk\SONAR 7 [Producer or Studio Edition]\Plug-in Menu Layout**. Back up this file "just in case."
- Sonar can show a maximum of 735 plug-ins in a list.



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**Your Turn!**

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ROUNDUP: IN SEARCH OF THE ULTIMATE GROOVE

EQ investigates gear and techniques to help you build big, bad, bangin' beats

by Craig Anderton

A "groove" is that catchy foundation for a piece of music you can't get out of your mind, whether it's the thundering drum beat of Led Zeppelin's "When the Levee Breaks," the bass line of Michael Jackson's "Billie Jean," the lilting rhythm of South African High Life music, or the hip-thrusting four-on-the-floor kick of techno. Groove is the engine that drives a song—the rhythms that make people *move*, not just *listen*. And if you want to reach today's groove-savvy listeners, your beats had better be as good as any other element of your music.

This roundup includes an article-

within-an article by DJ Myshell on how she blurs the line between spinning and *playing* by basing her sets on Ableton Live and MIDI controllers—there's much to be learned from a musician working in a DJ format (or if you prefer, a DJ working in a musician format). I've also written a bunch of groove-oriented tips that are scattered around the roundup, and which you'll hopefully find useful in your own music.

But the big surprise here is the reviews. If you haven't seen the new generation of groove tools, you're in for a treat—and a shock. We've already covered lots of groove-related tools in previous issues, from Native Instruments' excellent Maschine

(06/09 issue) to software like Acid, Sonar, Cubase, Reason, Logic, Pro Tools, and others that have incorporated groove elements. And as the four products reviewed here help underscore, groove tools have gone from little sample-based toys and drum machines to serious, high-end, high-tech pieces of gear. Having been involved in the groove scene for a long time, I have to say that today's tools take the state of the art to the next level, and then some (all prices of reviewed gear are MSRP).

Ready to get your groove on? Then keep reading. The groove world continues to heat up, and you don't want to miss out.

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Anyone who's seen my solo act knows I'm a huge Ableton Live fan—and that I don't even bother to boot it up without having a hardware controller attached. To me, Live is a musical instrument and as such, I want to *play* it. A mouse just doesn't cut it, so I've been using a Peavey PC-1600x MIDI fader box (with 16 faders and 16 buttons) as a control surface. It's a great, maybe even legendary, piece of gear; but it wasn't designed specifically for Live—the APC40 is.

As someone who really knows Live and really uses controllers, I can attest that the APC40 was designed by someone who truly "gets" not only the program, but what someone would want to do with it onstage. Over the years, I've seen people use Live in many different ways and amazingly, the APC40 accommodates all of them.

THE LAY OF THE LAND

The APC40's left half is laid out like Live's Session View—it takes about 30 seconds (on a bad day) to get acclimated. It's all there: Clip launch and stop, Scene launch, activation button, cue button, solo button, eight channel faders, and one master fader.

The right half is almost, but not quite, as obvious. The top eight knobs control eight channels of pan or up to three sends, depending on which button you push. LED "rings" around the knobs indicate the current position, and bi-directional communication with Live means that if you change a control on-screen, the LED ring will change to reflect that. Conversely, altering an APC40 knob changes the on-screen virtual representation.

The lower eight knobs (also with LED rings) control devices like signal processors and synths, with page selection to choose multiple pages of eight parameters. This is hit-or-miss; Live's devices are mapped very logically, and the

knobs give the potential for expressive control over these devices. However, with standard VST effects, the mapping depends pretty much on the way the device exposes its VST automation parameters, which were almost certainly not done with the APC40 in mind. Unfortunately, unlike Cake-walk's ACT protocol, there's no way to re-assign controls to particular "favorite" parameters.

The Bank Select controls between the knobs are crucial, as they let you control different groups of eight channels or eight scenes—for example, use bank switching to control channels 9-16 or 17-24 instead of 1-8. You'll also find buttons for Tap Tempo, Nudge + and -, transport, metronome and a few other functions, as well as a crossfader.

Note that the APC40 is a class-compliant USB device (but not bus-powered—you must use the adapter), so it's definitely plug-and-play. You need only set a Preference in Live to start cookin'.

WHAT'S THE CATCH?

I have only two complaints. The first is that eight sliders are not enough for what I do, and I originally thought that would be a deal-breaker. Then I found out you can actually gang up to six APC40s if you want to handle up to 48 channels . . . problem solved.

The other is that the faders are not user-replaceable, except for the crossfader. I've replaced several faders in the PC-1600x over the years—and that thing's built like the proverbial tank. Time will tell whether the fader replacement thing is a real issue, or I'm just being paranoid; but if there's ever a follow-up unit, I'd like to see a replaceable fader bank, or at least an easier way to replace individual ones.

CONCLUSIONS

I've been using the APC40 for a few months now, and instead of finding little problems with it the more I work with it, the reverse is true: The more I use it, the more I appreciate it, and the more facile I get with making the APC40 do my bidding. It doesn't so much integrate with Live as it *is* Live—just in hardware form. I've yet to meet a Live user who isn't excited about the APC40 . . . play with one for a while, and it's obvious why.

Strengths: Superb physical representation of Live Session View. Logical layout. Easy to figure out. 16 knobs (plus Cue Level) and nine faders. User-replaceable crossfader. Can gang up to six units for additional control.

Limitations: Channel and master faders are not user-replaceable.

If you're recording material that you want to turn into a loop, record it at a slower speed. Slowing down a loop is much tougher than speeding up because data has to be created where none was originally—to speed up, you simply "discard" data. As a result, you can often speed up a loop by 50% to 100% and still have it sound good, whereas slowing down even by 5% or 10% may introduce undesirable artifacts and glitches. 90-100 BPM is a good choice for loops that need to stretch in the 90-160 BPM range.

Even if you're not into loop-based music, loops can add some great "final touches" to any music—such as ethnic percussion on a rap tune, or maracas to supplement rock drums.

There's a misconception that Pro Tools can't handle looping well, but that's wrong. Digidesign introduced "elastic audio" in Pro Tools 7, which allowed for easy looping as well as warping of longer files. Although somewhat late to the party compared to other DAWs, they made up for it with an excellent implementation.

FXPANSION GURU This innovative beat creation software hits version 1.6 (\$249, www.fxansion.com)

Guru was one of the first "virtual MPCs," and they got the concept right from the beginning. Nonetheless version 1.5, a major (and free!) update, added tons of new features; now version 1.6—also free to registered users—is out, which allows for longer sequences (from 128 steps up to 512 steps), 16 stereo outs instead of 8, and other improvements . . . so Guru is definitely worth another look.

Guru works as a stand-alone instrument, via ReWire, or as a VST/AU/RTAS plug-in. (Note that if ReWire doesn't seem to work in Windows, open GURURewireApplet.exe. However, I prefer using the plug-in's multiple outputs instead.) As a demo version is available from the FXpansion site—albeit without all the way cool content—we'll concentrate on the highlights.

ARCHITECTURE

Guru has eight "engines," each of which is a "virtual drum machine" with 16 MIDI-triggered pads, step sequencer, 24 MIDI-triggered patterns, master effects unit, and three aux effects. The eight engines respond to MIDI channels 1-8. Tempos are not independent; they can be set to the main tempo (the host tempo when used as a plug-in), or a multiple (2X, 0.5X, etc.) of the main tempo.

SLICE AND DICE

While Guru has much in common with later products (e.g., step sequencer "graphs" for editing various parameters), one unique feature is the ability to bring in a loop and have Guru not only slice it, but do a frequency analysis on the components and assign the four "best" kick, snare, hat, and percussion hits to pads. While this "SmartSlice" technique isn't the only way to slice in Guru, it sure is convenient.

The effectiveness depends on the loop. Slicing with drum machine-type loops is stellar—in many cases, it's almost impossible to tell the difference between the original loop and the sliced version. Moving, adding, or deleting slices can mess up the smoothness somewhat—or enhance things, so experiment (Guru thrives on experimentation anyway). There's undo, but it's only one level, so audition each change before deciding whether to keep it.

Loops with ambience are harder to deal with, because the slices add discontinuities in any sustained sections, and the resulting "roughness" can be unpleasant. For example, trying



to slice the Discrete Drums "acoustic-drums-with-lots-of-room" loops proved problematic, but slicing the patterns from a Korg Electribe hit the bulls-eye just about every time. Furthermore, you can add grooves, swing, and shuffle to the slices. And you're not restricted to drums; I had great luck slicing the loops from my AdrenaLinn Guitars loop library.

Granted, most beat software lets you bring in external loops, but Guru's approach is extremely cool. Don't let the excellence of the included 7.5GB library dissuade you from bringing non-Guru loops into the program.

EDITING

You choose different editing functions with tabs (Pattern, Graph, Pad Edit, Aux Effects, Mix, and Scenes). There are plenty of ways to edit pads, including gain, pan, tune, filter, envelopes, reverse, and the ability to add a single insert effect or send signal to three aux buses. The insert effects deal mostly with distortion, EQ, compression, and ring modulation; but you can also insert a synth waveform, which takes priority over whatever sample is loaded. The Aux effects add modulation options (delay, flanger, reverb, phaser) but also include some of the insert effect types, envelope followers, and other goodies. The same array of effects is available for a master effect or as an insert effect for each engine.

Once your patterns are squared away, you can store



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settings for all eight engines as a scene, and call these up on-the-fly or export them.

CONCLUSIONS

Guru is anything but “just” a beatbox in software, although it can do that very well: It’s an open-ended, creative, and most importantly, downright *inspiring* program that excels at anything from light hip-hop to hardcore techno. Go ahead and

download the demo . . . just don’t forget to eat and sleep.

Strengths: Extremely versatile and suited to numerous musical styles. SmartSlice is indeed cool. Excellent, edgy content. Efficient and clean interface. 48 scenes. Easy audio export of pad, track, group, engine, or all.

Limitations: Only one insert effect per pad. No quantization strength option. Only one level of undo.

Many DAWs support both REX and Acidized or Apple Loops file playback, so here are some recommendations for particular applications. REX is the ideal format for percussive signals with strong, defined transients and little (or preferably no) ambience. REX files don’t do well with sustained sounds (e.g., pads). The slices produce discontinuities in the sound because there are no obvious places to add splices in such a way that the sound’s percussive nature “covers up” the splice point. Acidized files and Apple Loops, as well as the stretching options in Ableton Live and Pro Tools, work well with a broader range of material—from percussive to sustained—although REX files will generally give better fidelity with percussion-only files, providing there aren’t a lot of cymbal crashes.

REX files generate a companion MIDI file whose notes trigger the audio “slices” that make up a REX loop. You can alter the placement, timing, quantization, etc. of these MIDI notes to change the REX file’s character completely.

MOTU BPM MOTU joins the Beat Generation (\$295, www.motu.com)

BPM is a beat construction program (stand-alone or plug-in—VST/AU/RTAS/MAS) with an urban bent, and the usual 4 x 4 pad matrix for triggering sounds (or loops). Like other “Virtual MPCs,” BPM benefits from a hardware controller (I used Maschine’s, which works great). There’s a 15.2GB genre-specific sound library, with drums and various instruments for quick guitar licks, bass lines, etc.

The browser sorts the library into different elements—loops, kits, patterns, and the like. You can load patterns with kits, change kits, change patterns, add loops, and even sample/resample; all of this is fast and responsive.

Beyond Banks of drum patterns with the usual step sequencer interface, there are “Racks” for instrument sounds. You record patterns into these via a MIDI piano roll-type interface as well as bring in loops, which play back slices (*à la* REX files; you can edit the MIDI data that triggers the slices). Even better, you can import REX and (theoretically) load loops from other UVI-based instruments. However, while BPM recognized PlugSound Pro and UVI Soundcards, it couldn’t find the sounds for MOTU’s Ethno or Electric Keys—even though others have not had this problem. For a workaround, I inserted Ethno in a separate track, and ran it concurrently.

EDITING

The editing is outstanding, whether for one-shot hits, loops, an entire Bank, or whatever. In addition to synth-type parameters like a 12-mode filter, drive, separate filter and amp



ADSR envelopes (for sliced files, this affects each slice), pitch envelope, and pitch adjust, there’s a wealth of effects—you can add multiple effects to individual banks and racks, and use three send buses. The effects exceed expectations in both quality and quantity (there’s even a convolution reverb).

Additional “graphs” (*i.e.*, step sequencers) allow editing particular sequence parameters—velocity, pan, length, quantization, pan, filter mod, and more. You can then assemble edited patterns into Scenes and Songs. Scenes call up different sequences/patterns for the Banks and Racks, and in “Live Mode” you can map 16 scenes—the maximum available—to the keypads. You can trigger these via MIDI or pads (as well as quantize to the nearest bar or beat when

launched), and also, string them together into Songs. Once you've finished a loop, Scene, or Song, you can export it as audio or MIDI data, as appropriate.

EXTERNAL CONTROL AND AUTOMATION

Most parameters allow for MIDI control, and the Learn function is easy: Right-click on parameter, turn control, done. However, BPM won't do VST host automation; *all* automation is MIDI-based. This works well with physical controllers: Moving a real control beats mousing around with virtual ones. Note that while automation is tied to individual pads, you can control the same parameter in multiple pads simultaneously; for example, apply drive to only the toms, and crunch 'em as desired.

IT KEEPS ON GOING . . .

BPM is one of those programs where you keep finding goodies. "SP mode" emulates the sound of E-mu's legendary SP-12 drum machine. To my critical ears it doesn't totally nail E-mu's "sample skipping" sound when transposing, but it's still very useful. You can call up a drum synth for any pad and create your own sounds, and layer sounds—put as many

sounds on a pad as you want, and layer them with velocity ranges . . . even sample or re-sample into a pad, and slice non-sliced files.

Of course, there are some annoyances too: No quantizing for an entire pattern (like Guru, you have to do it per-pad on a graph), no undo, you can't select patterns via MIDI, and some (but not all) controller assignments disappear when you change kits.

CONCLUSIONS

Overall, BPM is solid, fun, and straightforward. And while the library is urban-specific, you can load anything you like into BPM anyway, so that's not much of a limitation. What's more, the price is right, and it's easy to take what you've done and convert it into a loop. Overall, BPM is great bang for the buck, and a fine software realization of hardware groove boxes.

Strengths: Cost-effective. Quality sound library and patterns for excellent "out of the box" experience. Extensive editing. Plentiful signal processing options. Step sequencer and piano roll editing. Easy external controller setup.

Limitations: No VST host automation—MIDI only. No pattern quantize. No undo. Some MIDI control limitations.

Swing is your friend, but few can define it precisely. 50% swing (*i.e.*, no swing) means that each quarter note is weighted so that the first eighth note takes up 50% of the quarter note, and the second eighth note takes up the other 50%. With a swing factor of 55%, the first eighth note spreads out slightly to take up 55% of the quarter note, while the second eighth note shrinks slightly so that it takes up 45% of the quarter note. It's common to use higher swing percentages at slower tempos, and less swing at higher tempos.

RADIKAL TECHNOLOGIES SPECTRALIS 2

Listen up: This is what hardware groove box + synthesis is all about

(\$2,499, www.radikaltechnologies.com)



When was the last time you heard a software or hardware synth whose *sound* made your jaw drop? Spectralis 2 (S2) is that kind of machine—the sound is so detailed (yet fat) you can almost reach out and touch it, and it belongs in the

same class as some of the finest analog *and* digital synths ever made. This is perhaps not too surprising, as S2 combines both analog technology (two of the three filters) with digital technology (the oscillators and various other

elements). But even the digital part doesn't cheap out; the sounds are rich and well-defined.

And the sound *better* be great, given the price—which could buy you a very nice workstation from one of the “Big 3” synth companies. But where said workstations are a marvel of versatility, S2 concentrates on being the world's ultimate hardware groovebox. It's designed for live or studio use, and in addition to the sound quality (did I mention it sounds fabulous?), there's also a very capable—and even performance-friendly—sequencer.

The original Spectralis sequencer was often considered confusing, especially for those raised on the transparency of a track view splashed across a computer's dual-monitor setup. Yet all it really took was a little familiarity (well, okay, a lot of familiarity—this thing is *deep*) to be able to work your way around it, and S2 has put some effort into further streamlining the workflow. Yes, you can play it live, and the sequencer is definitely up to the task—it doesn't burp or stop.

SO WHAT'S IN IT?

The four digital oscillators offer continuously variable waveforms, FM, sync, bit reduction, phase modulation, and other goodies that would be difficult to accomplish in the analog world. On the other hand the analog filters are four-pole lowpass (*very* Moogacious!) and a state-variable, multitime response type. The third filtering system is further proof that someone at Radikal Technologies has studied the Moog Modular legacy: a filter bank with eight bandpass, one lowpass, and one highpass filter. But note I didn't say “fixed” filterbank—you can automate filter levels, slope, Q, and even filter frequency spacing, and it also accepts external audio inputs.

The sequencer goes way beyond the usual “one measure of 16th notes”: There are 32 parameter “control lines” and up to 192 steps, all with an interface that is easier to interact with than the original Spectralis, despite retaining the 2-line x 40-character LCD. The envelopes are tight, which is a good match for the sequencer's tightness; you can make the thing swing, or be as metronomic as Kraftwerk synced to an atomic clock. What's more, the steps in the step sequencer can be actual envelopes, allowing for variations

within that single step. Once you get familiar with the workflow, you can do some pretty incredible on-the-fly sonic mangling and improvisation.

Sampling is *not* an afterthought. S2 comes stock with 4GB RAM, while an SD slot lets you do backups or import data sets without needing a computer. S2 does true multi-sampling with a 32 (stereo) voice audio engine, and you can transfer WAV or SoundFont samples from computer via USB 2.0 (Spectralis 2 shows up as a USB storage device; there's no editing applet). As expected from a groove box you can create patterns and string them into songs, but you can also save everything in the box as one big project file—sequences, samples, the whole thing—to your computer. You have no excuse not to back up!

Effects are minimal: There are programmable delays, which include modulation for effects like flanging and chorusing.

CONCLUSIONS

Spectralis 2 is coming out at an interesting time—although the economy makes it difficult to afford high-end items, there's a growing desire to find synthesis engines that go beyond the current generation of everything-for-everybody workstations, despite their general level of sophistication. Inventors like Dave Smith and John Bowen have tapped into this by producing “back to the future” synthesizers, while Spectralis has gone for more of a hardware groovebox orientation.

One thing's for certain: Spend some time on the net looking for opinions from Spectralis owners, and you'll find superlatives about everything from the sound to the support. Based on my time spent with it, all I can add is . . . they're right. If you want a superb synthesizer with a groove orientation, this is it.

Strengths: Breathtaking sound quality, with the clarity of digital and the warmth of analog. Extremely capable sequencing. Good storage and backup options. Reasonably understandable interface. Excellent build quality. Doesn't skimp on sampling, with USB 2.0 port for sample transfers. Plenty of I/O (stereo ins, multiple outs).

Limitations: Basic LCD readout. No computer editing application. Only effect is delay.

To make a loop more percussive-sounding, apply noise gating to remove lower-level sounds, so that just the percussive peaks remain. One possible enhancement for the gated loop is to add reverb. The space between hits leaves lots of room for the reverb tails, and produces a tight, yet spacious, sound.

Watch your levels: Acidized loops use crossfading to cover up splice points, and it's possible that certain tempos could cause these fades to add, thus increasing the signal level compared to the original, non-stretched loop, and possibly causing distortion.

Don't like how people use tools like Beat Detective and AudioSnap to quantize everything to a grid? Neither do I, but you can use them to quantize one loop to another so their grooves match. For example, if you have a great drum loop with swing, and a bass loop that would be a perfect accompaniment if only it did have swing, quantize the bass to the drums and they'll lock together.

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DJ Myshell with her DJ rig. Note the laptop running Ableton Live to the right, and to her immediate right and to the rear, M-Audio's Trigger Finger controller.



MAKING THE LEAP TO LAPTOP

Bye-bye vinyl, hello Ableton Live

by Myshell Nukina

In the DJ's world, continuous re-invention is key—dance music's ability to mutate and change is one of the reasons it has sustained for decades. And over the past few years, Ableton Live has become a cutting-edge tool for DJs who want to create fresh remixes and add new tracks in real time. If you've been using Live as a DAW, you might be surprised to find out how Live has enhanced the art of DJing from simply playing tracks (and making sure the transitions aren't train wrecks!) to folding in a creative combination of loops, live tracks, rhythmic processing, and more. I've been using Live for the past five years, and its ability to keep tracks locked in sync while I layer melodies, beats, vocals, or grooves has given my performances a level of versatility I never had before.

STUDIO MEETS STAGE MEETS DJ

When I first began as a DJ spinning vinyl, I enjoyed serving as a conduit for the music—feeling the ebb and flow of a party, and being at one with the crowd. But I also felt constrained at times. Track selection is essential when DJing, but sometimes you'd play a track and it wouldn't quite work as you expected. Possible solutions were limited; you could mix the track out early, or try to add generic-sounding effects. But often, all that was needed to make the music *really* work was something simple, like a punchier kick, different bass line, keyboard stab, or familiar vocal snippet. With Ableton Live, you're able to integrate these smoothly into the musical flow.

As a producer/remixer I use Pro Tools, Logic Pro, and Ableton Live. The beauty of using Live for DJing is that it's like bringing part of your studio to a gig. Back in the vinyl-only days I had to print dub plates (a costly, time-consuming experience) to play original creations. Now I can test tracks easily in various states of completion in a club setting, then go back to the studio and edit a song according to what worked and what didn't.

LIVE'S SPLIT PERSONALITY

One of Live's unique features is the ability to treat music in two different ways: The non-linear flow of Session View, where you can hop around from loop to loop and create arrangements on the fly, or the more traditional, linear approach of Arrangement View. I use both; Arrangement View is ideal for editing tracks, chopping audio, and creating loops for performances. It's easy to spend an afternoon editing samples from all my musical influences: How about some John Bonham drums? A Dr. Dre *capella* perhaps? Definitely need that Doors keyboard riff . . . with Live stretching these samples to fit the project tempo, I can mix them into that evening's set. In my musical world, Arrangement View is mostly about pre-production.

Session View comes into play when it's time to DJ. Here I color-coordinate samples according to key for easy identification when mixing (see Figure 1). Some of the tracks I play may be popular in the charts, but I'll improvise and add new

layers of bass, drums, pads, or vocal samples to make it my own unique remix. With Live I don't have to focus on beat-matching because it automatically locks to the tempo, providing I've "warp marked" the loops properly in advance. Warping beats is done in a window where you can see where transients fall in relationship to the beat; lining these up with the waveform instructs Live how to "stretch" the file so it matches the project tempo. This isn't as tedious a process as it might sound (unless you're trying to warp a loop with a very uneven tempo)—usually I only need to do a few beats at the front and a few beats at the end of a WAV file in order to establish its groove.

FABULOUS FEEL VIA GROOVY GEAR

Live offers "in the box" mixing with a crossfader, mixer, and EQ options, but I still want a mixer's tactility. So, I hook my MacBook Pro to four mixer channels via a MOTU UltraLite FireWire 400 sound card (audio runs from a Lacie Rugged Hard Disk through FireWire 800). This setup lets me retain my traditional DJ side by being "hands-on" with the EQ and crossfader.

To have my laptop screen match the mixer configuration, one Live channel (a "column" in Session View) combines kicks, percussion, beats, and crossover audio loops. One channel of the physical mixer is dedicated to these loops. This simplifies changing keys, beefing up a track with a heavier kick, or filtering out a track that's not working and paring down to a basic drum rhythm. Though I may have six or more channels on-screen, it's easy to change the output assignment to feed the desired sound card channel so that more than one sound feeds a given mixer channel.

I also use M-Audio's Trigger Finger, whose buttons and controls are mapped to Live—the program makes it easy to map external controllers, as well as QWERTY keyboard shortcuts, to various Live parameters. Not only does this untether you from the mouse, getting physical avoids the dreaded "checking your email" style of performance. Trigger Finger allows launching loops, scenes, and cool effects with a push of a button, and altering effect parameters in real time by presetting them for control by particular knobs. Live can also quantize time-based effects to the beat, and it's just as easy to bring in new effects as it is new loops—just drag-and-drop them on an audio track.

Another useful technique is to create "mega-effects" by combining several effects and controlling multiple parameters with a single knob. This can go way beyond the generic-sounding effects that come with mixers and FX units; for example, you can build a custom filter that uses different effects at various stages of a sweep. Adding effects and automation to a sample creates a sound that is familiar, yet different. And unlike vinyl, tempo is independent of pitch in Live (unless you set it otherwise).

For some gigs I use an M-Audio Oxygen 8 MIDI keyboard controller to hold chords for pads, and sometimes create riffs with Live's soft synths. If necessary I can record MIDI parts on the spot, and Live will automatically place those



Fig. 1. The screenshot for a recent Ableton Live-based set. The color-coded clips are toward the top; one is open in the Clip Overview, where you can edit various looping and warping characteristics.

riffs into the right time. I use this sparingly because I don't want to make the tracks too busy. I also like to be conservative with CPU consumption to avoid dropouts or other buzz-killers, so I use efficient virtual synths like Rob Pape's Predator and Live's own well-rounded synth, Operator. Paul Van Dyk uses two MacBook Pros for his performances—one for audio and one for soft synths—but those of us who aren't as well-heeled can get by with one laptop by exercising a bit of care.

STAYING POWER

At first I was worried about the durability and general feasibility of setting up in a DJ booth, but setup and takedown has proven to be quick and painless. With my hard disk and interface both powered by separate FireWire ports, my rig is actually quite stealth (see opening picture). For example, I was able to complete a tour of India without a single hiccup; the only extra gear I needed was an international power plug adapter.

When I first made the leap to laptop there were limited choices for DJs, but now there are many options available: Vinyl, CD decks, Flash Drives, Serato and Traktor scratch controllers, and more. All have their benefits, but I still enjoy using Live the most. Its interface and flow seem to work synergistically with how my brain is wired. Some of the bigger DJs I've opened for have been fascinated with my Live setup. Matt Darey almost ran back to his hotel room to grab his external hard drive to plug into my MacBook when the CDs at the club were malfunctioning, and even Armin Van Buuren told me he had been tempted to make the jump to laptop with Ableton Live.

As to the future, I'm looking forward to the new features in Live 8, I have an Akai APC40 controller on order, and I've heard of an upcoming development partnership with Serato. Yes, exciting and creative times lie ahead! 🎧

Vancouver, Canada-based DJ Myshell Nukina regularly tours the world with her laptop setup, as well as does production and remixing. Check out her website at www.djmyshell.com.

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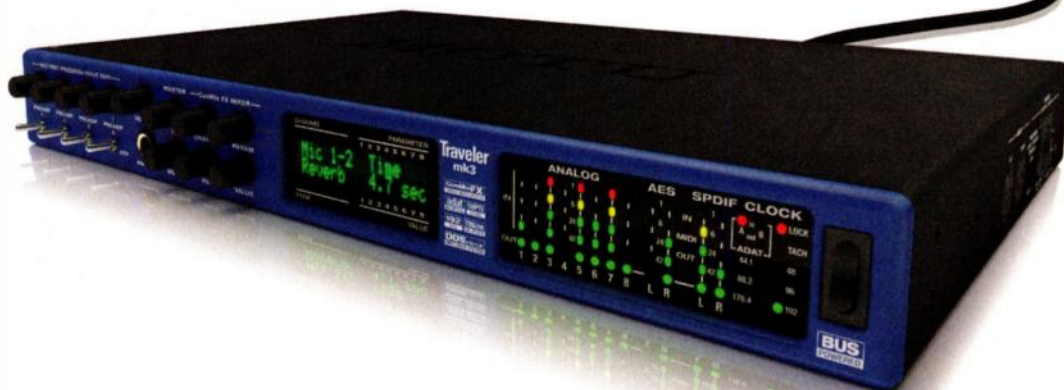
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MC Control, MC Mix and the new MC Transport bring Euphonix' high-end console technology to your MOTU desktop studio in a compact design that fits perfectly in front of your MacBook Pro. MOTU DP6 now natively supports Euphonix' EuCon protocol for seamless, tactile control over almost all major DP features and transport-related controls.

MC Transport



MC Control



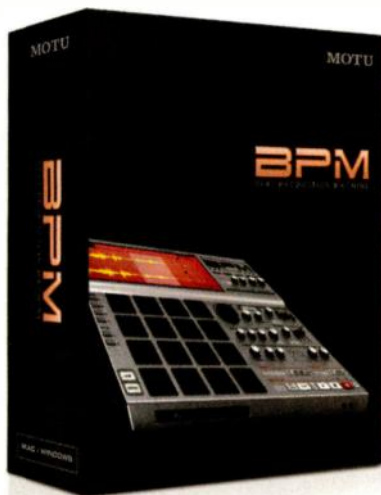
MC Mix



MOTU BPM

Advanced rhythm production instrument

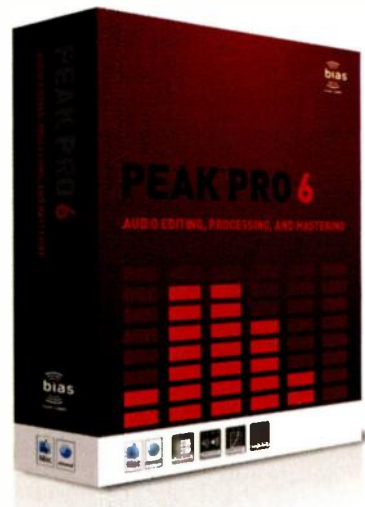
BPM unites drum machine-style operation with advanced virtual instrument technology to give you the ultimate urban rhythm programming experience. Combine drum kits, sequenced patterns, sliced loops, and instrument sounds to realize your rhythmic vision. Dig into BPM's massive library of never-before-released sounds. Run BPM stand alone or as a tempo-synced plug-in for DP6 to turn your computer into a rhythm production powerhouse.



BIAS Peak Pro 6

Evolution of an award-winning standard

Whether you're a musician, sound designer, audio editor, multimedia producer, or mastering engineer, Peak Pro 6 offers more creative potential than ever before. Used side-by-side or launched directly from within DP6, Peak Pro 6 streamlines your workflow with industry-renowned sonic quality and precision. For additional mastering, restoration, and DDP 2.0 delivery power, step up to Peak Pro XT 6.



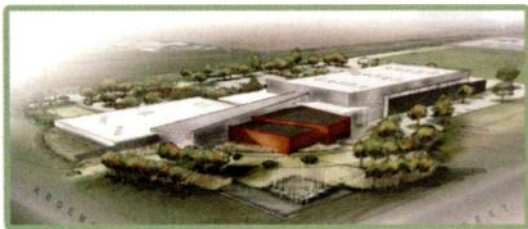
Antelope Isochrone OCX

Premier reference master clock based on aerospace technology

A master clock is the heart of any MOTU digital studio, essential to maintaining stability and preserving sonic integrity. The Isochrone OCX is an ultra stable, great sounding master clock highly regarded by many top professionals. Mixes come alive with much more depth and detail when the OCX is plugged into gear that has a digital input. Hear it and believe it!



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If you're looking for hardware to add to your sonic arsenal . . . consider a sonic Arsenal (all prices are MSRP).



No matter how much you work "in the box," try living without a great mic pre-amp—or seeing whether your plug-ins can match quality outboard EQ. API's Arsenal line addresses those needs with API's technological lineage, but at a project studio-friendly price.

When you pull the Arsenal gear out of the box, you'll feel as if you've just received some sort of vintage military equipment—each has a tag letting you know about the series of tests it has endured. And after testing each piece extensively, I have to say I not only liked these units, but also the sonic characteristics they added to the signal.

R 20: As with most high-end preamps, the R 20 includes switches for phase reverse, phantom power, -20dB pad, and mic/instrument (high-impedance) input. Each heavy-duty switch is accompanied by a bright light going through translucent glass for that truly vintage look; you'll also find a big gain knob with up to 54dB of gain (and a peak light). Having plenty of headroom for almost any recording situation, quiet or loud, this preamp stays silent and will make your mics happy.

I used the R 20 in many different scenarios, and was impressed every time. I really liked a signal chain consisting of a piano miked with two Neumann KM100s going into the R 20. Using a basic spaced pair on the piano, the signal sounded clear and

full, with no undesired sonic qualities (which some of the more "colorful" preamps sometimes add). Another signal path that I used on multiple sessions because of the detailed yet slightly warm sound included a pair of Coles 4038s placed as drum overheads. When recording this to two-inch tape, the R 20 provided a great front end as it did not warm the signal up *too* much, leaving plenty of room for the tape to add its oh-so-beloved warmth and saturation.

As you're getting high-end API mic preamp technology for under \$550/channel, I'd recommend the R 20 to anyone who wants a full, detailed sound on anything from drums to vocals.

R 24 and V 14: The R 24 is a two-channel, four-band equalizer modeled after the classic APSI model 562 EQ. Having big knobs, with just the right amount of friction, makes this an analog aficionado's dream. (I used the R 24 as a hardware insert in Pro Tools; in today's digital era, the average engineer doesn't use outboard EQ in the channel path, so this seemed like a realistic test.)

After trying the R 24 in applications ranging from guitars to drums, I feel it has that elusive "musical" quality. Two situations where the EQ's musicality and overall sound were stunning involved a stereo vocal subgroup and a

Arsenal Audio by API R 20 (\$1,195), R 24 (\$1,195), and V 14 (\$695); www.arsenal-audio.com

stereo drum subgroup. With up to 12dB of boost/attenuation, and separate knobs for frequency selection and gain, dialing in a sound feels great. Even though the Qs are not adjustable, they're well-chosen (not too sharp); while I thought this might be a problem, in practice it didn't affect my EQing goals.

The V 14's sonic characteristics and vintage look match the R 24's, while fitting into API's 500 VPR Rack. There's only one downside: The gain and frequency knobs are stacked on top of each other and with nearly friction-less potentiometers, it's possible to move one unintentionally while adjusting the other.

When companies go downmarket, you can never be quite sure whether they're cutting corners to cash in on a name, or taking advantage of the experience they've accumulated to give more for less. One listen to the Arsenal line, and you'll know it's the latter. —Mike Rozkin



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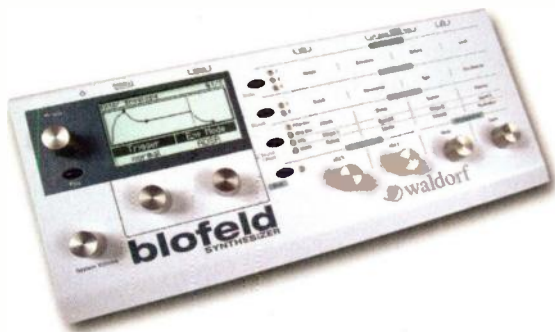
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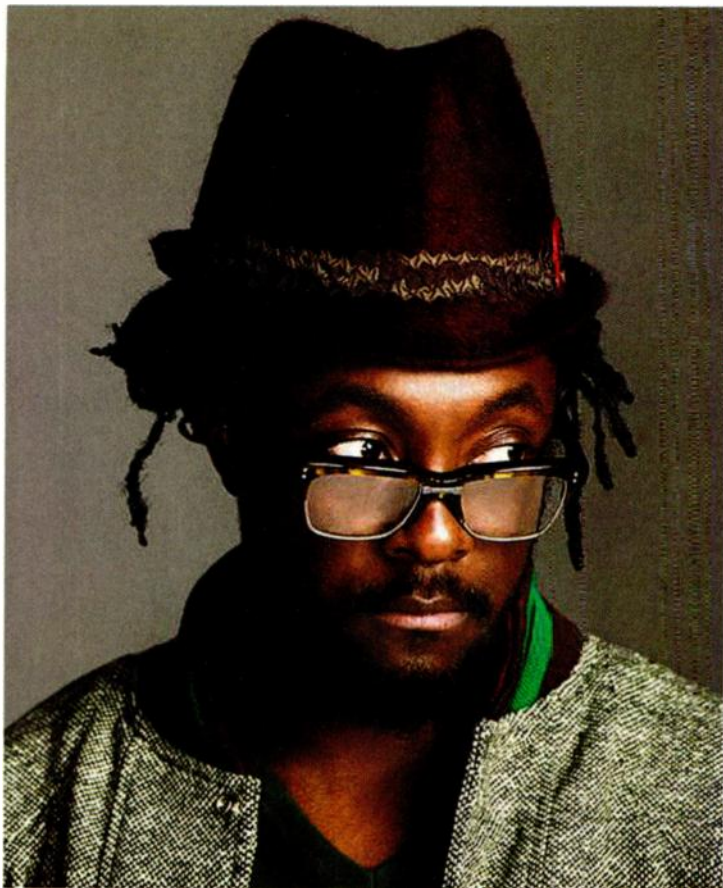
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How do you feel the role of the producer has changed?

I think the role of the producer's the same as it ever was. There are just different tools to execute your thoughts and ideas. The tools have made it a little bit easier to articulate your thoughts—made it a little bit more user-friendly to those that are aspiring producers to bring forth the things they have in their heads. I remember recording and editing on two-inch tape. But now it's totally different. We can do so many things, it's limitless now.

When you go into your studio what comes first?


The beat. I have a live kit, but instead of playing the whole kit or sampling a hi-hat, I just play hi-hat for three minutes. Then, I'll go play the snare for three minutes, and then I'll program the kick. That's what makes hip-hop, hip-hop—the focus the drum machine gives each drum without the bleed. So why don't I interpret what a drum machine does live, take out

everything else and just play the hi-hat? Then, I will treat the drums the same way I would treat vocals. The way you would do a vocal and ad-lib a vocal, I have a drummer come in and ad-lib my drum program and put the fills and the crashes in.

It's the same way with horns. I try not to let the horns play at the same time—saxes go first, trumpets second. So I treat everything like a vocal. A bass line comes second, or the guitar. It all depends on what the driving force of the beat is. Sometimes I'll just get a hi-hat and a guitar riff, and then I'll build around that. Or sometimes, just the beat and then the guitar riff, or sometimes when it's just me in the studio, it's the beat and the bass line, and then I play the keys or Hammond or Clavinet over it.

In a philosophical sense, what are you looking forward to?

Keeping it. First, the inspiration was to get it. "Oh gosh, I can't wait to do this. I can't wait to do that." And now we've

done a whole lot of things—some things that we dreamed of, and some things we never dreamed of—and now that we've achieved these things, there are *other* things I want to achieve. But now the motivation and the driving force is *keeping* it. Momentum and longevity and being enlightened by other people's process of how they keep it or get it—especially now that there are no rules anymore. There are no rules on who sings good. There are no rules on who is the hot producer. All that crap is forced and just bullsh*t. What I do is no different than what somebody reading the magazine could do. I'm no better than nobody else. I'm not the best singer, I'm not the best keyboard player, and I'm definitely not the best producer. But it's all interpretation. I believe my interpretation, and I have a strong belief that somebody else will believe it, as well, and appreciate my interpretation of music. That's all it is: perspective and interpretation. —Excerpted from the January 2005 issue of EQ 



CLEAN UP YOUR ROOM!

Introducing the London 12A Room Kit Problems Solved!

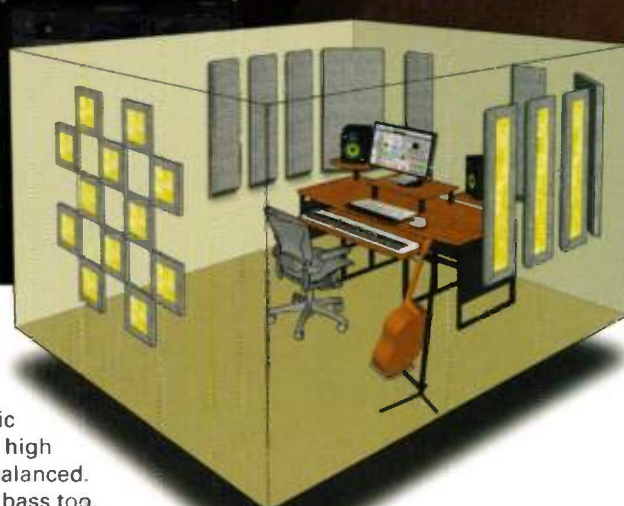
"When Brian Moncarz and I were setting up Rattlebox Studios, we had rooms that were basic rectangles. We wanted to keep the aesthetic of the room, such as the red brick and hardwood floors but tune the room to an international standard.

I turned to Primacoustic because I was familiar with their product from being in studios I had worked at. We purchased MaxTraps, FullTraps and Broadway acoustic panels and even though I am a bit of a novice when it comes to construction, I was able to easily install most of the units myself. They have dramatically changed the sound of the room for the better. I've just recently got the last bass trap in place and the panels have controlled the reflections in the room perfectly.

I love mixing in our room now. Mixes translate really well to my home listening room and especially the car. We also have Broadway panels in our vocal booth along with the Cumulus corner traps. They took the honk out of the room without adding that boxy sound you can often get with other room treatment. Listening in the room now is a pleasure and I can work for hours without over fatigue."

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