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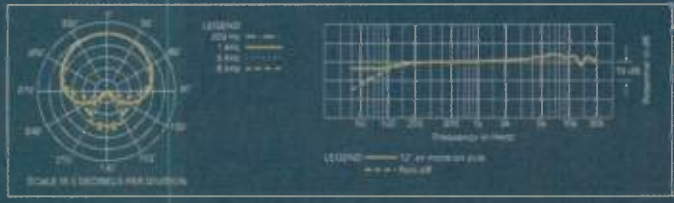

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TALKBOX

THE BLAME GAME

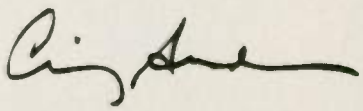
I overheard a conversation at NAMM with two people talking about how "Pro Tools had killed recording," and how music was a lot better when people just recorded tracks and didn't do so much editing.

While I agree that over-editing often does more harm than good, last time I looked, Pro Tools was a DVD inside a box. It never jumped out, held a gun to my head, and said, "You must over-edit and quantize everything to a grid, or I'll shoot!" Come to think of it, Auto-Tune never forced me to use it on every vocal, and my Waves L2 Maximizer never demanded that I squash the living daylights out of the dynamic range of every piece of music I master—or else.

Yet through some leap of logic I only dimly understand, people blame the tools for the failings people exhibit in using those tools. A lot of those failings involve laziness, like using technology as a short cut ("Don't worry about your timing, we'll just quantize it") or misusing it—I've seen people use pitch correction throughout an entire vocal rather than just fixing the one or two notes that actually *needed* fixing. I also see a lot of folks who feel there's no need to actually *learn* a piece of gear. Hey, just call up a preset, and tweak a couple knobs—right? Wrong. Today's gear is so flexible that you can tweak to fit the task at hand like a glove—*if* you know what to do. If you don't, that same flexibility can deliver dozens of variations on the wrong sound.

We live in a blame game culture, where any problem is always due to "someone else." But really, it's time to stop blaming the tools, because they do nothing by themselves other than sit there and wait for you to tell them what to do. Quantizing isn't the problem, and neither is pitch correction or maximizing: How people *apply* those processes creates any problems.

However, applying those processes can also be the solution if they're applied properly. So, before you insert that plug-in or touch that dial, take a moment to consider whether you're applying a problem or a solution. The answer might surprise you.



STUDIO HORROR STORY

BY HUGH SALDO

During the mid-'80s, I was an assistant engineer at a San Francisco studio where the owner was having a hard time keeping the business afloat. So he was really happy when a band called that had just signed a record deal, and had a decent budget to cut an album. The group blocked out the studio for two weeks, with the option for two more weeks. As those extra two weeks meant the difference between paying the bills that month or not, we had our fingers crossed the band would need the extra time.

As it turned out, the musicians sped through the basic tracks, and it looked less and less as if they'd need the extra studio time. The owner started to get nervous. Obviously, he couldn't sabotage the sessions, so things were not looking good.

When I came in one day to set up for some overdubs, I noticed an envelope sitting on the mixer that said, "For the band." The owner said a fan had left the envelope, and to make sure the band got it.

The band came in, opened the envelope, and pulled out a vial full of white crystals. I was young and didn't do drugs, but I realized it was several grams of cocaine. The band started chopping it into a fine white powder, which made me pretty uncomfortable, but the customer is always right, and this was the '80s, so. . . .

Soon, the sessions started falling apart. The band kept insisting on doing parts over and over, the singer's voice started drying out, and the lead guitarist spent a whole afternoon doing a solo, and then decided it sucked, and attacked it again the next day. The musicians made the coke last as long as they could, and the overdub sessions dragged on until the band had paid for the full four weeks. The studio was saved!

Years later, I found out the studio owner had provided the cocaine, because he'd seen how it could drag sessions out forever. While it wasn't exactly ethical, I had to admit he was a pretty clever businessman. That "investment" ended up saving his studio. And, truth be told, once the band had used up the coke and got back to business, the album ended up sounding pretty good.

ASK EQ

Fig. 1. Memory manufacturer PNY offers a "Memory Configurator" on their website at www.pny.com. Enter your model of computer, and the configurator will tell you what kind of RAM you need to expand it, and the computer's maximum memory capacity.

My Windows computer (XP SP2, 512MB RAM, 250GB hard drive, Pentium 4) has gotten unbearably slow over the past few months. I realize this is a somewhat old machine, but I haven't really changed the programs I'm running all that much (other than updates and such) and aside from the slowness, it works for me. I've used Ad-Aware to take out spyware, Task Manager to disable processes I don't need, and even removed Norton, but none of these made much difference. Would re-installing my operating system solve the problem?

Kenneth Sabelle, Atlanta, Georgia

EQ: Before you do anything drastic, increase your RAM. Although many programs list 512MB as a minimum system requirement, the emphasis is on minimum–that's enough for your computer to wake up, but not much else. Once programs ask for more RAM than is available, they start using the hard disk as virtual memory, which slows matters down considerably.

Doubling the RAM to 1GB is a good start, but 2GB is better and 4GB is best if your computer can accept this much (installing more won't make any difference in a 32-bit system like XP). To find what RAM you need, go to a memory manufacturer website like PNY (Figure 1), where you can often match up your machine to the type of memory it requires. Installing memory isn't difficult, but if you need help, any local computer store should be able to do the job for a reasonable price.

Ask EQ a technical audio-related question, and EQ will answer it. Send it to eqeditor@musicplayer.com.

EQ'S FACEBOOK JURY

When are you done writing songs for a new album? Is it when you have enough? Or do you keep going until the B songs have fallen off the list (replaced by A songs)? How do you stop yourself from becoming obsessed—dozens of songs but not getting on with it and recording the darn album?

You keep going . . . and going . . . and going . . . until you're burnt out and can't write anymore. Then you let them sit and ferment for a week while you go get in touch with nature. When you return, you listen to everything and make the choices. There's no such thing as a B side. **Darin Dunham**

Darin hit the nail on the head. If you begin to feel frustrated with a particular song, move on to another, or as Darin put it, take a break, get out of the studio, and get in touch with nature. I still remember my college professor telling me in design class that if you start to feel "burned out," go do something else you enjoy, which for me is photography. If I go out and shoot for a day, and come back to a song a day or two later, I hear it completely differently and can normally finish it up within the week. **Bryan J Zimmerman**

EQ POLL

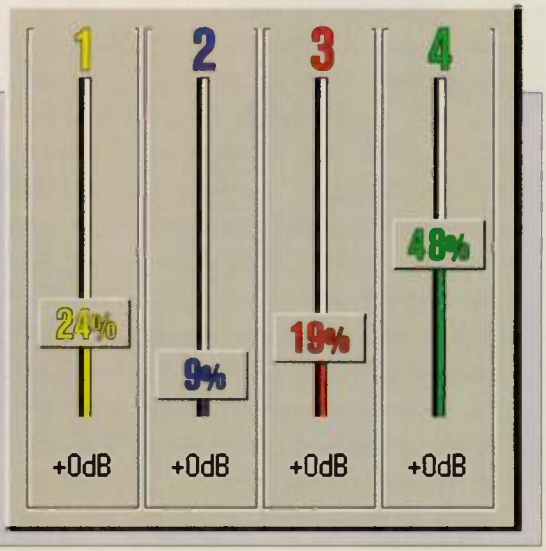
How much do you experiment with instruments in the studio?

1 I like basics: guitars, bass, drums, keys.

2 Traditional instruments, plus horns or strings.

3 I mix it up: synth, banjo, timpani, whatever.

4 Anything goes: sea shells, bottles, rocks. . . .



AUTOLUX

Guitarist Greg Edwards Expands His Sonic Vocabulary

L.A. trio Autolux strikes a rich vein of guitar and bass tones, recalls the dark, prickly melodies of Blonde Redhead and Sonic Youth, and roughs everything up with drummer Carla Azar's heavyweight hammering. It's a balance of high and low fidelity, according to guitarist Greg Edwards, which he constantly tweaks while playing and recording.

"It's easy to get texture and emotion from a lo-fi approach, and it's easy to get dynamic, sterile sound with good technique that has no lasting impact," he says. "We're always trying to combine emotion and impact that's not a mess, and fidelity that's not just soulless and academic."

Transit Transit incorporated lessons learned during previous sessions with producer T-Bone Burnett that comprised 2004's *Future Perfect*. Burnett's engineer labored over mic placement, and when Edwards set out to record the new album himself, he followed suit. Recording in a practice space with below-average acoustics, something that precluded using a room mic, forced the matter.

While recording himself, Edwards avoided excess compression and extraneous pedals. He alternated fluidly between Gibson ES-345 Hollow Body, Gibson SG, and Jazzmaster guitars, playing through a VHT cabinet with a Pitbull head into a pair of positioned mics. A Neumann U57 provided punch and articulation while a Royer R-121, a "very EQable, pleasant sounding mic," brought out the mid-range and high frequencies, important on songs like "Supertoys," where the bass and guitar constantly shared frequencies.

"The midrange is a mysterious area for me psychologically," says Edwards. "I want to hear more than I should, so I undershoot with midrange. I follow the old wisdom about taking away frequencies to reveal what you want to hear and turning down the high and low ends."

Tracking to an Alesis ADAT HD24 hard drive captured multiple versions of the same line, and provided more options for mixing. Many of the bent, distorted tones come from running two amps simultaneously to create tension. The fundamental sound from the amp, layered or not, is always the starting point.

"With guitar mics you can get a wide range of differences in tone just by changing the angle, pointing into the cone, or changing the mics' positions in regards to one another," he says. "I get the amp sounding exactly like I want, and then it's up to me to put the mics into the right position, do some subtle EQing with the pres, and really capture what's coming out." **Patrick Sisson**

Autolux (left to right)–Carla Azar, Eugene Goreshter, and Greg Edwards.

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JAMMER

Vocal Processing Pointers

Whether referred to by his given name, Jahmek Power, or his alter ego, the Murkle Man, East London's Jammer sounds like a superhero. And he operates from a secret headquarters: home studio the Dungeon, from which he has spent a decade chopping and stretching foundations for grime, the 140bpm MC battle riddims born from dancehall soundclashes, UK garridge clubs, acid house raves, and pirate jungle radio. Now, drawing on his extended crew, plus self-defined Logic 8 presets he's dubbed the Power Box, Jammer has come out with his debut album, *Jahmanji* (Big Dada), 13 tracks of crackling rhythms, off-center melodic phrasing, and excited hooks.

Jammer came up a cornerstone producer for MCs, including D Double E and Kano. He started embracing the grit of tweaking outboard gear, such as the Akai MPC2000 sampler/sequencer and Korg Trinity V3 synthesizer workstation. Jammer says he still uses the Akai to filter drums, but now compiles within a G5 and PowerBook, pitching vintage tones alongside those generated through Rob Papen's Albino and Logic's EXS24 sampler, among other sources.

In the Dungeon, Jammer edited to a more streamlined double-time, using some Universal Audio compression/EQ plug-ins as gel. For vocals and final mixing, however, he split sessions between two studios: Alaska and Miloco's Musikbox, where engineers Bob Earland and Matt Foster, respectively, added the thickening agents. Jammer cites the Avalon 2022, Urei Silver 1176LN, Neve VR60, and SSL FXG384 as great kits for warming up vocals and Logic stems. Earland and Foster used varying techniques to assure raw punch and dynamic movement, and since this was Jammer's first full-length there was a spotlight on the vocal.

"Jammer is quite a dynamic MC, so I set a high 20:1 ratio on the 1176 and a fast attack and fairly fast release. The threshold was set to just catch the louder peaks and keep things under control," explains Earland of his recording hook, and backup and charisma tracks. As for mixing, "I sent the main vocal back through an 1176, this time with a 4:1 ratio but with a low threshold. Jammer likes quite an aggressive, upfront vocal sound and this helped to bring out the breaths and rasps between the words. For the charisma track, I would EQ out a lot of the bottom end to thin it out and send a small amount to the 1176 along with the main vocal. The backups would be panned at roughly 10 o'clock and 2 o'clock, and then gently compressed on a stereo bus with a short vocal plate reverb."

As for Foster's technique, he says, "Vocals would get some parallel compression [with fast attack times to add power and weight] and distortion to give them attitude and prevent them from sounding too clean. Short tape-style delays (60–100ms) added richness to vocals, and often hefty amounts of de-essing with Waves C4 was used to control the dynamics of the higher frequencies. Occasionally, chorus or flange [was used] to add character to the vocals." **Tony Ware**

TIM AND BARRY

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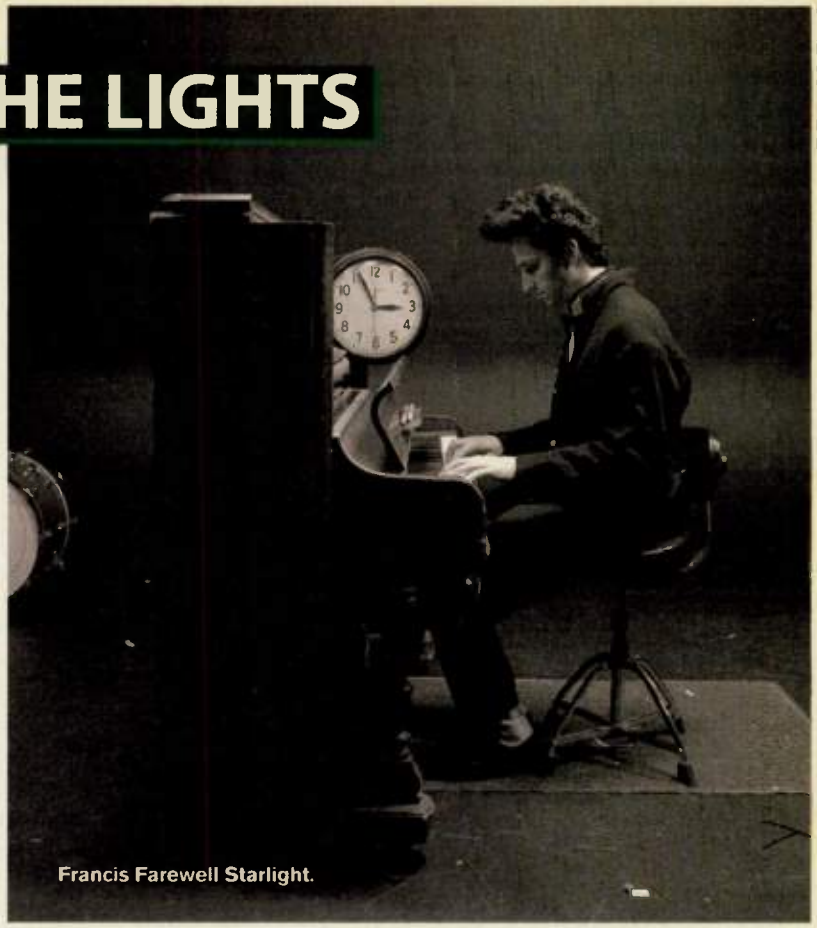
FRANCIS AND THE LIGHTS

Frighteningly Simple


JAKE SCHREIER

Francis Farewell Starlight.

At first listen, nothing about Francis and the Light's debut full-length, *It'll Be Better* strikes you as particularly complex. A rich, beautiful mix of pop and R&B, the songs feature stripped down arrangements held together with a combination of programmed and hand-played beats. The grand design, explains songwriter Francis Farewell Starlite, was to purposefully limit his instrumentation and simultaneously avoid the potential for sonic overkill. This meant little to no variation in the guitar and bass sounds, in addition to using the same setting on a single synthesizer–Starlite's Yamaha Motif–with only slight adjustments to things like cutoff, attack, and release. Dig a bit deeper into the process, however, and the eccentricities of Starlite's creative process begin to reveal themselves. At the core of his songwriting is his piano, all the keys of which have been painted black to create what he calls a "sea of notes," free from any preconceived mental triggers that might hamper his creativity.

"I would play through the whole record on the piano many times before starting the recording session, playing through each song in order," recalls Starlite. "The entire record is based on those performances. All the rhythm tracks are in my head, but I cut the piano tracks first before any rhythm sequencing."

After tapping out a few kicks and claps in Ableton Live, and laying them over his piano performances, Starlite moved onto the drumkit. A combination of an Electro-Voice RE20 (inside) and Neumann U 87 (outside) were used on the kick, while a Shure SM57 was placed about five inches away from the snare. The overhead was a Pacific Pro Audio LD3 tube placed about three feet above the center of the snare with very light compression from a Shadow Hills Optograph. All mics except for the U 87 (which ran through a mic pre on an SSL G Series board) passed through an API 512C. Even though he used a simple four-mic setup, Starlite tracked and edited his performances in a very unusual way.

"I would put a verse of one song on a loop," Starlite explains, "then I would play just the hi-hat part until I got something that was interesting. Then I would move on to the tom or snare and play that part. So by the end of it, I would have the full kit down, having played each part individually in a loop for each section of the song, with each of those instruments having four tracks of audio."

> "The amount of complexity and work that went into it is really not apparent in the record, but it's there."
>
> –Francis Farewell Starlite

The result was hundreds upon hundreds of drum performances, hand-picked, edited, and painstakingly reassembled by Starlite in Pro Tools like Lego pieces. By laying down piano as the foundation for each song, then throwing a framework of Morse code-style percussion over the top, Starlite was able to achieve maximum feel, and wasn't beholden to a set of hard quantized rhythms.

"It was really almost nightmarish," Starlite recalls. "Co-producer Jake Schreier and I made fun of ourselves along the way a lot, especially in listening to the final product. The amount of complexity and work that went into it is really not apparent in the record, but it's there."

In what other ways does Starlite like to torture himself in the studio?

"That was the main way," he laughs. "Everything else was a lot easier." **Richard Thomas**

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See his new video "Darling, It's Alright."

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Mystery Jets (left to right)–Blaine Harrison, William Rees, Kai Fish, producer Chris Thomas, and Kapil Trivedi.

MYSTERY JETS

Textural Tricks

The Mystery Jets could have been victims of a "too many cooks" situation–but not anymore. Three out of the four members of the UK band are songwriters. Tying their ideas together for the Jets' fourth album, *Serotonin*, is veteran producer Chris Thomas (Roxy Music, Sex Pistols, Pulp), who brings more than just his insight to *Serotonin*.

Layering, be it vocals or guitars, is one of the main characteristics of *Serotonin*. On the title track "Melt," vocalist Blaine Harrison works with bassist Kai Fish on doubling a falsetto into the main vocal. Harrison first sings the lead, then he and Fish simultaneously sing the same part into the same microphone in falsetto to create a textured effect.

"Putting a high octave on top of the lead vocal is a nice way of bringing it out," says Fish. "Even if the falsetto is kept low in the mix and tucked behind the lead vocal, it brings in the texture of the voice, making it quite rich."

Another track that benefits from vocal layering is the standout ELO-inspired, "Flash A Hungry Smile." Unconventionally structured, it doesn't have a chorus as much as an interweaving of different sections. Here, guitarist William Rees sings the verses while Harrison sings the bridges with Fish's backing. To allow for breathing room in "Smile," is a slow rolling beat and warm, crunchy distortion on the low end of bass with the aid of a Hartman BC108 Silicon Fuzz pedal.

> "Putting a high octave on top of the lead vocal is a nice way of bringing it out."
>
> –Kai Fish

"Everything is pumped hard with two gains and an EQ to get it really rich," says Fish. "I play synth bass as well as bass on a lot of tracks. Since it is all going through the same amp, I have to regulate so the two don't sound too different and don't throw the listener."

Not to be outdone, Rees has his Electro-Harmonix and Harrison has his stereo delay pedals. Each has two amplifiers, splitting the sound so there is a ping-pong effect on the delays. Rees works with a Roland JC-120 Jazz Chorus and Vox AC30 Custom Classic for a clean, '90s studio pop sound.

Thomas in turn brings out a unique guitar tone for a few Coldplay-tinged songs. "On 'Waiting For A Miracle,' there is a lead guitar line in the chorus that works with the vocal," says Fish. "[Thomas] would half the speed of the track, record high guitar lines, finger picking melodic stuff, then double speed it up, and layer this a couple of times for a weird chime-y quality." Lily Moayeri

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Watch "The Girl Is Gone" at the Serotonin Session.

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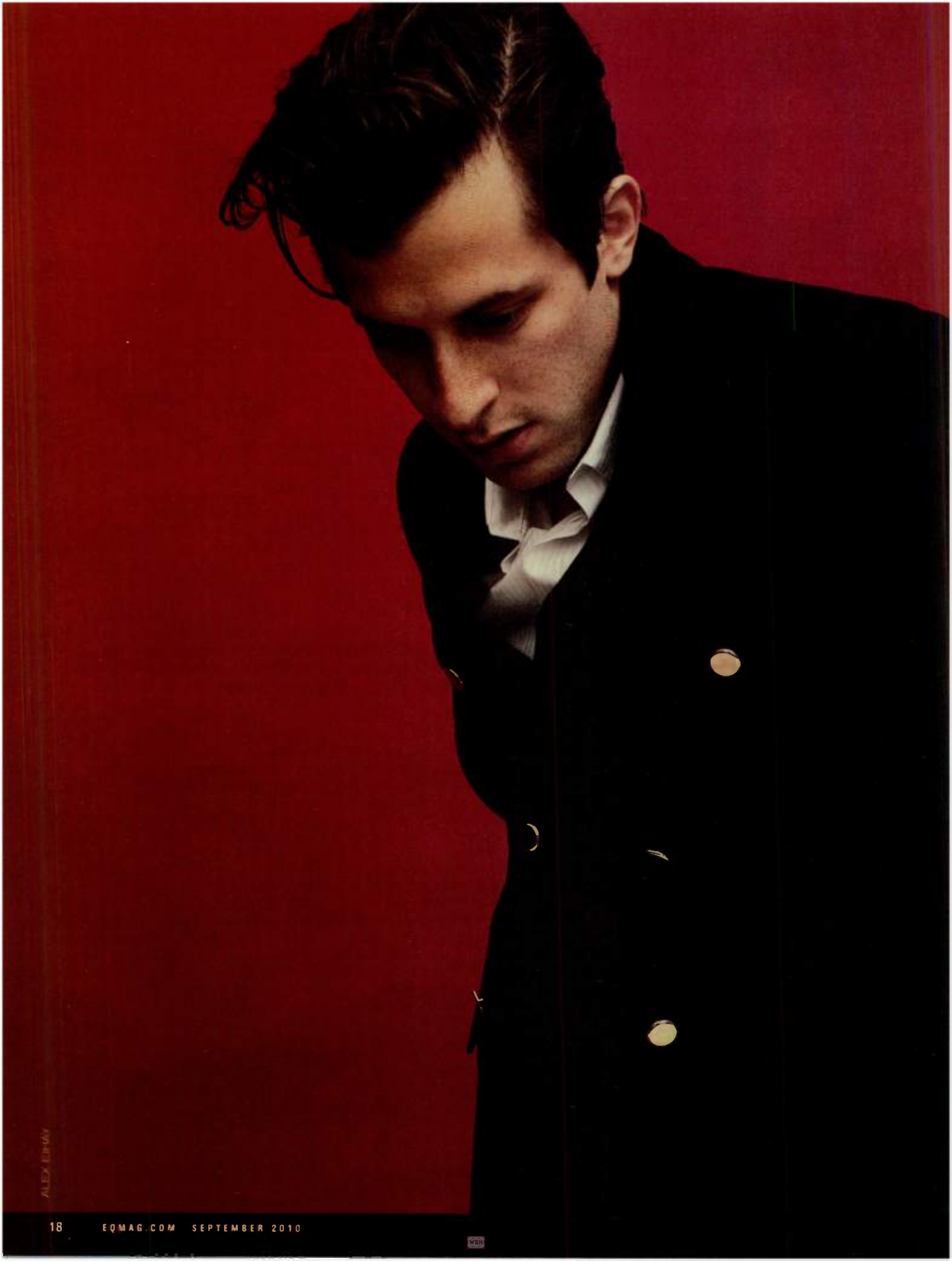


Ronson Gets Real

Grammy Award winning producer/DJ/guitarist Mark Ronson mines past and present with the help of Boy George, the Dap-Kings, Duran Duran, Afrobeat, and stacks of analog synths on *Record Collection*

by Ken Micallef

Holed up in London's Metropolis Studios while putting the finishing touches to Duran Duran's hopeful comeback album, Mark Ronson acts dumbfounded when asked how he has extracted brilliant performances from some of the best vocalists in the music business. Ronson's success with Adele, Christina Aguilera, Lily Allen, Bebel Gilberto, Robbie Williams, Amy Winehouse, and others suggests a magic touch, someone with a Svengali-like key to an inner world where sensitive singers give their best, perfect take after perfect take.

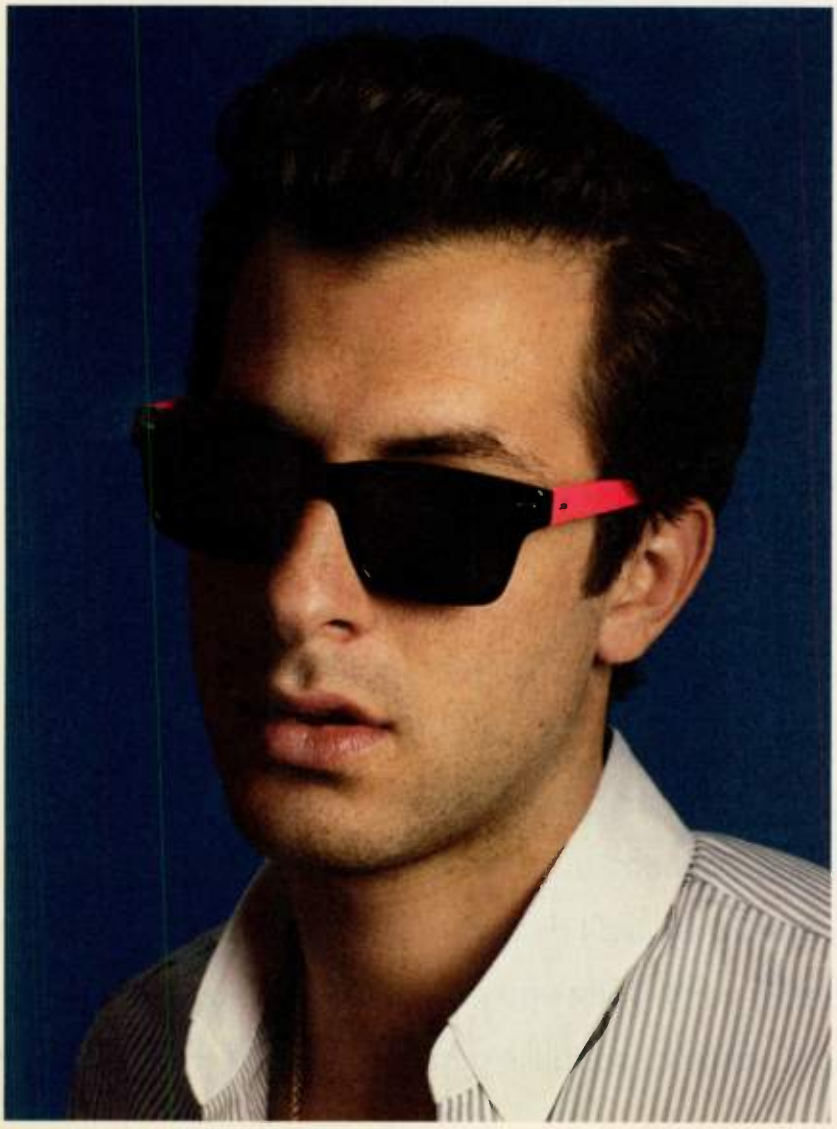
"Being a good producer means you're part shrink, part diplomat," Ronson says. "It's knowing what people's limits are, taking them there and not making them overshoot it. The worst thing is when a singer is trying to get a note that they can't hit and you say, 'C'mon you know you can do it' and they can't. Their ego is destroyed. Being a good producer is having a sense of people's personalities and their limits.

Continued

"I've always admired Ross Robinson's At the Drive-In records," Ronson continues. "His thing is to get the singer so pissed off that he gets these amazing performances. But I am not capable of that and no one would buy it if I pretended to suddenly be angry. It's not in my persona."

Far from provocation, Ronson can be a pussycat: coaching, cheering, and even pleading if the vocalist is particularly . . . problematic.

"There's no secret to the Amy Winehouse record (2006's *Back to Black*)," Ronson confides. "With a lot of singers you'll do takes, then comp it down to get the best parts. With Amy we would hit record and do three takes and it would be excruciating to decide which one to use, it was like asking which finger you want to cut off. When Amy sings something she cares about she will deliver a heartbreaking take every time. The only time she needs a little encouragement is when she sings something she doesn't care that much about, or does a cover.



ALEX EIHAY

That's when you have to tap dance to get her to do it. It's me jumping around saying, 'It's going to be great! C'mon, Amy! You're great! Let's record it, please? Can we just go home soon?'"

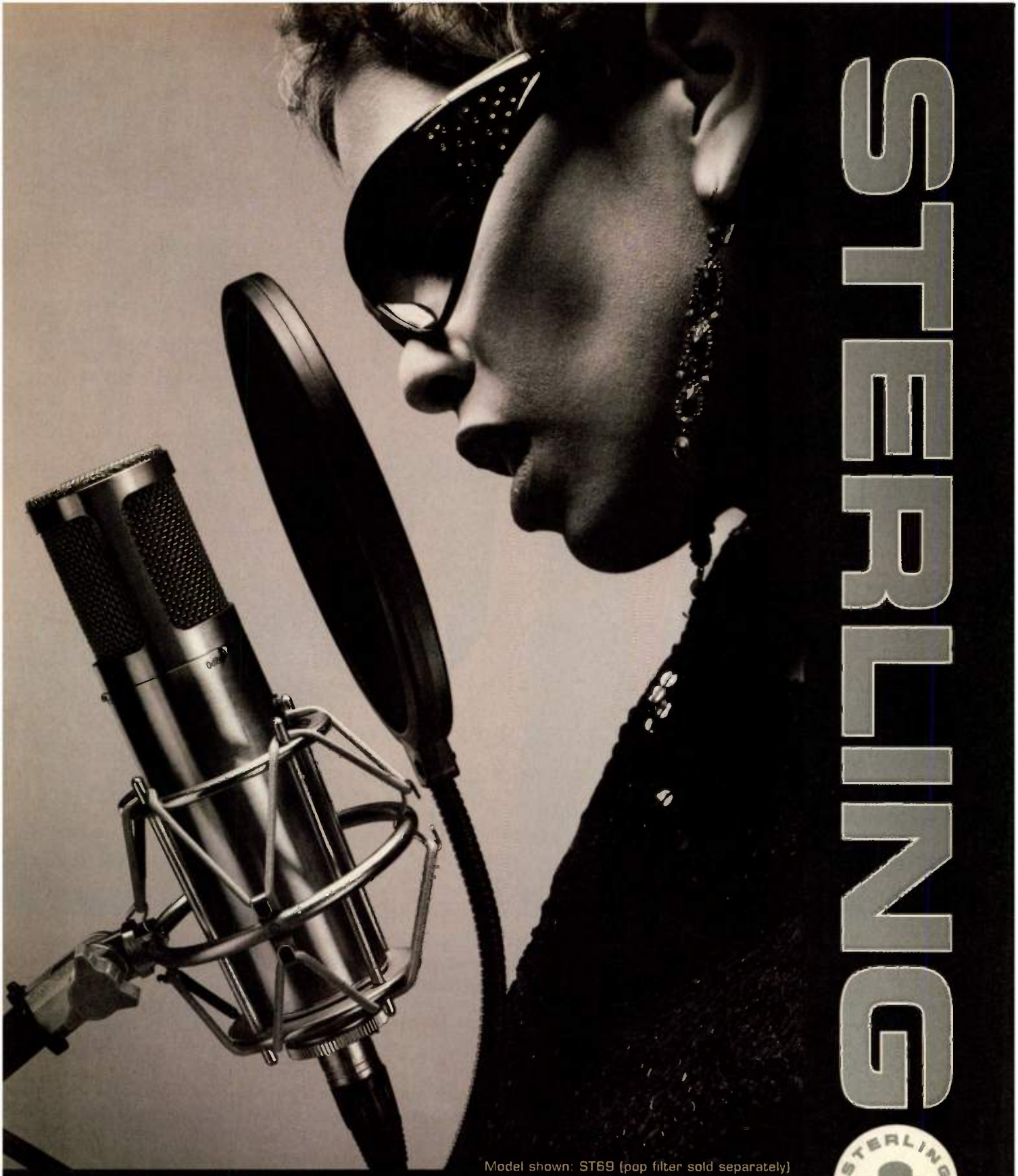
Beyond *Version*

For Mark Ronson, home is where the studio is. The 35-year-old producer/guitarist/DJ/songwriter is the kind of multi-tiered talent that moves in a perpetual state of hipness and happening. His 2008 Producer of the Year Grammy Award for *Back to Black* followed his own wildly popular 2007 album, *Version* (RCA/Red Ink). A concept album of sorts, *Version* offered startlingly oddball and original covers of songs by Ryan Adams, Coldplay, The Jam, Radiohead, The Smiths, Britney Spears, The Zutons, Kaiser Chiefs, and various others. *Version* was awarded three top ten hits and multi-platinum sales by Ronson's UK fans.

Currently traveling between homes in London and New York, holding down DJ gigs while scheduling A-list production duties, Ronson has finally found time to record *Version*'s follow-up, *Record Collection* (Allido/Sony BMG). Credited to Mark Ronson and the Business Intl., *Record Collection* combines Afrobeat rhythms, '60s-styled R&B melodies, and '70s- and '80s-era analog synths with the vocals of D'Angelo, Boy George, Ghostface Killah, Phantom Planet's Alex Greenwald, Simon LeBon, Nas, Q-Tip, Spank Rock, and the list goes on. *Record Collection* is an eclectic, often garish, bombshell packed with energy, ideas, and enthusiasm. Beginning with a synth obsession, Ronson soon called his friends to join in the fun.

"While producing Duran Duran, I fell in love with the tones and textures of Nick Rhodes' synths," Ronson recalls. "Before that, keyboards to me meant Wurlys and instruments of that era. Back in New York I started to collect synths: the Elka Synthex, Crumar Performer, [Sequential Circuits] Prophet-5, [Roland] Juno-6, the [Roland] Jupiter 4 and 8, ARP Solina, Moog Voyager. I moved this towering stack of synths into the Dap-King's Dunham Studio (in South Williamsburg, Brooklyn), which looks like The Band in Woodstock in 1971. Then I had the luxury of getting my favorite musicians together in one room."

Record Collection was recorded at Metropolis Studio in London, Downtown Music Studio (Manhattan), Merrick West 90 (Williamsburg, Brooklyn), and at Dunham Studio, with the Dap-King's drummer Howie Steinweiss providing much of the album's churning Afrobeat flavor. The songs are the product of heavily populated writing sessions (Cathy Dennis, Kaiser Chiefs' Nick Hodgson, Alex



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"Bang, Bang, Bang" features Q-Tip (left) and MNDR (right), pictured with Ronson.

Greenwald, and many more), and instrumental jams with Steinweiss, keyboard whiz Victor Axelrod, guitarist (and Dap-King's engineer) Thomas Brenneck, and Antibalas Afrobeat Orchestra's bassist Nick Movshon. *Record Collection* is synth-fueled, over-the-top retro pop, pushed and prodded by a rolling Afrobeat pulse—and the groove never stops.

"There is a lot of information," Ronson admits. "There are never more than eight tracks per song (recorded on Dunham's 1977 MCI JH-400B eight-track console), but when you're writing and recording with such talented musicians, everyone plays a strong melody, and nobody wants to write the 'album tracks.' Maybe that is why there is sometimes too much energy. But you just know when something really good is being walked all over by another part, and it's time to stop."

Touched by Humans

Ronson and his core band of Axelrod, Brenneck, Movshon, and Steinweiss recorded rhythm tracks live, without a click, and stacked synths track by track without sequencers, all at Dunham.

"It's all live," Ronson confirms. "Even on the hip-hop track ("Introducing the Business"), you're just hearing a live four-minute take; there are no loop sections. I am not a great guitarist, on my own I might get four good bars and loop it. But recording Nick, Victor, and Homer, there are going to be so many brilliant idiosyncrasies. Still, we didn't cut

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anything to click. There are even a couple points that bugged me 'cause they pulled back so much, but that is just what makes it human.

A focus on "making it human" also figured into Brenneck's approach to recording rhythm tracks. "I insist on recording analog," Brenneck says. "The rhythm tracks and a couple synthesizers were cut live to half-inch, an Otari MX 5050. To me, analog sounds beautiful, and digital sounds terrible. It's the way I've been recording since I began with Daptone Records nine years ago. I don't have any '60s gear, but a tape machine is a tape machine. I can still record drums really hot to tape; I can push it and get natural tape compression and saturation and all the characteristics that happen when you hit tape. Then we dump to Pro Tools [HD 8] at the end of day."

The album's stacks of synths were tracked running direct to the Otari through a Chandler LTD-1 with "a slot of EQ to make them sit well with the recording sonically," Brenneck explains.

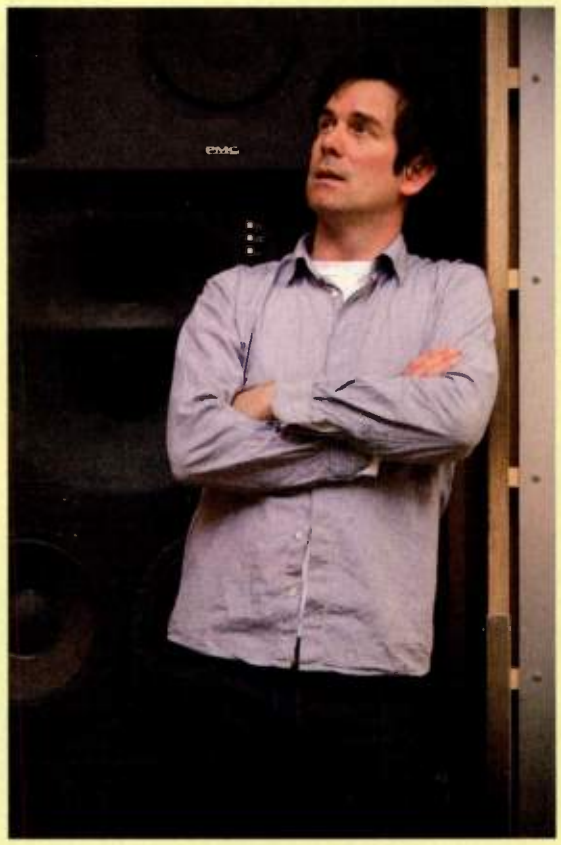
Ronson enlisted vocal pals from America and the UK for *Record Collection*, the variety befitting his wide ranging DJ tastes. Ghostface Killah emailed his contributions, LeBon and Boy George recorded at Metropolis, while the further cast of characters–Andrew Wyatt (Miike Snow), Rose Elinor Dougall (The Pipettes), Jarina de Marco, Dave McCabe (The Zutons), and Alex Greenwald–tracked at Dunham.

"With Boy George's 'Somebody to Love Me,' Andrew and I were going for 'Do You Really Want to Hurt Me 2010,'" Ronson says. "We wanted to capture the same kind of emotion. When I heard Boy George in the booth, I realized his voice was more mature; he was singing two octaves lower than in Culture Club. I thought 'Is this going to work or am I going to have to politely pretend we are doing the sessions knowing it's going nowhere?' But as soon as he sang the chorus, there was so much power it sounded like an old beautiful blues recording. It's incredible."

Back in Brooklyn, Brenneck took the old school approach to recording vocals. As with the

Mixing *Record Collection*

Mix engineer Tom Elmhirst helped make Amy Winehouse's *Back to Black* a success. He has also mixed records for Seal, James Morrison, Corrine Bailey Rae, Goldfrapp, Adele, Paolo Nutini, and many others. Working exclusively on a Neve VR console in Metropolis' Studio C, Elmhirst mixed *Record Collection* using a bevy of hardware beauties.



"I used a lot of external reverbs: a Fairchild 670, old spring reverbs, and a couple 1970s Pioneer Reverberation Amplifier Model SR-202s. They're old home hi-fi units; they're not normal! I am not a fan of digital reverb, so I have a few springs I really like and the Trillium Lane Labs [TL Space Convolution] reverb plug-in. Spring reverb was a big part of the Winehouse record, and it's in Mark's sound as well. I use two or three different springs on a track and even on the vocal. I have an Orban 111B Spring Reverb, which is quite bright. The Pioneers are quite dull and long springs. So I combine the two. We added spring to the drum tracks and I combined the Orban with the TL plug-in for some vocals and guitar as well, but not so much on the synths.

"On some tracks, I like to keep things quite dry," he continues. "I will probably keep the beat dry, then add a spring reverb on the chorus. The bass will always be dry. Some of the synths have huge amounts of effects on them. For instance, I use an old Boss CE-1 Chorus Pedal a lot on the synths, and a Lexicon Model 92 Delta-T. That was designed for stadiums to offset speaker delay. But it's beautifully made. I use that for choruses; it's a short delay on synths where I want width but I don't want echo or reverb. And I use the Lexicon on vocals as well. I also use a DeltaLab Effectron for slap because I like its very short repeat."

Treating the album's many vocal sources brought out even more of Elmhirst's hardware wonders: "Simon LeBon's vocals have traditionally been double-tracked," Elmhirst says. "We used an Eventide Harmonizer, and an old AMS [Model DMX 1580-S] Delay as well for Simon for doubling. Boy George was more suited to a wetter sound. I used the AMS Delay for that too, some Orban spring, a Watkins Copicat tape delay, and a nice Italian tape delay, a LEM EC-10. I used an echo chamber, the Altai VC-01, as well. All these units are really full of character, which is what I go for. I also used the Chandler TG-1, Manley Stereo Vari-Mu on the mix, and Waves plug-ins on the mix: I need the de-essers. In general, I like mixing plug-ins with strange outboard gear."

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Dap-Kings, Brenneck likes his sounds gritty, natural–even ugly.

"I like the really classic Neumann U67 and we also used the Shure Unidyne III 545s," Brenneck explains. "The Neumann is really crispy; the Shures have a lot of character; they don't sound as open or beautiful. But we could overdrive the Shures and hit the tape really hard and get this gritty, natural analog distortion. I prefer the Shures over the condenser mics. Their high end isn't as nice as the later Shure SM57s; it's a little ugly. Depending on the song, we would A/B both microphones to see which one sat better with the rhythm track."

Vocal signal chain details included the fastest compressor they have: a Universal Audio reissue 1176LN. "It has the quickest attack and release," says Brenneck, who "loves" the MCI 400B's preamps because "they're loud and clean." He compared them to the Chandler LTD-1 and the Purple Audio Biz Mk Pre and says, "The Purples are clear but they hum when you turn them up loud. The MCIs are loud and warm and have no hum. The Chandler sounded really close to the MCI when we A/B-ed them; it was hard to tell the difference. The signal chain was the microphone into the board then to the compressor to tape."

The Spooky Art

While Brenneck's vocal approach is standard, his drumset miking technique is radical: one mic, and one mic only. Given the huge, wraparound quality and feature role of Howie Steinweiss' '60s era Ludwig kit on *Record Collection*, Brenneck's achievement is substantial, and not just a little spooky.

"Capturing drums on this record was very simple," Brenneck says. "I used a vintage RCA DX-77 in the figure eight position for the entire drumkit. If you're facing the kit, the RCA is to the right of the bass drum, almost underneath the snare drum, so you get that nice subtle left hand stuff really loud. The RCA has so much warmth. We just roll off the bottom end because it is so heavy. We'll spend an hour moving the RCA an inch forward or an inch back. We'll do that rather than messing with more mics or compressors. We only use the one mic but the EQ is pretty heavy handed. This room has a lot of low mids so I roll them off to get a really in-your-face snare drum."

Brenneck only uses the one RCA on drums, but he's not precious about it. He and Steinweiss will experiment, moving the mic, drums, and cymbals around to achieve the desired sound.

"Because we are using one mic, if the hi-hat is too loud, we will put a small baffle between the mic and the hi-hat. We do a lot of things like that to get the drum sound. We spend more time on

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the drums than anything, two hours a day for different songs. Sometimes we wanted the drums to sound ugly and heavy, other times, like on the Boy George song, we went for a less distorted, cleaner sound. For that we backed the microphone up a foot to get more room sound. If we wanted an in-your-face drum sound, we put the mic right up in there.

"There was no debate how the drums were going to be miked," he adds. "One microphone, decisions on the spot and a good take. I don't want to spend a day putting together a drum set again. I am working on eight-track–some of the limitations become the challenge of getting a great sound."

It's Mark Ronson's World . . .

Currently working on a track for a Quincy Jones tribute album and awaiting the response to his pet project release, The Like, Mark Ronson muses about his future, his life, and his afterlife. After all, he's getting the business, and business is good.

"My epitaph will be as a producer because that is where I have done my best work," Ronson self-assesses. "Rock star, DJ, artist, those come as a result of the music you make, which in essence, is what you do as a producer. If I didn't produce Amy Winehouse's record nobody would have been interested in hearing what I had done as my own artist. That paved the way. It's fun to run around the stage holding a guitar but I am not Jack White, I'm not Jimmy Page. That is not what I do great. We live in an era where producers are lucky to do all of those things. You can produce, you can do shows. We live in a producer's era." eq

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REMAKE, REMODEL

Scissor Sisters team up with producer Stuart Price for a brash, punchy new sound on *Night Work*

by Bill Murphy

It's never easy to go back to the drawing board, especially when you're in the middle of what might be your most anticipated album yet. But in the spring of 2009, New York's glam rock champions Scissor Sisters did just that, scrapping 18 months of work to seek out a producer who could give them a new perspective.

"I think you could probably collect all of our unused tracks and put together a triple-disc set," quips multi-instrumentalist and co-producer Scott Hoffman, a.k.a Babydaddy, about the band's near-relentless level of output. "We experiment a lot, and we're–I hate to say–*perfectionists*, and I don't mean we've achieved perfection, but this album had to sound like a progression for the band. To do that, we needed someone to create an atmosphere where we could push ourselves harder and get the best out of each other."

Eventually, the band reconnected with producer Stuart Price. "It all felt a little bit like family," Babydaddy recalls. "Stuart was one of the first people we met in the British music scene; his band, Zoot Woman, took us out on our first tour of the UK. I gave him a call and was very honest about wanting to be challenged–I wanted Stuart's mind, not necessarily his sound. He completely understood, and probably wouldn't have had it any other way."

Known for the lush, synth-washed and beat-driven headspaces he's created for Madonna, Seal, The Killers, and countless others, Price consciously mixed up the sonic palette for Scissor Sisters' third album, *Night Work* (Polyvinyl), mind-melding with the band to build textures more akin to *Eliminator*-era ZZ Top or the gritty dance-rock explorations of Frankie Goes To Hollywood's *Liverpool*. "Scott and I are kids of the digital age," Price explains, "and the sound that we wanted dictated that we work in an analog sense, even though we're both using Logic. Fortunately, between us, we've got enough elaborate gear now that we can recreate the circumstances that led to those older records."

Scissor Sisters (left to right)–Babydaddy, Jake Shears, Ana Matronic, and Del Marquis.

The album's leadoff single "Fire With Fire" encapsulates the story. Not only is it a dynamic torch song for lead singer Jake Shears, building and throbbing with ARP 2600 sweeps and Moog Polymoog pads, but it crackles with a sheen of compression reminiscent of '70s FM radio–a subtle effect that cycles through the entirety of *Night Work*, lending a nostalgic feel to disco anthems like "Any Which Way" and the retro-new wave pop ditty "Skin This Cat" (featuring the band's other lead singer, Ana Matronic). As Price points out, it's one of the perks of having access to a 48-input SSL G Series console in his London-based studio.

"I just let the channel compressor in the SSL do all the work," he says. "For example, the ARP synthesizer always responds well to aggressive compression because it has such a big noise floor. I like to bring that raspy sound out so I have a chain that's

Jake and Ana.

always boosting a lot at 6K on a high shelf. I'm only going to end up riding it more in the mix anyway, so I figure let's just do it from the get-go." Similarly, the Polymoog was set up with its own chain, running into a pair of guitar pedals—the Boss CS-1 Compression Sustainer and DD-7 Digital Delay—and an Avalon U5 DI/preamp, which has a tone shaper that allows for liberal knob twiddling. "If you want to disengage your brain for a second and just search for a sound," Price jokes, "it's a brilliant all-around box."

Initially tracked with the full band—filled out by guitarist Del Marquis and drummer Randy Real—"Fire With Fire" is notable for its compact mix, which owes as much to the original performance as it does to any compression applied later. Shears used a beat-up Shure Beta 58 microphone for his vocal, singing in the control room, as he did for most of the album, to a live monitor mix with no headphones. From there, he went into a Neve 1084 Mic Pre, purely for gain (dry with no EQ) and into the SSL for further compression. Babydaddy played a Fender Musicmaster Bass into a Vox AC30 guitar for extra grit, while Marquis played an overdriven Gibson Les Paul guitar on the chorus. In the mix, Price was very light with Logic plug-ins, relying on a combination of Space Designer and an outboard Yamaha SPX90 for adding reverb trails to Shears' vocal.

"We've always sort of mixed as we went," Babydaddy adds. "We spend the final mix really getting things right, and possibly even reinventing things. On this one, Stuart did less work than I did in trying to perfect sounds as we went. I think he realized he was going to spend time with it later, so we used creative time for the creative process. In the end, he planned for a week to mix the album, and we just thought, 'You're out of your mind.' But he was adamant about making it work, and he actually did it in a week with us looking over his shoulder."

Again, Price took full advantage of the SSL desk at his disposal. "The console is always in mix mode," he says. "That's a good way of having everything ready to go, but at the same time you've got 24 tape returns so you're not putting anything off to the mix." Price kept the first 24

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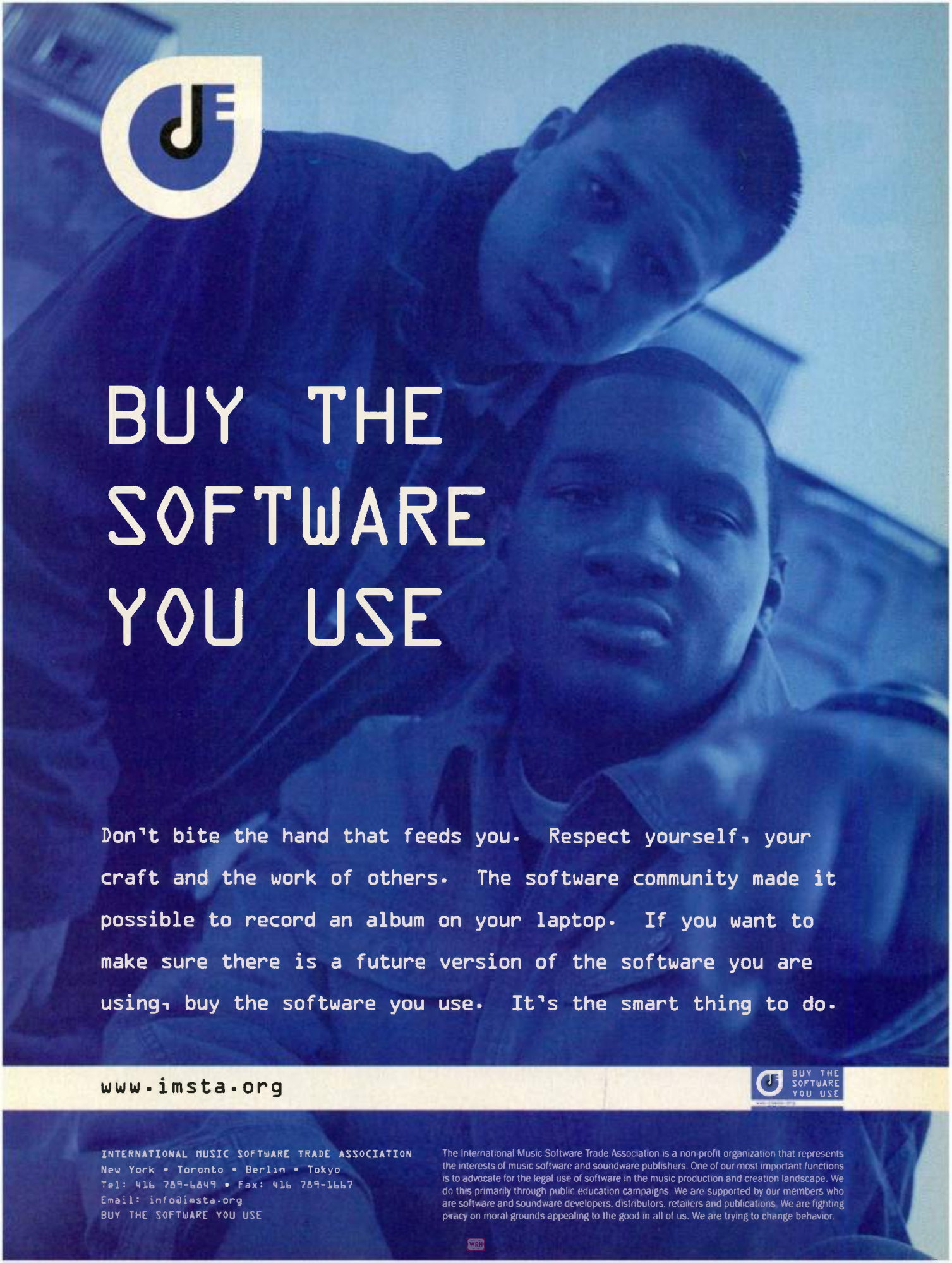
channels on the left side of the board open as "record ins" for all the synths and mics in his studio's live room, while he used the remaining 24 channels on the right side as "tape outs" into Logic.

This tight organizational approach was key to the success of "Invisible Light"–at six minutes plus, the album's epic, runaway closer. Once Price heard the song's basic tracks, laid down by the band in New York, he knew instinctively what the song needed. "They'd cut some very Pink Floyd-sounding electric guitars," he recalls, "but the vocal melody and the hook were really the guiding points." The song suggested layered textures from some unusual sources, including a Yamaha DX7s for the main riff, a rackmount TX7 for the bass groove, and both a Nord Lead 3 and an Access Virus TI Polar for the dub-style breakdown section (which features a guest invocation by none other than Sir Ian McKellen, recorded backstage after a theatrical performance in London).

Price programmed a LinnDrum LM-2, synced to a Roland SBX-10 sync box, to run throughout the song, manually riding the faders and pan pots on the SSL before going into Logic. The LM-2 turned out to be one of two vintage drum machines that added significantly to *Night Work*'s overall percussive grittiness; the other was an Oberheim DMX, something the band and Price came across while tracking live for a week at the legendary Compass Point Studios in Nassau.

"There's so much history there," Babydaddy marvels, "with Robert Palmer, Grace Jones, AC/DC, ZZ Top, and all these strangely disparate sounds and bands. We felt it would be magical to go there and really play live as a band. One day we were talking to [engineer] Terry Manning about what he used for that ZZ Top sound, and Stuart found an old DMX gathering dust in a closet–that turned out to be the secret," he laughs. "I think the sound of the future has more to do with the past than the present; that's why we love vintage gear, why we love to compress, distort, and really destroy sounds in interesting ways. That's where the magic is for me."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SOUND TRACKS

El-P "directs" an aural narrative

by John Payne

Rapper, producer, and Def Jux label founder, El-P, has a little story he wants to tell you . . . make that a big one—a pretty damn scary one, too. As a solo artist and frontman for hip-hop group Company Flow, and producer of Cannibal Ox, Cage, Mr. Lif, Aesop Rock, NIN, Beck, The Mars Volta, among many varied others, the man is famous for getting a sound that makes you want to smash things, or at least brood about it while nodding your head to his mesmerizing beats. Excitingly so, El-P's new, all-instrumental *Weareallgoingtoburninhellmegamixxx3* is far grander than a mere mix tape of wicked sounds: In fact, it's a movie, and each track tells a part of the riveting tale.

EL-P at Gotham Studios.

Weareallgoingtoburninhellmegamixxx3 (Gold Dust)—the follow-up to his past two mixes of the same name—is another threatening sonic cityscape filled with powerful bass lines, bruising drum thumps and about a million other deranged sounds, given suitably agitated titles such as "Drunk With a Loaded Pistol," "Jump Fence, Run, Live," and "Whores: The Movie."

Recorded, mixed, and edited at El-P's New York apartment studio—with additional mixing done with engineer Joey Raia at Gotham Studios in Tribeca—the album is so in-your-face you've got to wonder what was going on in his head when it all went down.

"I was the kid who was in love with *The Warriors* movie because of the score, and I was obsessed with Vangelis and *Blade Runner*," he says. "You go through any movie soundtrack, and the coolest music is from the chase scene! The chase scene is not a happy scene but it's a dangerous one, and I love that rush.

"I wanted to make something that was cohesive, that wasn't just Song 1, Song 2, Song 3, and so on, despite the fact that a lot of the songs initially didn't have anything to do with each other. The challenge was creating a place for them."

There are things that are easier to do in a real cut-and-paste sort of way, rather than relying on the performance of a plug-in, he says. "I often like to hardwire those things in. For example, I do a lot of hard chops with my delays and other effects. Much of what one hears as delays on the album are things that I've cut and faded manually in order to have more complete control over the sound, and to be more creative with it."

In order to establish some sort of thread between the songs, El-P did an initial full mix of the songs, and then bounced each paired, mixed tracks of the guitars, sound effects, strings, and keyboards, and then took them back into the mix, in effect, re-producing the record using those mixed stems. Such a process allowed for layering of additional instruments and effects as well as alterations in song structures and overall sound blend.

"I was getting full mixes of songs that were essentially completed, but which also had room for some editing," he says. After bouncing those mixed stems—which would reduce the number of stems for each song to under eight—he brought them back into the system, then layered additional instrumental parts and effects on top of each pre-mixed track.

Close attention had to be paid to how the individual parts of each track would fit into the overall "scene."

"If you listen to the record you might see that there are elements that reappear throughout the record," he says. "That happened in the first couple of songs and it just bled through to song 4 or 5; and then I'd start again, and those things worm their way throughout the whole record."

This mad new mix was a lengthy, and often tedious, process but, says El-P, well worth the effort. Apart from his treks over to Gotham Studios for additional mixing work, he played, recorded, edited, and effected the entire album in his New York apartment. Basic tracks were recorded directly to a Pro Tools|HD 2 system.

While sampling plays a significant role in El-P's kaleidoscopic sound mixes, the end product on *Weareallgoingtoburninhellmegamixxx3* was derived from a combination of sampling and live playing on mostly analog and digital synths, and a lot of plug-ins. One goal was to mask the sources of his sounds as much as possible. The majority of the sampling was done on El-P's enduring "dinosaur," the Ensoniq EPS-16+.

"It's the same sampler that I've always used, and it's a beautiful workhorse of a machine with a really amazing sound. When I first started, I made everything on that. Now, it's more like an ancillary instrument, but it still finds its way into everything."

The album's huge variety of analog synth sounds include a Moog Voyager, a Nord Lead 2X, an Oberheim OB-12, and a humble little Yamaha CS-50, which El-P calls "the star of the show." Plug-ins include a couple of Virus synths, Dave Smith Prophet and Evolver modules, and Spectrasonics' Trillion Total Bass and Omnisphere.

While most of the sound design on *Weareallgoingtoburninhellmegamixxx3* was achieved with the Sony Pulse vintage analog synth and effects software, he did experiment with other plug-ins for outboard effects; for compression he relied on his trusty old Avalon 737.

The idea was to create a musical time and place that played like that refreshingly old-school notion of an LP record album, to immerse in and follow through from beginning to end.

To create this story of an album, El-P collected old songs that had once been started but had never ended up on his next lyric rap record or on any other project. "[These songs] were all different moods, and I put them together to make some junkyard robot out of them." What a magical junkyard robot it turned out to be.

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VOCALS

BY TERI DANZ

10 Ways to Sing It with Emotion

We've all been there. The singer is "singing their butt off" in the vocal booth, but the vocal performance is just not cutting it. The producer says, "Sing with more emotion," and the singer says, "I am!"

Now begins a train wreck in progress. The singer tries again, but doesn't know what to do to actually get it. The producer tries to get them to sound more emotional with myriad directions about feel, but fails. The result is lots of studio time wasted, frayed nerves, and frustration—all because some singers have a disconnect between how they're singing, and how it actually comes across. The following ten tips will help you light the fire under those vocals.

Forget How It Feels

Feeling sad and sounding sad are very different. To sound sad, you have to know *how* to get the right sound and *produce* it.

Use Vocal Techniques to "*Feel* the Sound"

It's all about mouth sound in pop singing. This means that different mouth sounds create different feels. If you do them, you will sound a certain way—every time. Think of Christina Aguilera's "Beautiful," and the edgy sound she gets. The technique is called a "creak" or "cry." You don't have to feel the emotion—just use the appropriate technique.

Connect the Emotion to the Vocal Sound

Here's the key to all of this. It's not enough to feel the emotion or just produce it—both elements have to be connected authentically for a performance to sound real. Take the "creak" example. If I'm using it, but my emotion isn't behind it, I may sound sadder, but end up not giving a convincing performance. Skilled vocalists know how to express their emotion *through* their technique—not the other way around.

Work with a Coach

Hey, you wouldn't play major league basketball without a coach, would you? Michael Jackson had one, and it's a pretty sure thing that every other vocalist you like does, too.

Train the Voice

Singers are athletes, and training with a vocal coach is paramount to creating success. Without training, even great natural singers get into problems when they can't repeat what they did right—much less know what they're doing wrong.

Enunciate

Any singer can get more emotion by enunciating vowels and coloring tone with consonants. This does not mean singing the whole word as you might speak it. To enunciate in singing, you need to break the word down into its phonetics. This adds clarity to the words, and your ear does the rest.

Vowel Sounds

Which vowels you sing, and how clearly you produce them impacts the emotional intent. For example, the vowel in the word *down* is pronounced with the diphthong (ah-oo). So *down* is sung like "dah –oo" with the "n" sound at the very end. Pop singers add color in a diphthong by holding the first vowel (dah) longer than the second. If I then add a creak to only the last part of the vowel, it will sound like I'm becoming more pained.

Breath Control

It's hard to sound emotional if you can't control your air—or sustain notes—with power and stability. Get a breathing technique and build your stamina.

Sing in the Shower

If you just want to get into the "groove" of singing, and not worry about communicating effectively, sing in the shower, or the car or your living room before you go onstage or into the studio. Unchained from performance angst, you may discover some parts or phrasing that will ultimately help your "actual" performance communicate the lyrics better and move your listeners.

Build a Performance on One Word

If you practice singing one word over and over in different ways by changing its emphasis, tone, intensity, or melody, you can then emotionally build any song. Check out 30 Seconds to Mars' frontman Jared Leto's performance on the end of the song "Modern Myth" from their debut album. He builds a performance on only one word—"goodbye"—emotionally moving from hurt to frustration to pain and ultimate rage to being over it. When you can do that, you're golden!

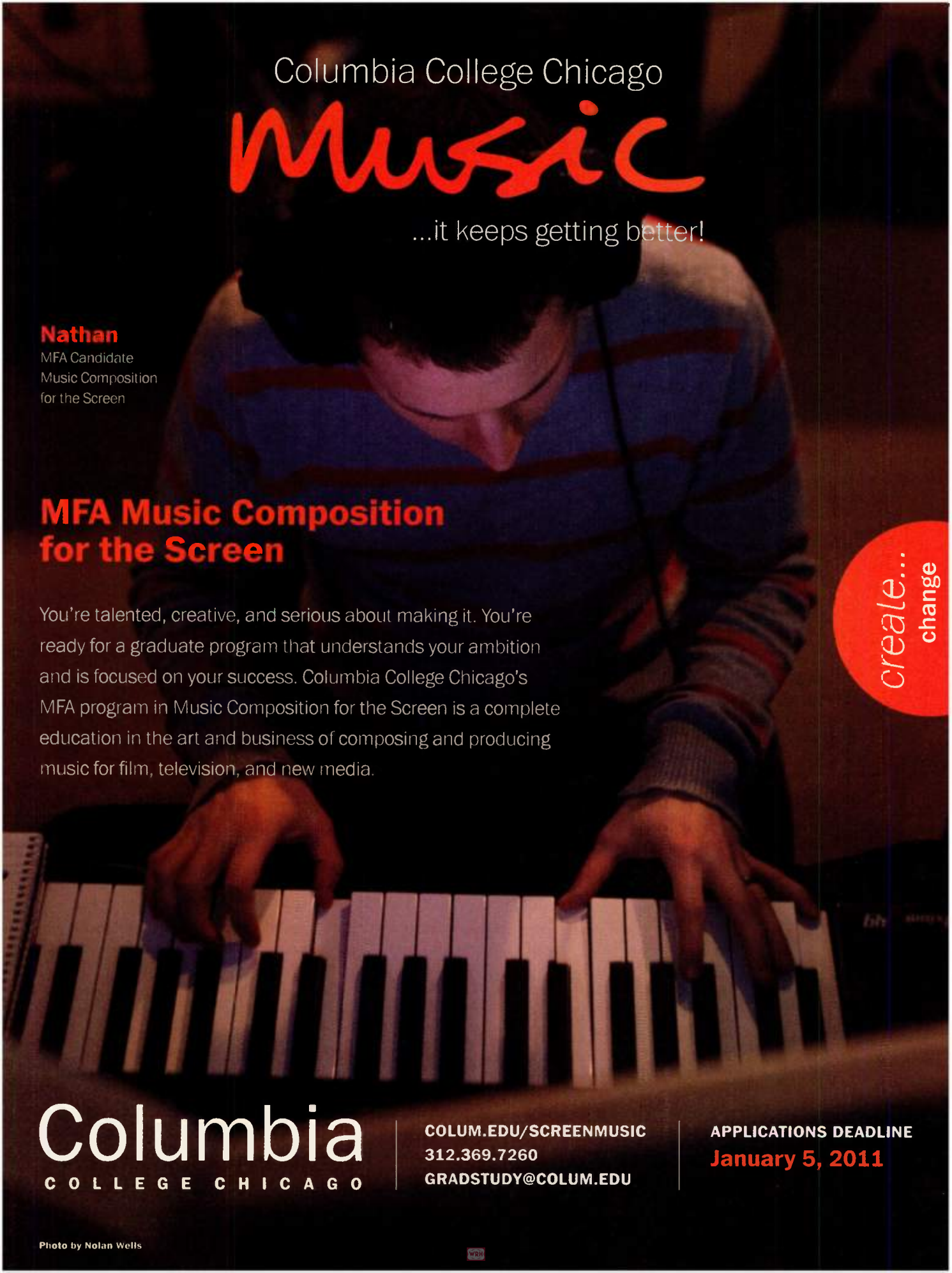
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Photo by Nolan Wells

PRODUCTION

BY SCOTT MATHEWS

Replacement Parts

Given the genuine dedication and effort most band members make in many areas of a band's career, the very idea that someone outside of the band could come in and record parts that would usually be handled by a band member can be a crushing blow. Over the course of nearly 50 years now, the act of bringing in a "ringer," and replacing a band member in the studio has indeed proven to be the source of band meltdowns, personnel changes, and even breakups.

On the other hand, it has also been the strategy for gigantic hits. As a result, many groups have embraced this approach as an effective method of building great records. It is not an unreasonable estimate that half of the biggest acts that recorded in Los Angeles and New York City in the '60s and '70s used "The Wrecking Crew" or other top studio musicians. That was the era when session players ruled the charts, and bands went shopping for Rolls Royces, while collecting royalty checks from records that other people played on.

Obviously, this is a sensitive area. I am not advocating using—or *not* using—outside talent, as that is a producer and band decision. But if you're into considering session help to spice up your tracks, here are four areas to consider.

Pro Session Players

If a band member is not accustomed to the demands of great studio performances, proficient and versatile studio pros can often make for better tracks using less studio time. Experienced session players can often get tones and sounds that can expand the band's sonic palette in interesting new ways. Exotic instrumentation can be sought to bring in some wild "special sauce" to the songs. But while a seasoned pro will likely be able to nail parts easily, never forget that a lesser musician may have a certain vibe the pros can't begin to find.

Pro Session Singers

Background singers can be brought in to juice things up if a band finds that this area is a weak link. They can help with voicings and arrangements in areas that vastly improve a song's strength, and/or add some incredible dimension to the recording. However, if the band has a special vocal blend and identity, it may be that the band trumps the pros.

Famous Guest Stars

To bring a well known and respected guest artist in on a project is often a good move for a couple of reasons. First, you are adding a tried-and-true sound that people have shown they dig. That familiarity shines brightly on new artists who don't have much of a fan base, as well as with artists who *do* have a following, but want to switch things up in an interesting way by bringing a new personality forward on a song.

Second, using a recognized artist may prompt his or her fans to check out *your* band. This guest could be a vocalist sharing lead vocal duties, or an instrumentalist with a distinctive character that brings the band to a whole new level.

You may think this is an impossible task, and wonder why an artist who is well known would want to collaborate with a lesser-known act, but it happens all the time. One of the most surprising combo plates I have found recently is Michael MacDonald doing lead vocals on a Grizzly Bear track. It's so outside it works!

Publicists usually appreciate this move, as they find more people are interested in reviewing something when there is a known artist attached. Record companies like it, too, as it can help get radio play and sell product.

Machines

As we all know, the sound and feel from a living, breathing human being has a certain vibe. It is also true that machines have their own characteristics, and are sometimes a better choice than humans. Arguably, most professional recording sessions today are based on a click and/or drum loop figure. If the sound and feel of creative uses of loops are what your particular song needs, go ahead and use them. You may want to combine real drums, or build other loops for different sections of the song, but the key phrase is "creative uses." If you want the most effective tool for the job, be open to experimenting with what works best. Certain styles of music demand machines, and other kinds don't want anything less than organic. EQ

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STUDIO 101

BY BUDDY SALEMAN

Limiting Tactics

Many folks are confused by the concept of limiting, and/or how to use a limiter. An old mentor of mine used to liken a limiter to a governor on a car. "Son," he would say in a thick southern accent, "a governor ensures you can only drive so fast and no faster. This way, those damn cops will never give you a speeding ticket again!"

Well, a limiter does just that with audio. It allows you to have only a certain amount of signal level passing a threshold and no more. Think of it as an incredibly brutal compressor. Whereas a compressor gradually takes down the peaks in a smooth manner, a limiter cuts them off at the knees.

So the question remains, how do I best use such a powerful tool? Here's how it works. . . .

Basically a limiter has only a few parameters you can adjust, although the amount of control varies from manufacturer to manufacturer:

- **Output Volume** (which is sometimes called the ceiling).
- **Threshold** (which is sometimes called the input).
- **Release** (which is how fast you want the limiter to let go of the sound).

A good limiter has no sound to it. Just like a guillotine, it is precise and clean. Like its cousin the compressor, it has a compression ratio that is preset to a very high number of 10:1 or more, and it also has a very fast attack.

For the ultimate in stopping sound, there are now tools called "brick wall limiters," where the ratio is set to infinity:1. I find this a little silly—mostly because, in my world, I only use a limiter when I want to create a brick wall. Otherwise, I use different dynamic processing.

Part of the fullness of modern day mixes is the saturation of the limiter. The more dB you toss into it, the louder and denser the mix sounds—even though it has a ceiling of sorts. Almost every modern record has multiple limiters in one place or another. It is one of the hallmarks of modern recording technique. (I wonder if 100 years from now, when people listen back to the recordings done today, they laugh at us for the absurd lack of dynamics? I know I would!)

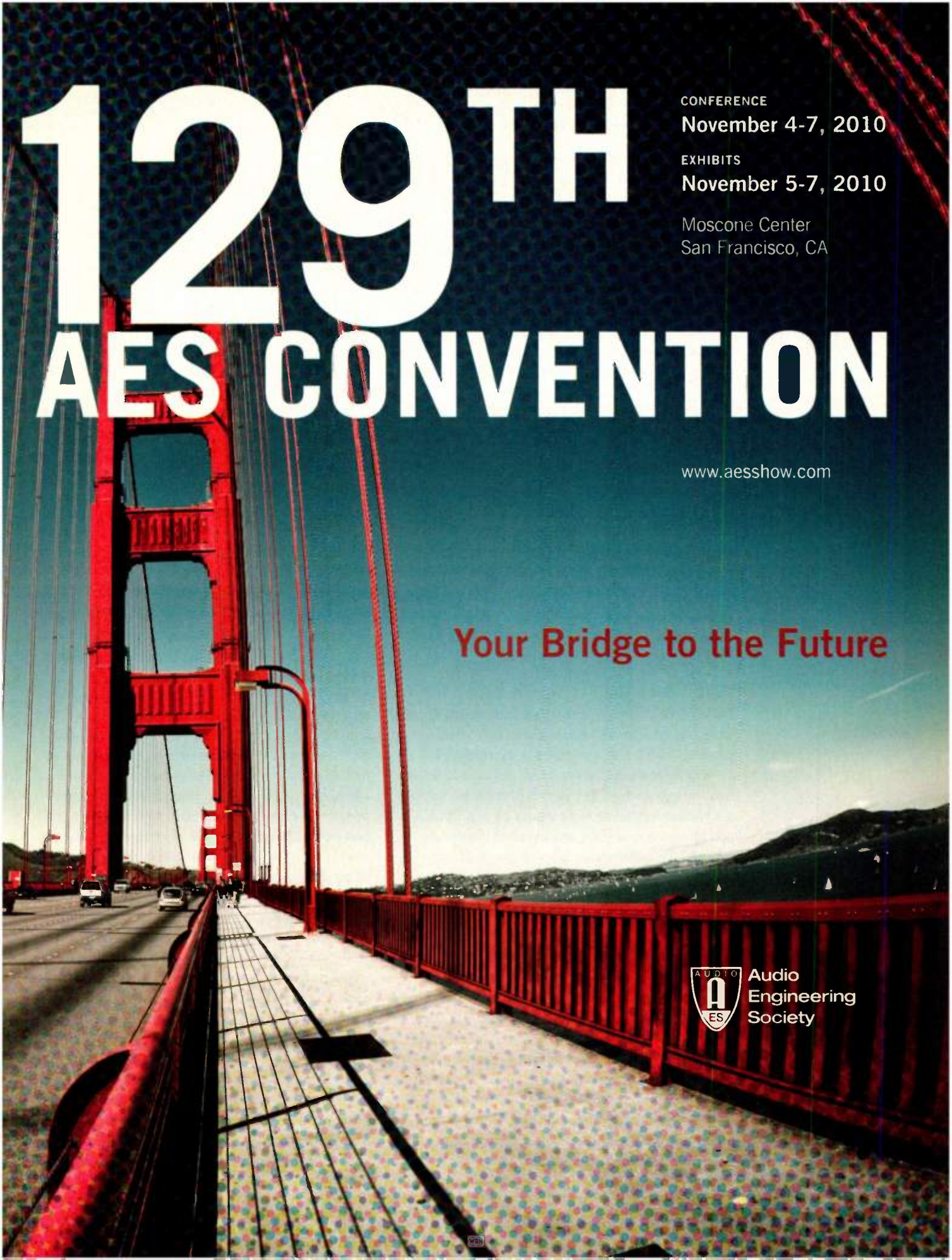
Two Limiting Applications

Squashing the master bus. The most obvious thing that comes to mind would be to place a limiter on the master bus to avoid peaks in a program. It is used that way for radio and television, in order to keep all of the programming in line so everything is delivered in a consistent volume range.

As an example, let's check out the Waves L1 Ultramaxizer. First, place the plug-in on the Master Bus out. It should always be the last effect in the chain. Set the Out ceiling to −3.5dB. This means the mix will never get louder then −3.5dB of digital zero. Next, set the Threshold to −12.7. This should give it a bit of density, and bring many things that were not as prevalent in the mix to the forefront. Then, set the release to −10, just to make it a bit more transparent.

Taming bass players. For this one, I used a Digirack compressor/limiter. Digidesign is one of those manufacturers that like to have the engineer do more of the work, so we will have more controls to change. (They like to call it options!) Set your output ceiling to −1. Let's make this sucker work for a living! Set your ratio to 12.5:1—remember, for true limiting, you must be at least 10:1 or above. Now, we are going to want this guy to move very fast so it doesn't get in the way of the mix. I set my attack at 7ms, and my release at 60ms. The input I have crammed down a bit, because I don't want this part jumping out at all—set it to 21.2dB. Lastly, I set up my knee (the actual bend in the response curve that represents the move from uncompressed/unlimited to compressed/limited. This I set at 18dB—sort of middle of the road.

These two tips should get you started on the road to limiting. Just remember, a limiter draws a metaphorical line in the audio sand.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TRACKING

BY KENT CARMICAL

One-Mic Madness

Are you aware that you can stumble into just about any music store with less than $100 in your pocket, and walk out with a small-diaphragm dynamic microphone that can capture just about every sound you need to record in your home studio? Whether that choice is the venerable Shure SM57, or any number of the cool under-$100 dynamics available today, you can use that one mic to great effect if you simply employ a bit of experimentation and creativity.

Love Your Dynamic

Unless your ears are as sensitive as a fruit bat, the typical dynamic's frequency response of 40Hz to 15kHz can accurately reproduce any instrument in the rock/pop/jazz arsenal. Its sweet proximity effect means you can avoid excess EQ slathering simply by moving the mic closer or farther away from the source, and its typically tight cardioid pickup pattern rejects most sound from the side and back. Most inexpensive dynamics can also take insane amounts of volume without overloading, and still deliver enough "airiness" that you don't have to boost high frequencies to the point your track becomes an anti-personnel weapon.

On Vocals

The aforementioned proximity effect adds body and warmth to vocal tracks when within an inch or two of the capsule. There is also a presence boost right within the vocal range that helps reduce mush and increase intelligibility. Try to keep the singer as in front of the mic as possible, because of the cardioid pattern's off-axis rejection. A pop filter is highly advised, as most small-diaphragm dynamics have little or no internal windscreen. A compression ratio of 2:1 with a –5dB threshold will help the vocal track stand out, and cutting 300Hz by a couple of dB will cure most instances of vocal muddiness.

On Electric Guitars

Even if your knowledge of mic placement is somewhat less than your understanding of the Zoroastrian religion, you'll have a hard time getting a bad guitar sound from a good dynamic. If you are lazy, just jam it about an inch or two away from the speaker grille, and crank the bejeezus outta the sucker. If you are picking up too much treble and want a warmer tone, simply move the mic away from the center, and closer to the edge of the speaker cone. Backing the mic up a foot or two will add room ambience, and, for a change of pace, try miking the amp from the rear if it's an open-back combo. While you are limited to a singe mic, modern DAW software can provide oodles of tracks. I recorded a track of each mic setup, and ended up with a wonderfully complex guitar sound that would make Jimmy Page crap his velvet trousers.

On Acoustic Guitars

Acoustic guitar is a bit trickier with a dynamic. If you are okay with a raw, lo-fi type of sound, simply point the mic at the 12th fret, and about three or four inches from the fretboard and bash away. For a more complex and natural sound, record a track using the 12-fret setup just mentioned. Now, record a second track with the mic pointed about four inches from the soundhole. Then, record a third track with the mic, level with your ear and pointing down to the body of the guitar. When it comes time to mix, if the sound is too boomy, bring down the soundhole track. Not enough ambience? Boost the ear-level mic track. Need more zing? Bring up the 12th-fret track. Cutting 500Hz will add more "transparency" without resorting to boosting the high end and adding additional noise.

On Bass

A dynamic loves miking bass amps almost as much as it does guitar amps. However, it works best addressing the speaker at a near-45 degree angle, rather than straight on. Remember that bass waveforms need more room to fully develop compared to midrang-y guitar, so place the mic ten to 12 inches from the speaker to let the sound stretch out. A compression ratio set to 4:1 with the threshold between –5dB and –10dB should smooth the sound out nicely. If you want more snap, boost 3kHz.

On Drums

While a dynamic mic would be my first choice to record any *individual* drum in a kit, trying to capture the whole damn thing with a single mic might be the height of masochism. However, it *is* possible to get a decent track, and here's what worked best in my garage.

Put a blanket on top of the kick drum, and lay the mic on it, pointed at–to put it bluntly–the drummer's crotch. This allows you to angle the mic towards the snare if you are not picking up enough of it, or angle it away if you are getting too much. A compression ratio of 6:1 with the threshold set to –4dB works best, because it adds punch while keeping the cymbals from washing out. EQ


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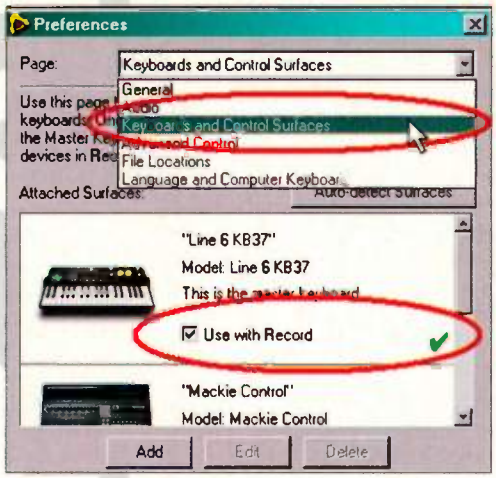
PROPELLERHEAD RECORD

BY CRAIG ANDERTON

Record and edit automation lanes

OBJECTIVE: Create more expressive tracks by using automation to vary parameters in real time.
BACKGROUND: Record makes it easy to record and edit automation; each controller's data goes into its own "automation lane" within a track. Use Arrange mode for the following steps, as in many cases it's the fastest way to record tracks and automation–Edit mode is for more detailed editing.

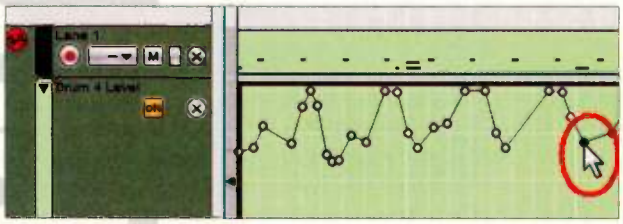


1 **Go *Edit* > *Preferences*, and in the Keyboards and Control Surfaces page, confirm that your control surface is enabled for use with Record.**

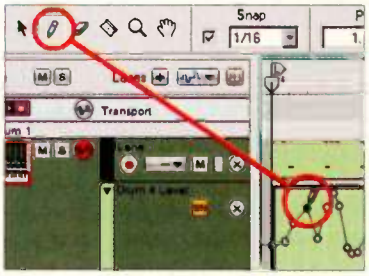
2 **In Arrange mode, make sure that the Record Enable Parameter Automation button is enabled (turns red).**

3 **Click on the transport Record button, then move the control that corresponds to the parameter you want to automate.**

4 **Record creates an Automation lane, where you can see the automation data as it's being recorded.**



5 **Double-click on the automation lane to open it for editing. Click on automation nodes and drag to edit.**



6 **To add nodes, click on the Pencil tool and click where you want a node. Remove nodes with the Eraser tool.**

Tips

- Step 2: If you've already recorded MIDI or audio data, disable the first lane's record button to prevent accidental recording. If you want to record MIDI or audio data along with controller data, leave the first lane's record button enabled.
- Step 5: To select multiple nodes, ctrl-click on them or use the Selection tool to draw a marquee around the desired nodes. You can then move all selected nodes up, down, or sideways as a group.

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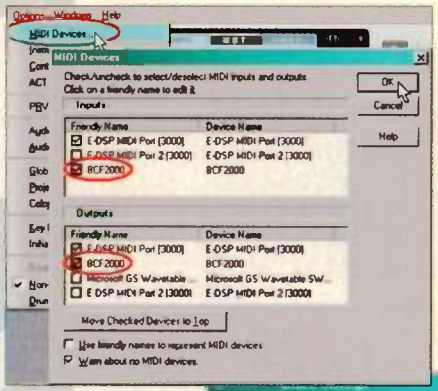
CAKEWALK SONAR HOME STUDIO

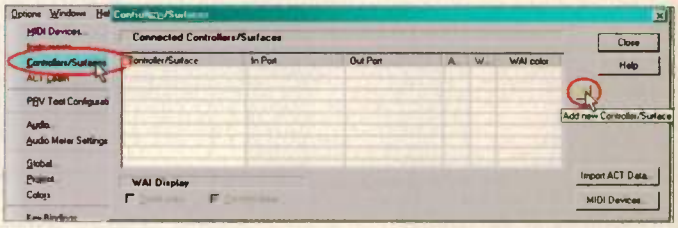
BY CRAIG ANDERTON

Use common hardware controllers with Sonar Home Studio

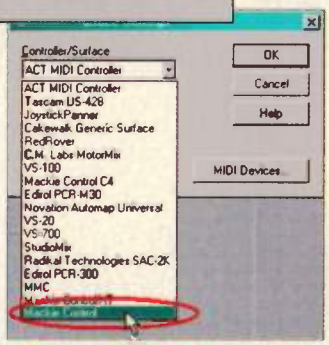
OBJECTIVE: Provide hands-on control for Sonar Home Studio using any Mackie Control-compatible device.
BACKGROUND: Various controllers can emulate the Mackie Control protocol, and many DAWs, including Sonar Home Studio, recognize Mackie-compatible controllers. These controllers connect via MIDI, which may be physical 5-pin DIN connectors or USB over MIDI. Make these connections before proceeding; this example uses the Behringer BCF2000 motorized fader box.



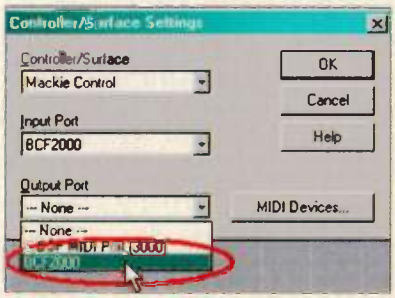
1 **Go *Options* > *MIDI Devices*. Check the boxes corresponding to the MIDI in/out ports that connect to your controller, then click on "OK."**



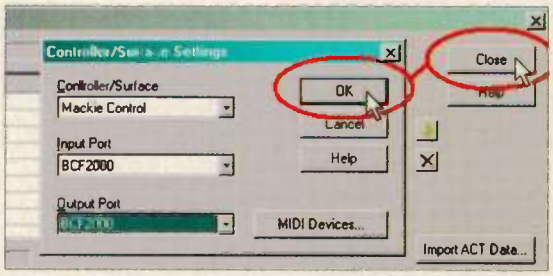
2 **Go *Options* > *Controllers/Surfaces*, then click on the "Add New Controller/Surface" button.**



3 **From the pop-up menu, select your supported control surface in the Control Surface field (in this case, Mackie Control).**



4 **Open the Input Port and Output Port pop-up menus, then choose the appropriate MIDI ports for the controller that you selected in Step 3.**



5 **Click on the Controller/Surface Settings "OK" button, then the Controllers/Surfaces "Close" button. Now you can control Sonar Home Studio with your Mackie Control or Mackie Control-compatible device.**

Tips

- To set the BCF2000 to Mackie Control mode, with the BCF2000 powered off, hold down the fourth button from the left in the top row of buttons (below the Val 1 knob), and power on the BCF2000. Keep holding the button down until the display shows "MCSo." If the display shows "EG" when you release the button, press the BCF2000 "Exit" button.

ROUNDUP

SIX STUDIO ESSENTIALS

Yesterday's option can be today's essential . . . as we found out when reviewing these six hot products

BY CRAIG ANDERTON

These days, what's "essential" in the studio goes beyond just having mics, preamps, and a multitrack recorder. And, that definition of "essential" varies greatly depending on what type of sessions you do. In typical *EQ* fashion, we didn't seek out the ordinary essentials, but the ones that maybe you don't yet realize you need.

Start with the Electro-Harmonix V256. We rarely review "stomp boxes," but with the vocal processing craze still going strong (whether you're talking hard pitch correction on hip-hop or vocoders with electronica), you need something that will provide those effects–and we couldn't find better bang for the buck anywhere.

Another essential, at least for those who record remotely, is a laptop-friendly audio interface. Granted, there are a ton of interfaces out there, but few (if any) at the Saffire USB 6 price point offer equal audio specs, or MIDI in and out.

While some might not consider an electronic drum set an essential, you need some kind of controller for all those great software drum programs (as reviewed in the 08/10 issue)–particularly if you're fighting noise issues in a small studio. Yamaha's DTX900K isn't just a superior electronic drum set, but it was designed to have one foot on stage, and one in the studio . . . read the review, and you'll see why.

What do you do after checking out the umpteenth virtual analog instrument plug-in? If you want to go global and add new flavors to your music, MOTU's Ethno Instrument 2 is as good as it gets. And speaking of adding new flavors to your music, what's old is new again, and you'll find that hardware compressors can do things (like zero latency and that elusive analog sound) that plug-ins simply can't handle. So we checked out JDK Audio's R22, which hits a sweet spot of price, performance, build quality, and ease of use–and liked what we saw.

Finally, in today's virtual studio, plug-ins are essential–but we've gone past the first generation, and few plug-ins typify the next generation as well as the Waves Artist Collection series. Their claim to fame is they contribute particular *styles* to your music, not just particular *functions*. We loved the first ones in the series, so we couldn't wait to get our hands on the Jack Joseph Puig Collection. And now we can't get our hands off of it.

Ready for the roundup? Then keep reading–and remember there are plenty of additional resources online.

Electro-Harmonix V256 Vocoder

($290 MSRP, $218 street, www.ehx.com)

What: Okay, it's a pedal, not a rackmount–so sue me. The V256 does the flavor-of-the-month pitch correction effect, but more importantly, does vocoder and drone effects–and a lot more–that give it real staying power should the pitch correction fad fade.

Why: I'm a big fan of vocoders–although I rarely deploy them for voice, preferring to use something like drums as the modulation signal to "chop up" synth or bass sounds. The V256 does all this and more, although to use signals other than a mic for modulation, you'll probably need an adapter as there's no line in for the modulation signal.

Packaging: This is the usual EH tabletop box/floor pedal packaging that can survive a lot if you exercise even minimal care. It's small enough to be unobtrusive in the studio or for a stage setup.

Installation: You need a mic modulation signal for the XLR mic in (which also provides switchable +48V phantom power), and a carrier signal for vocoder effects. This can come from an internal synth (playable via MIDI; the V256 overachieves by including a 5-pin DIN MIDI input) or an external instrument feeding a 1/4" line level phone jack. There are two outputs–XLR balanced out for the effect sound, and 1/4" phone jack that carries the instrument signal.

What's hot: Well, the whole box, actually. There are nine modes and seven unique ones, so let's count 'em down. Three of the "robo voice" modes are identical, and provide standard vocoder effects (from funky old-school 8 band to 256 bands) with either the internal synth, external synth, or both mixed together. Why three? So you can save three different presets using this mode. Next up are three "drone" options (major chord, minor chord, "robot" single note). These have a more natural kind of sound, and work great with the internal synth although you can also use an external instrument for standard vocoder effects. The Transposition mode, not surprisingly, transposes the incoming mic signal by up to plus or minus one octave, leaving the vocoder aspect out of the picture. You can play this in real time via MIDI, and add a sort of portamento effect if desired.

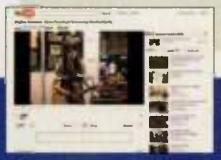
The Instrument Control mode lets you sing (or speak) a note, and change its pitch from an external audio source (*i.e.*, the vocal takes on the pitch of the external source). For me this was the least useful option, as using the internal synth and MIDI works great for this kind of sound. The final mode, Reflex-Tune, does pitch quantization/correction (either chromatic, or based on the notes from an external instrument signal) with variable correction speed, and can also quantize to a variety of scales.

The various controls have different effects–sometimes as expected (*e.g.*, pitch changing pitch) and sometimes not (in drone mode, pitch determines not just pitch, but at extreme settings, whether the internal synth is silenced or note). And while the "gender" control (which is active in several modes) tends more toward the Mickey Mouse/Darth Vader tonal option, with female voices, the male gender is scary close.

But wait–there's more! If you're lusting after that cool Freeze pedal EH showed at Summer NAMM, use only the instrument in and out, and whenever you hit the Mic Bypass footswitch you'll freeze what was playing when you hit the switch.

Conclusions: No question, this totally rocks. But don't lose the manual, because the interface is only partly intuitive–you'll need to read up on the "secret sauce" functions. Overall the V256 is versatile, well-built, inexpensive, sounds good, and best of all, messes with people's minds. If you want lots of really good vocal processing effects for cheap, this is a no-brainer. Two thumbs up; three if I had 'em.

More Online



See Kendra Morris's EH vocal processor demos.

Get All The Links at eqmag.com/sept2010

Focusrite Saffire 6 USB Audio Interface

($249 MSRP, $200 street, www.focusrite.com)

What: USB 1.1/2.0 audio interface with drivers for ASIO/WDM drivers (Windows) and Core Audio (Mac). Works with 32/64-bit Windows Vista/XP SP2/7, Mac OS X 10.5.7 or higher (32-bit only on Snow Leopard); resolution up to 24-bit/48kHz.

Why: Especially for mobile applications, sometimes it's best to prioritize quality over feature set. Saffire 6 USB provides two very high quality mic pre/instrument inputs and MIDI in/out in a compact, bus-powered package that covers the essentials of remote recording–as well as many desktop applications.

Packaging: You get the interface, USB cable, and software, including a ton of "bonus" material: Ableton Live Lite 8, Focusrite plug-in suite (compression, reverb, gating, and EQ–see the Scarlett suite reviewed in the 2/10 issue), a Gigabyte of samples from LoopMasters, 572 drum loops from Mike the Drummer, and the Novation Bass Station plug-in–which I'm going to ask if I can keep on my hard drive after returning the unit.

Installation: Installation is the usual. On Windows, install software, plug in hardware, finish installation; on Mac, install software, then plug in.

What's hot: The mic pres, and overall dynamic range. These are not "character" preamps but clean, sweet, transparent pres that do justice to whatever mic–or instrument–you plug in. The jacks are Neutrik combi jacks, and each input has instrument/mic and pad in/out switches. There's a phantom power front panel switch for both ins (I'd prefer separate switches per input, though). Other front panel features include a mix control to monitor the inputs (*i.e.*, zero-latency monitoring) or playback from your DAW, a monitor control for the outs, and a headphone out with a headphone amp that seems a cut above average.

On the back, you'll find stereo 1/4" balanced/+4dBu jacks, as well as–DJs, take note–RCA phono jacks for the two sets of stereo pair outs (which is why this is considered a 2-in/4-out interface). With a front-panel switch for monitoring outs 1/2 or 3/4, DJs can cue up easily, or send separate signals to two sides of a DJ mixer.

More surprisingly, there are 5-pin MIDI in and out DIN connectors. I've dinged some audio interfaces in various reviews for not including MIDI, requiring you to get a separate interface for hardware MIDI controllers with 5-pin DIN outs; that's not an issue here.

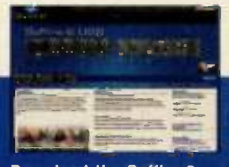
Normally, bundled software won't tip you one way or the other in terms of a purchasing decision, especially because with some pieces of gear, the emphasis is on quantity over quality. However, the Focusrite plug-ins are very good and regardless of how many plugs you have, bring something different to the party. I'm also a big fan of the Novation Bass Station, and the loops and samples are useful. Given that Focusrite includes DJs as a potential target market, offering Live makes sense, although of course Live is about much more than DJs.

Conclusions: I've heard that this is Focusrite's best-selling interface, which doesn't surprise me–paying $100 each for these two preamps would be significant value even if you don't take the rest of the physical interface into account. The case is all-metal, which is important for mobile use. (However, I'd love to see someone offer panels that could screw into the existing holes on the side of the case, and protrude forward to provide protection for the knobs in case the interface gets dropped.)

The Saffire 6 USB covers a pretty wide range of users, from laptop DJs to those doing quality stereo live recordings. It's even useful for solo musicians in a desktop context who don't need multiple ins. Granted, it has limitations (*e.g.*, 48kHz sample rate max), but those limitations were chosen to keep the price down while keeping the quality up on the most important elements . . . you can't argue with that.

The rear panel has 1/4" phone outputs, DJ-friendly RCA phono outs, and physical MIDI connectors.

More Online



Download the Saffire 6 USB user manual.

Get All The Links at eqmag.com/sept2010

Yamaha DTX900K Electronic Drum Set

($7,199.99 MSRP, $4,400 street, www.yamaha.com)

What: Electronic drum set with pads, mounting rack, and sophisticated sound module.

Why: So, why are we reviewing a drum set in *EQ*? Simple. Back in the day, all studios had a drum kit set up in the corner not only for visiting session musicians, but because the studio could keep it maintained and make sure the pedals didn't squeak, the drum heads were in good shape and tuned, and perhaps more importantly, it could be miked and ready to go at a moment's notice. With smaller project/residential studios and noise issues, having an acoustic drum setup is increasingly problematic–but a quality electronic drum set addresses that, especially considering the plethora of great-sounding virtual drum instruments you can drive with electronic drums.

Packaging: The DTX900K arrives packed in 346 boxes. Well, not really, but it's a lot of stuff given that the set includes the mounting rack, drum pads, cables, sound module, etc.–everything except a kick drum pedal, sticks, and throne. It took me about an hour and a half to set everything up, which given the completeness of the set, wasn't too bad.

Installation: Setup involves building the curved rack, then mounting the pads: one kick pad, 12" snare pad, three 10" tom pads, two 13" cymbals, 15" cymbal, and hi-hat. Next it's cabling time to the sound module, which then feeds the mixing board or amp setup via main outs, six individual outs, or S/PDIF digital out (I use a Bose L1 with several bass bins for electronic drums). As a controller, the DTX900K offers USB or physical 5-pin MIDI connectors.

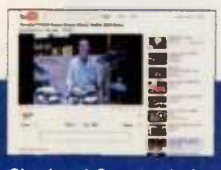
What's hot: Aside from the general build quality, I'd have to say the XP-series pads are the hottest aspect. They feature what Yamaha calls Textured Cellular Silicone, which offers just the right mix of rigidity and "give." They're very responsive, with predictable velocity, but most importantly you can play them for hours–there's hardly any "kickback" to your wrists. The pads' comfort factor is huge, but they also don't make a lot of noise when you hit them–important if you're miking another instrument in the same room.

The XP pads also have two rim sensors, a top pad control for pad parameter tweaking (*e.g.*, tuning), and a less-accessible trim on the bottom for level. I like the cymbals, too; they're rubbery, not metal, and can handle choking and muting. The hi-hat pedal even responds to pressure when you press down on it for a "tighter" or "looser" hi-hat sound.

The drum sounds in the 50 kits are outstanding. This isn't exactly a shock; Yamaha certainly knows how to sample and synthesize sounds. Still, the breadth is impressive–258 snares, 141 toms, 116 kicks, etc., from acoustic to electronic. You can also sample your own sounds (with time stretch, slicing, transposition, etc.), there are a ton of onboard effects if you're into serious warpage, and the built-in sequencer can trigger riffs as well as conventional recording/playback.

Conclusions: While the DTX900K isn't cheap, what you get in return is pretty phenomenal. Interestingly, since setting them up for this review, I've already had two visiting drummers stop by and check out the drums . . . to say they were blown away would be an understatement, particularly as one feels about acoustic drums the same way some guitarists feel about tubes. And if you're used to playing software drums from a MIDI controller, the lack of latency when playing "real" drums is refreshing. Yamaha definitely did their homework, and the result is a highly playable electronic drum set coupled with exceptional sounds. It's been a serious treat to have this in for review.

More Online



Check out Sweetwater's DTX900K video.

See Zak Bond's promo video.

Get All The Links at eqmag.com/sept2010

MOTU Ethno Instrument 2

($395 MSRP, $374 street, www.motu.com)

What: AU/VST/MAS/RTAS/standalone virtual instrument with a 21GB library of ethnic sounds and loops. Requires Mac OS X10.4.11 or higher, or Windows XP or higher (including 64-bit operating systems).

Why: People have short attention spans. So if you're still reading this, consider inserting different flavors into your musical productions (hip-hop's way ahead of rock in this respect). Or, be ready to score that scene in the next James Bond movie where he's in some exotic locale.

Packaging: Boxed only, not download. This makes sense, given the size of the library (and the United States ranking 28th in the world for average Internet connection speed).

Installation: Read the PDF on the installation disc, which contradicts the otherwise excellent (and helpful) printed documentation. The required iLok copy protection key is included; note that you can install the library (from three double-layer DVDs) on any hard drive, as long as you create an alias in the default location that points to the actual location.

What's hot: I loved the original Ethno instrument, so fortunately while the new version just about triples the size of the library, it also contains all original elements so Ethno 1 projects can load into Ethno 2. The only caveat is if you were using the DXi version . . . but you probably weren't, so why worry? (If you were, check the manual *before* installing version 2.) There are a ton of new instruments, with an accent on voices, as well as lots o' loops including some bhangra-esque Indian loops and plenty of taiko drums. Suffice it to say you won't feel cheated in terms of content.

The effects have been upgraded, with eight modeled filter responses and modeled analog EQ (which can be different for each of the multi-timbral parts), and more CPU-friendly convolution reverb. And the browser has been revamped, offering more search options (instrument, geography, loops only, etc.). It's also possible to audition presets more easily for faster sound loading.

The John Lennon

SONGWRITING CONTEST

Categories

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Keyswitched presets are extensive. These combine particular presets (*e.g.*, a staccato version of an instrument and a legato version) into a single preset, where you can choose the articulation via specific keyboard keys. There's nothing new here compared to other libraries, but it's good to see Ethno 2 getting on board with this—as well as with alternate tunings, some of which are available as part of the programs. However, you can also download free Scala alternate tunings (essentially a library of alternate tunings) if you're into ethnic *music* and not just ethnic sounds.

One of the biggest changes is more reliable operation. Ethno 2 is based on the UVI engine used in PlugSound Pro, which is quite flexible but also has a bit of a "house of cards" feel. Or at least, did; the latest version is solid, and so is the time-stretching fidelity—and you can even drag loops into your host as audio files, or MIDI triggers for Ethno 2's sliced loops.

Finally, although this feature was in the first version, it's worth noting there are individual outputs for multi-timbral parts so you can add all kinds of outboard processing.

Conclusions: Ethno 1 was a fine virtual instrument, so rather than deliver any radical changes, Ethno 2 gives you more—more sounds, loops, presets, reliability, and so on. Of course, if you're not into ethnic sounds, Ethno 2 is about as useful as guitar picks for saxophones; and the price, while fair, doesn't exactly make this an impulse buy. But if you're looking to push the musical envelope with sounds that draw from around the world, you'll be hard-pressed to find anything better than—or even equal to—Ethno 2.

More Online

See Jordan Rudess introduce Ethno Instrument 2.

Get All The Links at eqmag.com/sept2010

The rear panel is basic, but delivers the essentials.

JDK Audio R22 Compressor

($1,195 MSRP, $999 street, www.jdkaudio.com)

What: Dual channel (dual mono/stereo) hardware compressor with the same circuit used in the ATI Paragon live consoles. At first I thought JDK ripped off Arsenal Audio's

look, but JDK *was* Arsenal—until JVC complained of possible marketplace confusion with their car stereo systems. Well, I certainly understand: When I took this mil-spec/cold war vintage-looking 2U rack compressor out of its box, my first thought was "Oh no! They mistakenly shipped me *a car stereo system!*"

Why: Sure, plug-ins are great. But hardware has no latency, the much-revered "analog" sound, and in this case, a legendary circuit, ease of use, and high-end response to 50kHz. What's more, it was developed by API (although it uses ICs and no transformers, thus disqualifying it as an API product), and is made in the USA.

Packaging: The retro look leans toward army surplus—as does the build quality, with all-metal construction and 3/8" thick front panel. The pots are held on to the front panel with hex nuts; there are no wobbly shafts sticking out of a hole. It seems JDK built the R22 compressors so that once they shipped, the company wouldn't have to see them again.

Installation: There are balanced in and out jacks for each channel, duplicated as 1/4" phone and XLR. Patch 'em, plug into AC (the power supply handles 115/230V), done.

What's hot: The aspect I expected to dislike—no attack and release controls—is arguably the best feature. The response to individual tracks or program material is excellent, and I never felt the need to tweak attack or release because "it wasn't right." This makes the R22 good for compression newbies because they can't screw up; for live use (either on stage or "printing" the effect when tracking), you don't have to mess around trying to get these crucial parameters right.

The two channels are identical. Threshold covers a respectably wide –40 to +15dB range, and you can choose hard or soft knee (to my ears, the hard option avoids sounding "obvious"). The ratio covers 1:1 to 10:1, which I prefer to compressors where the first click on a ratio switch is 2:1—there's a lot of use for settings below 2:1. You'll also find a bypass switch for instant reality checks, makeup gain control with up to 20dB gain, LED to indicate when the input is over threshold, bitchin' looking analog meters switchable between reduction amount and output, and link switch for stereo.

The "Thrust" switch, which filters lows so they don't step on highs, is also hot; for example, you can compress a dance music track heavily without the kick shoving the high end aside. You wouldn't leave this on all the time, but it can be very useful, especially as sidechaining isn't available.

As to sound quality, I'd start with "clean," particularly because you can hit it hard without getting "crunch." If you compress *really* hard you can get the R22 to pump, but it's a fairly smooth pump that works for vintage recordings. The hard/soft knee switch seems to have a little more mojo than usual; it's worth trying both positions, as a signal you thought required soft knee might sound better with the hard setting, and vice-versa.

Conclusions: A grand may seem high for a stereo compressor, but the price seems fair—the build quality, and USA manufacturing, doesn't come cheap. And there's much to be said for a device that sounds good without having to think about it; I found dialing in the right sound didn't take much time, and it's difficult to get the R22 to misbehave. I can see smaller studios with a restricted budget getting one to expand their options into hardware compression, as well as pro studios having a couple around just because they give fine results with so little effort.

More Online

Download the manual.

Get All The Links at eqmag.com/sept2010

Waves JJP Artist Collection

($830 MSRP, www.waves.com)

What: The latest in Waves' Artist Collection series, this RTAS/AudioSuite/VST/AU plug-in suite features six processors designed in conjunction with Jack Joseph Puig (U2, Lady Gaga, Green Day, Beck, John Mayer, Keith Urban, and many more). The plug-ins run under Mac OS X 10.4.11 or higher, and Windows XP/Vista/7 (32-bit only); see Wavesupport.net for more host support information.

Why: All of the Artist Collection series not only make some wonderful sounds, but capture a lot of the artist's style; by putting together specific modules for specific functions, newbies don't have to cobble together plug-in chains, and pros can save time.

Packaging: Boxed or download.

Installation: An iLok key is required, These are V7.1 plug-ins, and can co-exist with V6 plug-ins but not V4 or V5; you'll need to update these to at least V6, although it's worth the jump to V7. If you have existing V7 plug-ins, they'll be removed and replaced with V7.1 versions to match JJP–no additional authorization required. Note: Pro Tools plug-ins are native-only.

What's hot: We covered the previous editions (Eddie Kramer, Chris Lord-Alge, and Tony Maserati) in the 06/10 issue, so check that out for background on the series and concept. The premise is to offer a set of functional processing blocks for specific applications, comprised of numerous functions that would normally be individual plug-ins. The JJP collection offers blocks for guitar, vocals, drums, bass, cymbals/percussion, and strings/keys.

While all the sets are excellent, in the previous review I particularly liked the Chris Lord-Alge set for not necessarily trying to reproduce a particular style, but instead, offering a versatile tool kit meeting CLA's aesthetics. The JJP set is similar, and is suitable for a wide variety of musical styles–not surprising, given Puig's background–and this gives extra value to the package.

Conclusions: There's no need to go into details, as a 7-day demo is available–check it out for yourself. As an inveterate tweaker, I have no problem creating plug-in chains and tweaking them to get the sound I want. Nonetheless, the speed and efficiency of having all these processors assembled into logical combinations is a major time-saver, and more importantly, the sound is totally on target.

The unique aspect is that these are "style" plug-ins rather than "function" plug-ins. If the musical genres in your life match the kind with which JJP works, then this is the Artist Collection for you. eq

More Online

Download the demo versions of all Artist Collection plug-ins.

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The most powerful MOTU mobile studio ever

Driven by Apple's all-new dual-core processors, Digital Performer achieves unprecedented blazing speed on Apple's latest MacBook Pros. Add exciting new third-party software and hardware to create your ultimate mobile studio.

The new MacBook Pro family

Faster processors. Faster graphics. Faster everything.

With faster processors and faster graphics, the new MacBook Pro does everything in nothing flat. On the new 15- and 17-inch models, new Intel Core i5 and Core i7 processors boost performance up to 50 percent over the previous generation, with advanced features like Turbo Boost and hyper-threading across four virtual cores. Even the 13-inch model's Intel Core 2 Duo processors now reach speeds up to 2.66GHz, with a 1,066MHz frontside bus and 3MB of shared L2 cache.

Euphonix Artist Series

High-end console technology

Together, **MC Transport**, **MC Mix**, and the new **MC Control v2** give you access to almost every facet of your Digital Performer 7 project for an unprecedented "hands-on" editing and mixing experience. In-depth, custom-programmed support for the EuCon protocol brings Euphonix' high-end console technology to your MOTU desktop studio in a compact design that fits perfectly in front of your MacBook.

MOTU UltraLite-mk3 Hybrid

The world's first hybrid FireWire•USB2 I/O

Connect to any current Mac or PC via either FireWire 400 or hi-speed USB2 and enjoy the same pristine audio quality and zero-latency on-board mixing performance either way. Includes classic reverb, modeled analog EQ, vintage compression, and advanced signal analysis tools including a full-screen real-time FFT display, a spectrogram "waterfall," an oscilloscope, an X-Y plot, and phase analysis.

www.sweetwater.com MOTU

McDSP Retro Pack
Vintage-styled plug-in bundle

Legendary McDSP processing is now AU and Digital Performer compatible! The Retro Pack plug-in bundle delivers vintage vibe and flavor with three plug-ins: the 4020 Retro EQ, the 4030 Retro Compressor, and the 4040 Retro Limiter — all with a new output stage topology designed to eliminate digital clipping and deliver a smoother distortion characteristic. McDSP processing is the new must-have for your DP studio.

BIAS Peak Pro 6
Evolution of an award-winning standard

Whether you're a musician, a sound designer, an audio editor, a multimedia producer, or a mastering engineer, Peak Pro 6 offers more creative potential than ever before. Used side-by-side or launched directly from within DP7, 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.

Miktek CV4
Large-diaphragm tube condenser microphone

The heart of the Miktek CV4's sound comes from its AMI BT4 transformer and original NOS Telefunken EF800 tube — producing a classic sound you'd expect from the earliest vintage tube microphones. The CV4 delivers that artist-pleasing, producer-pleasing "big sound." The bottom end is warm, tight, and big, complete with present and even mids. And the highs? Sweet and airy, indistinguishable from the most expensive mics in its class.

Genelec 8040A
Active bi-amplified studio monitor

With performance comparable to much larger systems, but in a compact package, the bi-amplified Genelec 8040A is ideal for use in many MOTU studio situations where wide frequency response is needed but space is limited. Use the 8040A for nearfield monitoring in project/home studios, edit bays, broadcast and TV control rooms, and mobile production vehicles.

MIDI BASICS

BY CRAIG ANDERTON

Cheat Sheet delivers concise, explicit information on specific recording/audio-related subjects. This installment describes MIDI basics for those raised on audio, but who now want to work with MIDI.

MIDI DEFINED

MIDI means Musical Instrument Digital Interface, and is a special-purpose computer language devoted to music. Consider MIDI as a catch-all name for the process of sending digital control messages from one device (such as a footswitch, keyboard, sequencer, etc) to another device (*e.g.*, a synthesizer). This can happen over a physical cable or within a computer.

THE MIDI INTERFACE

This is a physical device that communicates with your computer so your host program can send MIDI data to, and receive MIDI data from, the physical world. There are two main interface types. One includes hardware 5-pin DIN MIDI in and out connectors that hook up to hardware MIDI devices. The other dispenses with physical connectors and sends/receives MIDI data via USB (or more rarely, FireWire), so you don't need a dedicated MIDI interface as long as your computer has a spare port.

MIDI THRU CONNECTORS

A MIDI Thru connector complements the in and out connectors. It re-transmits the incoming data at the MIDI in, which can then feed another MIDI-compatible device.

HOW MIDI RECORDING WORKS

The MIDI language expresses various aspects of a musical performance, such as the notes that are played, their dynamics (called "velocity"), pitch bend wheel changes, and more. When you play (for example) a synthesizer, its MIDI out transmits data that quantifies all aspects of your performance. The computer records this data, which you can then play back through the computer interface's MIDI out, and use to drive either the synthesizer you played or any other MIDI-compatible synthesizer. This instrument will reproduce the performance exactly as you performed it.

ADVANTAGES OF RECORDING MIDI DATA INSTEAD OF AUDIO

You can change a MIDI note's pitch, dynamics, start time–almost any aspect of the performance–with a host program's MIDI editing capabilities. This makes it very easy to correct mistakes; for example, it's very difficult to do something like change one note inside a chord when dealing with audio, but it's simple with MIDI. MIDI also makes it easy to change an instrument's sound, because all you need to do to is send the MIDI data to a different instrument, or different sound within the same instrument. Also, MIDI-driven tracks handle pitch transposition and tempo changes better than digital audio, because you're changing the data being fed to notes–not the timbral quality of the notes themselves.

MIDI LANGUAGE STRUCTURE

MIDI groups information in multi-byte "sentences" or "messages" of one or more "words." *Status* words identify a particular function, such as note on, note off, pitch wheel change, and so on. *Data* words provide data on the function identified by the status word, such as *which* note is on and/or *how much* the pitch wheel has changed.

MIDI CHANNELS

MIDI can send and receive data over 16 different virtual channels; each channel can carry unique data and drive its own polyphonic MIDI instrument. This is sent over a single MIDI cable or connection as MIDI transmits *information,* not audio. MIDI sends this data serially–each word is sent consecutively. Tagging each piece of data with a channel identification number (ID) allows programming a particular MIDI instrument to look only for data with that particular channel ID.

MIDI MODES

Two common MIDI *modes* determine how devices respond to channelized data. Omni mode accepts data coming in over *any* channel. Regardless of the channel ID, an instrument or track in Omni mode will attempt to act on *any* incoming data. Poly mode receives only messages intended for a specific channel. Thus, two MIDI receivers set to receive different channels could monitor the same data stream, but be controlled independently of each other.

MIDI PORTS

When MIDI was invented, 16 channels seemed like a reasonable number. However as instruments evolved, this clearly wasn't enough. Some MIDI interfaces include several MIDI *ports,* each of which can carry 16 channels. For example, an interface with four ports could deliver data on 4 x 16 = 64 MIDI channels.

MIDI PROGRAM CHANGE COMMANDS

These allow changing an instrument sound on the fly, even in the middle of a phrase if necessary, by calling up a different program (*e.g.*, guitar sound instead of piano). MIDI originally provided for 128 MIDI program change messages. Later, a Bank Select message was added that allows selecting up to 16,384 banks of 128 programs each.

MIDI CONTROLLER MESSAGES

These messages translate the position of pedals, knobs, levers, switches, and other physical "controllers" into digital MIDI data that can be recorded into a computer sequencer, then played back to vary a particular parameter within an individual program (delay feedback, filter frequency, vibrato amount, etc.). These messages usually digitize the physical controller motion into 128 discrete values (0–127).

CONTROLLER MESSAGE NUMBERS

MIDI "tags" each continuous controller message with an ID from 0 to 127. Don't confuse this with channel IDs; each channel can support up to 128 controllers, so (for example) a Controller 7 message appearing over Channel 2 is independent from a Controller 7 message appearing over Channel 3.

MIDI TIMING AND SYNCHRONIZATION

MIDI also includes messages that define tempo (therefore allowing easy tempo changes), synchronization among multiple pieces of MIDI gear, and transport control.

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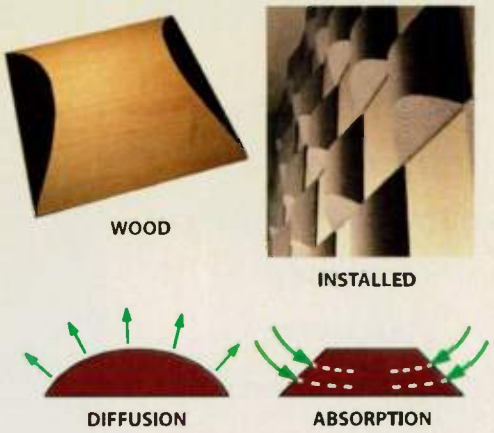

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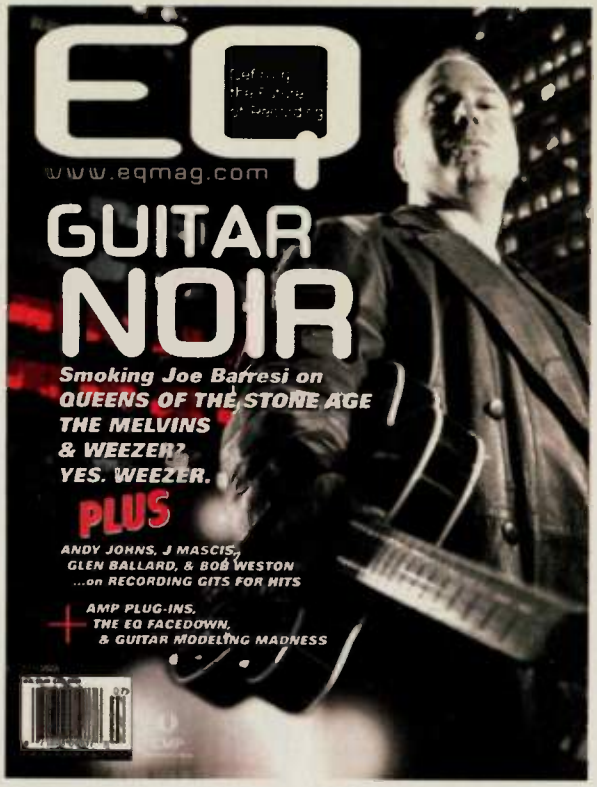

Andy Johns has the best ears for guitar sound anywhere, and he came by them honestly. At one of his earliest sessions, working as an 18-year-old second engineer to Eddie Kramer on the Jimi Hendrix session that would become *Axis: Bold As Love*, he was fiddling with a microphone in front of Hendrix' amp when a chord drilled through him so loud that it wasn't so much a sound as a pain.

"I didn't feel anything, just that my feet hurt," he drawls in his animated English accent. "Jimi played through two 200-watt Marshalls, and he just came down with this enormous chord and I just went, 'Ouch!' And he was like, [mimicking Jimi's soft voice] 'Oh, man! Sorry, man, oh, wow, no, I didn't know you were there, man!'"

His laughter echoes around the hillsides where we sit, high up under the oaks in Malibu's Latigo Canyon. He's a physical giant of a man who's made a giant noise, having been behind the boards for 160 million albums' worth of blues-based rock including the Rolling Stones' *Exile on Main Street*, Led Zeppelin *II*, *III*, and *IV*, *Blind Faith*, Van Halen's *For Unlawful Carnal Knowledge*, and loads of other classics.

"There is a basic sound that I like, which is a nice tube amp miked up," he says, mentioning a few classic Marshalls and Page's HiWatts. "But I don't go, 'Oh, let's make it sound like Jimmy Page,' because you can't. You have to have Jimmy Page for that. Or I might say we'll try and get that Hendrix 'Little Wing' sound, the bell-like sound, but it's just a guideline."

Notably, it's also not digital. He works in digital often now, when he "doesn't have the luxury" of having his preferred amp set-ups, and he's done three or four projects that were digital from end to end, he says, and they sound "pretty good." But not the best. The digital gear just doesn't deliver what the ear wants to hear: real moving air. The human ear has no problem hearing the difference. Even when he records in Pro Tools, he likes to run it through an analog mixer, because it just gives it a little plump.

As for getting that huge rock guitar sound, he has fewer secrets or patented innovations. Miking up, he doesn't waste time looking for the amp's sweet spot. He puts one mic straight on and runs it bright, then another at 45 degrees so the phase isn't weird and uses that for the bottom end. The rest of the sound from, say, Clapton or Pete Townsend is loud tube amps, good arrangements, and brilliant musicianship.

Oh yeah, and those ears. There's no substitute. Johns sits up in his chair when he tells a story about working with Van Halen, with whom he said he got along famously. But at one point, Eddie decided he would mix their live record, *Van Halen Live: Right Here Right Now*, himself.

"They spent six months. Six months," he says. "And then, eventually, he broke down. I put it on, and in half an hour it's starting to sound like something. Now he's getting pissed off, because it's not fair. Wow, there it is. And I said, 'Come on boys, come in and listen.' So Eddie and Al come in to listen. I go to the kitchen, I come back in, and Eddie's crying. He's on the mixer, wah wah wah, and Al's going, 'It's alright, Eddie. He'll never be able to play guitar like you.' Ha ha ha! It's true!" EQ

Excerpted from the July 2005 issue of EQ

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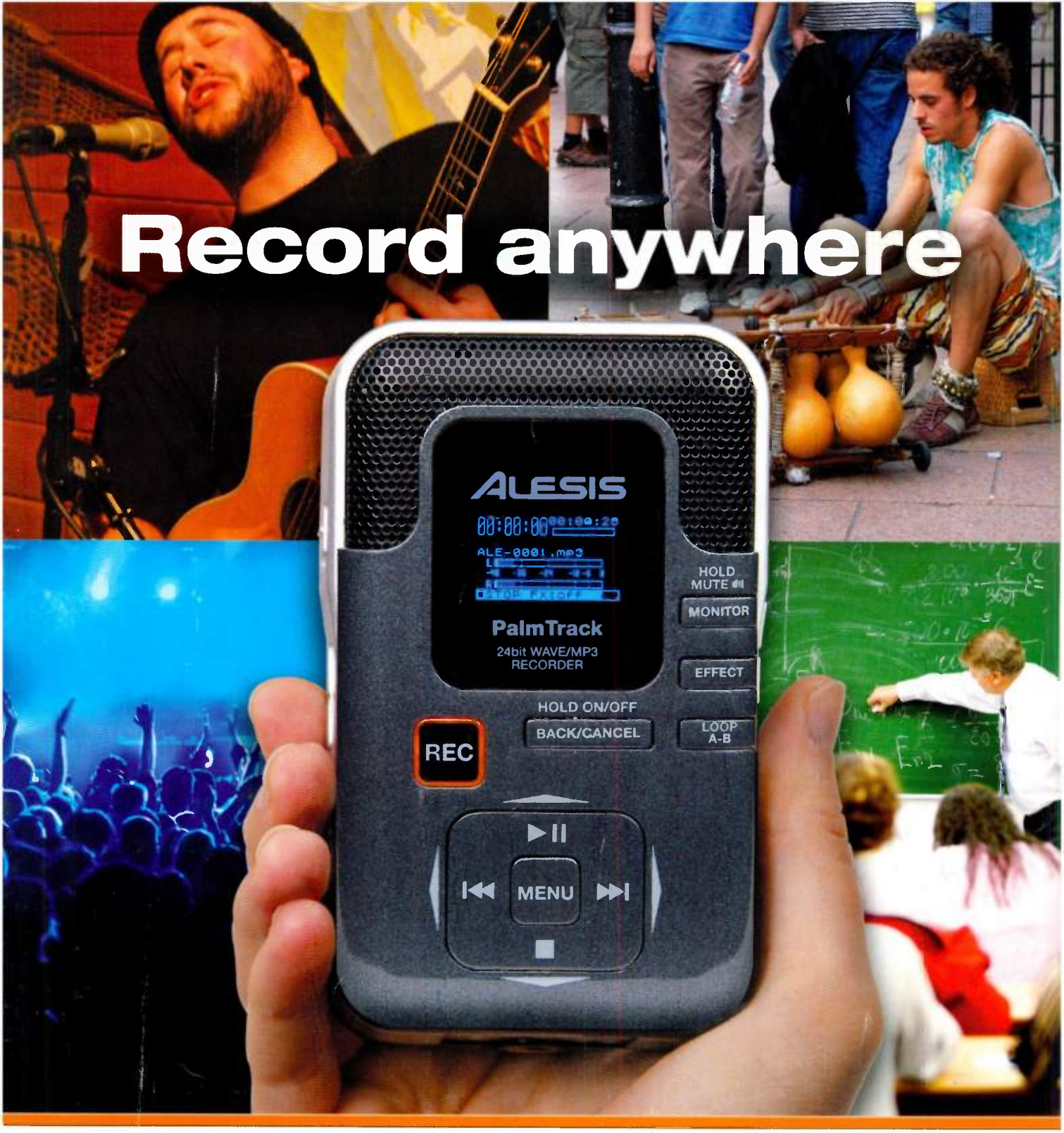

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