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World Radio History

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*Note that plug-ins pictured above are sold separately and are not included with MASCHINE.

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There's a reason we have one of the largest software engineering staffs of any mixer manufacturer: so we can deliver intuitive, seamlessly integrated control and recording software.

Naturally, the 16.0.2 comes with **Virtual StudioLive™ (VSL)**. Plug in a FireWire-equipped Mac® or PC and quickly drop entire Scenes to the desk for instant recall of all channel, effects, and

graphic EQ settings. Or save unlimited settings *from* the mixer. Share presets with friends via email, IM, or disk swap. Fine-tune Fat Channel and graphic equaliser settings with a rich graphic user interface.



StudioLive 16.0.2 Overview video
www.presonus.com/vid109



Control the StudioLive 16.0.2 from multiple iPad's.

Anywhere in the venue is "front of house" after you download **StudioLive Remote** free from the Apple App Store. Onstage musicians can adjust their own aux mixes; when you

do the math, multiple iPads and StudioLive Remote are

cheaper than most "personal monitor systems" and do a lot more. This is an elegant app with separate Channel, Aux, and Fat Channel screens — and it even displays real-time channel levels.

Record everything. Play it back for virtual soundchecks.

Record all individual tracks, auxes, and a stereo mix with two clicks, using **Capture 1.1**. You can even insert markers between songs and export them individually, instead of as one ginormous file.

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Besides delivering custom-mixed backing tracks, the StudioLive 16.0.2's bidirectional FireWire interface lets you do "virtual soundchecks" to ring out your P.A. and monitors *before* the rest of the band even arrives.

Recording and production software that's not a third-party afterthought.

Capture offers simple cut-and-paste editing

tools but for really sculpting your recordings,

we've included **Studio One Artist™**

1.6. Created by veteran digital audio workstation programmers,

it's easier to use and way more powerful than anything that ships with competitors' desks. A one-window GUI and drag-and-drop functionality frees you from tedious pull-downs and pop-ups so you can focus on creating music.

Studio One Artist comes with twenty-five 32-bit plug-ins and over 4 GB of third-party goodies such as Native Instruments™ Kore Player and Toontrack™ EZDrummer Lite.

Software aside, StudioLive 16.0.2 is an awesome piece of hardware.

Although smaller than its 4-bus siblings, the 16.0.2 has the same highly-respected PreSonus sonic DNA.

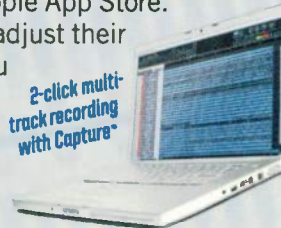
XMAX™ Class A microphone preamplifiers that can render the finest musical details with ear-boxing dynamic range and a noise floor somewhere near the core of the earth.

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Full-on DAW production with Studio One Artist™



StudioLive 24.4.2



StudioLive 16.4.2



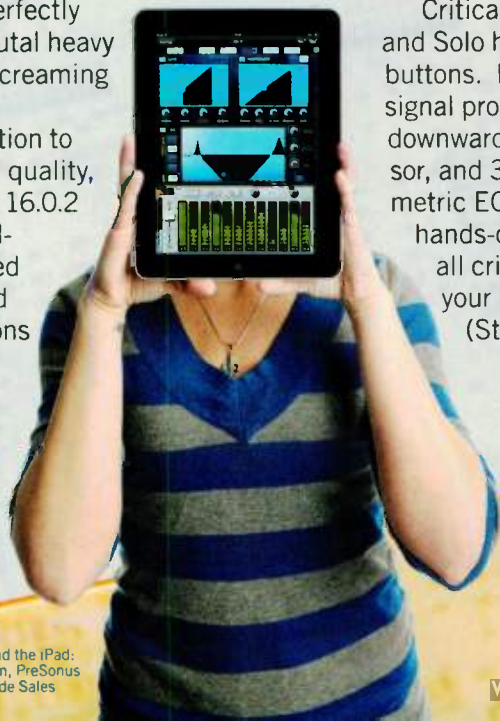
NEW StudioLive 16.0.2

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- Dual 32-bit digital effects processors (reverb & delay)
- Control via MIDI with optional footswitch
- Control from a FireWire-connected Mac® or PC laptop with included Virtual StudioLive (aka VSL)
- Wireless control with StudioLive Remote iPad® app thru VSL
- Scene automation with up to 80 global mixer Scenes & 99 Fat Channel presets
- Two-click recording via Capture 1.1 software (included)
- Studio One Artist recording & production software with unlimited tracks & 4 GB of extra resources (included)
- Comprehensive Talkback section for live & studio use
- High-def A/D conversion with 118 dB dynamic range
- Built for years of heavy use, with rugged, steel chassis & military-grade buttons
- 60 mm wear-resistant faders
- Optional rack mount

High-definition analog-to-digital converters with a whopping 118dB dynamic range to perfectly digitize the most brutal heavy metal drummer or screaming vocalist.

The same attention to detail goes for build quality, too. The StudioLive 16.0.2 has a flex-free, solid-metal chassis; sealed rotary encoders; and military-grade buttons and faders that can withstand years of bar smoke and road dust.



The woman behind the iPad: Ashley Creekbaum, PreSonus International Inside Sales

It's flat-out easy to use.

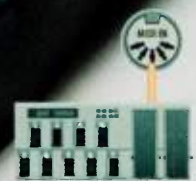
We didn't invent small-format digital consoles. We just rescued them from geekdom by getting rid of all that infuriating complexity (like bank switching; nasty, nested menus; and the like).

Critical controls like Mute and Solo have color-coded buttons. Each Fat Channel signal processor—such as downward expander, compressor, and 3-band semi-parametric EQ—has its own set of hands-on controls. Or adjust all critical functions from your laptop (VSL) or iPad (StudioLive Remote).

The more you know, the more you'll want one.

Check out the StudioLive 16.0.2 overview video (see the express URL and QR code symbol at the start of this ad), visit our Web site for an excruciating amount of detail, or visit a PreSonus dealer and get your hands on one today.

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COVER FEATURE

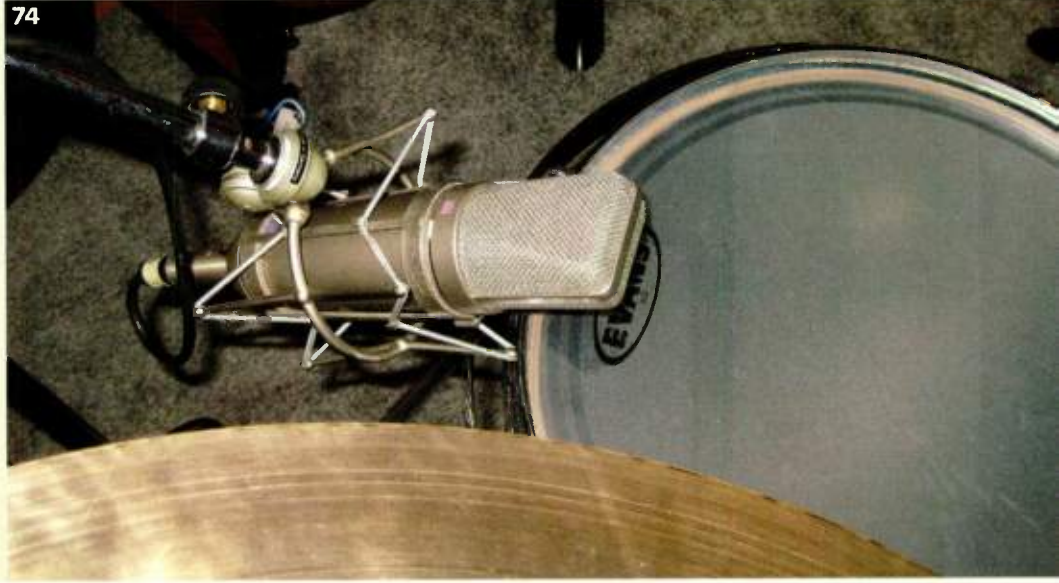
18 **Moby** Twenty years after his clubland debut, Moby embraces his inner analog junkie and explores the concept that “the familiar can sometimes be strange and disconcerting” on *Destroyed*.



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- Recessed 48V switch with LED that lets you know when phantom power is active
- Front panel mic input is conveniently placed for efficient desk-top production
- Omnipoint (rear panel) is set with instrument input for tracking guitar or bass
- The PowerPre is ideally suited for use with the Radial Workhorse. Together, they can bring warmth to your digital tracks while putting the fun and excitement of real-world analogue processing at your finger tips.



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(GooGoo Dolls)

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~ Adrian Belew
(King Crimson, Frank Zappa)

"I have grown to trust Radial products like no other company I know."
~ Steve Stevens
(Billy Idol, Top Gun soundtrack)

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Learning to Let Go

How many of you are guilty of over-mixing? You know the drill: You're done. You walk away for a day. You come back, you make a few tweaks. You take another break, then you come back and tweak some more... and so the cycle goes.

Creative people have a deep emotional connection to their work. And these days, everyone from weekend warriors in bedroom studios to the pros at the top have an unprecedented arsenal of quality tools at their disposal, making it easier than ever to drill deep into the details and process to perfection. But our obsession with technology should not distract us from our relationship with our music. The technology itself is not to blame, of course: It's the process. I'm certainly not saying that "good enough" should be good enough, or that revisiting mixes with fresh ears, in fresh listening environments, isn't essential. But with everything, there's a point of diminishing returns. Just because

you can, say, manipulate crossfade curves all day long, it doesn't necessarily mean that you *should*. Your tools serve your process, which serves your song—not the other way around.

So, how do you break out of the cycle? I believe that the answer lies in finding confidence. If you trust that you're good at what you do, and you stay true to the music, everything else will fall into place. Sometimes imperfection is what makes something beautiful. Recognizing that is one of the best skills that you can have.



SARAH JONES
EDITOR
sjones@musicplayer.com

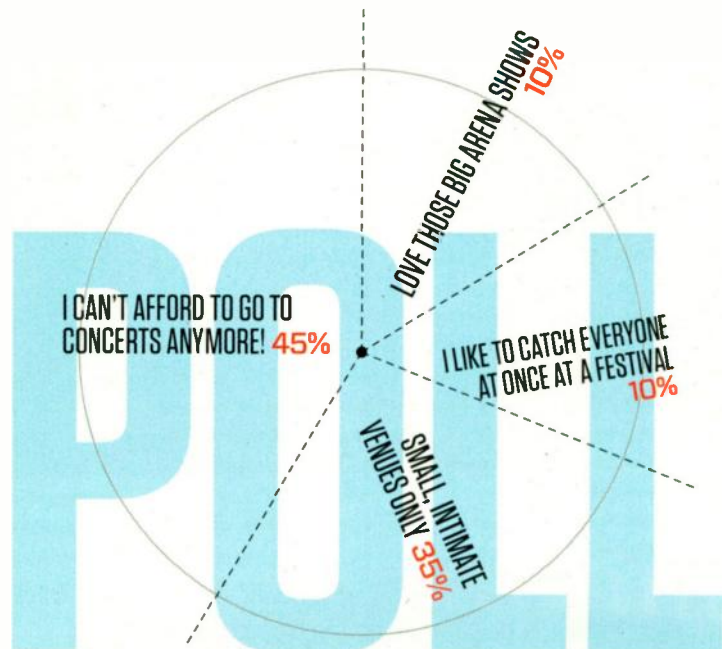
COMMUNITY

"HE WORKS VERY HARD AT A GIG. AND I GET SO CAUGHT UP IN IT—IF A BIG GARBAGE DISPOSAL OPENED UP ONSTAGE AND HE JUMPED IN, I'D PROBABLY JUMP IN AFTER HIM.

Stooges bassist Mike Watt, on performing with Iggy Pop, in Billboard magazine, March 12, 2011.

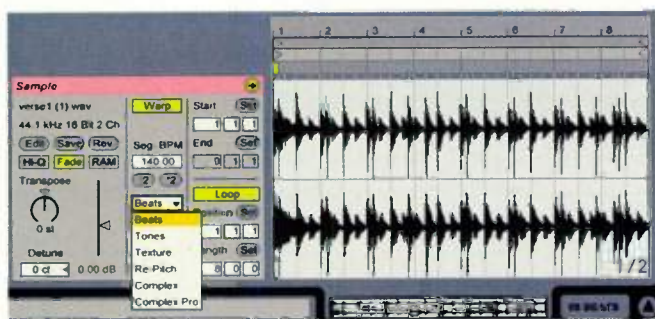
The Electronic Musician Poll

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Enabling Warp allows stretching clips in Ableton Live; you can choose from various algorithms (Beats, Tones, Texture, etc.) that are optimized for different types of audio.

for specific tempos, but this process can be done only in Sony Acid or Cakewalk Sonar (both of which can also create Acidized files). Apple Loops use a process similar to Acidization; Logic Pro includes a utility that simplifies creating your own Apple Loops. (The June 2008 "Power App Alley" in *EQ* magazine shows how to do this; visit emusician.com for more information.) Note, however, that creating stretchable files of any type is an art that takes practice to master.

Doing "offline" stretching with DSP can give surprisingly

good sound quality with modern algorithms like those from iZotope and zplane, but unlike REX, Apple Loops, and Acidized files, they won't adapt to real-time tempo changes in your host.

Finally, some programs have proprietary ways to stretch files (Pro Tools' Elastic Audio, Cubase's Hit Points, Ableton Live's various internal stretching algorithms, etc.). However, most sample library files provide REX, Acidized, and/or Apple Loops formats; use whichever your host can import.

THE EDITORS

ask!

I've recently discovered the benefits of audio files that can stretch to match a project's tempo changes, but I'm trying to sort out the different stretching technologies—REX, Acid, Apple Loops, DSP-based, and so on. Which gives the best stretch quality over the widest range?

KEN HENDERSON, JUPITER, FLORIDA
VIA E-MAIL

It depends on the source material. REX files "slice" percussive parts into individual hits, so they work well with drums (which have short, discrete hits), and can speed up over a wide range. However, slowing down creates gaps between slices. With short percussive sounds this isn't a problem, but if something like a cymbal sustains over

multiple slices, there will be gaps in the cymbal sustain. Making your own REX files requires Propellerhead Software's program ReCycle.

Acidization usually speeds up well, but slowing down more than 10 to 20% can give a grainy, echoey sound quality. Editing the Acidization markers applied to files may improve stretching

Got a question about recording, gigging, or technology?
Ask us! Send it to ElectronicMusician@musicplayer.com.

BY THE NUMBERS

FACE VALUE

A random sampling of average concert ticket prices



\$130.30

Cher



\$109.27

Lady Gaga

\$94.08

Bon Jovi

\$78.05

Alicia Keys



\$38.22

Lady Antebellum

\$24.04

Ke\$ha

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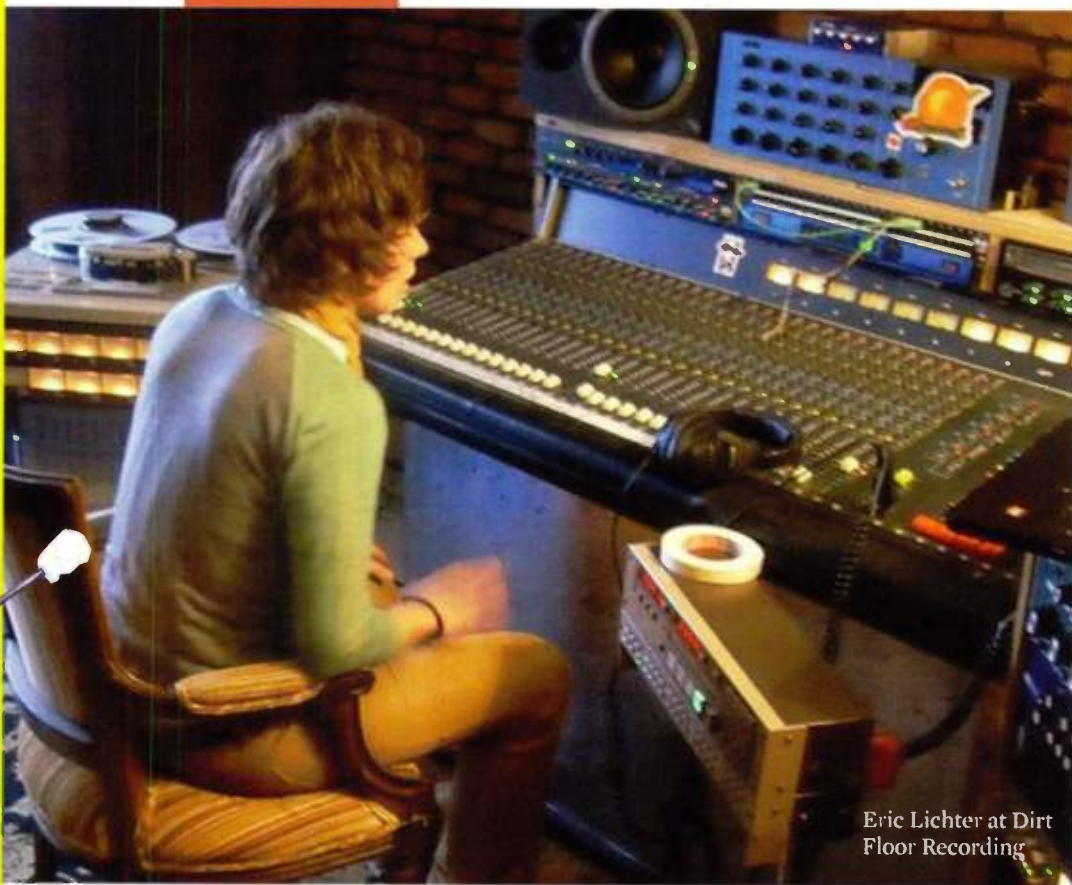
Cage The Elephant

\$19.87

Mumford and Sons



DIG MY RIG



Eric Lichter at Dirt Floor Recording

DIRT FLOOR is an analog recording studio located in Chester, CT. The studio is littered with vintage goodies—amps, keys, guitars, etc.—though honestly, I feel that I could make a great record with a 4-track cassette recorder and a cheap mic! The studio is owned and operated by me, with help from Brian Wilkens. I'm often the resident engineer/producer and multi-instrumentalist for many of the wonderful singer/songwriters who come in. I've been called the poor man's Ethan Johns, but prefer the rich man's Eric Lichter! My Scully 1-inch 8-track tape machine is perhaps my fave piece of gear, because it was the very machine used to record Leon Russell's *Carney* album!

ERIC LICHTER
DIRT FLOOR RECORDING
CHESTER, CT





THE BIG PICTURE

P2P File Sharing Plummets Post-Limewire

SINCE THE Limewire peer-to-peer file-sharing service ceased operations in October 2010, overall consumer peer-to-peer file-swapping has declined significantly, according to market research firm the NPD Group. Fewer than 1 in 10 of the U.S. Internet population downloaded music through a P2P file-sharing service in Q4 2010, down from a high of 16 percent in 2007. Other file-sharing services such as Frostwire are gaining in popularity, but whether they will pick up where Limewire left off or consumers will find music elsewhere remains to be seen.

	Q4 2007	Q4 2010
PERCENTAGE OF U.S. INTERNET POPULATION USING P2P SERVICES TO DOWNLOAD MUSIC	16%	9%
AVERAGE NUMBER OF MUSIC FILES DOWNLOADED FROM P2P NETWORKS	35	18
ESTIMATED P2P USERS DOWNLOADING MUSIC	28 MIL	16 MIL

Reality Check

I was recently at a store in New York City, getting a FireWire Drive for my Pro Tools system, and there was a guy in front of me trying to get a cheaper price on a 500-gig drive. It cost around \$250 for a pro drive; he was saying, "can't you do better on the price?" I said to myself, you can put ten full CDs on that drive! It brought back a studio story from 1988. . . .

I was working on a new album with Luther Vandross; I was doing the synth programming on the album. We had been at Right Track Studios in New York for around two months. Crazy stuff was going on, including a Broadway show next door where, when women saw Luther walk in the studio during "matinee day," they would go crazy. Luther decided it was time to leave New York and finish and mix the album in L.A.

We had about 30 reels of analog tape. In 1988, a roll of tape at a top studio was about \$250 per reel. They had to make safeties for every roll of tape. I figured it took two days to make all of the copies and get them ready to ship. The studio time was about \$1,500 per day to copy. Then you had to ship 30 tapes to L.A. via overnight FedEx. When all was said and done, I figured that the whole process cost about \$13,000. These days, you could have a great studio setup in your home for that amount of money, and you could also make an album for that. I interrupted the salesman and told them both the story. The guy looked at me and said, "I get the point; I'll take the drive."

Just an interesting story about how far this whole thing has come—for better or worse.

Peace,
Jason Miles

Grammy-winning producer, composer, and keyboardist Jason Miles has worked with Miles Davis, Michael Jackson, Whitney Houston, Aretha Franklin, Diana Krall, and hundreds of other artists. His new project, Global Noize: A Prayer For The Planet, will be released in July.



FEEDBACK

Do you think that a smartphone is a suitable portable audio player? Is the issue more about sound quality or convenience?



William Ricky Hall

The battery on my phone doesn't last long enough to ditch my MP3 player.



Barry Wood

I think the argument to ditch the iPod and using your smartphone is not a bad one. The D/A converters are most likely the same as is the data that would be played, so the quality isn't going to be any different.



Steve Henshaw

The "sound quality argument" became a lost cause when the MP3 format became the *de facto* standard for distribution of audio online.



Francis R Tornoe

I like the convenience of the MP3. I rip at the highest quality now that storage is cheap, and I limit my player to my favorites only. I have a listening room, too, so it's all good.





JUSTIN MELDAL-JOHNSEN
BURBANK, CA
SEPTEMBER 2008

Bassist Justin Meldal-Johnsen is as versatile as he is talented: He's recorded with artists ranging from Air to Garbage, Goldfrapp, and the Dixie Chicks. He co-wrote songs with Macy Gray, and has served as music director for Beck and Gnarl's Barkley. Meldal-Johnsen recently toured with the Nine Inch Nails on their Lights In The Sky and Wave Goodbye tours (2007-2009); our photographer caught him during a quiet moment at the CentralStaging rehearsal facility in Burbank, CA, during preparations for the Lights In The Sky tour.

PHOTOGRAPH BY PAUL HAGGARD



Broken-Down Machines

Twenty years after his clubland debut, Moby embraces his inner analog junkie with *Destroyed*

BY TONY WARE



calls his “clueless,” self-involved rock star phase, touring heavily for a previously elusive audience, falling in love with fame, staging big shed festival shows like the Area:One tour that allowed him to perform along idols and quirky contemporaries, and producing bombastic pop-crossover tracks. Eventually he ended up feeling “partially compromised, spiritually compromised, artistically compromised,” and he has spent the latter part of the past decade drawing back from more unsubtle sounds. Thankfully, he never battered his analog synths the same way he did the digital ones, as the enveloping, sustaining atmosphere of these full-bodied oscillators—such as the Roland Juno-106, Serge Modular, Roland JX-3P, Oberheim Matrix 1000, Casio CZ-101, and Prophet 08—are integral elements to *Destroyed*. (Moby calls upon soft synths like Arturia Analog Factory on rare occasions when he wants more control/extension/reinforce at the frequency extremes, but never for the primary track.)

“Years and years and years ago, I realized I loved big, rich analog string sounds, and they’ve appeared somewhere on almost every record I’ve made,” Moby confesses. “I saw an interview with Bob Moog quite a while ago, and he’s talking about analog circuitry in an almost spiritual way, and I think I’m the same in that I almost anthropomorphize the physicality of it, whereas digital is just a recreation of what happens in the analog world. So I do have a lot more respect for analog, but I’m equally, increasingly obsessed with processing and layering these pristine sounds until they take on a granular texture, which is equally beautiful.”

A prime example of this idea can be found on the song “Blue Moon,” which kicks off the latter third of the 15-track *Destroyed*. Like many tracks on the album, the genesis of “Blue Moon” comes from first establishing a rudimentary tempo/rhythm line from one of the drum machines (often the Korg Univox SR-120 rhythm machine, which allows 32 preset patterns to be combined in numerous ways with fade in/out and fills/breaks). On top of that, some bass synth signatures might be sequenced, but for the most part, Moby prefers playing live to setting up Din Sync to a master clock, triggering CV/Gates, etc.

“At some point, I think I’ve incorporated every type of primitive sequencing that’s ever been invented, but why record your motions to MIDI when you can just record the audio of yourself playing, and then you get the those little timing errors that can provide a track loads of personality,” he reflects. “I prefer playing instruments to programming. If it’s got a quarter-inch output, I might as well just plug it into my Chandler [Limited LTD-1 mic preamp, supplemented by an API Audio Lunchbox]. I think there’s a difference between messy and flawed in a good way, and substandard and unusable in a sort of badly produced digital way. I never really go out of my way to make a recording messy; it’s either just the product of the equipment I’m using or the fact that I try not to let myself re-record or quantize things if the spontaneity adds to the sound.”

Once he’s made runs through the song with all his intended components (detuning synths,

“At some point, I think I’ve incorporated every type of primitive sequencing that’s ever been invented.”



artifact-enriched drum machines, drums, Epiphone SG guitar, Fender Precision Bass and some Akai S3200/S1000 samplers), using his computer as a modernized tape machine rather than a comping tool, etc., Moby enters the third step in his production methodology: processing, which results in tones such as the chapped chords during the bridge of “Blue Moon.”

“I record everything into Pro Tools, and ideally that’s the only digital component in the process,” he reveals. “As much as possible I prefer to work with outboard delays and reverbs and other processing, routed through an analog mixing desk. My studio is filled with these random old discontinued units produced from the ’60s to the early ’80s, because there’s always a period in the album that’s concentrated on processing. First, there’s the songwriting, and the recording, but before the mixing, I just start running things through all these filters, and that’s where a lot of the most compelling atmospherics are created. I’m happy to put something recorded relatively well through an old tape delay and end up with a seriously degraded signal that actually ends up sounding in many ways more interesting and appealing than the original.”

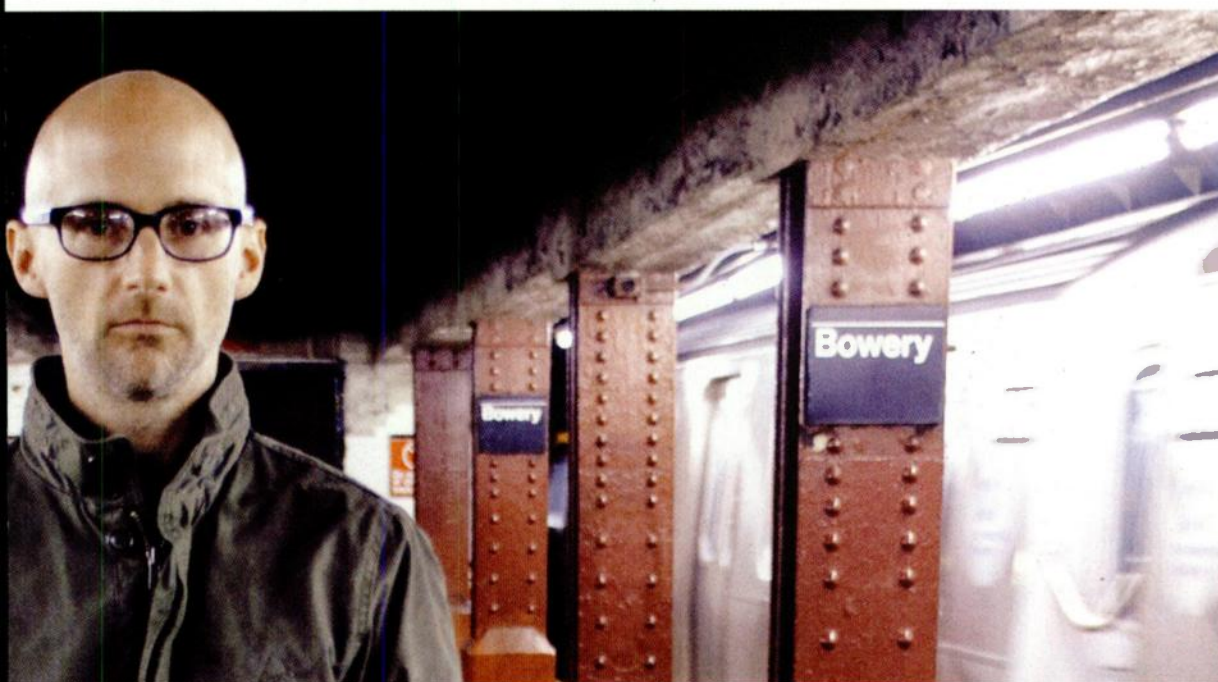
This processing arsenal includes modules such as the Eventide DSP4000 Ultra-Harmonizer, Univox EC-80A Echo Chamber, Univox U3R Pro-Verb, Gibson Reverb 3, Univox Echo Tech EM-200, Lafayette Echo-Verb II, Electro-Harmonix Micro Synth, Z.VEX Lo-Fi Loop Junkie, Electrix Pro Filter Factory, Moogerfooger Bass MuRF, Sky Soundlab

Voice Spectra Vocoder, Multivox Full Rotor, Ibanez AD9 Analog Delay, dbx 160XT Compressor/Limiter and SPL Transient Designer. Moby feels the value of these last pieces of gear can’t be overstated: “I would recommend this to anybody who’s willing to end up with odd-sounding records: whatever processing you’re using, the last stage of the processing in re-recording should be like a dbx 160XT Compressor or the SPL Transient Designer, because it boosts the trail of whatever two-second reverb of delay you are doing, making a tail that might otherwise disappear elegantly into something uncomfortably loud, so you end up with so much more atmospherically. I think I just bought my third Transient Designer, just for the fear that at some point I won’t be able to get one.”

Another reason “Blue Moon” exemplifies the production ethos of *Destroyed* is its spiritual echoes of Joy Division/New Order—specifically, the song “Dead Souls.” The analog aesthetic of the mid- to late-1970s is reverberant throughout *Destroyed* and its creative treble disorders, which recall the legacy of such producers as Martin Hannett. Moby found inspiration in the affective, while not technically “correct” sonic qualities of early albums by Suicide, the Silver Apples, Can, OMD, Heaven 17 and Simple Minds, as well as such seminal recordings as Hannett’s work for art-funk ensemble ESG on 99 Records. Even tracks from the surrealistic period, from Cream’s *Disraeli Gears* and early Jimi Hendrix, are touch points for the effectiveness of “rough” mixes.

With these tendencies in mind, Moby turned to mix engineer Ken Thomas to assist in finishing the

“Sometimes Ken Thomas would set up a very pristine mix, and then I’d basically come in and deconstruct, saying something like, ‘Well, why shouldn’t the kick drum only be in the left ear?’”



assembling and editing down of tracks for *Destroyed*. Thomas' resume includes album credits for Wire, Throbbing Gristle, M83, and Sigur Rós, so he knows how to balance the austere and the heavily treated, and how important it is to keep song arrangement intact at the core of all experimentation. Thomas mixed *Destroyed* on a Neve board, over a highly compressed two-to-three-mixes per-day schedule that was established to avoid any overcompensation and second-guessing.

"Neve boards, especially the one we used [a custom 1972 Series 80 custom wrap-around 56 input with Flying Faders automation located at the Magic Shop in New York], have an Anglophile sound to their character," says Thomas, who expounds further on the difference. "It's not as punchy as a Harrison, an MCI, or any American desk. Neves definitely sound more musical in their EQ."

Thomas also mixed Moby's last full-length, 2009's *Wait for Me*, and *Destroyed* proves to be an extension, in ways, of the sessions for that highly insular, instrumental album. While *Destroyed* hints more at catharsis on tracks such as the pulse-tamped "Sevastopol," step filter-fattened "Victoria Lucas" and hand-bent "Lacrimae," it is a far cry from Moby's earlier, more hedonistic productions. Thomas, who finds Moby as a much a sound artist as a musician, says that Moby's willingness to fidget about with things and push them out of their "proper" place was "quite refreshing," even if all the OCD layering of drawn-out tone responses could present challenges: "Sometimes he'd set up a very pristine mix, and then I'd basically come in and deconstruct, saying something like, 'Well, why shouldn't the kick drum only be in the left ear?' or 'I think this song would be better without drums, so let's mute them all,' and he always has kind of a bemused look in his eye," says Moby. "But [Ken] gets really excited at unconventional mixing and engineering, and he's really great at making it sound as good as possible, no matter how idiosyncratic."

Thomas says his main task fell to warming tracks up, tightening bass, and sometimes putting on a little top end, with Stereo EMT 140 Tube Plate Reverb to pull things together and some high-pass filters across the spectrum sometimes. The primary goal was to add a modern valve quality and bring out more brightness. He'd first concentrate on any vocals, which he found to have a "pureness" to them that could be colored around. Then, using various limiters, de-essers, gates, filters and EQs from Chandler, dbx, Drawmer, Empirical Labs, Focusrite, Joe Meek, Lang, Meyer Sound, Pultec, Sontec, Teletronic, Urei, and, most of all, Neve, Thomas worked his way through

the instrumentation, carving and compressing on a case-by-case basis to give the recording a sheen, but one that maintained dynamics as sacred texts, as Moby made it clear his goal was not to have someone ride the faders in the pursuit of another "brash and impersonal" pop production. Presenting certain frequencies as more forward, more open to be observed and absorbed, took precedence over tensing them overall into a driving force.

Though it doesn't harken back to Moby's beginnings in the rave scene, *Destroyed* does ultimately act as a befitting album to come exactly 20 years after Moby's clubland debut. A paean to "broken-down machines," a category Moby cheekily includes himself in, *Destroyed* is imbued with an appreciation for flaws and subtlety that might come from Moby's studies in transcendental meditation first introduced through David Lynch—the same David Lynch whose show "Twin Peaks" provided the musical motif Moby borrowed on his initial international hit, "Go." Now directly linked to the visual medium's ability to balance a journey's arc within singular moments, *Destroyed* shows Moby unifying his impetus to both document his tendencies and remain fluid, allowing tones and bones to age gracefully. ■



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Interview outtakes
with Moby and
Ken Thomas.
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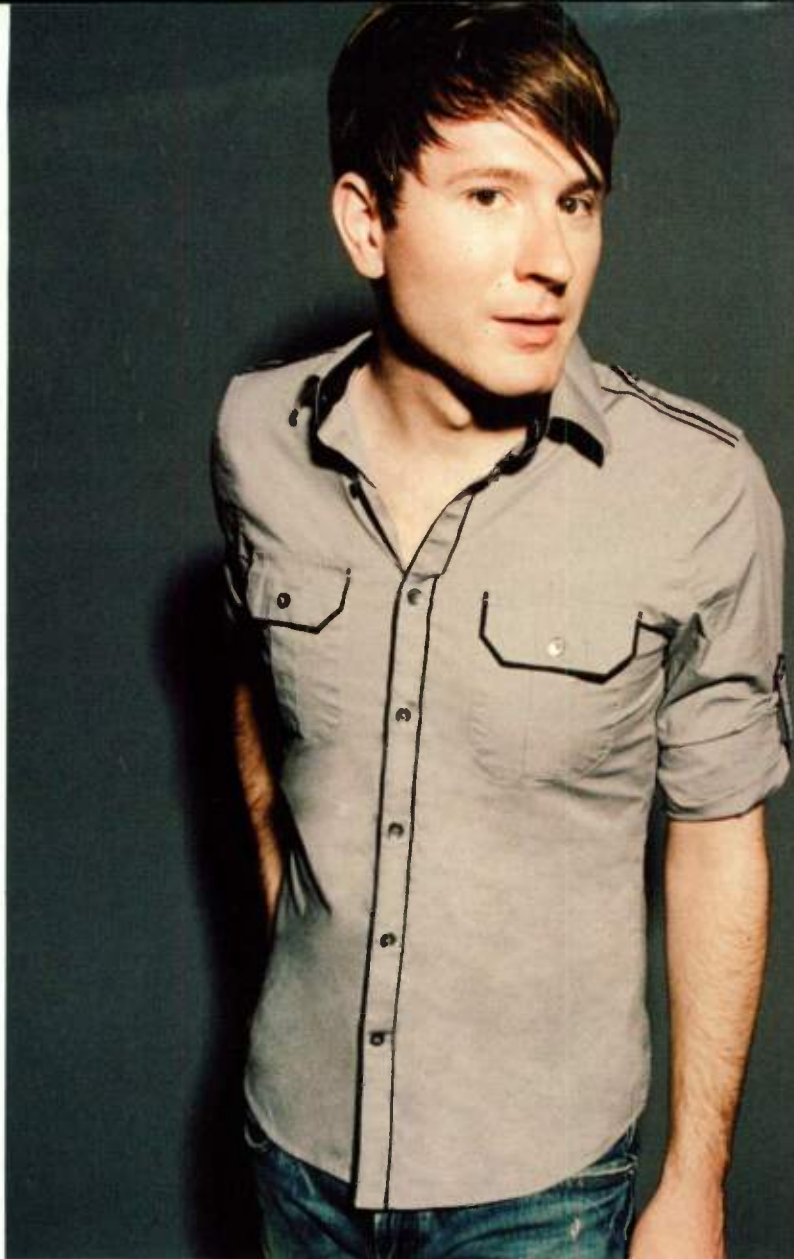


Owl City

In Synth Heaven with
Adam Young

BY BLAIR JACKSON

HAILING FROM the rural southern Minnesota town of Owatonna (population 25,000), Owl City is actually just one guy, Adam Young, who has parlayed hundreds of hours working alone in his home studio into a surprise hit career. He is best known for a buoyant slice of synth-pop fluff called "Fireflies," which topped the *Billboard* singles charts in 2009 and propelled his major label debut album, *Ocean Eyes*, into the Top Ten. The video of "Fireflies" has been viewed more than 47 million times on YouTube. (Previously, Young

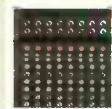


had self-released an EP and an album, both of which landed in the Top 20 of *Billboard's* Top Electronic Albums chart.) Young also formed a live band in the summer of 2009 and has toured successfully in the U.S., Europe, Japan, and Australia/New Zealand.

Speaking by phone from his home studio in Owatonna in mid-March (about six inches of snow on the ground that day; not bad), Young says he is pleased but still slightly baffled by the enduring allure of "Fireflies," because "when I wrote that song, it was never in my mind that was 'the good one' off the record. It was kind of the opposite—I was debating whether I should put it on the record at all. So, when it started to connect with people and become successful, it was that much more of a surprise." When asked whether its success has been constraining, because now there's pressure to repeat its popularity, or liberating, because now he has that success under his

belt, he says, "I feel liberated, and for this new album, I felt like I could write whatever I want. Writing-wise, I definitely didn't feel like I had to follow some formula, and the songs on there are whatever hit home for me."

Which is not to say that Owl City's latest, *All Things Bright and Beautiful*, is some tremendous departure for Young. The hooks are every bit as catchy and appealing as they were on *Ocean Eyes*, the sentiments as sweet and wide-eyed—though there are certainly flashes of vulnerability and self-doubt. Young's arsenal of synths burble and wheedle and soar on most tracks, and his pleasing lead vocals, which have always reminded me of a less-edgy version of Blink 182/Angels & Airwaves singer Tom DeLonge, caress the listener. Sonically, though, there is certain solidity and also a sheen to the new album—a product perhaps, of Young's increasing



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"I definitely didn't feel like I had to follow some formula."



sophistication as an engineer and producer, and also two days of mixing with Jack Joseph Puig at Ocean Way Studios in L.A.

"On the whole engineering/producing/gear side of things," Young offers, "before starting this record, I really spent a lot of time learning the ins and outs of the gear I've got, and also figuring out what other pieces of gear I needed to do a better job. Listening back and comparing *Ocean Eyes* and this new one, *Ocean Eyes* feels more unfinished. When I was recording *Ocean Eyes*, I was kind of blind in terms of what certain controls on various pieces of equipment were—as crazy as that sounds—but in some cases I was really just turning knobs, more or less. Sometimes I got lucky doing that, but it was hit or miss. On this record, I really worked hard figuring out how to get certain sounds and controlling the technology I have."

Young's home studio is "a big room in the basement underneath the garage. It's soundproof, so I can be loud at four in the morning and not bother anybody. It's almost like where I live is the studio, with three bedrooms attached, because all I'm doing is working down there," he says with a laugh. Except when he's upstairs at his piano, which he endlessly improvises on in search of songwriting inspiration. As for the actual writing, Young tends to work in Propellerhead's Reason-music software program in conjunction with both Logic and Pro Tools|HD and banks of synths he owns, ranging from the Clavia Nord Wave, the Moog Voyager (used for basslines primarily), and soft synths like Spectrasonics' Omnisphere.

"The way I write and create, I might start with a little synth line in a session with nothing else," Young says. "Maybe that will be the bridge of the song, and I'll kind of build out that bridge specifically, and then write a verse or chorus to tie into that, and then piece this whole thing together. By the time this instrumental song is all woven together structurally, then I'll go through and write lyrics last, and it's at that point where I'm

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Empty Space Orchestra

Complex arrangements and hyperactive improvisations

BY KEN MICALLEF

ROCKING ON like such progressive pundits as Tool and King Crimson, Oregon's Empty Space Orchestra creates complex instrumental ensembles, sun-streaked solos, and hyperactive improvisations on their self-titled debut. To this mix, guitarist Shane Thomas adds psychedelic sounds with his humble equipment, basically a Fender American Deluxe Telecaster, Mesa Boogie amps, and some greatly abused stompboxes.

"We recorded everything live at The Hangar in Sacramento," Thomas says. "We ran my Mesa Boogie Nomad 45 out to a cabinet in this immense kitchen. I played loud enough to kill a small rodent. I like the way the tube amp breaks up once it's really loud. It's in a different room, so it won't bleed."

"I used three mics on Shane's cabinet," reports engineer Robert Cheek. "A Royer 121 and a Strasser M17 about five inches from the speaker, and an AKG414 in the omni pattern as a room mic, about 12 feet away. For louder, 'rock' guitars, I like using the Royer/Strasser combo because they compliment each other well. The ribbon has tons of body and low end and the dynamic can handle tones of SPL and cut through the mix. I ran all of the mics through the '70s Neve console at The Hangar. It's one of the smaller 16-channel broadcast boards with the 34128 channels in it."

Empty Space Orchestra recalls Black Sabbath on "Brainjar," The Beatles' "Tomorrow Never Knows" seagull



symphony on “Intergalactic Battle Cruiser,” and Radiohead-worthy samples on “El Viento.” Thomas takes credit for the band’s cathartic colors.

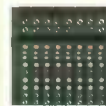
“That wobbly drone on ‘Brainjar’ is the clean channel on the Nomad; no real effects,” Thomas says. “The progression starts on the clean tone, then it gets heavy. I used the Boss RV-5 Reverb there; it has this modulated reverb tone that’s humongous.”

The frenetic solo in “Intergalactic Battle Cruiser” sounds like a flock of furious gulls, before disintegrating into a rumbling whirr, all distortion and noise. “I used an Electro-Harmonix Memory Boy Deluxe there,” Thomas explains. “It’s a new delay pedal inspired by the original Memory Man. It has an effects loop, so you can run other effects from the delay. I put an MXR Phase 90 with a really long phase sound through it. That creates a big, swooping psychedelic wall of

noise. I also overdubbed a clean version from a Big Muff. We mixed them together to get that seagull sound. Live, we just put a shit-ton of reverb on it and delay, and nobody really knows the difference!”

Empty Space Orchestra ramps down the aggro factor on “El Viento,” a warm bath of flanged textures that massage the proverbial sweet spot (your ears).

“That’s all bowed guitar in the beginning, overdubbed,” says Thomas. “Then I used a Line 6 DL-4. It’s got a swell patch; you hit the chord and it swells up. The Boss RV-5 also has this sweet warp function. You just hold the pedal down and mess with the delay to get all types of psychedelic wash effects. We try to write material that we can improvise on and capture a mood, then we arrange it and it turns into songs. Strictly speaking, I don’t overplay—I’m a slave to the song.” ■



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with Shane Thomas.

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Prefuse 73

Melted Keyboards and Delay Tricks abound on *The Only She Chapters*

BY KEN MICALLEF

IT SEEMS like everyone is doing it old-school. From T Bone Burnett recording drums with a single RX44 microphone to the Foo Fighters recording direct to tape *sans* computer, analog is making a comeback. Even in electronic “dance” music, once thought to be digitally sacrosanct, sample jockeys are turning to analog consoles, outboard effects, even damaged keyboards. Just ask Guillermo Scott Herren, aka Prefuse 73, who used a melted Novation for his latest album, *The Only She Chapters* (Warp).

“My old Novation keyboard sat on top of an electric heater until its circuit boards melted,” Herren says. “When it cooled off, I started using it. It sounded like the most insane guitar feedback ever. I didn’t have to do anything nerdy or scientific to create this, I just had to cook my keyboard. It morphed itself into My Bloody Valentine in a box.”

Recording female vocals, bass, drums, keyboards, and guitar through a series of an A.P.I. 7800 Master Modules and Pro Tools, Brown also relied on a handful of outboard/plug-in processors (EL Distressors, UBK Fatso, SPL Transient Designer, Morevox Retroverb Plate Reverb) and drum machines (Sequential Circuits Drum Tracks, MPC 2000XL, Elektron Machine Drum). But the bulk of his effects were created by experimenting with mic placement, often resulting in a blurring effect, like melodies

captured in water flowing through the speakers.

“I did it the dirty old-school way, just using really random miking techniques,” Herren says. “Probably the most unprofessional route you could go: Miking any hollow-body instrument with a contact mic, then capturing it again with a nice mic at a different space in the room. Then I combined those two and created an interesting vibration out of them.”

Herren also adapted delay times, and used meter as a counterpoint device. “I wanted to create multiple delay points and different delay times, but using the same source material to create a textural blur that feels like the wind is blowing against you.” He attempts to explain: “I set up mics at different points in echo chambers to take advantage of delay times. If the delay time was 10 or 15 or 20, then if the sections of the song were in 4/4, then 3/4, then I let those delays and sections compete against each other. You build and build and it creates that blurring effect; juxtaposing the delay times.”

Currently collaborating with the Flaming Lips for their next album (Jimmy Page and Neon Indian are other collaborators), Brown says the workload was more intense on *The Only She Chapters*, but ultimately more fun. “This was about trying to capture vibrations and going complete crazy old-school electro acoustic,” he laughs. “Like the old BBC engineers wearing white gloves and lab coats.” ■

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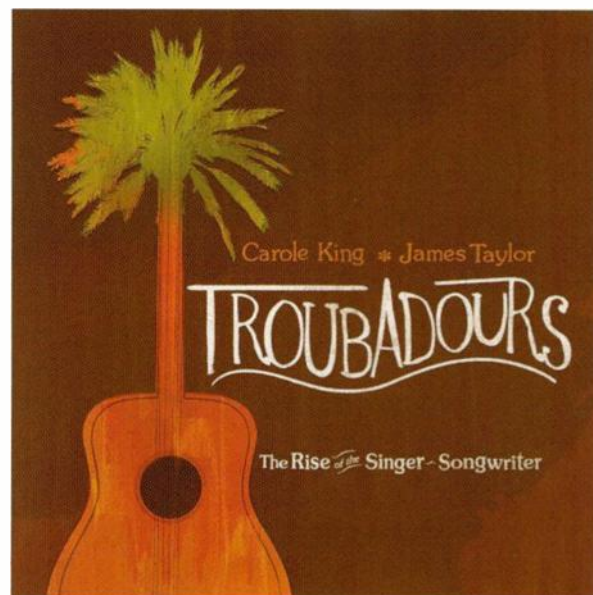
Troubadours: The Rise of the Singer-Songwriter

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IF THE Troubadour club never existed, the L.A. music scene would never have been the springboard of so many great singer-songwriters. As much a look at Carole King's and James Taylor's careers, the documentary features candid and comical interviews with David Crosby, Lou Adler, Steve Martin, and more. However, the secret weapon of this film is the use of rich historical footage of the '60s, stellar in both in musical performance and imagery, and political protest and culture. A must-watch for any aspiring songcrafters.

CRAIG DALTON



Depeche Mode *Remixes 2: 81-11*

MUTE

Depeche Mode's epic three-disc release *Remixes 2: 81-11*, the first project collaborated on by all five Depeche Mode members, will keep your subwoofer happy and your foot a tappin' with both modern and classic remixes of tracks spanning DM's three-decade career. Several of the modern interpretations, such as Röyksopp's version of "Puppets," are off into new sonic territory, while the standout classic versions by Vince Clarke and Alan Wilder are a bit closer in heart and soul.

MARSHA VDOVIN

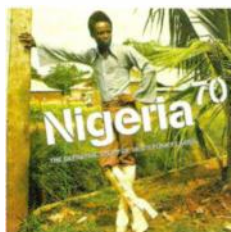


Human Element *Human Element*

ABSTRACT LOGIX

Frank Zappa once said, "Jazz isn't dead; it just smells funny." The same thing has been said about fusion, but in less-kind terms. Human Element recalls everything great about fusion: inspired improvisation, innovative melodies, and a boldness to expand boundaries, with none of the masturbatory excess associated with the '70s blowhard genre. Scott Kinsey, Matthew Garrison, Gary Novak, and Arto Tunçboyacıyan fire all their jets, yet retain a light-as-a-feather approach, creating a blissful, note-filled atmosphere.

KEN MICALLEF



Nigeria 70: Sweet Times: Afro-Funk, Highlife & Juju from 1970s Lagos Strut

STRUT

Unlike other Strut comps that typically focus on a particular style, *Nigeria 70* runs the gamut: rolling soukous from Sina Bikare and Admiral Dele Obiodun, psy-funk from Eji Oyewole, lilting AfroBeat from Ali Chukwumah & His Peace Makers International. Recorded in studios across Lagos, the production values are as diverse as the music itself, but always revealing that sweet African sound.

KEN MICALLEF

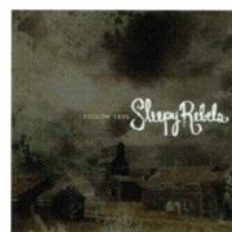


Henry Wolfe *Linda Vista*

UNDERMOUNTAIN RECORDS

The debut album from singer/songwriter/musician Henry Wolfe lives somewhere between Randy Newman and the Avett Brothers. The mood is relaxed and atmospheric; his gentle voice and heartfelt lyrics are surrounded by lingering keyboard rhythms, harmonica parts that trail off distantly, bouncy guitar strumming. Wolfe (who, incidentally, is Meryl Streep's son) often writes of dark days, but his sweet voice and musical mood evoke a feeling more like dawn unfolding—quiet, hopeful, ever brighter.

BARBARA SCHULTZ



Sleepy Rebels *Yellow Tree*

POWERFUL COMPANY

This NYC-based trio keeps you smiling from the first track to end, with their sunny hooks and well-balanced sister/brother harmonies. The primarily acoustic instrumentation is exceptionally well recorded, doesn't rely on over-compression, and is mixed with tasteful use of scant effects. The driving guitars keep heads bobbing with only the occasional use of percussion or soft kick/snare. And what a delight to hear well-arranged, real acoustic strings and horns!

MARSHA VDOVIN

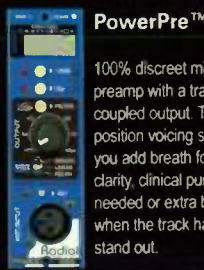


Steve Earle *I'll Never Get Out of This World Alive*

NEW WEST

The influence of producer T Bone Burnett on Steve Earle's latest album is subtle, but it's there: The bass rocks a little harder; songs are a little catchier; and the tempo's a little more up, even though Earle acknowledges that mortality is the theme of this record. As always, Earle's singular, expressive vocals are tough and beautiful, and the acoustic, strings-heavy arrangements are far more bent and complex than your average country album. Included is "This City," which Earle wrote for the HBO series *Treme*, featuring horn arrangements by Allen Toussaint.

BARBARA SCHULTZ

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100% discreet mic preamp with a transformer coupled output. Three position voicing switch lets you add breath for added clarity, clinical purity when needed or extra beef when the track has to stand out.

**JDV-Pre™**

Combination class-A feed-forward instrument preamp and direct box designed to deliver the absolute purity of the instrument without coloration, hype or sonic extension. There is no equal.

**JDX™**

Tap the signal right from your amp for fat tones reminiscent of a half-stack Plexi and get the consistency of direct patching every time. Works equally well on bass and guitar.

**EXTC™**

Guitar effects routing system lets you add excitement, spice and creative spark to any recording by combining lo-Z tracks with hi-Z guitar effects pedals. Front panel send and return patch points make it easy!

**X-Amp™**

Class-A reamper™ equipped with two transformer isolated outputs to stop hum and buzz from entering the system. The X-Amp is the magic tool that lets you achieve astonishing results.

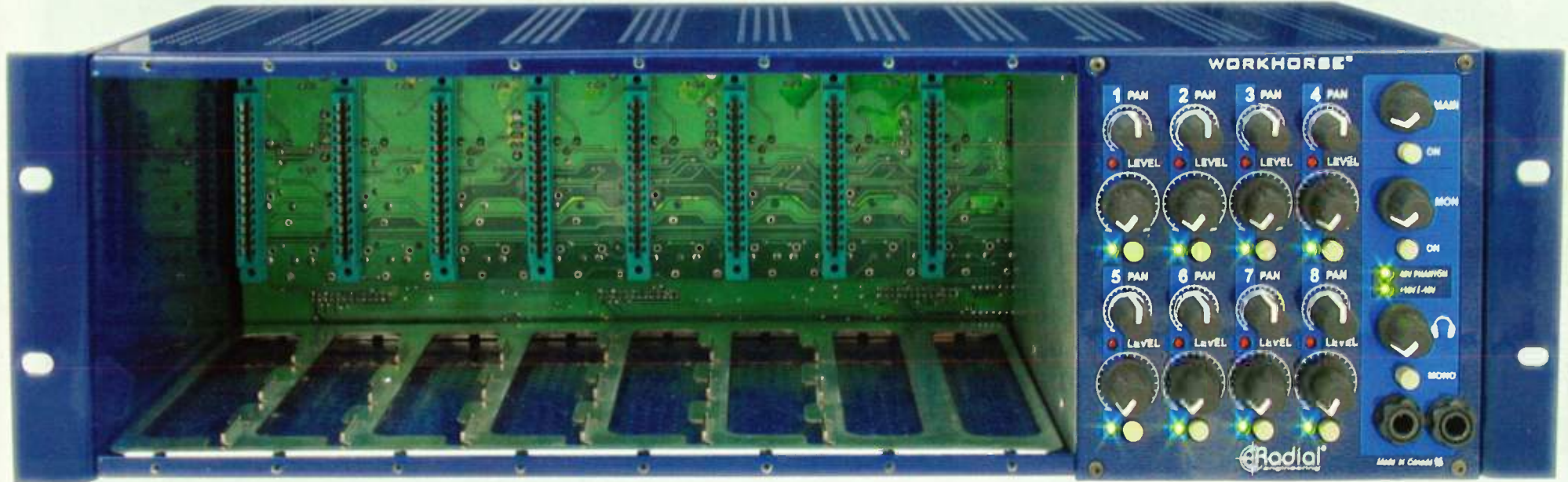
**Komit™**

The Komit combines old school diode bridge limiting with the very latest in VCA compression. Auto tracking for slow, medium and fast transient response makes getting great compression easy.

**PhazeQ™**

Like adjusting the focus on a pair of binoculars, the PhazeQ lets you combine any two tracks and bring them into sonic phase. Think of it as moving your mics around the room by simply turning a dial.

Lunch Well Served...



The Radial Workhorse™ revolutionizes high performance analog recording by combining a 'plug & play' platform for Lunchbox modules with a built-in mixer for incredible flexibility.

Equipped to handle up to eight modules, the Workhorse lets you mix and match preamps, EQs and compressors to create the ultimate channel strip. Modules may be accessed on the rear panel following the traditional API Lunchbox® format or be bussed to a master section for left or right signal panning, level control and muting. To add spice to your recordings, a unique 'feed' function allows you to configure the Workhorse modules to feed each other in series to create the channel strip of your dreams! Odd and even

card-slots may also be linked together in stereo by simply toggling a rear-panel switch.

Connectivity is extensive: each channel is equipped with traditional XLR input and output and augmented with ¼" TRS jacks for balanced or unbalanced hook-up. An innovative feature we call OmniPort™ delivers module-specific functionality that can range from an extra output, ducking input, footswitch control or effects insert, depending on the module design. Inputs and outputs are also routed to ProTools compatible 25-pin D-Subs to further enhance flexibility while expanding signal routing options for live recording setups and cross patching.

For added control and flexibility, we've included master TRS inserts, separate monitor outputs and a headphone buss with two jacks (for sharing) and plenty of jam to drive headphones. For larger recording systems, you can link multiple Workhorses together using the built-in expansion buss.

**The Workhorse...
a revolution to feed your musical appetite!**

Estimated price USD: \$1600

View the Workhorse Video at:
www.radialeng.com/re-workhorse.htm



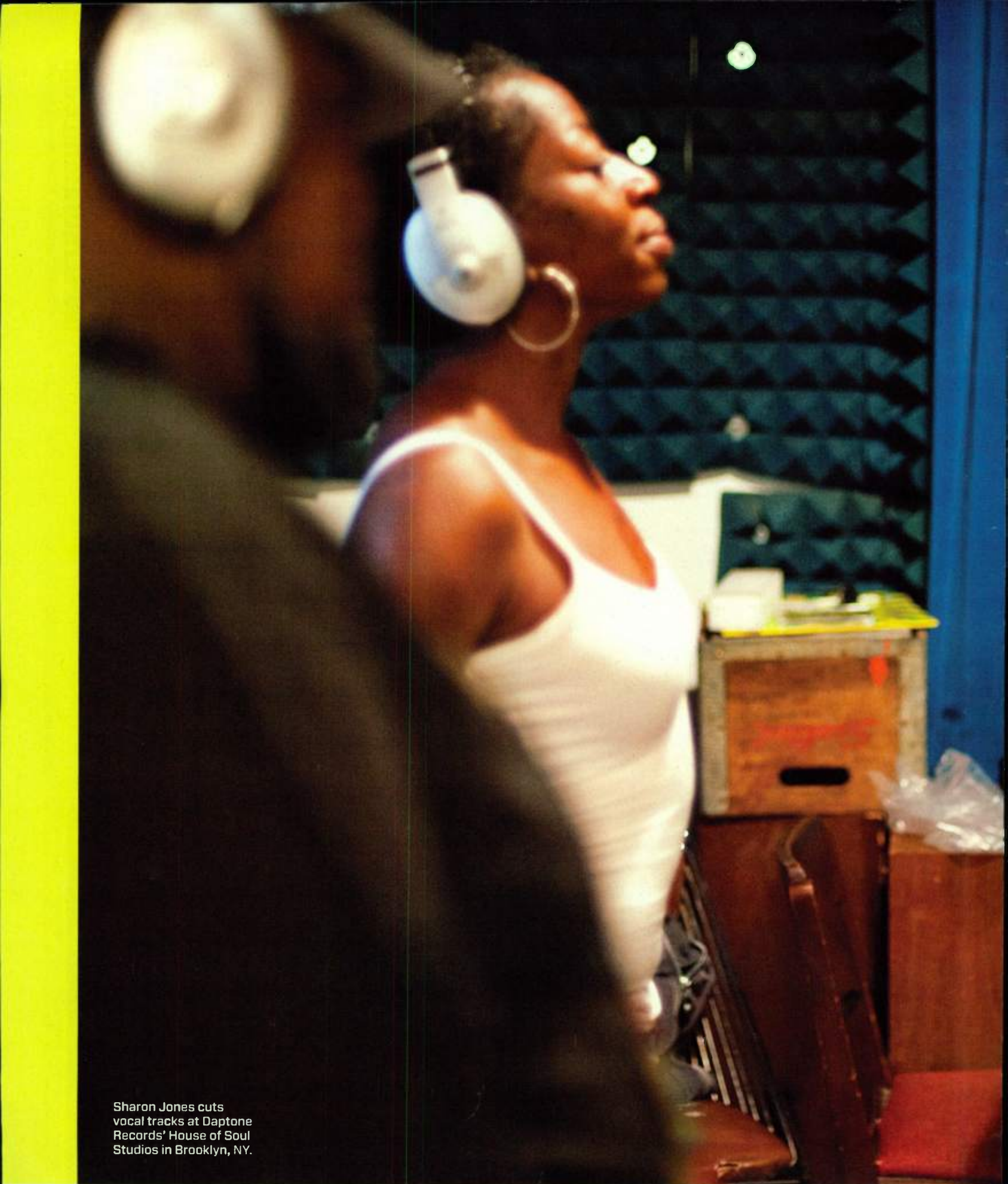
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Sharon Jones cuts vocal tracks at Daptone Records' House of Soul Studios in Brooklyn, NY.



LUST

Roundup Finding Your Voice

Studio and Stage Gear for Singers

BY CRAIG ANDERTON

AFTER YEARS of “hey, here’s a mic, that’s good enough,” companies are starting to pay more attention to vocalist-specific devices. No, we don’t just mean pop filters (although that new one from JZ Mics is pretty cool), but hardware effects and plug-ins tailored to voice, USB mics capable of excellent sound quality, accessories that do everything from mating mics with iPads to decoupling mic stands from floor vibrations, and a lot more.

This roundup takes a look at manufacturer offerings on tap for vocalists of all persuasions . . . and it’s a pretty interesting lineup. So, warm up by singing some scales and having a drink of warm water with honey and lemon—then start reading (and singing!).



Fig. 1 Basic mode includes a selected complement of controls.

iZotope Nectar

Vocal processing to the max

Nectar seems more like a mastering program for vocals than just a “channel strip,” and includes several novel twists that make it far more than just a vocal-oriented derivative of iZotope’s Ozone or Alloy.

Getting Started

Nectar has two operational levels. In the basic mode (Figure 1), you can specify a musical genre and style, with Nectar providing appropriate default settings. You also choose mixing or tracking modes, with the latter offering a lighter CPU load by reducing look-ahead, and abbreviating some features. Crucial controls are

brought out for quick adjustments; the control complement varies somewhat depending on the chosen genre/style.

Going Deeper

Click on Advanced View (Figure 2), and you can edit all parameters of all 11 processors:

- Pitch correction. This provides automatic correction and in some hosts, manual correction with graphic, per-note editing of pitch and correction amount. Among the 64-bit Windows programs I tested, the manual option was available in Pro Tools, Studio One Pro, and Ableton Live, but not Wavelab, Sonar, or Vegas; this is a limitation of the host, not Nectar.
- Breath control. Identifies breath noise, then reduces it using compression. This
- Pitch correction. This provides automatic correction and in some hosts, manual correction with graphic, per-note editing of pitch and correction amount. Among the 64-bit Windows programs I tested, the manual option was available in Pro Tools, Studio One Pro, and Ableton Live, but not Wavelab, Sonar, or Vegas; this is a limitation of the host, not Nectar.
- Compressors. The two different compressors, optionally routable for parallel compression, model four different compressor types; one includes post-filtering.
- De-esser. Minimizes “ess” sounds effectively.
- Limiter. Complements the compressors by placing a ceiling on the peak dynamic range.
- Reverb. If you’re familiar with the mastering reverb in Ozone . . . this isn’t it! It’s flexible and sounds good, thanks to seven reverb algorithms, with seven variable parameters.
- Delay. This offers digital, tape, and analog algorithms with modulation, tempo sync, and separate high-cut/low-cut parameters.



Fig. 2 In advanced mode, all parameters for all processors are accessible.

has much latency due to significant look-ahead—consider bouncing or freezing a track once it’s set as desired.

- Noise gate. Standard, but also includes RMS detection option, and can serve as an expander.
- EQ. 5-bands, with seven response curves for each band.
- Saturation. Tube, tape, retro, analog, retro, and warm, with variable-slope high-frequency rolloff.
- Doubler. Actually, it’s a quadrupler, with a sophisticated design featuring adjustable pitch offset, delay, panning, gain, and octave up or down options for each “voice.” Two bands of shelving EQ can interact with each other for unusual responses.

iZotope Nectar
\$299 MSRP

STRENGTHS:

Deep collection of highly-editable plug-ins optimized for vocals. Genre/style presets are ideal for those who don’t want to spend time tweaking. Handles RTAS/AudioSuite (Pro Tools 7+), DirectX, VST, AU, MAS. Separate mixing and tracking modes to optimize CPU load.

LIMITATIONS:

Major latency with Breath Control module. Not all hosts can use the Pitch Correction module’s graphic editor. izotope.com

processing, it’s not hard to figure out what’s going on. If you use Ozone or Alloy, you’ll feel right at home due to the GUI commonality.

Conclusions

Nectar is extremely deep—probably too deep for some, who will be thankful for the genre and style presets. Although experts might not feel the need for these “training wheels,” they’re a time-saving point of departure—get close to what you want, and you won’t have to spend as much time tweaking.

Although you probably have similar plug-ins for your DAW, the optimization for vocals makes Nectar a convenient, one-stop-shop for whipping your vocals not just into shape, but pretty much into any shape you want.

Tweak Time

Despite the depth, if you know your way around signal



Blue Microphones Spark

A versatile mic at a righteous price

Blue makes fine mics—whether you're talking specs or industrial design. Although the company built its reputation on high-end mics, Spark takes its condenser know-how into a lower-priced world.

One Size Fits All

Spark seems designed so that if someone could only afford one condenser mic, they'd choose Spark. It's a medium-diaphragm cardioid design with subtle response tweaking—a small lift around 11kHz (which brings out the clean, responsive high end) and 1kHz, a bit of a dip in the “mud” frequencies around 400Hz, and another slight dip around the 2kHz

“honk” frequency. All of this is ideal for vocals. A boost around 90Hz can emphasize the proximity effect, or be tuned out with Spark's unique “Focus” switch, which reduces bass and tightens the lower mids.

Focus isn't a standard low-cut filter; it alters the capsule's voltage loading rather than processing the mic's output, thus affecting both dynamics and frequency response. The effect is both subtle in that it retains the mic's desirable characteristics, and striking in that it can make quite a difference with some sound sources. For example, switching Focus out with vocals gave a full, deep sound, but I had to be careful about plosives and air, even when using the included pop filter. With Focus in, the vocal cut more, minimized plosives, and had a “direct” quality. With acoustic guitar, switching Focus in helps control “boom” if you like miking close to the sound hole, while switching it out sounded best when I backed the mic off for more room sound. It's almost like having two separate mics, increasing the overall value considerably.

A Class-A Act

The solid-state electronics are Class-A, which eliminates crossover distortion because there is no

crossover, and handle SPL levels up to 128dB. But, the mic package as a whole is a class act. There's an industrial-strength shock mount (improved over earlier versions) and semi-effective pop filter, included with the mic in a sweet wooden case (Figure 1). Also, the manual goes beyond just documenting the mic, and provides helpful miking tips.

If you prefer hand-held rather than shock-mount, at 1.25 lbs., the body feels substantial, yet fits comfortably in any size hand. It seems no more prone or immune to handling noise than any comparable mic.

Conclusions

At a below-\$200 price, you'd expect compromises, yet the transient response and clarity excel, without the high-end “brittleness” sometimes experienced with low-cost condensers. It's a sensitive mic—you have to be careful about “swallowing” it, and there's a reason why it includes a pop filter (although you'll probably want a heavier-duty one on call)—so it's important to experiment to find the right mic positioning. That sensitivity is an asset, though, if you like to move the mic back a little bit to give more “breathing room” and pick up a shade more room ambience.

If someone said they could afford only one condenser mic, I'd recommend Spark not just for the versatility, but the quality. If Blue's goal was to produce the VW of mics, I'd say they succeeded—except that it's the Turbo Diesel model.

Blue Microphones Spark
\$199 MSRP

STRENGTHS:

Clean, transparent sound, with slight but effective response manipulation. Focus switch adds value and versatility. Improved shock mount. Useful on many types of signals. Striking look and packaging.

LIMITATIONS:

Pop filter lacks effectiveness with close-miking.
bluemic.com

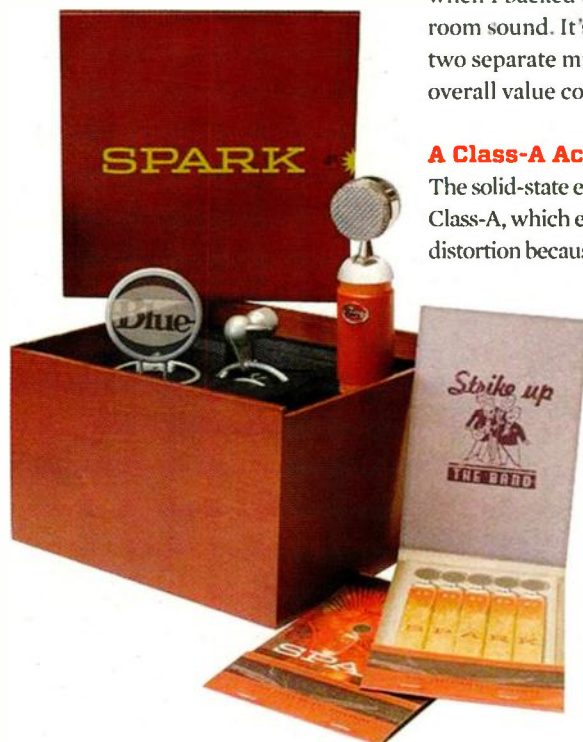


Fig. 1 Spark comes with a pop filter, shock mount, groovalicious wooden case, and helpful documentation.



TC-Helicon VoiceTone Singles and MP-75 Mic

Stompbox system love for vocalists

TC-Helicon staked a claim years ago as “the vocal processing company,” and never looked back. During that time, it’s produced vocal processors for stage, studio, and both, but the VoiceTone Singles (coupled with the MP-75 mic) represent a new—and clever—way of dealing with vocal processing.

Hit Singles

There are four Singles-series stompboxes: T1 Adaptive Tone and Dynamics, C1 HardTune and Correction, D1 Doubling and Detune, and R1 Vocal Tuned Reverb. Each has an XLR input with non-defeatable phantom power, XLR out, footswitch, and various controls; the mic gain

control is on the side and recessed, so it’s hard to hit accidentally. The packaging is sturdy—a rubber, non-stick base and die-cast metal top. You can daisy-chain the audio to create an effects chain, but each stompbox requires its own included AC adapter.

The always-on phantom power isn’t much of an issue. Condenser mics need it, and dynamics aren’t harmed by it. Although rarely used for vocals, older ribbon mics can be damaged by phantom power; newer ribbons can cope better, but overall, I’d recommend staying away from ribbons—and not using any of the pedals as “hardware inserts” for DAWs that accommodate external hardware.

Each unit also has two unusual features: A USB port on the back that communicates with TC-Helicon’s VoiceSupport software (Figure 1), and a Mic Control on/off button. The latter works in conjunction with TC-Helicon’s MP-75 mic, which lets you control effects from the mic itself—let’s look at that next.

Mr. Microphone, the Control Freak

The MP-75 is a dynamic supercardioid mic designed specifically for singers. It’s comfortable to hold, and has an internal shock mount for the capsule; breath and pop rejection is very good, even without a pop filter, and handling noise is also kept under control. Compared to an SM58, the output is hotter, with a crisper high-frequency response. Although I didn’t have any gigs scheduled during the time of writing this review, the company claims good resistance to feedback.

Okay, so it’s a really good vocal mic with a reasonable price, but there’s also a recessed pushbutton switch for controlling your effects. Control is limited to toggling enable/bypass, but if several Singles are daisy-chained, the switch works with multiple effects. As it’s a toggle, if one effect is enabled and another bypassed, hitting the switch bypasses the enabled effect and enables the bypassed one.

I was kind of hoping that something like holding the button or double-clicking would perform some other function, but the concept is young, and it’s easy to update the firmware for TC-Helicon gear, so who knows what tomorrow may bring. . . .

Software for Stompboxes

And the mention of firmware brings us to the cross-platform VoiceSupport software (Figure 1). This provides a way to do firmware updates, and is a gateway to online access of manuals, tips and tricks, etc. When I first opened it, the program immediately downloaded new firmware for TC-Helicon devices (including the VoiceTone Singles) as well as a variety of content. For TC-Helicon gear that supports presets (the Singles don’t, of course), VoiceSupport also lets you maintain a preset database, and download new presets.

I updated the firmware, subscribed to a couple of their newsletters, and checked out their forums. There’s a lot of



Fig. 1 The VoiceSupport site isn't just about downloading new firmware for TC-Helicon gear, but includes a lot of useful information.

content, and the whole concept is extremely cool. TC-Helicon gets major props for figuring out a new and different take on the concept of customer support.

T1 Adaptive Tone and Dynamics

Now to the effects. The Adaptive Tone part of the T1 analyzes your voice and does magic mojo stuff to enhance it, apparently by reducing lower mids and giving a high-frequency lift. The Shape control varies between a bassier and brighter timbre, and the analysis thing isn't hype; it takes a few seconds after adjusting the control and singing into the effect before the EQ kicks in. The effect doesn't hit you over the head—it's fairly subtle, but if the result is too bright, a Warmth button brings in some low end without getting muddy.

The remaining control provides compression and de-essing, and again, it's subtle—don't expect to hear compression pumping. Overall, T1 gives some pleasant shaping and lifting to your voice. It's sort of the vocal

equivalent of a push-up bra; it accents what's there rather than adding an artificial quality.

R1 Vocal Tuned Reverb

I'm generally not a fan of added reverb for live performance; there's usually enough from the hall ambience, although for smaller spaces, reverb can wrap your vocal in a warmer, friendlier sound. And for those applications, the R1 does indeed "tune" the reverb in an intelligent way. Looked at through an analyzer, most of the eight reverb algorithms concentrate their energy in the 100 to 650Hz range, above which the response starts rolling off but has another peak around 1.3kHz (vocal range—I'm sure that's no coincidence).

There are some variations on this theme. For example, the plate has a bit of a lift around 4kHz, as do the Ambience and Room options because they represent smaller spaces with less damping. In addition to the reverb algorithm selection rotary switch, there's also a Dry/Wet balance control. If you're going to use reverb on your voice, the R1 is a honey.

**TC-Helicon
VoiceTone
Singles and
MP-75 Mic**
MP-75: \$210 MSRP;
T1: \$179 MSRP;
R1: \$205 MSRP;
D1: \$205 MSRP;
C1: \$235 MSRP;
SINGLES CONNECT KIT:
\$85 MSRP

STRENGTHS:

Compact and sturdy.
Refined sound quality.
Reasonable cost. Very easy to use. MP-75 mic isn't just about control, but is definitely tailored to vocals.

LIMITATIONS:

Mic switch only controls effect enable/bypass. If you get all four, factor in the cost of the Singles Connect Kit if you want a neat stage setup. Phantom power can't be defeated.

tc-helicon.com

D1 Doubling and Detune

This is extremely cool. There are eight algorithms, which range from tight and loose doubling, to a multi-voice chorus effect, to simple detuning and thickening. These are, like the VoiceTone Singles in general, relatively subtle and designed to support your voice, not overwhelm it (although you can dial in full-wet if you want to take it further). However, the remaining three algorithms are pretty wild: Octave Up and Octave Down do what you expect, but what you might not expect is how well they work and how natural they sound. Another option, Shout, adds an octave-higher voice in addition to enlarging the sound.

This is a "don't leave home without it" effect if you want to

make your voice sound like more than it is, and the implementation is superb.

C1 HardTune and Correction

You want that sound? You got it, and a few others as well. This box has three controls. One handles gender, from low and Darth Vader-y, through standard, all the way up to a chipmunk effect. Another determines the correction's "hardness." The final control selects your key of choice (or 12-step chromatic), but there's also an instrument input for guitar to guide the harmonization, as well as a "thru" jack for the guitar as the instrument input needs to be fed by a dry guitar signal.

There's not much more to say except that this does an excellent job of performing the pitch-correction tricks that you hear on so many recordings (whether you want to or not!).

Conclusions

Those who plan to use all four Singles might be a little put off that each needs its own AC adapter; if you want to use a pedalboard-type power supply to circumvent this, note that the pedals require 12V/negative tip, which isn't all that common. However, TC offers the Singles Connect Kit with a single adapter, as well as cables for daisy-chaining both XLR and power cables—very considerate.

I wasn't quite sure what to expect with these effects, although I've always been favorably impressed with TC-Helicon's vocal processors. Probably what's most striking is that the Singles are quality pedals; they have the "TC sound," which tends toward a clean, defined character, and the effects are extremely well-implemented. They're sturdy, fill a really useful need for vocalists, and the price is right. What's not to like?



Royer R-101

"...when I record guitars with the R-101, I can't imagine anything else doing it better."

Pro Audio Review

"Build quality is excellent – this is a very neat, solid microphone, and is clearly well made. The R-101 looks and sounds far more expensive than it is."

Sound On Sound

"There are ribbons and there are Royers... and the R-101 is a Royer through and through."

Recording Magazine

ROYER

Royer Ribbons

818.847.0121

www.royerlabs.com



Fig. 1 A headphone jack provides zero-latency monitoring.

Samson Meteor

USB large-diaphragm cardioid condenser mic

It's just a toy, right? Right?!? Actually, no—but Meteor takes an unusual approach to a USB mic that fills a niche superbly. When I'm on the road, I often need to record samples and do voiceovers for videos, and have had absolutely stellar results with an Audio-Technica AT2020 USB. However it's relatively large, and somewhat impractical when all I need is a mic for capturing musical ideas (or using Skype, for that matter). Its cylindrical shape and weight also fascinates the TSA, and more than once, I've been put through a manual search because of it. If only I could have a USB mic that sounded really good, but was small enough to throw into a computer bag, and suitable for less-critical applications too... and for the sake of the TSA, looked like the popular conception of a mic.

Meet the Meteor

Well, that pretty much describes the Meteor. It's a cardioid condenser mic with a surprisingly large diaphragm (about 1 inch), housed in a sturdy, die-cast body with fold-up legs. With the legs folded up, it's about the size of a thick salt shaker, and has a nifty, future-retro look.

Drivers aren't required for Mac or Windows, but class-compliant operation also results in latency. Fortunately, around back there's an 1/8" headphone jack with volume control (Figure 1); the headphone amp is definitely better than the amp in most computers, and doesn't pick up internal hash—another point in its favor—and it monitors the mic with zero latency.

The mic element itself is protected by a fine-mesh wire screen that handles lightweight wind noise issues, but for heavier-duty pop protection, well, finally there's a use for that sock that's missing its match. There's also a mute button, and a tri-color

Samson Meteor
\$149.99 MSRP

STRENGTHS:

Surprising sound quality in such a compact mic. Looks totally cool. Class-compliant, plug-and-play. Zero-latency headphone monitoring.

LIMITATIONS:

Low-latency drivers not available. Needs pop filter. Legs pick up surface vibrations.

samsontech.com

LED that indicates power, mute, and clipping.

Meteor handles 44.1/48kHz sample rates, and a max SPL of 120dB (which I hope will never be attained in any hotel room where I'm staying). Resolution is 16 bits. As to frequency response, there's a slight lift around 10kHz; low frequency response starts rolling off gently around 150Hz, and hits about -5dB at 20Hz.

The Meteor mic addresses an interesting market: It pretends it's a laptop mic, but gives much higher quality. When I tested it doing video voiceovers prior to leaving for the Frankfurt Musikmesse show, it did a great job with my laptop: The quality was a zillion times better than the built-in mic. The AT2020 has a slightly smoother sound with a little more presence, but the Meteor's small size, and the convenience of a built-in headphone amp, earned it a place in my laptop bag. The legs do tend to transmit vibrations, so I brought along a piece of foam to add some acoustical isolation; and as with the AT, I needed a pop filter (translation: a sock). But overall, the quality, size, and convenience make the Meteor a tremendously useful mic, not just on the road, but at home as well. Oh, and if anyone from the TSA is reading this ... it's a *microphone*, okay?



Primacoustic TriPad

Isolate your mic stand from floor resonances and vibrations

If the floor or stage vibrates, those vibrations could work their way up a mic stand and into your mic. Actually, they will; the only question

www.solidstatellogic.com

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From our integration of the project studio environment, through to our pioneering large-format studio consoles, SSL has defined the hybrid approach to modern production workflow where the very best classic SSL analogue console technology meets high-speed DAW control.



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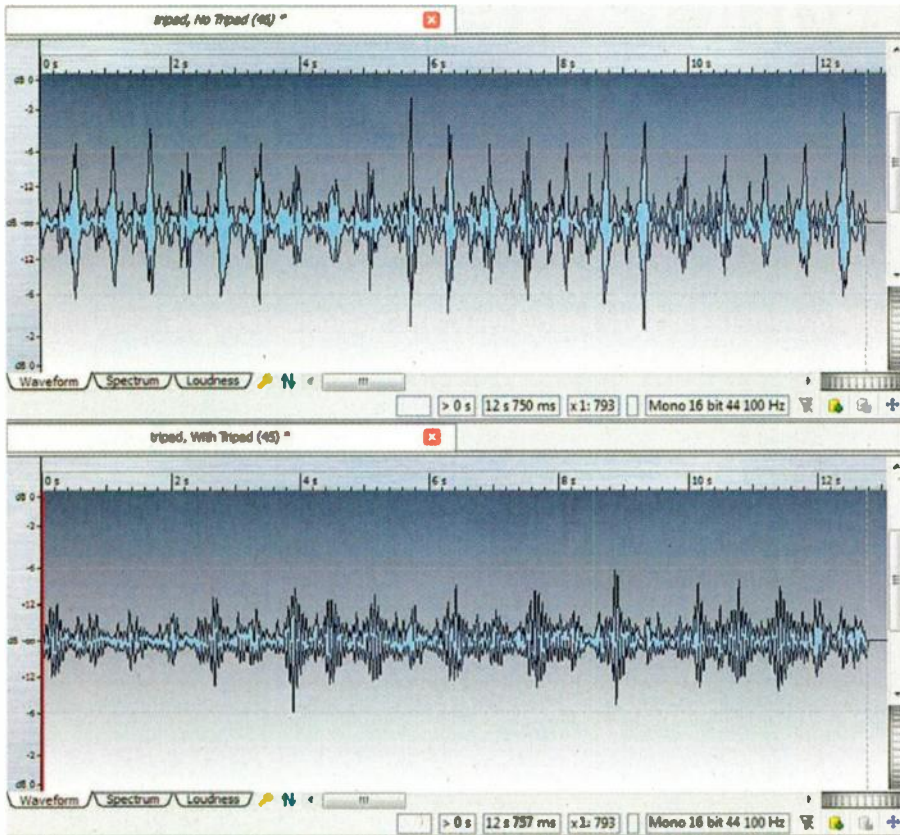


Fig. 1 The top recording didn't use TriPads; the lower one did. It's pretty obvious which has less noise.

**Primacoustic
TriPad**
\$25 MSRP

STRENGTHS:

Dumbass idea, but it really works. Inexpensive. Works with most tripod mic stands. Really does help decouple the mic stand from floor vibrations.

LIMITATIONS:

Not applicable to mic stands with circular bottom plates.
primacoustic.com

is, how much.

With TriPad, the answer is, "a lot less." TriPad consists of three pads made of high density, open-cell acoustic foam. They wrap over the leg tips of any tripod mic stand that's angled the same as the industry-standard K&M 201 stand (the non-K&M tripod stands in my studio matched the angle properly). The foam is quite firm, so the mic stand remains stable; because they wrap around the leg tip, you can pick up the mic stand and move it around.

Give Me A Break. Does it Really Work?

We thought you'd ask, but we didn't just want to say "Yeah, it sorta seems to work, I guess" but instead, actually come up with a way to test it.

Part of my studio floor floats, so I set up a tripod mic stand, mounted a Shure SM58, fed the mic out into Wavelab, and turned the gain up full. To make the floor vibrate without creating noise, I did silent squat thrusts that moved the floor up and down slightly, with those vibrations transmitted to the mic stand.

I first stood about a foot away from the mic stand. The difference with and without TriPads was dramatic—but then I thought that was too easy. After all, sound levels fall off with distance, and few singers would have the mic stand set up a foot away

from, say, a kick drum.

So I tried the same test about five feet away, and the results were still dramatic (Figure 1; note that the waveform levels were raised within Wavelab by an equal amount of gain to make the waveforms easier to see). The top recording is without TriPad, and you can see the floor motion peaks hit mostly between -2 and -6dB. With TriPad, the peaks fall between about -6 and -15dB. But, also look at the non-peak vibrations: The non-TriPad waveform has a lot more low-frequency content.

So does it work? Well, ask the waveforms.

Conclusions

One of my favorite trade show moments was when Peter Janis, Primacoustic's head honcho, was demoing the Recoil Stabilizer for the first time. When he tried to describe it, he was at a loss for words; as he held it and tried to figure out what to say, he blurted out, "Well, it's kind of a dumbass idea, but it really works." TriPad is yet another idea that's so obvious, no one ever thought of it before, but apparently, Primacoustic's specialty is dumbass ideas that really work. The price is certainly right for keeping crud out of your mic. After all—are you the singer, or the floor? ■

INTRODUCING **2 IN 1** TECHNOLOGY

Gemini 5

The world's first dual technology FET / Tube mic in one

- Simultaneous, discrete FET and Tube outputs
- 2 high end mics for the price of one mid range mic
- Gemini II capsule gives exceptional performance
- Record your one perfect vocal or guitar take and have 2 options to drop into your mix.

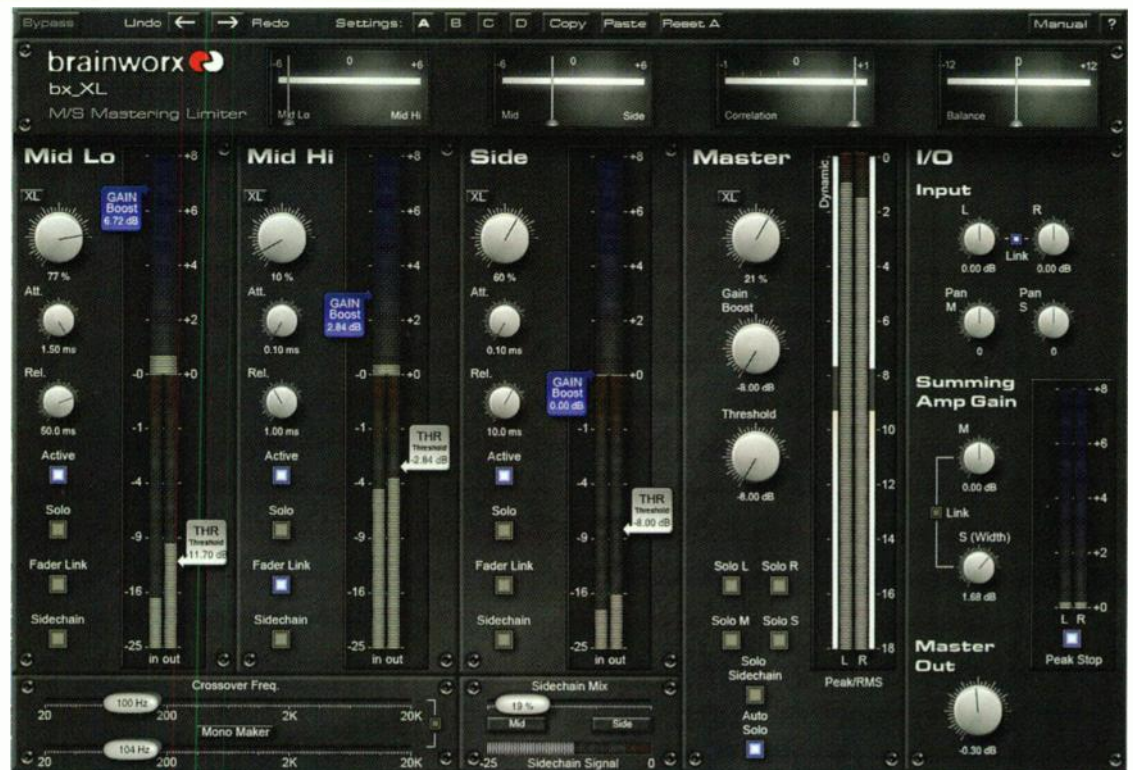


Contact: 512 847 5696
www.fingerprntaudio.com
sales@fingerprntaudio.com



Sound Engineering
www.seelectronics.com

Fig. 1 The bx_XL offers sophisticated splitband M/S processing, monitoring, and sidechain facilities.



Brainworx bx_XL

Powerful split-band mid/side limiter plug-in for mastering

BY MICHAEL COOPER

THE BRAINWORX bx_XL mastering plug-in (AU, RTAS, VST2.4, and VST3)—also suitable for mixing—converts a stereo signal into separate mid and side (M/S) channels for separate dynamics processing. It supports sampling rates up to 192kHz and uses 64-bit internal processing, giving a huge internal dynamic range.

The mid channel contains all mix elements common to left and right channels (e.g., center-panned kick drum, lead vocals), while the side channel carries the difference signal—mix components with dissimilar left and right channels, like stereo reverb. But the bx_XL further splits the mid channel into two frequency bands (Mid Hi and Mid Lo) for independent limiting, with a Crossover Frequency slider to set the desired split point; see Figure 1. (For simplicity, we'll call these two bands—along with the

broadband Side channel—"channels.")

Imagine being able to limit a center-panned lead vocal's high frequencies without affecting the dynamic range of the kick drum's bottom end, or the dynamics of hard-panned guitars. Powerful stuff, but it's just the tip of the XL iceberg.

Image Maker Left- and right-channel input levels are independently adjustable, both to tweak the stereo image and to change how hard you drive the downstream limiters. You can link levels to preserve the stereo image; if you set a level offset between channels, linking preserves it.

The mid and side channels have separate pan controls so you can, for example, center the kick, snare, bass, and lead vocal in your mix without skewing the image for reverbs and stereo-miked guitars. And if, say, the mix's right channel is higher than the left, you can re-balance it using the side channel's pan control—without disturbing the center image!

bx_XL also includes a Mono Maker control, a powerful feature found in other Brainworx plug-ins, that centers the low end by converting all signal below its corner frequency into mono for the plug-in's input signals. You can link the Mono Maker control to the afore-mentioned Crossover Frequency slider.

SUMMARY

STRENGTHS: Superb sound quality. Powerful, deep feature set. Extremely well-organized GUI.

LIMITATIONS: No dither. A little buggy. Documentation needs improvement.

\$419 MSRP
brainworx-music.de

PrismSound

Portable, versatile and
unbeatable sound!
*Joshua Blair and
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bx_XL's Mid Lo, Mid Hi, and Side channels each have the same types of (independent) controls—XL, attack, release, bypass, solo, gain boost, threshold, fader link, and sidechain (see next section). Raising a channel's gain boost or lowering its threshold increases that band's amount of limiting. If you activate the fader link button, the threshold lowers as you increase the gain boost control, keeping the channel's output level more consistent.

Limiter attack times for each channel range between 0.1 and 1.5 ms, with release

times from 0.01 to 999 ms. A band's solo button lets you monitor it in isolation, although you can't solo more than one channel at once.

Raising a channel's XL control adds 3rd- and 5th-order harmonics to its signal, post-limiter; XL processing can be bypassed for each channel. Meters for each channel show their input, output, gain-reduction and, if the sidechain button is activated, sidechain levels.

Sidechain Acclaim Powerful sidechain features populate bx_XL's thoughtful

LUST

review



Fig. 2 The Sidechain Mix slider adjusts the relative balance of two sidechain signals. The thin vertical line of “LEDs” between input and output meters indicates the combined signals’ level in a keyed channel’s sidechain (with the Sidechain button activated).

interface. Assuming your DAW supports sidechaining, you can choose two sidechain sources from Mid Lo, Mid Hi, Mid (both Lo and Hi), Side, and External (see Figure 2). The Sidechain Mix control sets the relative signal balance between the two sources.

bx_XL facilitates sidechain setup with a solo (key-listen) button for the sidechain. In fact, you can also solo the left, right, mid, and side channels in turn in mono (routed to both left and right outputs)—a great aid for centering a mix’s imaging and hunting down phase and distortion problems. A defeatable Auto Solo feature automatically solos any channel when you mouse-grab any of its controls (until you let go).

Yes, Master Additional Master-section controls for XL (level and bypass), gain boost, and threshold, provide simultaneous control over their counterparts in Mid Lo, Mid Hi, and Side channels, preserving any inter-channel control offsets. Linkable mid- and side-channel output-level controls follow in the signal path. The signal then runs through a defeatable stereo brickwall limiter (which sports gain-reduction meters), followed by a master output-level control. Innovative L/R output meters show

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peak and RMS levels (after all processing) simultaneously with your mix's overall dynamic range. Other meters show correlation (L/R phase coherence), L/R balance, and the ratio of mid-to-side and Mid Lo-to-Mid Hi content compared to that in your original mix.

bx_XL provides 32 steps of undo and redo. Four workspaces allow comparing and switching among different setups (great for mixes that require, for example, different treatments in verse, chorus, bridge, and coda). The states of all four workspaces are stored in custom presets saved using your DAW.

I've Got a Crush A single instance of bx_XL consumed about 15 to 20 percent of my 8-core Mac Pro's CPU resources with DP's buffer set to 1024 samples.

I first used bx_XL on an overly dynamic instrumental mix that lacked low end (web clips 1 and 2). It was easy to add more bottom by cranking the Mid Lo channel's Gain Boost,



More Online

Hear the author's audio clips of the bx_XL.

emusician.com/june2011

and lower the channel's threshold to control the largest peaks. XL-harmonics processing applied to the Side channel added wonderfully musical presence to a hard-panned synth pad; adjusting the side channel's output gain restored some width to the mix that had been diminished by my mid channel adjustments, and gave the bass and guitar more room in the center. The peak stop limiter was effective and sounded quite forgiving—it made the mix sound just a hair less open and supple. However bx_XL lacks dithering facilities, an odd omission for a “finishing” limiter.

The meter sections show up to four different levels (input, output, gain reduction, and sidechain) simultaneously, and I quickly became hooked on the wealth of information. When I stopped DP, all meters held their last levels until they received new input signals, and the L/R output meters held full-scale “overs” until I stopped and restarted DP's transport (oddly, they indicated clipping around 1.3 dB below DP's full-scale readings). To my amazement and joy, the correlation and balance meters showed the original mix's associated attributes when the plug-in was bypassed (whether using the plug-in's or DP's bypass button), greatly facilitating comparisons to the unmastered mix.

bx_XL v1.1.1 was a little buggy. Gain-boost tweaks didn't always revert and restore when using Undo and Redo, and using any of the solo buttons (except the sidechain's) almost always caused DP to freeze. My fail-safe workaround was to activate the Auto Solo function and mouse-grab any control for the channel I wanted to solo; setting the Crossover Frequency slider to 20Hz allowed monitoring the mid channel's full audio spectrum.

Although the GUI's layout is positively faultless, most of the solo functions are buggy and the documentation is confusing enough that the learning curve is unnecessarily steep. I'm sure the bugs will be fixed, though, and this is a tremendously powerful plug-in as is. I use Brainworx's other plug-ins on virtually all of my mastering sessions; bx_XL is next on my must-have list. ■

Breaking news: As we go to press, Brainworx has released version 1.1.2, which fixes several bugs and is a free update to registered users.

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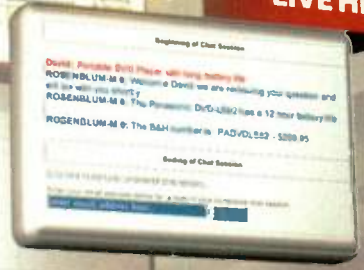
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SUMMARY

STRENGTHS: Great sounds. Powerful software component. Flexible layout. Exceptionally broad feature set. Touch-sensitive rotary encoders.

LIMITATIONS: Relatively high learning curve. No Automap buttons. Vocoder has only 12 bands. Menu-driven.

\$849.99 MSRP
novationmusic.com

Novation UltraNova

Synthesizer, vocoder,
controller, interface

BY ASHER FULERO

ULTRANOVA BRINGS the power and “largeness” that made the original, late-’90s Nova line a hit, but adds USB, software editors,

Automap, and some creative options that extend playability to new heights—even while lowering the price point. This 37-note, aftertouch-enabled synth/vocoder/controller and Audio/MIDI Interface packs a lot of punch, and while it may look a bit daunting at first, its streamlined interface makes for intuitive operation.

The hottest feature is undoubtedly the set of eight conductive rubber knobs that line the unit’s top. In Tweak mode, the endless-but-detented rotary encoders control eight patch-specific parameters most likely to be used



simultaneously in various routing layouts (series, parallel, etc.).

The mod section is rich—inputs include six ADSR envelope generators, three LFOs, channel aftertouch, velocity, key tracking, mod wheel, and 1/4" expression pedal input. These 14 inputs can load into 20 modulation slots, with 66 available destinations including the modulators themselves. There are also five available effects slots, with six effects (Distortion, Chorus/Phase, Delay, Reverb, Compressor, "Gator," and EQ), each deeply editable and some BPM-syncable, with several FX chain setups.

A classic-style Arpeggiator incorporates 33 patterns and a novel Chord function that listens while you play in a chord, then applies the same chord quality to your single-finger notes. There's also a classic Vocoder, which takes input from the two rear 1/4" inputs or the front panel XLR in. The included gooseneck mic is perfect for singing, but also great for scratching, strumming, tapping, or pointing at other sound sources onstage like drums or guitar amps. The vocoder has only 12 bands, but they occupy the speech region of the audio spectrum to emphasize vocal effects. It's still a lot of fun, and easy to use.

for that particular tone (or chosen by you). In Touch mode, they become finger-activated triggers that turn parameters on/off simply by touching the knob (or multiple knobs). Combined with the larger, higher-resolution Touched/Filter knob, they offer complex interactivity with the synth engine for on-the-fly tricks that would be near-impossible on traditional synthesizers. When playing in Tweak mode, the big knob controls the same parameter as the last mini knob you "touched," then retains that value after switching back into Touch mode for primo performance potential. Pressing the Touched/Filter knob's associated Lock button locks in the current setting no matter what it is, while the neighboring Filter button locks the Touched/Filter knob to the Filter 1 Frequency, the most commonly used parameter on any synth patch.

The Heart of the Beast The 18-voice, virtual analog synth engine recalls the Supernova II Rack, but doesn't offer multi-timbrality. Each voice has three oscillators with independent density, virtual sync, and detuning functions for extreme thickening and fattening, as well as global oscillator drift control for randomizing. Each oscillator has 70 sound source options: 14 analog and 20 digital waves, along with 36 wavetables. These are mixed with the Noise Generator and sent to the Filter section, which offers 14 filter types; you can use two

Patch Programming Although an avid synth programmer's delight (there are 200 blank patches so you can create your own without erasing the factory patches), UltraNova is also really easy to just play. You can surf the 300 well-programmed, modern-sounding factory patches with a great Patch Browsing system that categorizes by type (Arp, Bell, Bass, Drum, Vocoder, etc.), genre (House, R&B/HHop, Techno, Dubstep, and the like), or alphanumerically for quicker navigation. The included Librarian app allows saving, renaming, and loading patches and banks, even from within the separate Plug-in Software Editor. A Compare button can A/B your current sound against the last saved version, or return quickly to the original patch.

Front-panel programming takes some effort, but the workflow is relatively elegant considering the breadth of what it does, and the programming approach is logical.

Everyone Needs an Editor The sleek Plug-In Software Editor is a more convenient way to program. Used as a VST/AU plugin, the software editor opens on a MIDI Channel in your DAW and connects with the UltraNova via USB. Once you've also opened an audio channel to hear the synth, you can simultaneously tweak hardware and

software settings while hearing them live, and connect directly with the Patch Librarian without leaving the DAW. Furthermore, the editor offers visual information not available on the physical unit (oscillator waveforms, a handy visual Mixer, and an awesome Mod Matrix). However, anything you can do in the editor, you can do in the hardware; the biggest advantage to the editor is presenting a visual overview of the patch, and seeing more than one element of the synth at a time.

The USB connection also provides an audio interface. Audio flows from the synth into your DAW (including the UltraNova's mic input, making it an easy solution for audio tracking/overdubbing) and from your DAW to the synth (for routing through the filters/envelopes/effects or for playing along to backing tracks). In fact, with four assignable outs, you can send your DAW mix and synth mix separately, or route the dynamic microphone input through Effects and outs 1&2 while the Synth and DAW feed outs 3&4. There's also a Master Volume control, a balance control for the "From Host" and "Synth/Inputs" signals.

Automapping Novation's Automap software, also accessed via USB, turns the synth into a USB MIDI Controller where the eight rotary encoders automatically reassign themselves to appropriate DAW parameters as you surf from device to device. The dedicated Automap buttons below the encoders change the encoder's functions, including the ability to "learn" new mappings, view the live Mappings window, choose the user bank, or manually switch among controlling effects, virtual instruments, or the mixer. Most Automap devices also have assignable buttons, but unfortunately the UltraNova has none.

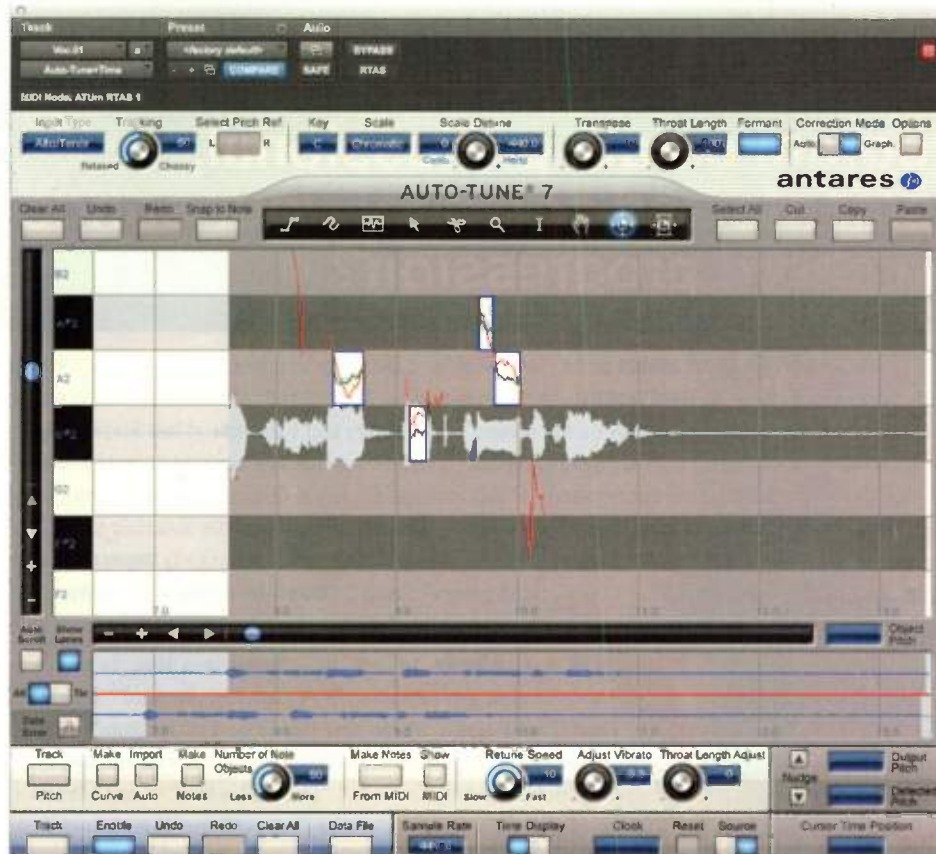
For an under-\$800 synth, the UltraNova provides a staggering range of features that nonetheless remain logical and well-organized, and has huge synth tones that sound great right out of the box. It might not sound exactly like a real analog synth, but if there's an advantage to be had by using digital technology, the UltraNova has it.

Whether you want to expand your tones, need a centerpiece for your computer production rig, or seek a flexible combination controller/interface/tone module, the UltraNova will please, both aesthetically and logistically. ■

A small graphic with a grid of dots on the left and text on the right. The text reads: "More Online Get more product information here. emusician.com/june2011".

LUST

review



The new split display at the bottom of the Graphical window clearly displays time-correction edits.

of all tracked audio, or a direct mirror of the editing window's time selection. The bottom display splits into two waveforms during Time Correction, displaying the original timing on the bottom and the corrected timing on the top. This is extremely handy for quickly seeing edits.

There are two tools for making those timing changes. The Move Point tool selects a length of time wherein you do your editing; you can then drag a single time event earlier or later, while sympathetically compressing and expanding the surrounding audio within the selection. The Move Region works similarly, except that you make a second region selection within the initial time range. Whatever audio falls within that region stays intact relative to itself against the rest of the selection when dragged into place. I found both of these tools incredibly easy to operate, and could make very transparent timing alterations. I also sometimes enjoyed abusing these controls to extend short notes into artificially long ones, yielding interesting "unnatural" artifacts.

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Leonardo da Vinci

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When using Time Correction, note that after loading the audio into the correction engine, your DAW's visual waveform may no longer represent the actual playback's timing, which can be a little confusing. Also, actions performed on your DAW's audio—such as editing, muting regions, or destructive DSP processing—have no effect on playback unless you deselect the Time Control Enable button. Of course, any plug-ins following Auto-Tune are still in play, so Auto-Tune must be the first insert in a chain when using other plug-in processing on time-corrected audio sections.

Another Time Correction pitfall is that it's impossible to return only a portion of the corrected audio back to its original state. An Undo button specific to the Time Control engine can step backward in time up to 20 levels, and a Clear All button can erase all correction for an entire instantiation, but you can't easily return to a single section of the audio's original timing unless it was the last edit you made. A workaround is to bounce the audio

to a new file, and swap the section out with the unaffected track, but that's a little cumbersome.

Other enhancements to the Graphical interface include improvements to the vibrato controls, an auto-scrolling option for the graphical audio data, individual Throat Length settings for each correction object, a bars and beats timeline view, and the ability to make pitch correction follow a MIDI performance (either live or from a sequenced part). Vertical zooming in the edit window has also been expanded down to one-cent-per-pixel, although I do feel the horizontal zoom could still get a little closer in to the action.

Converting the Dubious I've had great luck using Auto-Tune 7 on multiple pitch-correcting applications (See my web clips at emusician.com), but one standout was when a distinctly non-Auto-Tune-style band forgot to tune their bass guitar during one song. When the vocalist did his overdubs, he sang only with the bass—but as the G-string was rather sharp, so were the vocals. I put Auto-Tune

on the bass in Automatic Mode, and spent about 30 minutes working on the lead vocal in Graphical Mode, fixing it to everyone's satisfaction. The band realized that Auto-Tune can work transparently, and overcame their previously held Auto-Tune-phobia (web clips 3 and 4).

Auto-Tune 7—particularly the Graphical Mode—seems slightly less intuitive than other pitch-correction software. But once you've scaled the learning curve, it's incredibly powerful and flexible—subtle when you want it to be, extreme when you don't, and highly effective. Auto-Tune fans will be greatly impressed by the various improvements, while newbies will be blown away by the range of applications at which Auto-Tune excels. ■



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Listen to examples of Auto-Tune in action.
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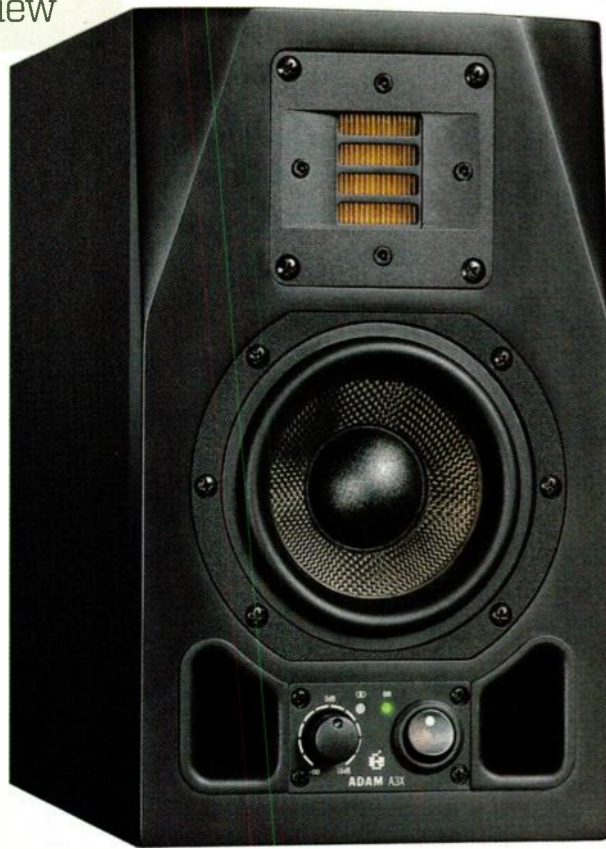
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ADAM A3X

This monitor sounds bigger than it looks

SUMMARY

STRENGTHS: ADAM's A3X monitors feature solid design, reasonable pricing, and a sound bigger than their size.

LIMITATIONS: Lower midrange a bit boosted.

\$799 MSRP/PAIR
adam-audio.com

BY MIKE LEVINE

ADAM HAS a reputation for making quality monitors for the pro audio market. The A3X is the smallest and most affordable model in the AX monitor line, which all use the company's X-ART ribbon tweeters. Designed for near-field use, the A3Xs also feature 4.5-inch woofers, and dual front ports on their 10" x 6" x 7.5" enclosures. According to the manual, these monitors can be oriented either vertically or horizontally. (I oriented them vertically.)

Details ADAM did all the little things right on the A3X. The power switch and volume control are on the cabinet's front—no need to reach around. What's more, the volume control has a detent at 12 o'clock (0dB), making it easy to balance the pair. A tweeter-level control on the back can boost or cut the highs by up to 4dB, should your studio acoustics require it.

The A3Xs connect to your system with either XLR or RCA cables. Using RCAs lets

you access the Stereolink function, which makes one monitor's volume control the master for the pair by connecting both left and right outputs from your audio source to one monitor, and then linking to the second monitor with another RCA cable. Once the speakers are linked, a status LED lights up on the master.

Give A Listen I tried the A3Xs in two locations in my studio: on the raised shelf of my studio desk, and on speaker stands to the left of my listening position. In both places, they were sitting on monitor isolation pads, and aimed at about ear level. I auditioned them on an assortment of musical styles, at varying volumes, and later used them in a variety of mixing situations. I found the A3Xs' sound to be warm and detailed, but not at all fatiguing.

Due to the efficiency of their dual-ported cabinet design, the A3Xs put out a surprising amount of low end for their size. This response is backed up by their specs, which demonstrate that they reproduce down to 60Hz. While they won't substitute for speakers with 8-inch drivers or an added sub (ADAM offers a compatible sub) for judging low end, they could be a quality alternate pair to switch to during mixes, or the primary speakers in a setup where space constraints make larger monitors impractical.

My only quibble with their sound was that there was perhaps a little too much boost in the lower mids. But overall, these monitors offer high quality, a small footprint, and a thoughtfully-designed feature set. The chance to acquire ADAM quality at less than \$300 apiece, street price, should be a major temptation for any home studio owner. ■



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Auralex
SonoLite Panels
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TARGET MARKET Budget-oriented home studios and small studios that require acoustical treatment

ANALYSIS Acoustic treatment is an important, but often overlooked, studio component. The pricing of some options puts them out of reach of small studios, so Auralex has come up with a less-expensive alternative to address that market.

auralex.com

2
Image Line Software
FL Studio 10
Audio production suite
\$49-\$399 depending on version

HIGHLIGHTS Includes 30 software instruments and over 40 effects • records up to 99 tracks • supports 64-bit plugins • many piano roll improvements, including Save As sheet music • plug-in delay compensation • lifetime free updates • available in four versions • can load as a VSTi in VST hosts

TARGET MARKET Those who want a DAW that can record, edit, arrange, mix, and master, but places a premium on workflow

ANALYSIS FL Studio, now in its 12th year of development, has progressed far beyond its original groove/loop-based roots. Image Line is one of the few companies to support operation of a Windows program under Apple's Boot Camp; version 10 is a clear attempt to broaden FL Studio's appeal.

image-line.com

3
Waves
OneKnob Plugs-Ins
Line of simple, inexpensive apps
\$80 each, \$400 for all seven

HIGHLIGHTS The OneKnob Series includes Brighter, Phatter, Filter, Pressure, Louder, Driver, and Wetter functions • based on Waves processors • extremely simple operation • easy to use with hands-on controllers • suitable for live performance and DJs as well as standard recording studios

TARGET MARKET Plug-in users who seek Waves' level of quality, but with simpler operation and lower cost

ANALYSIS Waves has a reputation of making fantastic-sounding plug-ins—if you can afford them. The OneKnob series brings Waves' plug-in expertise not only to those on tight budgets, but also to onstage and DJ applications. As the single knob is essentially a macro, it controls an interplay of parameters in producing a particular effect.

waves.com

4
TC Electronic
RH750
Bass amp head
\$999 (estimated)

HIGHLIGHTS 750W RMS, 1200 peak • SpectraComp per-string bass compressor • TubeTone preamp and power amp tube emulation • 4-band tone control section • three presets • built-in chromatic tuner • transformer-balanced line driver for driving PAs, mixers, DAW interfaces, etc.

TARGET MARKET Bass players who want more flexibility, tighter integration with the studio via the DI output, and presets for storing favorite sounds

ANALYSIS Bass players are becoming more sophisticated about using amp heads that do more than just deliver raw power into a big speaker cabinet. TC has been actively pursuing that type of player, starting with the RH450; the RH750 takes the RH450 up a notch.

tcelectronic.com



5
ADAM A77X
Reference monitor
\$1,400 each, \$2,800 pair
HIGHLIGHTS X-ART tweeter for accurate, transparent highs • horizontal mounting • high-frequency response up to 50kHz • two 7" woofers; one handles sub-bass frequencies to approximately 400Hz, while the other reproduces most of the midrange • 5-year warranty
TARGET MARKET Mid- and high-end studios, nearfield and midfield monitoring
ANALYSIS ADAM built its reputation on the X-ART tweeter, but has since created an entire line of well-received speakers, from ultra-compact "prosumer" models to high-performance reference monitors. The A77X resembles the A7X but is ideal for those who prefer horizontal mounting, extended bass, and higher volume levels.
adam-audio.com

6
Alpine MusicSafe Classic
Pro hearing protection
\$19.99
HIGHLIGHTS Designed specifically for musicians and pro audio engineers • multi-frequency earplug • contains two different and interchangeable sets of music filters • medium and high attenuation rates up to 27dB, depending on the frequency • adapts to the unique shape of the wearer's auditory duct
TARGET MARKET Musicians and sound engineers who want to protect their hearing
ANALYSIS It's not hard to reduce the levels coming in to your ears, but it's difficult to do so without affecting the clarity and fidelity of what you're hearing. The dual-filter design preserves fidelity, but as people won't wear earplugs if they're uncomfortable, the design is also intended for comfort over extended listening sessions.
americanmusicandsound.com

7
Genelec 1238CFM
Tri-amplified DSP monitoring system
\$7,800
HIGHLIGHTS Two eight-inch long-throw bass drivers (bass response down to 57Hz) • five-inch proprietary Genelec midrange driver • one-inch metal dome tweeter • multiple power amplifiers (390 watts total) • digital signal processing (DSP) circuitry • active, low-level crossovers
TARGET MARKET Smaller recording studios and post-production suites who want the mid- and high-frequency characteristics of Genelec speakers, but in a more compact package
ANALYSIS Today's audio production rooms are often small, and most multichannel environments use a subwoofer combined with bass management to handle most of the LF content. The 1238CFM was engineered for this type of scenario, and designed for compatible operation with subwoofers.
genelecusa.com

8
n-Track Software n-Track Studio
DAW software for iPhone, iPad, & iPod Touch
\$3.99 from iTunes App Store
HIGHLIGHTS The first DAW software available for Windows, Mac, and iOS platforms • quickly record multitrack song ideas • supports at least four tracks on iPhone 3G, at least 10 on the iPad and iPhone 4 • overdub, edit, and then export recordings in mixed-down WAV or multitrack (.sng) format • EQ, Spectrum Analyzer and Tuner window
TARGET MARKET Mobile musicians, particularly those who want to bring song ideas into a standard studio environment
ANALYSIS As more musicians carry iOS devices, it becomes more practical than ever to "grab" song ideas. What's unique about n-Track is you can then transfer whatever you record easily to Mac or Windows computers, which can also run n-Track software.
<http://ntrack.com>





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The Evolution of Urban Production

A Return to Emphasis on Melody, Songwriting, and Song Structure

BY JASON SCOTT ALEXANDER

A LOT of people think of an “urban” music producer as someone who just makes “backing beats” in an almost assembly-line fashion, and sells them like commodities. That mindset grew from a wave of ridiculously lucrative deals at the turn of the millennium, when labels literally threw money at top beat makers like Timbaland, Scott Storch, and Swizz Beatz, essentially securing pre-concocted flavor-of-the-month hit sounds for their artists. While this is still happening to a large degree, the tide seems to be changing.

Even if just slightly so, we’re now seeing a return to the emphasis on melody, songwriting, and song structure that harkens back to the early days of soul, R&B, and jazz recordings. Some observers say that the passing of Michael Jackson



Clockwise from top left:
Ken Lewis, Dirty Swift, Tony
Maserati, J.R. Rotem, and
Ryan West



Dirty Swift

influenced many labels and acts to become re-enamored with a “contemporary roots” style of pop-R&B sound, where real instruments, live playing, strong hooks, and deeply collaborative artist-producer relationships each played pivotal roles in generating a classic sound.

Though certainly familiar with the assembly line, Dirty Swift (aka Kevin Risto)—one half of writing and production duo The MIDI Mafia, along with Bruce Wayne—says he’s taken a decidedly old-school approach from day one, working more along the “concept” process pioneered by the likes of LA Reid, Teddy Riley, Babyface, or Jimmy Jam and Terry Lewis.

“We’ve always approached producing in the traditional sense. Someone who makes beats is a track guy. Someone who can visualize a complete song and has the resources and know-how to bring the song to completion is a producer,” says Swift. “Our favorite projects are the ones where we can be involved from song concept straight through to the delivery of the masters. There’s nothing worse than handing off a

song too early in the process and hearing the final outcome ruined by a bad mix, or some other addition or omission that isn’t consistent with the original concept we came up with.”

Rather than follow trends, the duo takes pride in creating “pretty timeless productions,” including records like the three-time-Platinum “21 Questions” (Aftermath, 2003) by 50 Cent, and the Grammy-nominated Number One hit “When I See U” (J, 2007) by Fantasia Barrino, one of only 14 songs in history to spend an entire year on the Billboard Hot R&B/Hip-Hop Songs chart.

In many ways, Swift feels the Top 40 is a reflection of what’s really going on in the vast music world that *isn’t* Top 40. “There are amazing things being created by all kinds of genres that eventually make their way into mainstream,” he says. “Whether or not those integrations are successful or have longevity really depends on the songs themselves. If someone writes a forgettable song on the most amazing arrangement, it will not have longevity. But an amazing song paired with some creative production will always produce something that should stand the test of time.”

That is, in fact, much of MIDI Mafia’s secret: to style-hop within a single production.

“On ‘Quickly’ (*Evolver*, GOOD Music, 2008) for John Legend, for example, we took some big hip-hop drums and had some real pop arrangements on top with a brilliant R&B song,” Swift explains. “These days we’ve been traveling a lot and have been exposed to some of the more dance and world elements, so those things are finding their ways into our productions.”

And although that’s been a trend recently, being a DJ since he was a kid, Swift has always listened to all kinds of music and feels that, “these days anything goes, which is a lot of fun as a musician!”

“Part of our longevity has come from the fact that we have never locked into one ‘sound’ and have always collaborated with amazing musicians and songwriters that continue to add to our repertoire of production,” he says. “I think we started being known as hip-hop guys, but I like the fact that we’ve been able to cross so many boundaries. I think we’re

some of the only producers that can claim a Westside Connection album and a Justin Bieber album on their discography.”

PLAYING OFF STRENGTHS Hollywood-based super-producer J.R. Rotem also knows a thing or two about diversity. Berklee-educated in piano performance, his background includes classical and jazz piano, as well as film scoring. On the contemporary front, he found artists like The Beatles, Sting, and ABBA to be very inspiring early on, but also heard Run DMC’s “Raising Hell” album at a very young age and became absolutely mesmerized by hip-hop. That forever changed his course.

Known today almost exclusively for his impressive body of work in the rap and urban-pop music field, Rotem credits his hidden strengths for allowing him to find the kind of uniqueness required to stand out in a crowded producer marketplace.

“I would say that my musical background, as far as classical and jazz, is certainly what defines my productions. It’s like I can’t escape it, it’s just part of who I am. It gives me individuality. It definitely influences my sound . . .

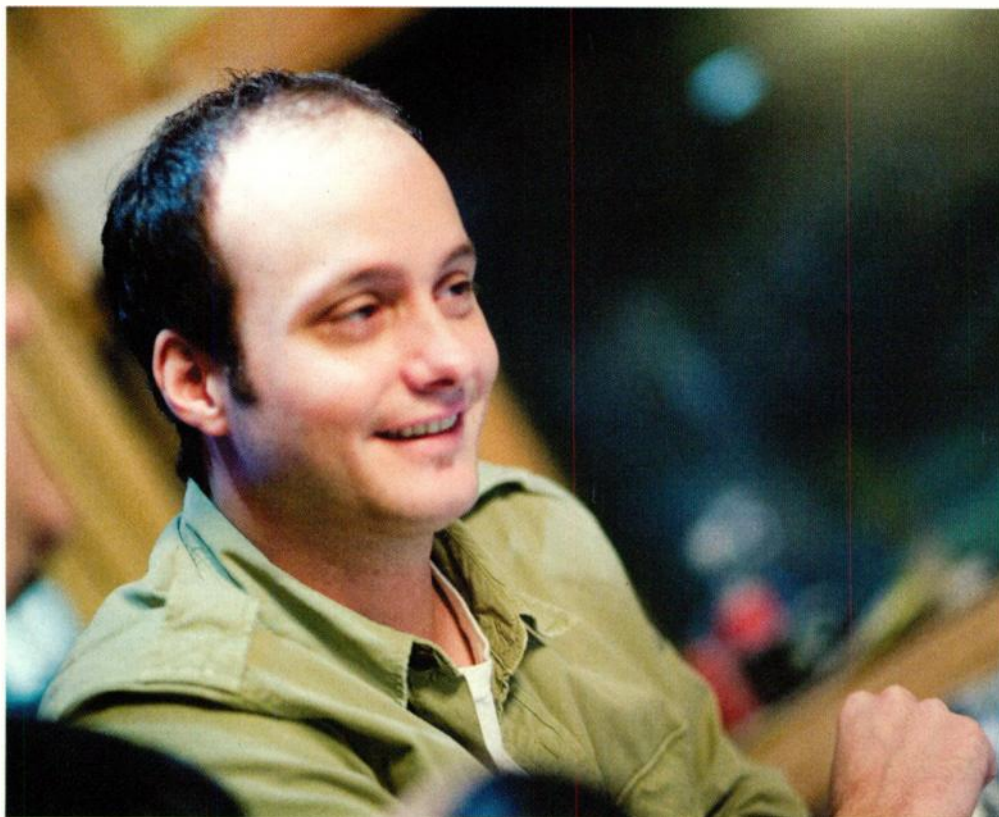


J.R. Rotem

it is my sound,” says Rotem, emphasizing that too many young producers are getting into the game by copying someone else’s sound.

And while he started out simply as a beatmaker—his very first placement was with Destiny’s Child on a song called “Fancy” from the *Survivor* album—like Swift, Rotem has

**“We’ve always approached producing in the traditional sense. Someone who makes beats is a track guy. Someone who can bring the song to completion is a producer.”
—Dirty Swift**



Ryan West

long since subscribed to an all-encompassing production style.

“To me, being a producer is a very hands-on approach from start to finish. There’s getting the right songwriters, getting the right concept on the beat, making sure the hook is catchy, that it’s as marketable and commercial and as potent as possible, and then it’s getting the right artist to record the song, if it’s not written specifically for someone. Then there’s producing and arranging the vocals and making sure that the artist is singing at the best of their abilities. Then there’s the finishing of the production, kind of tailoring the track which was almost a blueprint of the song around now the finished song, which involves adding production, taking things out, changing instrumentation, adding things like strings, and stuff like that. It’s *all* been very unheard of in producing hip-hop and urban music, until recently,” says Rotem.

At the end of the day, he stills considers himself a pianist and a composer at heart. And while there are a lot of producers who actually delegate that out—they have somebody else play the keys or give them the beats and then they finish the record—it’s all fun for Rotem, starting a song and seeing it through to the end and doing everything that production involves.

“I think of the producers that I look up to—I’m talking about people like Quincy Jones, George Martin, David Foster . . . and of course Ron Fair, who I’ve worked with very closely lately—that’s the type of producer that I see myself in the vein of,” he says.

TOO MANY TOYS As every electronic musician is painfully aware, along with this kind of independent freedom comes the potentially dangerous tipping point of overproduction.

“When a producer has 10 or 15 virtual synths, a few keyboards, and a drum machine

“With the high track counts we’re seeing now as opposed to 10 years ago, part of the focus is to keep mixes sounding clean and clear so that each part is distinct and blends correctly.”
—Ryan West

The Secret of the Boom

Tech Tips for Treating Low End

One of the hardest aspects of mixing hip-hop and electro-heavy R&B is treating the many low-end elements that often coexist. Our experts agree that it starts by defining physical space in your head where different frequencies can “live”.

“I try to stack frequencies into slots, so to speak,” says Ken Lewis. “Boosting 80Hz in the kick and boosting around 50Hz and 150Hz in the bass while taking out a sliver at 80Hz, so the two fit together like a puzzle. It’s usually not big changes, but it helps carve out space. Sometimes you can clean up messy low end with mutes, cutting the 808 when there’s a sub bass line going on, and vice versa. Everything starts with solid production, though. I’ve had big producers ask me why the kick drum isn’t hitting hard yet in the mix, and I’ll solo the kick drum they gave me and its zero attack and all low sustain.”

Maserati uses a combination of EQ and compression to place a song squarely in the genre. “I’ll squash the upper mids and lightly compress the lower frequencies. I also like to find the lower mids that create a ‘cloud’ around the vocal range—usually between 180–330Hz—and I’ll cut sharply in those ranges, depending on the instrumentation. I spend a lot of time working and re-working those areas until the vocal fits.”

Sometimes throughout a song, elements may drop out. “This potentially opens up more space that can either be filled or left open for dramatic effect,” says Ryan West. “Every song is going to be a different beast, and you have to evaluate what the dominant and supporting elements are. Sometimes in hip-hop, it’s the kick, and the other tracks need to work around that. In that case, I might filter out some of the lowest frequencies of the kick so that it’s not tubby and can sit comfortably on top of the 808 and/or bass and keep the flow of the beat moving. With a lower-frequency kick drum, I may try to filter a bit or the lowest frequencies on the bass so it can live above the kick drum—maybe everything under 35 or 40Hz with a steep curve. I may also sidechain-compress so that the attack of the kick drum compresses the bass in a way that lets the kick poke through a bit more. I try not to do too much “scooping” of broad bandwidths because I find that it can easily start to make the tracks sound less natural.”

in a portable 64-track setup, there are no longer the elements of urgency or expediency that are present when you're in an expensive studio with talented musicians and you've got to get it right the first time," says New York City-based engineer Ryan West, who's worked with Dr. Dre, Jay Z, Kanye West, Ghostface Killah, and The Game, as well as being production assistant to Just Blaze for years.

"What ends up happening in some cases is that, as the mixer, I need to take on some elements of what should be the producer's job. I need to sort out what works and doesn't. Sometimes it's as simple as muting a part or two; sometimes I have to talk with the producer about reworking the arrangement," he says. "Sometimes parts need to be replayed. Especially with younger producers, it can fall to the mixer, or others, to make those decisions for the good of the song. With the high track counts we're seeing now as opposed



Ken Lewis

to 10 years ago, part of the focus is to keep mixes sounding clean and clear so that each part is distinct and blends correctly. I also have to develop a cohesive quality in the mix, even with tons and tons of instruments flying around. That can be really challenging."

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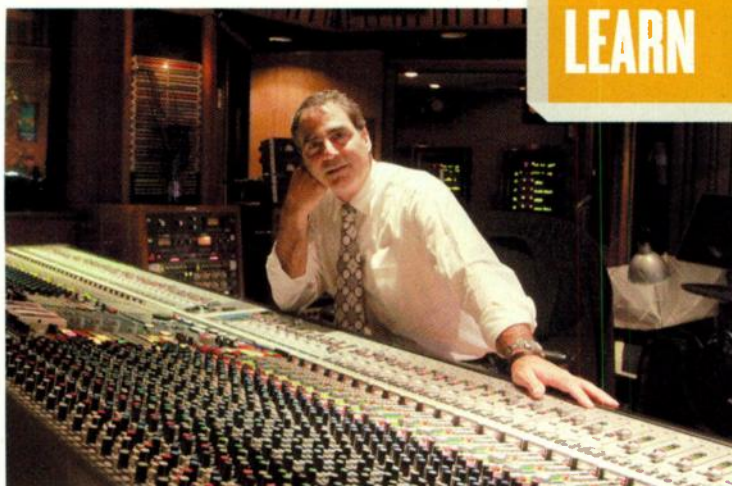
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Tony Maserati

“Gimmicks have been built into popular music, popular art, architecture, and all forms of creative expression since the beginning of time.”

—Tony Maserati

Across the river in New Jersey, Ken Lewis cites a lost art of the tracking engineer, and in particular, the art of vocal recording. “Ten years ago, you had 48 tracks. Everything had to end up on those tracks, so you would comp and blend backing vocals before a mix,” he says. “Nowadays, you might have 100-plus backing vocals, literally. When I mixed “Damaged” for Danity Kane, it was 179 tracks! There were two songs I mixed for Day 26 that topped 200 tracks. Usually the first 12 hours of any of those mixes was spent comping, blending, and organizing background vocals, which 10 years ago, would have been done before the mix.”

And, love or hate the effect, Antares’ Auto-Tune is more prevalent on the Top 40 than ever before—despite the often negative connotations that music critics and entertainment media give it.

“Gimmicks have been built into popular music, popular art, architecture, and all forms of creative expression since the beginning of time,” explains veteran mixer Tony Maserati. “Michael and Quincy may not have used Auto-Tune or quantization, but you can bet they used whatever the cutting-edge technology of the day was. It could have been a particular technique of varying the bias on their tape machine for one set of backgrounds and setting it differently for another group. Or the introduction of the newest synthesizer. Perhaps it was the idea of doubling the sax with a synth for the first time. Were there some at the time who considered it ‘gimmicky’? I’m sure of it. I look forward to the new ideas my clients show up with. If it sucks, trust me, I’ll be the first to tell ‘em so. But if it helps place a song emotionally in the right place, at the right cultural moment; no amount of nostalgia for the past is going to convince me to remove it.” ■

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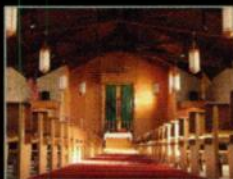
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Fig. 1 A Shure SM57 cardioid mic is threaded between the hi-hat and high rack tom to record the snare drum. The hi-hat's sound is partially rejected by the 57's null point.

Small Room, Big Drum Tracks— No Problem! Part 2

BY MICHAEL COOPER

THIS MONTH, we continue our three-part series on recording monster drums in an itty-bitty space. Last month, I gave pointers on setting up the kit and discussed general miking approaches and their potential pitfalls. I'll drill deeper this month, giving tips on how to best mike up the traps to mine rock-solid tracks.

Use Directional Mics Up Close When multi-miking trap drums, you can greatly diminish both phase and imaging problems by using directional mics (versus omnidirectional ones) to reduce mic bleed; I'll explain why shortly. Mic bleed is the sound of one instrument, such as the floor tom, captured unintentionally by a mic placed on another part of the kit, such as the snare drum.

You'll never completely eliminate mic bleed in a multi-miked kit, and you wouldn't want to. A little bit of bleed is critical to getting a live sound. Eliminate all the bleed, and the drums will sound like they're stuffed inside a shoebox. Still, you want to optimize the amount of direct sound captured by each mic placed on a trap drum by moving the mic as close as possible to the drum. Specifically, place the mic capsule just above the rim of the drum on the side farthest away from the drummer—where it's least likely to get hit by a wayward drum stick. For drum tracks that belch firecracker highs, point the mic where the drummer most often hits the drum. Let

signs of wear in the batter head be your guide.

Condenser mics generally sound superior on toms, producing crystal-clear detail. But if the drummer poses Neanderthal imprecision, substitute hardier dynamic mics that can withstand being occasionally bludgeoned.

Angle the Mic The angle of the mic is just as important as its proximity to the drum. Every directional mic has one or two null points, or angles of incidence at which sound is largely rejected. Angle each mic so that its null point faces—as much as is feasible—the closest part of the kit that you don't want it to pick up. That will drastically reduce the bleed of that instrument into the mic.

For example, a cardioid mic always has a single null point located 180 degrees off-axis to the front of its capsule—in other words, at the rear of its diaphragm and the mic body. When miking a rack tom with a cardioid mic, angle the rear of the mic toward the closest crash or ride cymbal to reject its sound. Make sure the capsule of the mic remains pointed at the place where the drummer strikes the rack tom's batter head.

Placed on a snare drum, a cardioid mic's rear end should be angled toward the hi-hat, if possible, to reject its sound. In order to keep the mic capsule pointed at the money spot for the snare, you may only be able to angle the mic body enough that the hi-hat is 100

degrees or so off-axis (see Figure 1). But even rotated just partway, the mic will reject hi-hat bleed somewhat.

If the drummer has precise (safe) technique, I'll use a bi-directional, large-diaphragm condenser mic on the floor tom (see Figure 2). Bi-directional (aka figure-8) mics sport null points at 90 and 270 degrees off-axis (in other words, perpendicular to the mic capsule). With the mic placed above the rim at the farthest point away from the drummer and its capsule aimed down at the floor tom's batter head, the null of the mic will point more or less at the ride cymbal. This will prevent much of the ride's sound from bleeding into the floor tom's mic.

Flip Out The snare drum may need an additional mic aimed at its bottom to directly capture the sound of the snares. Likewise, if a tom mic isn't capturing enough bass, place an additional mic on the tom's bottom. Be sure to flip the polarity of any bottom mic on a snare or tom so that it is in phase with its companion topside mic. If you don't, the bass-frequency response will go out the window. To minimize



Fig. 2 In this overhead view, a Neumann U87a multi-pattern condenser, set to bi-directional mode, is placed on a floor tom. One of the mic's null points faces the ride cymbal in order to reject its sound.

potential phase cancellations, only use bottom mics if they are necessary.

Do an Inside Job A cardioid dynamic mic with hyped bass and highs, such as

the AKG D112, works well on kick drum. Unless you're recording jazz, you'll probably want to place the kick drum mic inside the shell. If the drum's front head (the one not being struck) doesn't have a hole in it to accommodate this tack, lobby the drummer to remove the head. If the drum rings too much, put a small blanket inside it to damp it.

The kick drum's shell provides an acoustic shadow for an inside mic that will reduce bleed into it from other parts of the kit. Aim the mic capsule directly at the beater for more snap. Alternatively, angle the mic away from the beater to capture more shell tone.

Next Month: Cymbals and Room Mics

If you've been diligent about close-miking and using null points to reduce bleed, the traps should be sounding great in your small room. Next month, in the third and final installment of this series, I'll show you how to mike up the hi-hat, crash, and ride cymbals. And I'll reveal the best way to set up a room mic or two for an explosive sound. ■



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Recording Heavy Guitar Sounds

BY KENT CARMICAL

DESPITE THE latest in digital modeling technology, it's hellishly difficult—and some would say, impossible—to create a preset that captures the essence of a tube amp ripped to the max like a top fuel dragster coming off the line. So if you want the sound of a big tube amp dimed and pushing enough air to part your hair at 100 yards, you can't go wrong with . . . well, a big tube amp, and the following tips on old-school miking techniques for the Real Deal.

Garbage In, Garbage Out Sometimes we can get so focused on having the latest technical-poop, simple things like keeping guitars and amps in good working order can escape us. If your guitar strings have six months of mung and drool stuck to them, change the grody suckers for a new, shiny set. While you're at it, have that plank set up and properly intonated or risk painful facial contortions from those who have good ears. Ditto for the amp and cab. We're gonna push the thing to redline, and if its tubes are spanked and the bias is off, you'll wind up with limp plastic instead of heavy metal. Check the cab for buzzes and rattles; the main culprits are loose back panels, rattling speaker baffles, and loose or blown speakers.

It WILL Get Loud I know that that Marshall, MESA, Bogner, etc., you mowed lawns for six years to afford has a bitchin' cascading-gain preamp allowing you to get crunch when practicing in your bedroom, and the

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The nice thing about recording heavy guitar is that you don't need a bunch of expensive mics. A Shure SM57 dynamic will work just fine.

temptation to crank the preamp gain to 11 and chunk away is natural. Unfortunately, it's actually counterproductive to our mission of conjuring a heavy guitar sound. Preamp distortion takes on a nasally, fizzed-out sound—especially when cranking the amp to the deadly volumes we are about to create. No, the tone which we seek is not found by torturing preamp tubes, but by cranking the output section of the amp till the tubes are on the verge of meltdown. Keep the amp's preamp gain between 50% and 60% and twist the volume till the speakers really start moving air and your ears squirt blood.

Mic Check The nice thing about recording heavy guitar is that you don't need a bunch of expensive mics. A Shure SM57 dynamic will work just fine—as a matter of fact, it's recommended by four-out-of-five big-time producers. Here are a few mic strategies to try;

- 1) Start by placing the mic close to the grillecloth, straight on, where the dustcap joins the speaker cone.
- 2) Back the mic up an inch and turn the capsule at a 45-degree angle, pointed halfway between the dust cap and the edge of the speaker cone.
- 3) If you want to get tricky and attempt a high-zoot dual-mic technique, here is one that has worked well for me. Use two SM57s, one super close to the grille, the other as close to the first as possible, but backed up about an inch. This provides a less-than-scientific comb-filter-type of configuration, and with some experimentation can add a gnarly punch to the sound. Experiment with the second mic by angling the capsule 45 degrees from the speaker cone. Sometimes this sounds great, sometimes it sounds like ass; but hey, sometimes Evel Knievel stuck the landing and sometimes he crashed and burned.

The Sweetest Spot But wait, you ain't done with the mics yet! The aforementioned mic setups are a mere starting point. Now we must tweak their positions to find the sweet spot where the speaker is pumping out the most delicious mids and optimum fundamental

frequencies so those chunking power chords don't mush out. For this task, you need some poor slob to go out there and move the mic in small increments between the speaker's dust cover and cone, all while the guitarist grinds at inhuman volume. Good manners suggest you provide the mic-mover proper ear protection when performing this critical task. You, on the other hand, are safely monitoring the procedure through headphones, listening for that moment when things sound glorious. Tell the mic-mover to stop right there; that's the proverbial sweet spot. It's a good idea to keep the amp head next to you while performing this crucial operation, so you can make minor tweaks to its EQ. That way, your poor studio chimp doesn't have to spend nine hours on his knees while you try to dial it all in. It's a good idea to record this process, making notes on the mic's movements.

Track It! Now's the time to get that lazy guitar player off his/her duff and get to work. You see, the key to awesome metal guitar sound is multiple precise takes of the same part over and over. We're talking a minimum of four perfectly-executed rhythm tracks of the same part without variation. These perfectly-executed multitracks will sound absolutely huge when panned left, right, and center. Sure, the player is gonna bitch and whine; tell him if he can't play the same thing more than once, he has no place in metal.

EQ Another great feature of Shure's SM57 is its ability to hype the mids in a really pleasing way when slammed with high-decibel rawk—so you may get away with little or no EQ. However, a multiband compressor can work wonders on troublesome frequencies produced by guitar. If the low end is rumbly, cut 80–100Hz by a couple of dB. Another way to avoid rumble is to use a clean boost or Tube Screamer-type of stompbox with a mild boost on the front end of the amp. Cut the 250–500Hz range if you are getting too much “thunk” from speaker movement. Put a narrow notch around 2.5kHz if your ear feels like it is being assaulted by an ice pick, while slashing 10–12kHz will kill the sizzle if it's coming on too strong. ■

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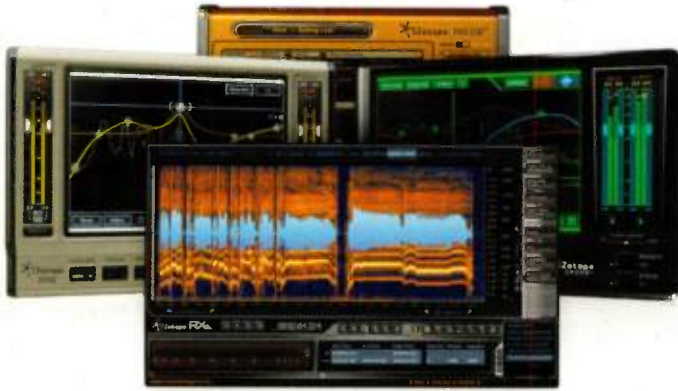
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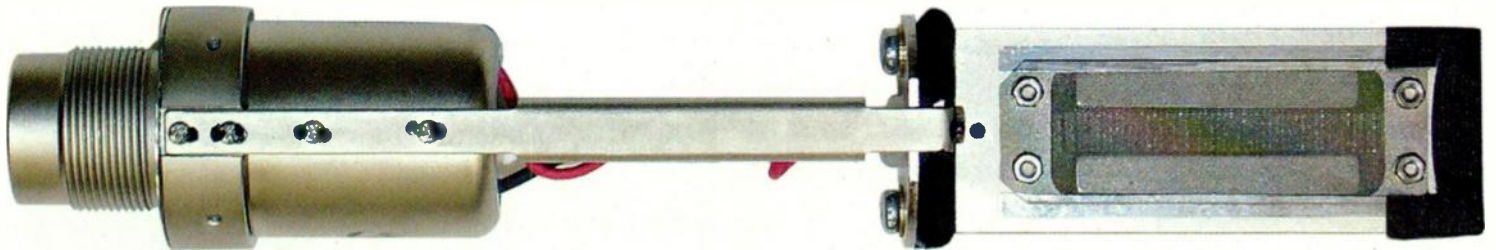
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The inner workings of a ribbon mic; note ribbon element on the right.

Know Your Ribbon Mic

BY GINO ROBAIR

A RIBBON mic solves a number of specific problems in the studio. It's often selected for the way it smoothes out harsh, high-frequency artifacts from instruments such as brass, saxophones, bowed strings, and hand percussion. When used on drums and guitar amps, it's chosen for its accurate, yet punchy sound.

The ribbon itself is a lightweight, ultra-thin, rectangular piece of corrugated aluminum that is suspended within a magnetic field. With less mass to move than a dynamic mic, it offers a quicker response and captures transients very well. Yet the frequency response of most ribbon mics begins to roll off above 10kHz.

Crank It Up As an electromechanical transducer, a ribbon microphone doesn't require phantom power. In fact, this current can damage passive ribbon mics (although some recent models, particularly high-quality ones, are designed to withstand phantom power). But it's better to be safe than sorry and keep the +48V button off when a passive ribbon is connected.

Active ribbon microphones, on the other hand, have a built-in amplifier stage and do require phantom power. Consequently, they have a hotter output than a passive mic.

Passive ribbon mics require more gain than dynamics and condensers to achieve optimum performance—70dB or more is ideal. Typically, the preamps in inexpensive digital interfaces offer less than 60dB of gain. So if you use one of these, you'll want to invest in an external preamp for your ribbon.

One inexpensive solution is the Cloudlifter CL-1 from Cloud Microphones (cloudmicrophones.com), a single-channel, phantom-powered preamplifier meant to be used between the ribbon mic and your low-gain preamp. The CL-1 adds approximately 25dB of gain, depending on the mic. Although it requires +48V to operate, the CL-1 doesn't pass the phantom power through to the mic itself.

AEA, on the other hand, offers a full-featured 2-channel preamp specifically designed for velocity transducers. The TRP (short for The

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Ribbon Preamp) offers 83dB of gain and includes a highpass filter and phase switch. However, the TRP does not have phantom power, making it impossible for engineers to accidentally damage their ribbon with this device.

Work with Your Room The majority of ribbon mics are side-address and have a bi-directional, figure-8 pattern. Notable exceptions are the classic RCA 77, which offers three patterns, and the unidirectional models from beyerdynamic.

When using a bi-directional pattern, the space around the mic becomes an important consideration. The distance between the source and the mic is often determined by how much room sound you want to capture, as well as the volume of the source.

Make sure you don't place the back of the mic too close to a reflective surface, such as a low ceiling when using it as a drum overhead, or a piano lid when tracking a piano. The

reflected sound can color the track in a negative way. This is especially critical if you're using a pair of bi-directional ribbon mics for a stereo recording in a Blumlein pattern.

Placement As directional mics, ribbons exhibit proximity effect, which causes a low-frequency boost as you move the mic close to your sound source. You can use the increased low end to your advantage in some situations, though it can also muddy the sound. On electric guitar amps, for example, it's common to put the mic about an inch or two from the grille. If the sound is too dark, try facing the back side of the mic, which has a brighter sound on some models, toward the amp.

Some instruments that sound great when tracked with a ribbon don't benefit from close-miking, because it enhances negative aspects of the sound—the scratchiness of a bowed string, or the spittiness of a brass instrument.

For vocals, start by placing the mic 7 to

10 inches from the singer, and be sure to use a pop filter. You don't need to get too close, because the mic is sensitive enough to capture every gesture at that distance.

For saxophones and brass, begin with a distance of 2 to 4 feet from the mic. From there, you can adjust the placement to achieve the balance of room sound you want.

A single, high-quality ribbon mic makes a great drum overhead, but the trick is to place it in such a way that you get a good mix of cymbals and drums (while keeping it out of the way of misdirected drumsticks). A ribbon mic also sounds great 3 to 5 feet in front of the kit, about 3 feet from the floor, and aiming at the snare. From there, tweak the position to get a suitable balance of the kit elements. ■



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Learn more about ribbon mic technology.

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Tracking With Analog Effects, Part 2: Compressors

BY STEPHEN FORTNER

IN THIS two-part series, we share tips for employing analog effects when you're tracking keyboard. Part 2 looks at compressors.

Analog preamps and compressors can help you record better-sounding keyboard tracks—not only by getting your signal levels properly matched, but by adding a little of their own magic to your sound. In our second installment on analog effects, we'll take a look at compressors. (Note: Our series is on analog effects, but don't be afraid to try these tricks with any compressor!)

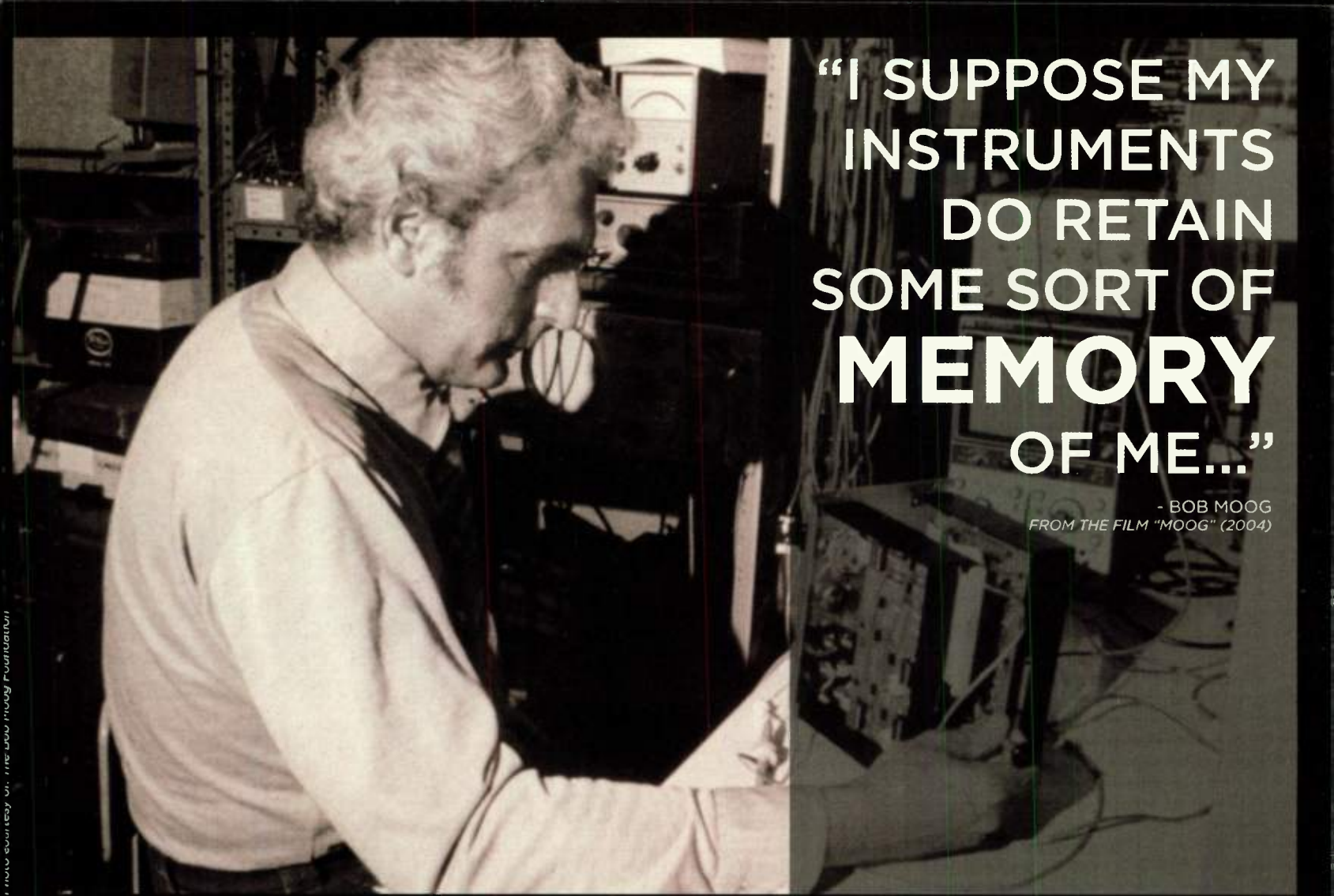
Compress to Impress For some tracks—notably, vocals—the less you can hear a compressor working, the better. Accordingly, many engineers judge compressors on their “transparency.” Compression can also be used to extreme effect—it was a major factor in John Bonham's famously huge drum sound from Led Zeppelin, for example—or subtly, or anywhere in between. Using compressors on keyboards is a fun thing to experiment with, but to get you started, here are some jumping-off points:

- Use the attack setting to control the initial strike of a percussive sound such as drums, synth comps, or even piano. A slower setting will leave the sound more intact, while a faster setting will tame it down to the level of the rest of the note more quickly.
- A slow release setting will sound more natural, while a fast release time will give more pumping and breathing. This can yield a more lively sound for bass, kick

drum, and especially Clavinet, but it's undesirable on vocals.

- Lower compression ratios (1:1–3:1) give more of the “sound of the circuitry” without squeezing the dynamics out of a track, while higher settings (5:1–20:1) can be helpful for tracks that have a huge contrast between peaks and soft passages.
- Once you find pleasing settings, experiment with the threshold and make-up gain controls to find that point where the track really sits right. Use your Bypass switch to compare your sound with and without compression to help dial in perfection.
- Always use your ears: Meters are useful, but they should answer to your ears, not the other way around.

Should you run through a compressor while recording, or wait until you're mixing to patch one in? The cautious approach is to compress on input only for serious signal management, such as when peaks are overloading your recorder's inputs and you don't want to reduce their gain any more. Patch in a compressor during the mixing stage for intentional coloration. Like all rules, though, don't be afraid to break this one. Some engineers run sounds through compressors at a 1:1 ratio, which means there's no real compression going on, but there's just something about the way the circuits process the sound that can't be obtained any other way. Bottom line: Experiment and enjoy! ■



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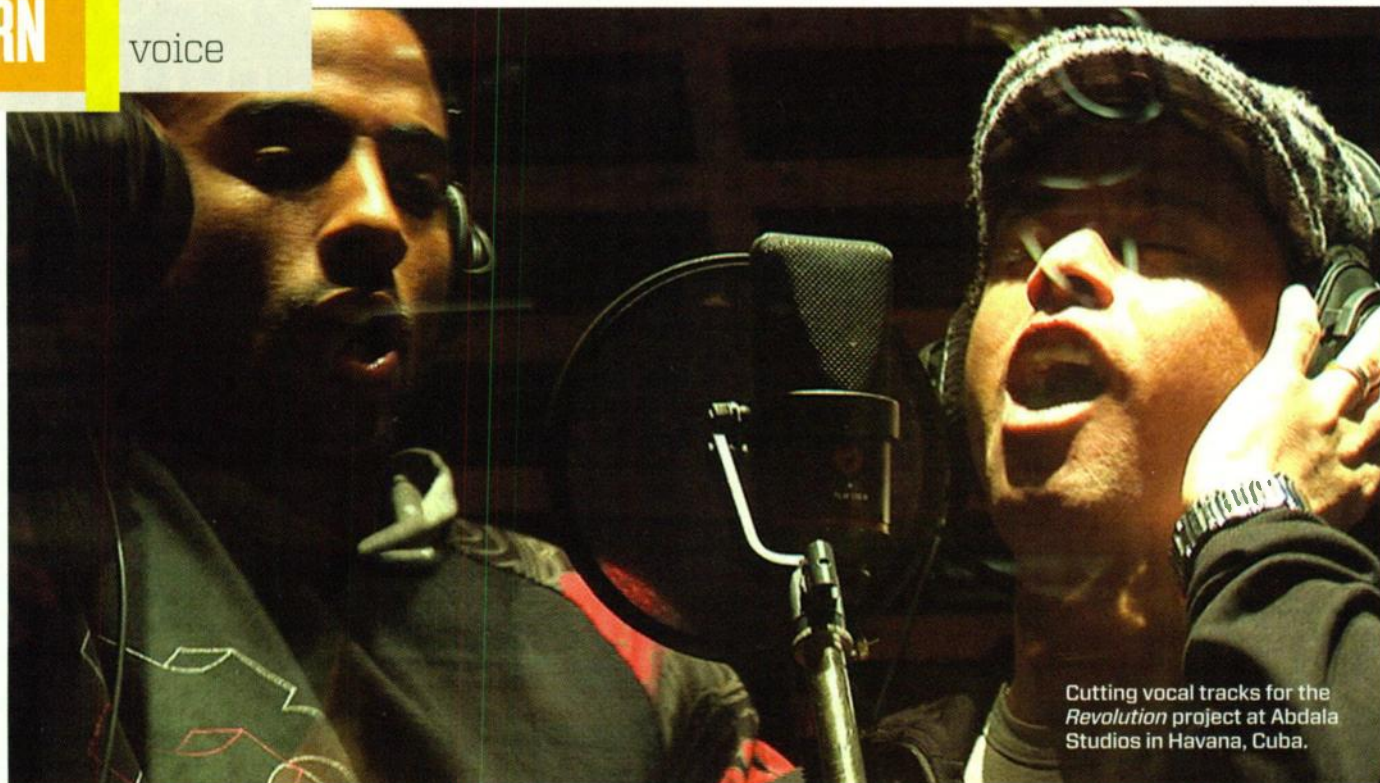
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Cutting vocal tracks for the *Revolution* project at Abdala Studios in Havana, Cuba.

Build Your Background-Singing Skills

BY JAIME BABBITT

BEING A great vocal blender separates an okay background singer from a great one. Try these tips for tracking live with a group, excerpted from my book, *Working With Your Voice: The Career Guide to Becoming a Professional Singer* (Alfred).

Headphone Strategies I've never worn my headphones completely covering my ears on any BGV session I've ever done, ever. My suggestion: Keep them halfway over both ears (take care to keep them pressed against your head so the sound doesn't bleed into the vocal mic), make sure you can hear enough melodic and rhythm instruments in your headphones so that your pitch and rhythm are solid, and mostly listen in the room to everything going on around you. You'll discover that it's easier to find your blend and sing more precisely; everyone's timbre and pronunciation will be much easier to decipher when you're not strictly relying on the sound coming from your cans. If you're singing BGVs simultaneously with only one other person in the live room, I recommend singing with only one headphone on, taking off the one closest to your singing partner so that you can hear each other. Remember, none of these rules are set in stone, so try different headphone placement and find your own preferred method of hearing while harmonizing.

Playing "Follow the Leader" Now comes the time when you watch every move that the

session leader makes, while also keeping your eyes on the other singers. Taking direction is a huge part of the background vocalist's gig, so embrace being a cog in the musical wheel and get your group game on. It seems like a lot to concentrate on all at once—singing well, blending well, watching your pronunciation, and watching the session leader—but you'll be surprised by the way all of the different elements come together as you create that one cohesive BGV sound.

Breaking Into Parts Most often, background singers will break into their own parts and sing together, creating layers of harmony parts right then and there. Then, you may be asked to double, triple, or quadruple the parts. Once you've been told which part you're supposed to sing, burn it into your memory bank in hyper-warp-speed, and make sure that you can hear yourself well enough to hold that part down solidly. Keep in mind that you're going to have to be pretty adept at switching parts, too. Let's say the producer wants to change a note or two in your part, or prefers that you sing a different BGV part altogether. Say, "No problem!" and quickly memorize the new part, forgetting the part you had gotten used to singing. This new part shall now become your mantra, and you'll sing it solidly. And then when the producer changes his or her mind again and asks you to go back to your first part, what are you going to say? "No problem!" ■

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OBJECTIVE

Enhance dynamics for compressed drum tracks

BACKGROUND

Compression can help give a bigger drum sound, but reduces dynamics. Mixing an uncompressed version of the drums in with the compressed sound can help restore punch.

TIPS

■ Step 6:
Sometimes it works better to set the compressed drum level first, then bring up the dry drum track to add dynamics.

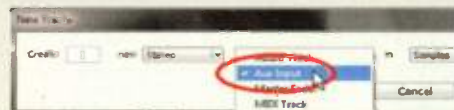
Step 1

Assign a Send from the drum's audio track to a bus (e.g., Bus 1-2).



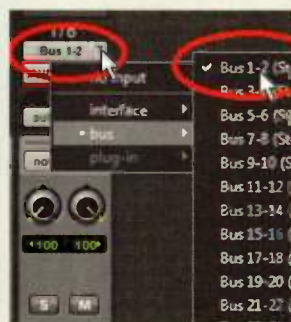
Step 2

Select *Track > New* and specify a stereo Aux Input track (assuming the drums are stereo).



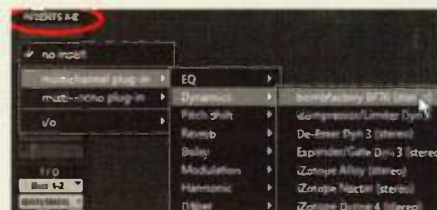
Step 3

Assign the Aux Input's input path selector to Bus 1-2.



Step 4

Insert the desired compressor in one of the Aux Input track's inserts.



Step 5

Click on the drum Audio Track's Send to Bus 1-2. The Send window opens; click on Pre so the bus level isn't influenced by the drum track's level.



Step 6

Adjust the Send fader and Aux return fader for the desired balance of compressed drum sound with the dry drum sound from the audio track.



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My true story of Perfect Pitch

by David-Lucas Burge

IT ALL STARTED when I was in ninth grade as a sort of teenage rivalry...

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

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

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

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

"What's Perfect Pitch?" I asked.

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

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

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

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

"Yes," she nodded aloofly.

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

"OK," she replied.

Now she would eat her words . . .

My plot was ingeniously simple . . .

When Linda least suspected, I walked right up and

challenged her to name tones for me—*by ear*.

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

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

I had barely touched the key.

"F#," she said. I was astonished.

I played another tone.

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

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

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

Now I started to boil.

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

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

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

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



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

I couldn't figure it out . . .

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

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

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

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

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

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

Then it happened . . .

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

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

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

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sound. They had always been there. But this was the first time I had ever really "let go"—and *listened*—to discover these subtle differences.

Soon—to my own disbelief—I too could name the tones by ear! It was simple. I could hear how F# sounds one way, while Bb has a *totally different sound*—sort of like "hearing" red and blue!

The realization struck me: THIS IS PERFECT PITCH! This is how Bach, Beethoven, and Mozart

could mentally hear their masterpieces—and know tones, chords, and keys—all by ear!

It was almost childish—I felt sure that *anyone* could unlock their own Perfect Pitch with this simple secret of "Color Hearing."

Bursting with excitement, I told my best friend, Ann (a flutist).

She *laughed* at me. "You have to be *born* with Perfect Pitch," she asserted. "You can't *develop* it."

"You don't understand how Perfect Pitch works," I countered. I sat her down and showed her how to listen. Timidly, she confessed that she too could hear the pitch colors. With this jump start, Ann soon realized she also had gained Perfect Pitch.

We became instant celebrities. Classmates loved to call out tones for us to magically sing from thin air. They played chords for us to name by ear. They quizzed us on what key a song was in.

Everyone was fascinated with our "supernatural" powers, yet to Ann and me, it was just normal.

Way back then, I never dreamed I would later cause such a stir in the academic world. But when I entered college and started to explain my discoveries, professors *laughed* at me.

"You must be *born* with Perfect Pitch," they'd say. "You can't *develop* it!"

I'd always listen politely. Then I'd reveal the simple secret—*so they could hear it for themselves*.

You'd be surprised how fast they changed their tune!

In college, my so-called "perfect ear" allowed me to skip over two required music theory courses. Perfect Pitch made everything easier—my abilities to perform, compose, arrange, transpose, improvise, and even sight-read (because—without looking at the keyboard—you know you're playing the correct tones). And because my ears were open, music sounded richer.

I learned that music is truly a HEARING art.

Oh, you must be wondering: whatever happened with Linda? I'll have to backtrack . . .

Flashback to my senior year of high school. I was nearly 18. In these three-and-a-half years with Perfect Pitch, my piano teacher insisted I had made ten years of progress. And I had. But my youthful ambition wasn't satisfied. I needed one more thing: *to beat Linda*. Now was my *final chance*.

The University of Delaware hosts a performing music festival each spring, complete with judges and awards. To my horror, they scheduled me that year as the *grand finale*.

The fated day arrived. Linda gave her usual sterling performance. She would be tough to match, let alone surpass. But my turn finally came, and I went for it.

Slinking to the stage, I sat down and played my heart out with selections from Beethoven, Chopin, and Ravel. The applause was overwhelming.

Afterwards, I scoured the bulletin board for our grades. Linda received an A. This was no surprise.

Then I saw that I had scored an A+.

Sweet victory was music to my ears, mine at last! — D.L.B.

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- "I heard the differences on the initial playing, which did in fact surprise me. It is a breakthrough." *J.H., student*
- "It's so simple it's ridiculous." *M.P., guitar*
- "I'm able to play things I hear in my head. Before, I could barely do it." *J.W., keyboards*
- "I hear a song on the radio and I know what they're doing. My improvisations have improved. I feel more in control." *L.B., bass guitar*
- "It feels like I'm singing and playing MY notes instead of somebody else's—like music is more 'my own'." *L.H., voice/guitar*
- "What a boost for children's musical education!" *R.P., music teacher*
- "I can identify tones and keys just by hearing them and sing tones at will. When I hear music now it has much more definition, form and substance. I don't just passively listen any more, but actively listen to detail!" *M.U., bass*
- "Although I was skeptical at first, I am now awed." *R.H., sax*
- "It's like hearing in a whole new dimension." *L.S., guitar*
- "I started crying and laughing all at the same time." *J.S., music educator*
- "I wish I could have had this 30 years ago!" *R.B., voice*
- "This is absolutely what I had been searching for." *D.F., piano*
- "Mr. Burge—you've changed my life!" *T.B., student*
- "Learn it or be left behind." *P.S., student . . .*

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Five Reasons Why Guitars Still Rule

BY CRAIG ANDERTON

1

If it was a synthesizer, it would have six voices, three or five program changes, a pitch-bend wheel, 2.5 octave range, and volume control—and people would laugh at it, saying “How could you make any decent sounds with that!?”

2

Try asking the nice person behind the Delta Airlines ticket counter whether you can check your drum set or Steinway in the overhead compartment.

3

Buddy Holly and Jimi Hendrix both played a Strat, yet managed to sound *completely* different.

4

Even if you don't look inherently cool, anyone looks *amazingly* cooler when holding a guitar.

5

The lady love is standing on a balcony: The guy below is *not* serenading her with an accordion. ■

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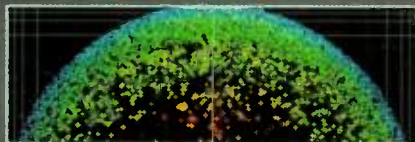


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