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APRIL 2009

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ELECTRONIC MUSICIAN

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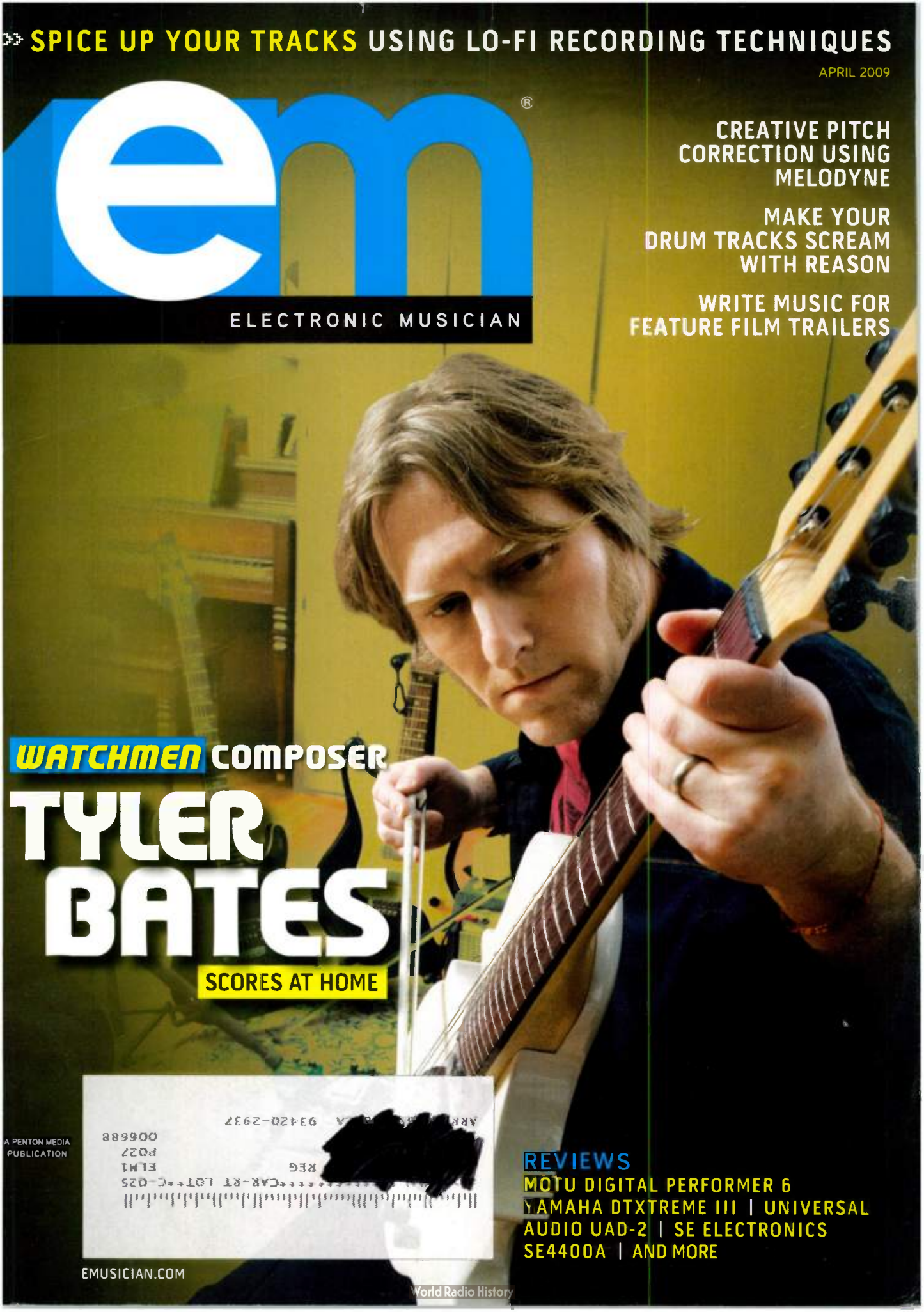

WATCHMEN COMPOSER

TYLER BATES

SCORES AT HOME

A PENTON MEDIA PUBLICATION

REVIEWS

MOTU DIGITAL PERFORMER 6 | YAMAHA DTXTREME III | UNIVERSAL AUDIO UAD-2 | SE ELECTRONICS SE4400A | AND MORE

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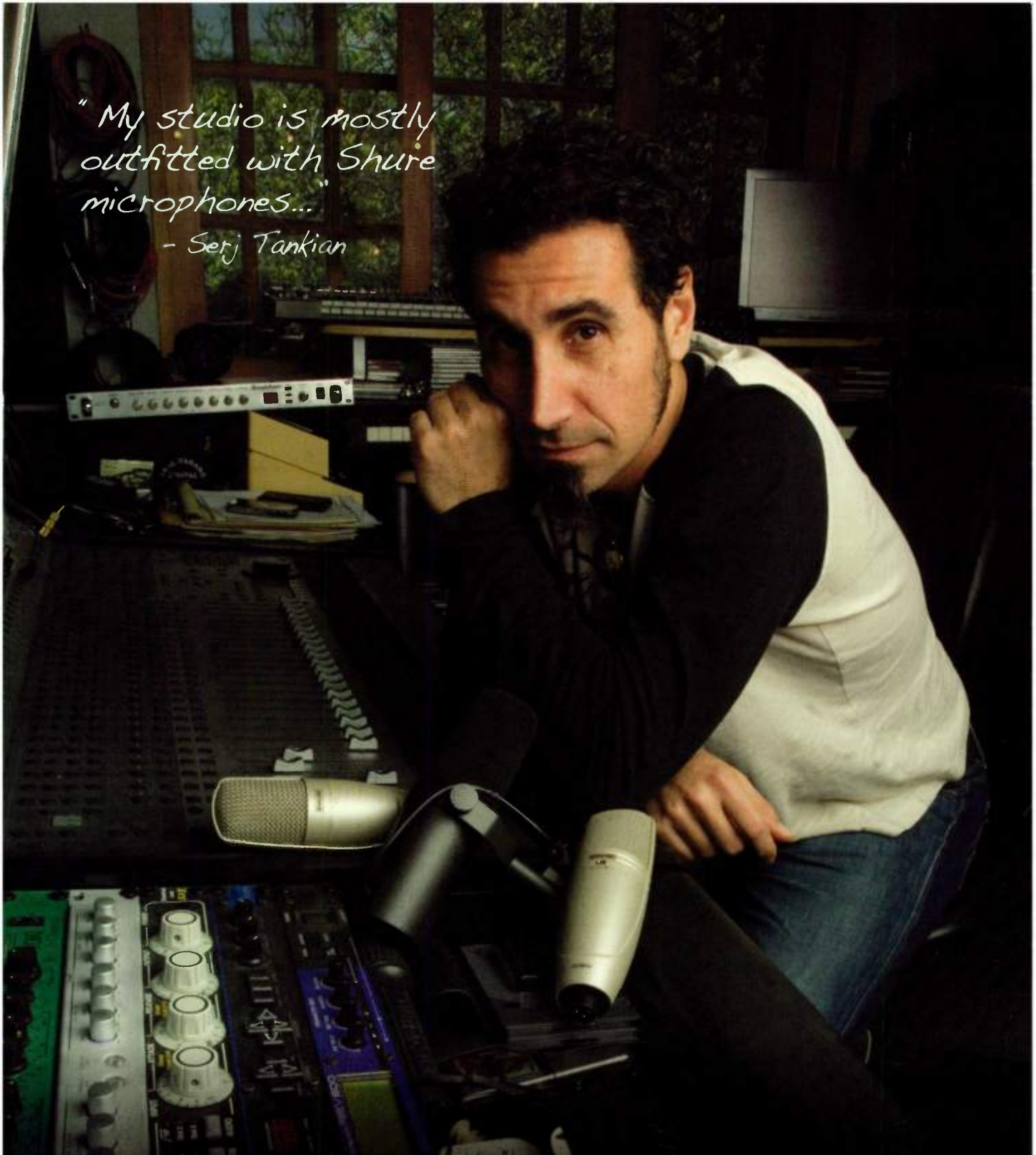

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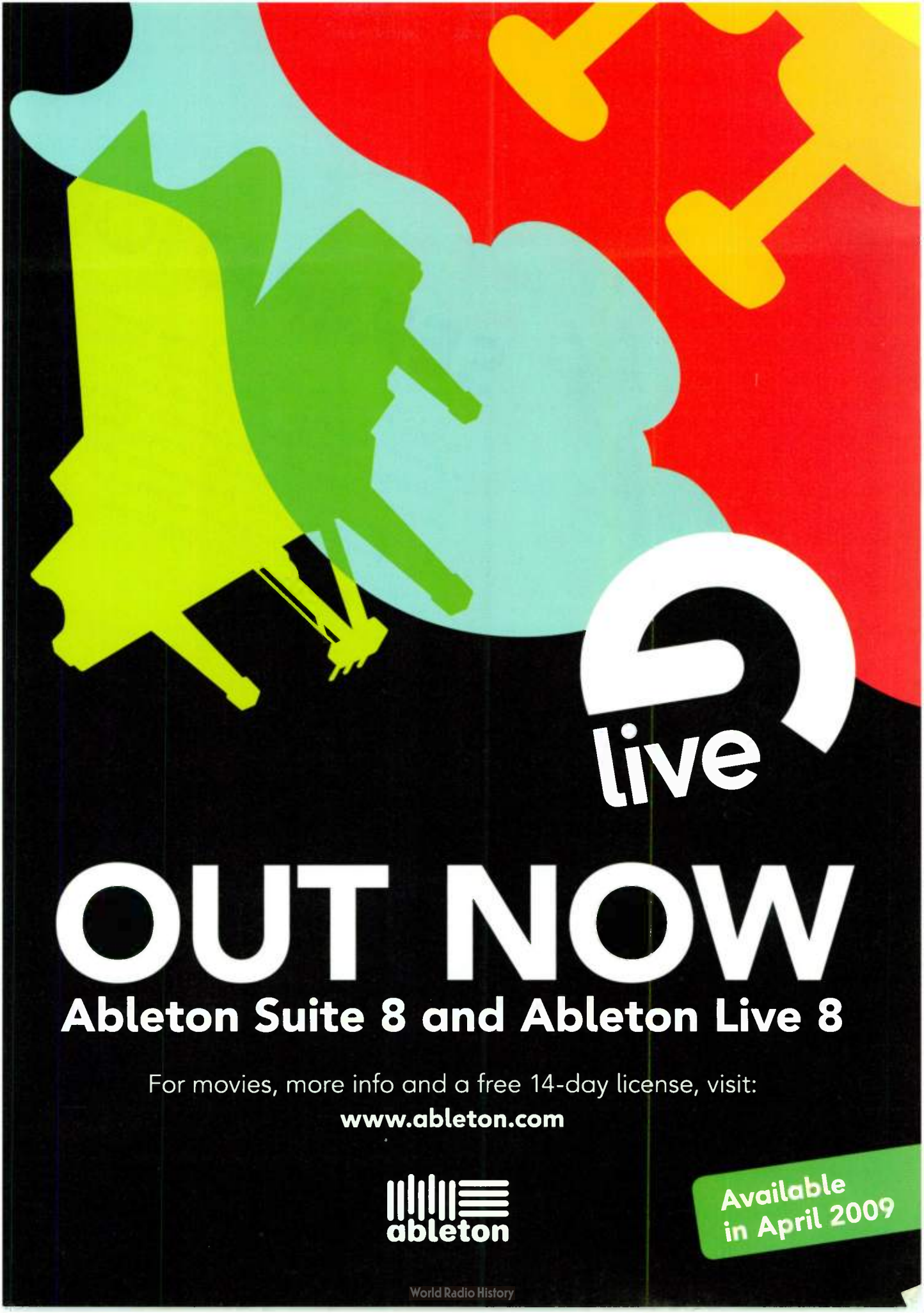

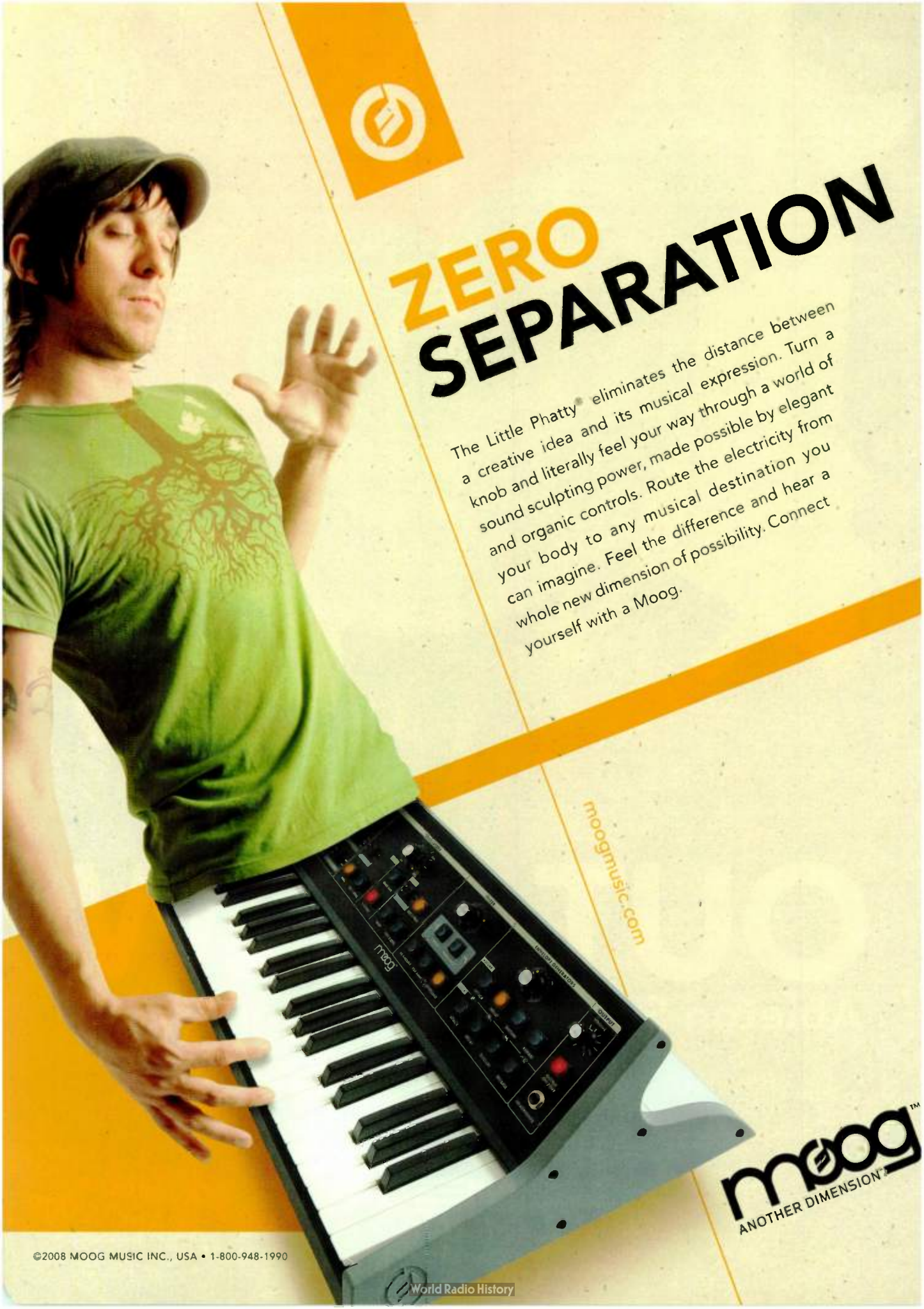

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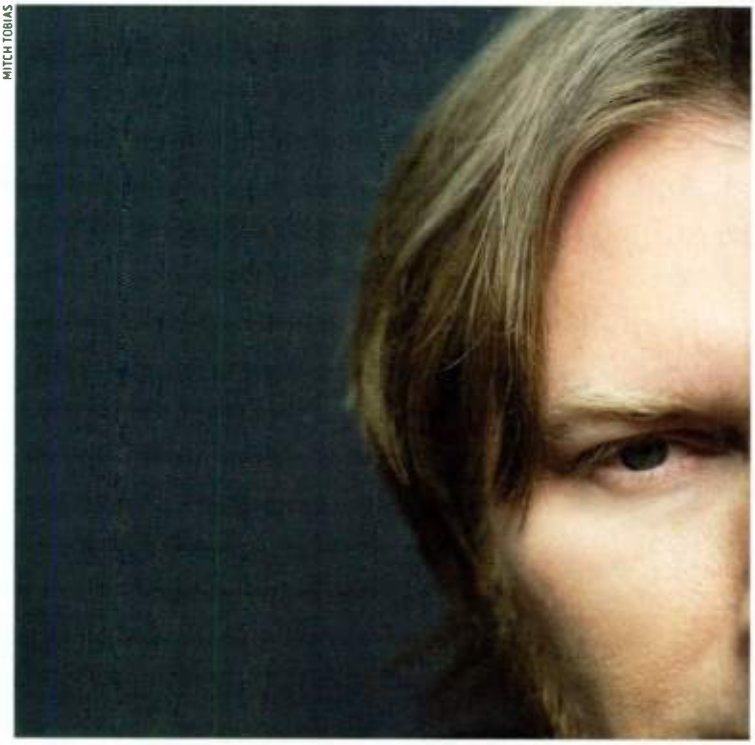
APRIL 2009 VOL. 25, NO. 4

FEATURES



MITCH TOBIAS

30 MOVIE-MUSIC MAESTRO

Working primarily from his home studio in Los Angeles, composer Tyler Bates has scored the movies *300* and *The Day the Earth Stood Still* and the Showtime series *Californication*. In this interview, he talks about the challenges in scoring *Watchmen*, offers techniques for composing under pressure, and gives advice to would-be film composers.

By Mike Levine

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RADICAL RECORDING TIPS

Sometimes you just have to do the wrong thing to get the right sound. We provide ideas and approaches for finding unique timbres using unusual mics and nontraditional resonators.

By D. James Goodwin

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MASTER CLASS: GET INTIMATE WITH OMNISPHERE

In this tutorial, we take you deep into the heart of Spectrasonics' flagship soft synth. We begin by showing you some shortcuts for creating your own Omnisphere patches.

By Geary Yelton

DEPARTMENTS

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SUBMERSIBLE MUSIC KitCore Deluxe MIDI drum instrument

QUICK PICKS 70

- **sE Electronics sE4400a** condenser microphone
- **Sample Logic Synergy (Mac/Win)** software instrument
- **Cakewalk E-mu Proteus Pack** sound library

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Make Music

In a recent email exchange with a reader on the subject of what gear to buy, he astutely noted, "I know that the weakest link in the chain is me. It's no longer easy to blame the equipment." It takes guts to admit such a thing, once you finally have that realization. And with all this technology to harness, it's easy to let the details box us in.

For example, EM editors are often asked what the best resolution to work in is. The person asking seems creatively paralyzed by the fact that they might not be getting the best possible sound quality. They don't want to waste their time if things are not recorded perfectly.

"You should work at the highest resolution you can afford, all things considered," I typically answer, suggesting that the computer and the amount of drive space are also determining factors (not to mention that a $99 interface offering 96 kHz capabilities probably doesn't sound as good as one costing ten times more). Obviously, that's not what they want to hear. Instead of answers, that raises more questions.


JANE RICHEY

In the case of resolution, as with all aspects of recording, everyone's needs are different, and they extend to what your delivery format is. Working to picture that is destined for DVD release? Work at least at 24-bit, 48 kHz (or a multiple thereof). Glitchy electronic music for CD and MP3 distribution is probably fine at 16-bit, 44.1 kHz. If you have the disk space and CPU power to record, use effects, and mix your 32-track masterpiece at 24-bit, 96 kHz, why not do it? On the other hand, if your computer supports the track count you need only at CD resolution, go for it. We're on this planet only for a short amount of time, and we all have plenty of music to make.

Predictably, after my lecture explaining bit depth and sampling frequency, the students in my recording class want to know what resolution *they* should use. Many of these young people create and sell beats to each other, so they take this discussion very seriously. I almost hate to tell them what data compression really does to a file, because I know they might worry about it to the point where they lose the creative spark. "Should I even *use* that MP3 file my friend emailed me?" is a typical question.

"Absolutely!" I answer. "If the track is pumping, who cares? Once it's in a mix, you often cannot tell it's an MP3. If you can, then find a creative way to deal with it, like the pros have always done."

To demonstrate my point, I fire up the multitrack stems from the Beatles' *Sgt. Pepper's Lonely Hearts Club Band* album. When heard as a rough mix, the songs pretty much sound like you remember. Solo the tracks, however, and it hits you: they are nowhere near pristine. In fact, they are messy. But the producer and engineers knew how to work around the rough spots so that they didn't distract the listener from the songs themselves. Some of their gear was state-of-the-art, and some of it wasn't. They used it all and got the job done.

Obviously, before there was beat quantization and pitch-correction software, the acceptable margin of error that people would tolerate in a pop-music track was much higher. Yet today's young listeners, who have grown up on ultraedited hits, often rock out when they hear older songs that weren't digitally massaged.

Don't get me wrong: I love using pitch correction and beat quantization when it's called for. And I'm not at all interested in giving up the editing and processing power of my DAW for the tape-splicing block. My point is that we shouldn't let the quality or fidelity of our current recording system—no matter what it is—spoil our fun. If people look back at our studios 40 years from now, they'll probably laugh at the fact that we were working with "primitive" 24-bit, 96 kHz files. If we waste time worrying about our specs and not being creative, we might not leave them much to listen to.

Make music, not excuses.

Gino Robair
Editor

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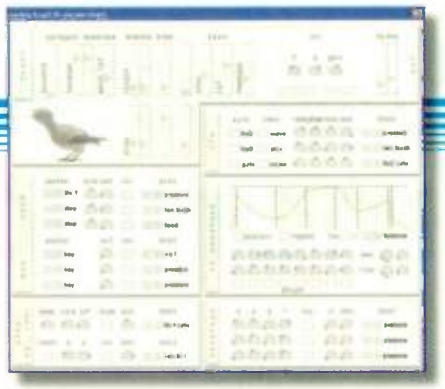
FRONTPANEL

By Gino Robair



Download of the Month

xoxos Plug-ins (Win) By Len Sasso

When you want to create a synthetic rain forest and populate it with electronic animals, birds, and insects, Rurik Leffanta of xoxos (xoxos.net) has you covered. Having spent as much as he could afford on hardware synths, Leffanta says he became "determined to make freeware abundant so that anyone with a PC could make music." His first VST plug-in for Windows was released in 2002, and there has been a steady stream ever since. Most are free, and those that are not are modestly priced.

ONLINE BONUS MATERIAL

The plug-in offerings run the gamut from algorithmic generators for MIDI and audio to sound effects, percussion, and music synthesizers to utilities and effects processors. Many of them use physical modeling, which makes them edgy, often chaotic, and generally great-sounding. Pair up Pling2 (plucked string) with KL Tract (vocals) for a synthetic duo you won't find in your favorite sampler. For drum sequencing, there's Ordinate, featuring three probability-based sequencers and a fourth sequencer to switch between them. Load up three drum samples, then follow Ordinate with the stutter-effect plug-in Muchacho, and you have a glitch-ready drum machine.

As for the aforementioned rain forest, the five plug-ins in the Sounds of Nature collection (free), winner of the KVR Developer Challenge 2007, together with the more recent Fauna ($33) do the job nicely (see **Web Clip 1**). Wind, Rain, and Thunder use filter-sculpted noise and modulation to emulate these sounds. Oscine Tract models the songbird's vocal tract and provides controls to shape and sculpt the chirping. Synsect routes an impulse clock through a series of resonant filters; it's truly buggy. Fauna uses waveguide, vocal-tract, and mass-spring modeling to produce animal vocal sounds. All of these plug-ins include an ample selection of presets along with extensive control panels.

OPTION-CLICK By David Battino

Time or Reason

Discover cool features lurking inside popular programs

Learn a few keyboard shortcuts, and you can speed up your Propellerhead Reason work flow dramatically. One of my favorites comes from Propellerhead's Gerry Bassermann: Option-clicking (Alt-clicking in Windows) on nearly any knob or fader will create an automation lane for that control in the sequencer. That avoids the mile-high parameter list you'll see if you use the automation pop-up menu in the sequencer itself.

The Option/Alt key is also your friend in the Dr.REX loop player; Option/Alt-clicking on a loop slice will audition it. In the Redrum drum machine, Option/Alt-clicking on a trigger pad inputs a lower-than-normal Velocity, whereas Shift-clicking inputs a higher one. The pads light up in different colors to indicate low, normal, or high Velocities. Command/Ctrl-clicking on a knob will reset it; Shift-clicking will put it in high-resolution mode temporarily. Grab a PDF of all the keyboard shortcuts at tinyurl.com/d989tg. (For more about David Battino's work, visit batmosphere.com.)

Don't waste time browsing long controller lists in Propellerhead Reason (propellerheads.se). Option-click (or Alt-click) on the control instead.

From the EM Archives: Part 2

1982
Sony F-V7ET "Echo Mic"
This dynamic cardioid vocal mic offered onboard vibrato and echo effects. A rocker switch controlled the effect speed.

Mid-1980s

Ensoniq MIDI Log
Was it merely a percussion controller? It featured both In and Out ports and is seen here mated with a rack version of the Mirage sampler.

1987
Stepp Electronics DG1 Digital Guitar
It wasn't a MIDI guitar. The DG1 included synth voice boards, a power supply, and an interface. Priced at a cool $6,995.

THIS MONTH'S SOUNDTRACK

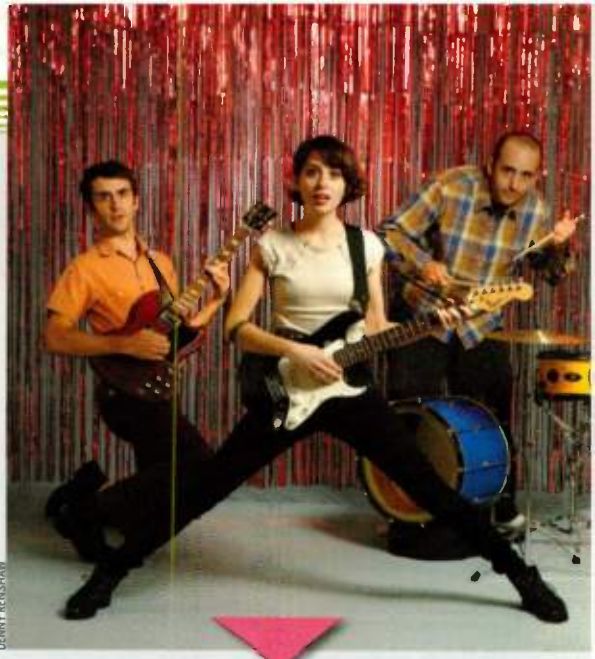
These albums encompass a diverse range of styles and composition methods, from ambient and avant-garde to electronica and pop.


LIEBE E.P.

WINTER GLOVES: ***ABOUT A GIRL*** (PAPER BAG)
The band's distinctive sound combines catchy melodies, driving beats, and a pleasantly retro vibe thanks to their vintage keys.

TELEPATHE: ***DANCE MOTHER*** (IAM SOUND)
Electronic dance music and dreamy vocals that reach both forward and back in time.


ANDREAS LASZLO KONRATH


DENNY RENSHAW

CRYPTACIZE: ***MYTHOMANIA*** (ASTHMATIC KITTY)
Inventive arrangements wrapped around stylish pop songwriting and vocals make this DIY recording a winner.


MEDEIGHNIA WESTWICK


JENAFER GILLINGHAM

DANIEL LENTZ: ***POINT CONCEPTION*** (COLD BLUE)
Two absolutely gorgeous works for overdubbed acoustic pianos—one with four instruments and one with nine. For fans of Glass and Reich.

JON HASSELL: ***LAST NIGHT THE MOON CAME DROPPING ITS CLOTHES IN THE STREET*** (ECM)
Trumpeter Hassell weaves electronic and acoustic materials into a seamless, dreamlike fabric. Subtle and sensuous.

1987
Sting EW2 Electronic Wind Instrument
This Japanese-made electronic wind instrument used a single cable to connect the nickel-plated controller to the synth module.

1989
Technos Acxel Resynthesizer
Featuring Sound Moulding in Real Time (SMIRT), the instrument promised "MIDI-controlled real-time additive synthesis" capabilities.

Late 1980s
Speaker Array Logic Studio Monitor
The SAL system, which combined 64 speaker units using DSP, was claimed to allow everyone in the control room to "hear exactly the same sound."

By Len Sasso

ELECTRO-HARMONIX VOICE BOX

THIS BOX SINGS

According to Electro-Harmonix, the Voice Box stompbox effect ($214.50) is like having the Beach Boys, Dixie Chicks, or Supremes do your backup vocals. It follows your singing to create 2- or 4-part harmony on the fly and has two built-in reverbs to add depth independently to your voice and the backup vocals. The unit also features a 256-band vocoder with formant shifting for when you want to go robotic. You get a balanced XLR input with phantom power and a mic preamp with a gain switch, an unbalanced instrument input, and a balanced XLR output. Hear and see it in a YouTube video on the Electro-Harmonix Web site (ehx.com).

MOTU BPM

URBAN BEATS AND MORE

MOTU (motu.com) packs a lot of wallop into its new standalone and plug-in virtual drum machine BPM Beat Production Machine (Mac/Win, $295 [MSRP]). You start with thousands of presets, over 10,000 samples, and more than 1,000 loops in its 15 GB of content. Although urban inspired, the content fits R&B, rock, hip-hop, and techno genres well, with special attention paid to vinyl and old-school beats. BPM provides 64 simultaneous pads and a step sequencer that lets you record, overdub, and quantize patterns in real time. A categorized browser, a powerful drum synth, and drag-and-drop audio file import round out BPM's bag of tricks.

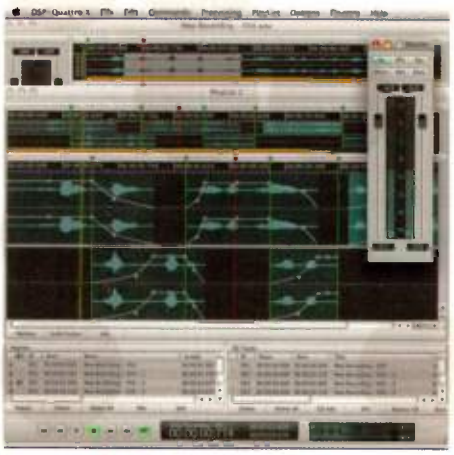
KEITH McMILLEN INSTRUMENTS K-BOW AND STRINGPORT

STRUNG OUT

Keith McMillen Instruments (keithmcmillen.com) has a better idea for getting string players into the electronic-music act. The K-Bow (Mac/Win, $3,995 and up) and StringPort ($499) bring the gesture and sound of stringed-instrument performance into your computer for audio processing as well as for controlling virtual instruments and other software. The K-Bow, which has the weight and feel of a fine violin bow, translates motion along the *x*-, *y*-, and *z*-axes to MIDI or OSC messages. Messages can also be sent from grip pressure, hair tension, tilt angle, and relative bow position. The StringPort is a polyphonic string-to–USB 2.0 converter. Both units come with custom processing software.

i3 DSP-QUATTRO 3

REDESIGNED AND OPTIMIZED



Audio file editing and playlist-management software DSP-Quattro 3 (Mac, $199) from Italian developer i3 (dsp-quattro.com) has been redesigned from the ground up to take full advantage of Mac OS X on both PowerPC- and Intel-based computers. The playlist now has its own waveform editor. Managing regions, including their overlaps and crossfades, is simpler and more intuitive. This version still hosts virtual instrument and effects plug-ins, and there are separate insert slots for audio file playback, audio input, recording, instruments, and the playlist. All popular audio formats, bit depths, and sampling rates are supported, and you'll find a full complement of destructive and nondestructive editing functions.

GET SMART

Course Technology PTR's Sonar 8 Power!

In *Sonar 8 Power!* ($49.99) from Course Technology PTR (courseptr.com), author Scott Garrigus delivers his eighth tutorial and reference guide to the Studio and Producer editions of Cakewalk's digital audio workstation, Sonar. Whether you're just getting started or are a seasoned Sonar user, the book promises to take you to the power-user level. Topics include commands and layout, recording and editing, working with loops, scoring, mixing, and CD mastering. You'll also find complete coverage of Sonar's complement of virtual instrument and effects plug-ins.

Hal Leonard Publishing's Succeeding in Music

Succeeding in Music, 2nd ed. ($24.95), from Hal Leonard Publishing (halleonard.com), covers the fundamentals of the business, finance, and marketing of music. Author John Stiernberg packs this in-depth presentation to musicians and musical entrepreneurs with insights from his years in the entertainment industry. The book takes a strategic approach to product planning, development, and pricing.

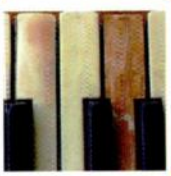
You'll discover tips on competitive survival and ways to avoid failure. The book also comes with a CD-ROM that contains checklists, resources, and planning templates.

St. Martin's Press's On the Record

If DJs are today's rock stars, *On the Record: The Scratch DJ Academy Guide* ($16.95) is the rock star's bible. St. Martin's Press (us.macmillan.com/ontherecord) brings together Scratch DJ Academy cofounder Rob Principe, writer Phil White, and deputy editor of *Nylon* magazine Luke Crisell to give you an inside look at the DJ world. Starting with what to listen for, the book goes on to tell you how to acquire the necessary tools and polish your performance. Along the way, you get insights into the DJ lifestyle and culture through biography, interview, and anecdote.

Sound Advice

Tonehammer's Kontakt Libraries



Tonehammer (tonehammer.com), a collaboration of composer Troels Folmann and sound designer Michael Peaslee, has released a series of downloadable sound libraries for Native Instruments Kontakt 2.2.4 and later (Mac/Win). It currently offers 12 volumes ranging in price from $29 to $59, with a bundle price of $379 for everything. The sounds feature unusual instruments, many of them handmade, along with found sounds. Most are percussion oriented, but many, such as Hang Drum, Old Busted Granny Piano, Whale Drum, and Propanium, are playable as pitched instruments. The Kontakt instruments are not locked and the samples are not protected, which allows you great flexibility in modifying the libraries.

Sony Creative Software's Music & Sound for Film

Sony Creative Software (sonycreativesoftware.com) has just released another title in its Loops & Samples series. *Music & Sound for Film: The Editor's Companion* ($29.95 download, $39.95 CD-ROM) contains 279 loops and one-shots in Acidized WAV format with a categorized listing including length, tempo, and root key where appropriate. The library consists of sound effects, abbreviated music beds, and bite-size rhythmic elements. You'll find plenty of material for deep exploration, but the library is designed for quick production when the occasion calls for it.

Native Instruments' Reaktor Spark

Reaktor Spark (Mac/Win, $59) is the latest in Native Instruments' (native-instruments.com) collection of Soundpacks for Kore 2 and Kore Player. Based on the proprietary Reaktor Ensemble, Spark, by NI founder Stephan Schmitt, the sounds range from cutting-edge leads and percussion to evolving pads and soundscapes. Like all Kore sounds, each preset contains eight variations with seamless morphing. The original Reaktor Ensemble is also available to Reaktor users as part of this Soundpack. Check the NI Web site for audio examples and a video on Spark's development.

LINE 6 POD STUDIO KB37

ALL-IN-ONE SOLUTION

Line 6 (line6.com) has released the POD Studio KB37 (Mac/Win, $349.99). The unit packs a full-size, Velocity-sensitive 37-key controller keyboard; a USB audio interface; and pro-audio effects, including the renowned POD Farm for your DAW, into a compact desktop package. You get dual ¼-inch analog I/O, a headphone out, a ¼-inch guitar input, a pair of phantom-powered XLR mic inputs, a S/PDIF audio output, and Line 6 Tone Direct Monitoring. The panel houses transport controls, four user-assignable knobs and buttons, mod and pitch-bend wheels, sustain- and expression-pedal inputs, and a pair of analog VU meters. Bundled software includes 16-track Live Lite Line 6 Studio Edition, Reason Adapted, and RiffWorks T4.

SORCERER'S APPRENTICE

CAMEL AUDIO ALCHEMY

After four years of development, Camel Audio (camelaudio.com) unleashes its newest soft synth, Alchemy (Mac/Win, $249). This AU and VST plug-in combines additive, spectral, virtual analog, and granular synthesis with sampling and resynthesis to produce a huge variety of sounds. Two GB of sample content and 300 factory presets get you off to a good start, while 2 add-on sound banks ($59 each) from major sound designers are available, and more are in the works. Alchemy also offers extensive performance controls, a groove-synchronizing arpeggiator, easy MIDI mapping, and preset morphing and randomization.

PRESONUS STUDIOLIVE 16.4.2

SUITE SIXTEEN

PreSonus (presonus.com) hit the ground running with its new digital mixer, StudioLive 16.4.2 (Mac/Win, $1,999), which offers 16 input channels, FireWire I/O, 4 subgroups, 6 aux buses, 3 stereo outputs, and a mono output for 32-by-18 FireWire recording. DSP-based Fat Channel processing provides 4-band semiparametric EQ and compression, limiting, and gating on every channel and bus. The StudioLive also sports two stereo, programmable 32-bit DSP engines on dedicated buses. QuickTouch design gives you fast access to all parameters using rotary encoders. You can save and recall single-channel and complete setups. Each input channel has a discrete Class A XMAX mic preamp and an analog insert point. The mixer features 100 mm faders, fast-acting LED metering, talkback communication, and PreSonus's Capture recording software, which is designed for the mixer, so no configuration is necessary. em

BAND-IN-A-BOX®

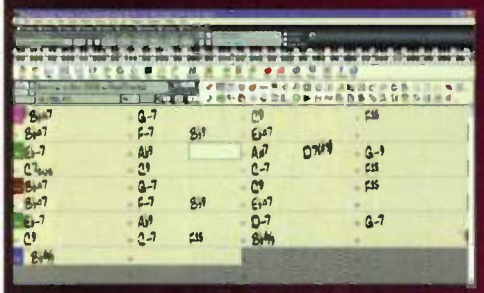
REAL Accompaniment is HERE!

electronic Musician EDITORS' CHOICE

Band-in-a-Box 2009 for Windows is here!

(Band-in-a-Box for Macintosh OS X is currently at Version 12)

The award-winning Band-in-a-Box for Windows is so easy to use! Just type in the chords to any song (like C, Fm7b5, or C13b9), choose a musical style you like, and Band-in-a-Box does the rest, automatically generating a full backing arrangement including RealDrums and RealTracks. That's right, LIVE audio recordings of actual musicians! And that's just the beginning....



Get to know the one-and-only Band-in-a-Box...

Band-in-a-Box automatically generates a full arrangement of piano, bass, drums, guitar and strings. With Band-in-a-Box you can enter a typical song in just minutes. Arrange, listen to, or play along with songs in hundreds of popular musical styles. You'll build up a huge library of your favorite songs in no time.

The popular Band-in-a-Box program is jam-packed with musical features and know-how. The Soloist and the Melodist are popular "intelligent" features that generate professional solos or even create whole new songs from scratch complete with chords, melody, an intro, and even a song title. The on-screen Notation window shows you the notation, tablature, chords, and lyrics of your song. Transpose your music to any key with a click of the mouse. Print out your complete song arrangement, and save your file for export. Work on your chops with Band-in-a-Box as your ever-ready backup band. Use the special practice features for sight-reading, ear training, and learning great new licks with the included song files.

PLUS... look at these amazing features in Band-in-a-Box 2009 for Windows!

Look Ma, no MIDI! – Make your PC come alive with RealTracks—live recordings of Jazz, Country, Rock and Metal studio musicians, playing along to your chord progression. These are not MIDI, and they are not samples, but actual audio recordings ("RealTracks") of studio musicians that can be easily added to your existing Band-in-a-Box songs and styles!

- ✔ **RealTracks** – live audio recordings of musicians that follow the chord progression for solos or accompaniments.
- ✔ **RealDrums** – live audio recordings of top studio drummers to replace the MIDI drum track.
- ✔ **RealStyles** – these are styles that contain no MIDI instruments.
- ✔ **RealCharts** – display the notation, tab and on-screen guitar fretboard for many of the RealTracks.
- ✔ **Audio Chord Wizard** to automatically analyze, extract, and write chords from audio files.
- ✔ **Chord Window** – Play along with your **MP3, WAV,** and **WMA** files.
- ✔ **MultiStyles** make it possible to use up to 24 style variations in one song.
- ✔ **Karaoke MP3/CDG** file support.
- ✔ **Key Change at any bar;** support for multiple keys and key signatures in a single song.
- ✔ **Plus hundreds more!**

World-Famous Band-in-a-Box!

The one-and-only **Band-in-a-Box** is the favorite of musicians, students, and songwriters the world over—**in 15 different languages.** Visit **www.pgmusic.com** for a complete list of all the features!

"an incredible program" Jazz Education Journal

"4-Star Rating" MacWorld

"Editor's Choice" Electronic Musician

"Technical Excellence Finalist" PC Magazine

RealBand 2009

Your All-in-One Audio Workstation and Accompaniment Program

Getting a great sequencer is only the first step to getting a killer recording. You also need a roster of smokin' session players to fill out your sound. Now you can get all that in a single program—**RealBand!**

RealBand is more than a full featured sequencer and digital recording program; it can also automatically generate Audio and MIDI tracks. Unlike other sequencer programs, **RealBand** combines the legendary power of Band-in-a-Box and PowerTracks Pro Audio plus PG Music's revolutionary new RealTracks so you can create your own arrangements to accompany your song, in the style of your choice!

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RealBand opens totally new opportunities for musical creativity. There's no end to what you can accomplish with this exciting combination of musical intelligence and advanced production power. **RealBand delivers!**

RealTracks Sets for Band-in-a-Box or RealBand

Look Ma, no MIDI! – Make your PC come alive with **RealTracks!—39 RealTracks Sets,** with a total of almost 200 RealTracks for Jazz, Country, Rock, Pop, Metal, Blues and Bluegrass!

RealTracks are not MIDI patterns or samples of single instrument hits, but actual audio instruments recorded by studio musicians that replace the MIDI track and play along in sync to the chord progressions you enter. Replace just one MIDI track or all of the tracks with **RealTracks.**

Band-in-a-Box & RealBand Packages

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- ✔ **Band-in-a-Box Pro... $129**
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- ✔ **UltraPAK Hard Drive "Audiophile" Edition Band-in-a-Box & RealBand... $549**
  Includes a 500GB portable USB Hard Drive pre-installed with all the contents of the UltraPAK disc version, plus the WAV files for the RealDrums and RealTracks.
- ✔ **EverythingPAK Band-in-a-Box & RealBand... $499**
  *(**Upgrades start as low as $379)*
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*** The upgrade price is based on your current version of Band-in-a-Box.*

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ZACH DILGARD

Painting with Sound

Charles Cohen improvises "beeps and boops" on his vintage Buchla Music Easel.

Composers of avant-garde electronic music tend to live on the periphery of humanity, as the legendary Gershon Kingsley put it, and few know the sacrifices of choosing that path better than Charles Cohen. Although he's been creating entirely improvised music since 1971 (drawing early inspiration from free-jazz pianist Cecil Taylor and synthesis pioneer Morton Subotnick), he's rarely mentioned outside of a tightly knit coterie of devoted fans and fellow musicians. But Cohen seems to relish flying under the radar, and like his instrument of choice, a rare vintage Buchla Music Easel, he does so with a built-in sense of daring. (Go to http://vimeo.com/902069 to see a video of him playing it.)

By Bill Murphy

"I heard some music by Subotnick in the late '60s and knew right away those were the sounds I wanted," Cohen recalls. "Several years later I started acquiring a Buchla 200 system a few modules at a time—some used from third parties, some new from Don [Buchla]. The module components of the Music Easel were within this first, larger system. Around 1976 I decided to move the Easel modules into Don's Easel carrying case to make it more portable. I was getting into jam sessions with all sorts of folks and just couldn't carry a full 200 system around. That's when I discovered the liberating aspect of improvising with 'limited' resources."

Cohen's tireless penchant for live performance has made him a fixture on the underground music scene in New York City, Baltimore, and his native city, Philadelphia. His longest on-and-off collaboration has been with keyboardist Jeff Cain (as the Ghostwriters). But New Yorkers will also know him for his tenure with Straylight, a space-ambient trio that performed regularly at the Knitting Factory in the mid-'90s.

ONLINE BONUS MATERIAL

Thriving as he does on the gig circuit, Cohen has rarely found the time for setting up in the studio and recording, but a recent spate of releases documents what many of us have been missing. Planet-Y's *Space Station* (Public Guilt, 2007) is a live duet with Yanni Papadopoulos on Casio DG-20 guitar synth, and finds Cohen wrenching waves of emotive character out of the Buchla in the space of less than 30 minutes (see Web Clip 1). *Those Are Pearls That Were His Eyes* (Ruby Red, 2007) is another collaboration with drummer Ed Wilcox, tapping moods that are by turns dark, whimsical, and otherworldly (see Web Clip 2). Cohen also appears on the Valerie Project's debut album of the same name (Drag City, 2007), and on the compilation *Technicolor Hell*, curated by Philadelphia noise artist Dave Smolen for his Malleable imprint.

Although he humbly refers to what he does on the Buchla as "beeps and boops," Cohen demonstrates an uncanny ear for the right sound at the right time, which is what draws so many to his work. "There's just one audio oscillator on the Music Easel, so it's all about control," he explains. "Of course, it's also fun to play and sounds fabulous. I've got an effects stable [Electro-Harmonix 16 Second Delay (original), Lexicon LXP-5 and MPX 550, Alesis Ineko, Electrix Repeater, Korg Mini-KP] that I use in varying combinations, mostly for time-domain processing, because the instrument itself is so satisfying on its own with regard to timbre. But the primary experience for me when I'm playing with someone is to *listen*—then I want to respond quickly, honestly, playfully, and intuitively."

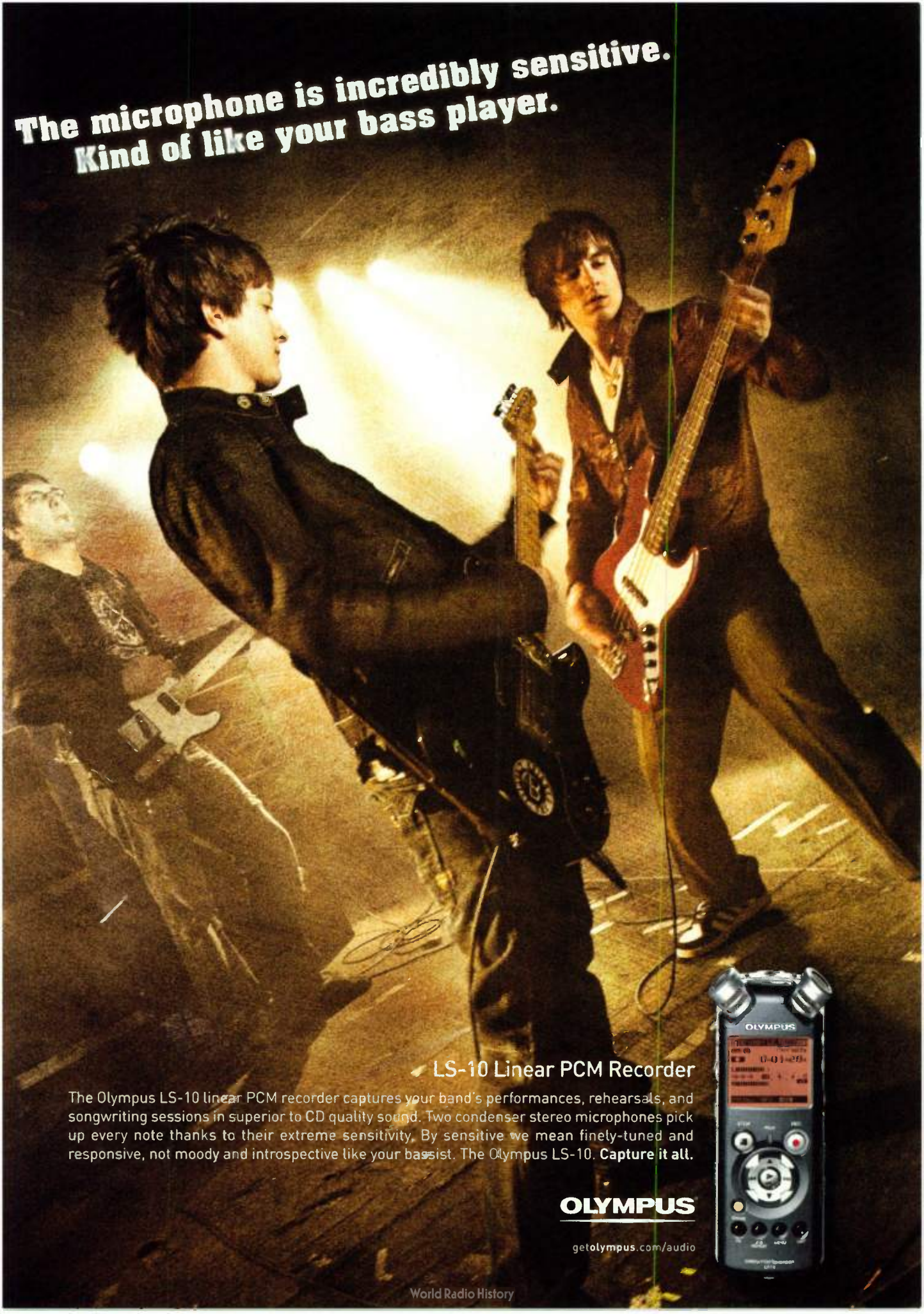


FIG. 1: The editing software that comes with the V-Piano lets you adjust the tuning of each note as well as many other parameters.

Touchy-Feely

A digital piano that really stays in touch. | By Scott Wilkinson

Last year at this time, I profiled an interesting new synthesis technology from Roland (rolandus.com) called SuperNatural, which was unveiled at the 2008 Winter NAMM show (see "What Goes Around Comes Around" in the April 2008 issue, available at emusician.com). At this year's show, Roland did it again with the V-Piano.

Roland has employed several technologies to create piano sounds over the years, including Structured Adaptive (SA) synthesis, sampling, and SuperNatural. But unlike sample-based and SuperNatural instruments, the V-Piano does not use PCM samples, which can consume gigabytes or even terabytes of storage for a full-blown piano. Another drawback of sampled pianos is audible looping and Velocity switching, both of which are dead giveaways that the sound is not natural.

Instead, the V-Piano relies entirely on physical modeling to reproduce the sound of a piano. In this regard, the technology is closer to Roland's Composite Object Sound Modeling (COSM), though in this case, the acronym means Component Object Sound Modeling, because each component of the piano—such as the strings, frame, soundboard, and case—is modeled independently and combined to create the final sound.

The V-Piano comes with graphical editing software for Mac and Windows computers (see Fig. 1), which lets you specify things such as the number and composition of the strings on each key and the soundboard material. With all these parameters, you can create a piano that would be impossible to make in the physical world. How would a piano with three copper-wrapped strings on each key sound? What about silver strings, or a glass soundboard, or maybe a 15-foot-long case?

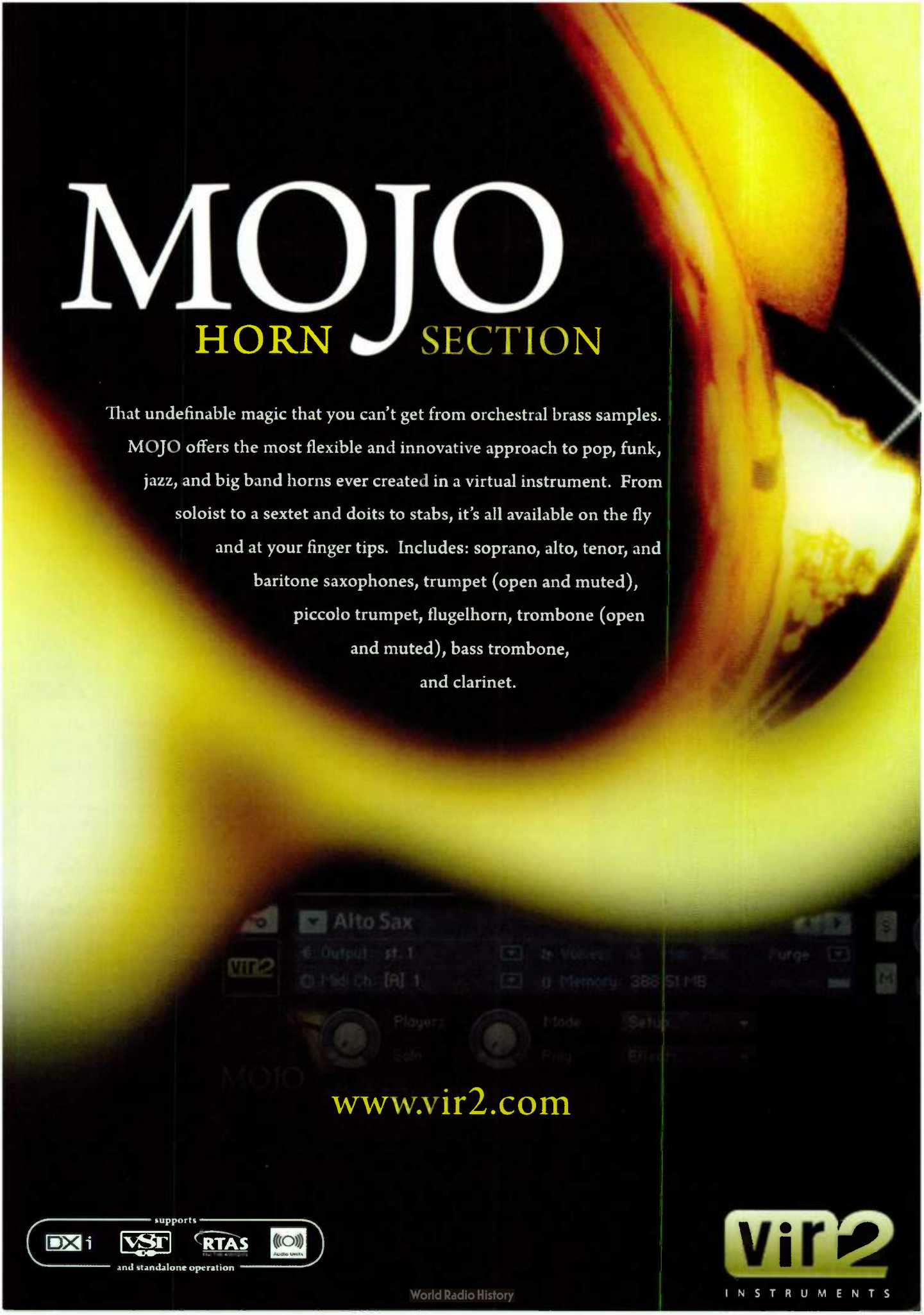
Users can also "voice" the instrument from the software or the front panel. In this process, you set the tuning, the hammer hardness, several types of resonance, and other parameters, which can be applied globally or individually for each key.

Another innovation is a new Progressive Hammer Action (PHA-III) Ivory Feel keyboard action with its own dedicated CPU. This allows a higher repetition rate than most synthetic keyboards can manage, more accurately re-creating the behavior of an acoustic keyboard, including hammer inertia. An escapement mechanism emulates the feel of an acoustic piano's key release.

In Roland's hotel suite at NAMM, I heard an amazing demo of the V-Piano. Two of the presets—American (probably a Steinway, though the rep could not officially confirm this) and European—sounded exquisite, and far better than any sampled piano I've heard. The voicing parameters were very effective at tweaking the presets, and the editing software let me hear what a piano with silver strings would sound like. I'm not a keyboard player, but I heard several pianists remark that the instrument offered far more expression and control than any sampled piano they'd ever played.

The reason for their enthusiasm has much to do with the instrument's sound, which is incredibly convincing, but perhaps even more with the fact that the tone is affected by the pianist's touch. This is something no sampled piano can ever offer, because different keyboard Velocities simply play the same sample at different volumes or, at best, trigger different samples. Such touch sensitivity puts the V-Piano in a unique position: it's a digital piano that can be used to teach touch in addition to the other aspects of keyboard technique. Until now, you could learn touch only by playing an acoustic piano.

So far, there is only one model of V-Piano, which has an 88-note keyboard and should be shipping in May for a list price of $5,995. But I'm sure the technology will be applied to many more products in the future, and I look forward to hearing—and feeling—them all. em



Radical Recording Tips

Sometimes doing the wrong thing gets the right sound.

By D James Goodwin

As engineers, we are naturally drawn to recording because of our love of music as well as our pursuit of sonic perfection. But after we've mastered the craft of making records, it's easy to forget that perfection is relative. Sometimes we have to break the rules to get the right sound.

I relate recording and mixing to filmmaking: I stage every song like a new scene in a movie. In that light, adventurous production techniques can be an effective vehicle for transmitting the emotional core of a song.

In this article I will share some of my favorite techniques for getting unusual sounds. Some of these ideas may seem absurd or gratuitous, while others you may have seen before. But all of these tips can be used within the context of a mainstream recording, providing subtle ornaments to a more traditional approach.

The only rule I'm not willing to break is that the song always gets priority. If something I do obscures or detracts from the song, I nix it. Everything else is fair game.

Trashing Talk

Microphones are addictive to many engineers. But even though I love the usual suspects, such as a Neumann U47 or an AKG C12, they can be a bit boring at times. Why use what everyone else uses? That's why I collect odd mics (see Fig. 1): from vintage Soviet tube mics to flea market specials, every microphone has an unusual character that you can exploit.

Although many of these low-quality mics have ¼-inch plugs at the end and offer instrument-level output, that's not a problem—just run them through a stompbox. A lot of engineers would consider my inexpensive Realistic dynamic mic useless for recording, but I typically run it into a pedal effect, then into a DI, and finally into a mic pre. It sounds a bit noisy at first, but because the mic itself is not capturing anything above, say, 8 kHz, you can

aggressively EQ out the top end without affecting clarity.

I also use old Dictaphone microphones on various sources because they have a low threshold for volume and an extremely limited frequency response. Recording piano with only the Dictaphone mic gives me a built-in narrowed bandwidth simply because the mic is not very good. The resulting sound is arguably more organic than what I'd get from electronic methods of filtering. Of course, you can use this setup as a supplement to a normal miking scheme as well.

When I use the Dictaphone mic as the trash mic on a drum kit, I usually wrap the capsule with a dense towel to lessen cymbal wash and dampen the harsher frequencies. Then you can compress the signal liberally to increase the energy of the track. Compression also tends to raise the midrange frequencies of certain instruments, such as piano and guitar. In addition, the attack transients will often become aggressive, which can help the instrument sit on top of a dense arrangement.

Other mics you should consider trying are carbon mics, crystal mics, and the often-overlooked electret condenser. Whether you use them exclusively or to complement a normal setup, these mics will give you spectacular distortion when driven hard. And when they're used irresponsibly, they provide character that nothing else can come close to replicating.

Tone on Contact

Contact mics are a seemingly infinite source of fun. Rather than picking up airborne sound like a regular mic, they transmit vibrations from solid surfaces, giving you an entirely new perspective on whatever it is that you're recording. You can plaster them virtually anywhere, and most contact mics distort beautifully under duress.

Building your own contact mic using a piezo is simple and inexpensive (see Fig. 2), and there are online sources that show you how. You can also purchase them premade; my favorites are from Cold Gold (contactmicrophones.com).

Because of their strong transients, drums are often a great candidate for contact miking. One method is to tape the mic onto the drumhead, although this will affect the drum's sound. (That might not be a problem because we're not going for pure drum tone here.) If that's not an option, tape the mic onto the drum's shell. In both cases, you'll get an excellent thwack along with the intimate resonances of the drum itself. Shape the results with EQ and compression, and don't be afraid to get heavy handed when necessary.

Contact mics work extremely well on resonant surfaces such as cymbals, a guitar body, or the back side of a piano. I've had some success affixing them to a singer's chest or throat, and even on a drummer's sticks. (The latter technique requires a bit of caution.) Anywhere you put them, contact mics provide a much different perspective of an instrument.

FIG. 1: Many inexpensive microphones have bizarre characteristics. You can often find such mics at flea markets.

Roll Tape

In some studios, the venerable tape machine has been relegated to archiving duties or, worse yet, the junkyard. But in my studio, these old beasts are used as an unparalleled vehicle for sonic manipulation. From subtle color to outright destruction, tape recorders are your most trusted accomplice in the quest for quirk.

You can find a unique and usable trait in any tape machine, whether it's a shaky transport or a slightly overdriven front end. Many decks allow you to adjust the equalization and bias for alignment purposes; be sure to tweak those parameters. And if your older machine has a tube circuit, check out how it distorts.

Tape itself is very durable and can withstand quite a bit of abuse, so don't be afraid to get physical with it. For example, while recording the Portland, Maine–based band Timesbold, I wanted an "underwater" vocal sound for one of the songs. To get this effect, I spooled about 3 minutes of ¼-inch tape to the floor, scrunched it up in my hands, and wound it back onto the supply reel of a friend's Voice of the Music 2-track machine. Next, I recorded the isolated vocal part from Digidesign Pro Tools onto the scrunched-up tape. Then I played the recording back into Pro Tools and edited the timing so that the vocals were in the right place. The result was the creepiest and most unsettling and warbled sound I've heard (see **Web Clips 1a and 1b**).

ONLINE BONUS MATERIAL

Cassette machines are also useful audio processors because of their inherent design limitations. Many of the old consumer decks include features such as a limiter, noise reduction, and EQ options, all of which you can misuse. For instance, the built-in limiters are usually of poor quality, but they add plenty of vibe to a track. If the deck has a built-in mic or mic inputs, try recording through the device in real time. By simply sending audio through the input circuitry, you're bound to walk away with something interesting.

Garbage In

Filters aren't new, but we mostly use them as passive utilities instead of active tools for recording. One of my favorite implements for filtering is a metal garbage can.

On a recent session at the Clubhouse in Rhinebeck, New York, with the band A Million Billion, I suspended a large, perforated garbage can above a grand piano (see **Fig. 3a**). Inside the can, I placed two Oktava lavalier mics as a spaced pair (see **Fig. 3b**). I pointed them toward the bottom of the can, away from the piano. (I also miked the piano in a traditional way.)

I ran the trash-can mics into my modified Scully mic preamps and then into Pro Tools with no additional processing. The sound was incredible (see **Web Clip 2**). The holes kept the garbage can from having an inherent pitch or sympathetic resonance, but it retained all of the interesting reflections that galvanized metal provides. By adding a bit of slow compression, I was able to create the longest and spookiest sustain I've ever coaxed from a piano. At times you can even hear the handles on the can rattle, which adds some extra fuzz.

I've also used sheet metal as a reflective source. Place a piece of thin sheet metal

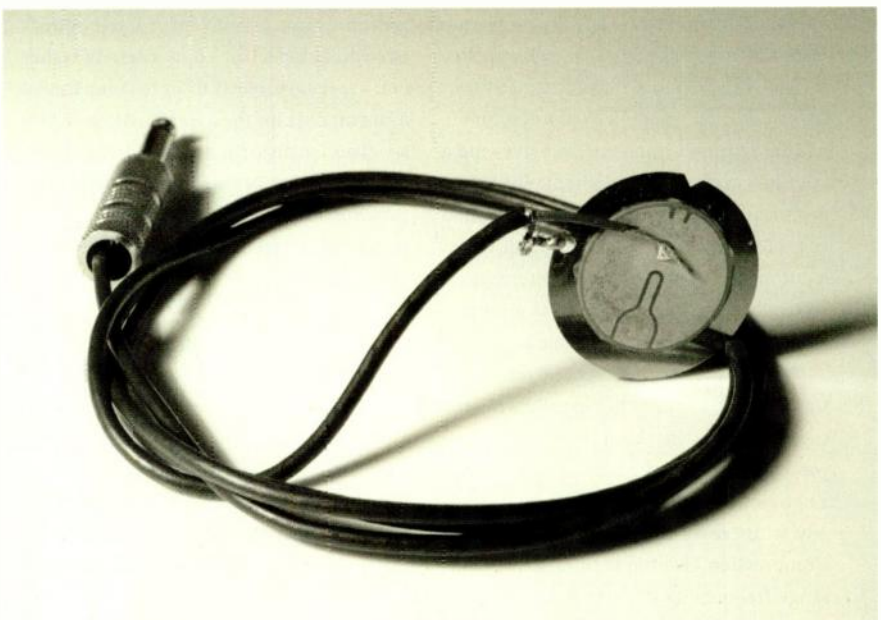


FIG. 2: Harness your DIY powers and build your own contact mic to explore unusual sounds. Piezo discs are inexpensive when purchased online. All you need is a 2-conductor cable, solder, and a soldering iron. This homemade contact mic took only a few minutes to assemble.

"My #1 Country Hit Started With a Phone Call to TAXI"

Elliott Park – TAXI Member

Photo: Elliott (left) with publisher, Michael Martin

I used to think that living in Clyde, Texas (Population 3,345) really limited my chances of ever having success in the music business. But all my friends and family members live here, so I've never wanted to move to Nashville.

Although I love to write songs, I felt isolated when it came to getting them heard by anybody in the music business. Then a friend told me that TAXI would bring real opportunities for my music right to my front door.

I Used a 4-Track

I signed up and sent in songs that I demoed with my digital piano in my little home studio. The A&R people at TAXI liked my songs and began sending them off to some pretty high-level people in Nashville.

All the sudden, doors started opening. With the connections I made through TAXI, I began to have meetings with some of Country Music's top executives, and signed a staff writer deal with a great publisher in Nashville.

Tim McGraw, Rascal Flatts and Faith Hill Put My Songs on Hold

Over the next three years, my songs were considered by a Who's Who of Country Music, but the "big cut" eluded me. I learned to be patient and worked even harder on my songwriting.

Then, my publisher hooked me up with veteran songwriter, Walt Aldridge. Together, we wrote a song called, 'I Loved Her First,' and finally, I hit pay dirt!

#1 Hit on Two Charts!

The group 'Heartland' cut our song and released it as a single. It started out slowly, then gained momentum, and eventually made it all the way to the Number One spot on the Billboard *and* R&R Country charts.

Could that have happened without TAXI? Probably not.

Although there were many people that helped me once I signed my publishing deal, it was TAXI that made that all important first connection for me. And I didn't have to leave my hometown to do it.

Can TAXI do the Same Thing for You?

If your music is competitive, the answer is yes! And if it's not quite ready yet, TAXI's A&R people will help you with that too. You'll also get two FREE tickets to TAXI's world-class convention with your membership. Just *one* ticket for some other conventions cost *twice* as much as your TAXI membership!

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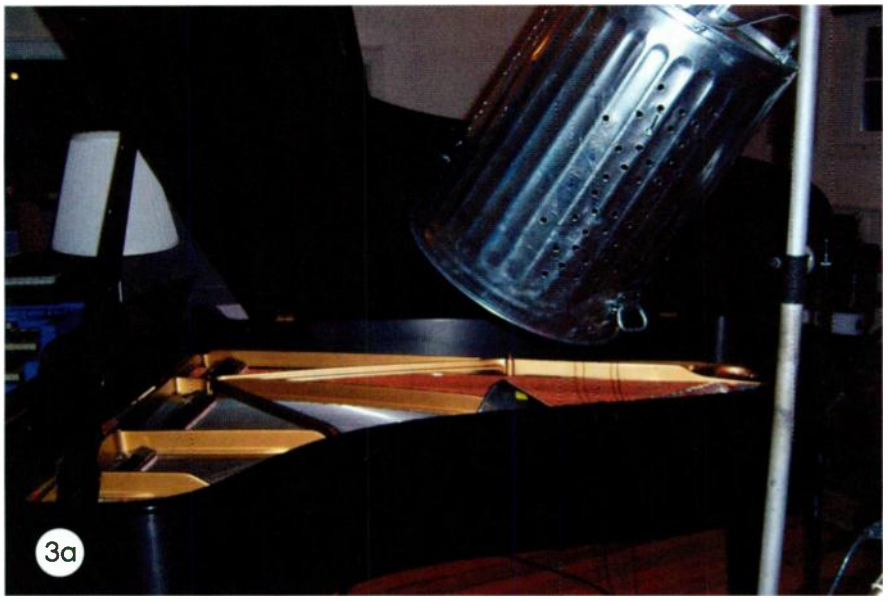
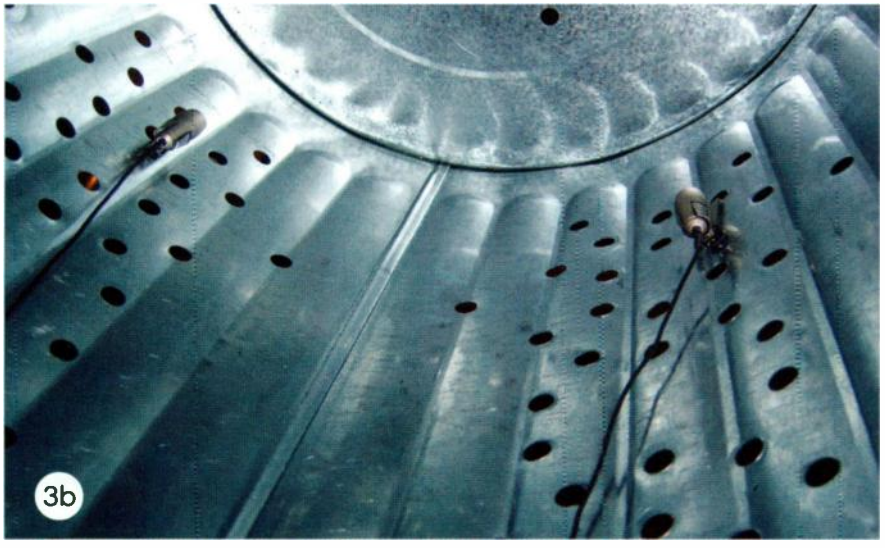




FIGS. 3a and 3b: I used a trash can as a filter on a piano (3a). Notice how the mics are pointed away from the source to catch reflections off the bottom of the can (3b).

underneath a snare drum, and aim a mic at the metal itself. This trick works great when you need a bit of spit on an otherwise mundane snare-drum track. You can accentuate the effect by running the track through an aggressive limiter. It'll also put a little hair on your kick drum sound because the snares vibrate every time the kick drum is hit.

When I used this technique on a tracking session with the Brooklyn band Stars Like Fleas, the new drum sound immediately changed the direction of the song. We'd created something like a strange, short reverb, without taking up the space that a normal reverb would (see Web Clip 3).

New Resonances

You can use other common items to create twisted reverb sounds. For example, a piano is a great resonator. Try putting a small amp or speaker under the lid of a grand piano, or in front of an upright piano, facing the strings. Send some audio into the amp, and when you depress the sustain pedal, the piano strings will vibrate sympathetically. Mic the opposite side of the soundboard and print the track. Swapping positions of the mic and speaker will yield different timbres. Try loosely weaving aluminum foil through the strings to get light buzzing and rattling.

A large drum, such as a double-headed kick drum or floor tom, also works well for reverb. Aim the speaker at one of the drum's heads and mic the opposite head. Adjust the tuning of the drum to get the desired tone or resonance.

A classic reamping trick is to send individual drum tracks out to a speaker that is aimed at the appropriate drum, while miking the other side (see "Better Tone Through Reamping" in the October 2008 issue, available at emusician.com). This can quickly add fullness to anemic instruments.

Parting Thoughts

Sometimes I find that a simple experiment can lead to a windfall of new timbres. For instance, try building a song with adventurous sounds from the ground up. You'll find that the track will take on a much more specific direction right away, and you won't spend as much time trying to find one down the road.

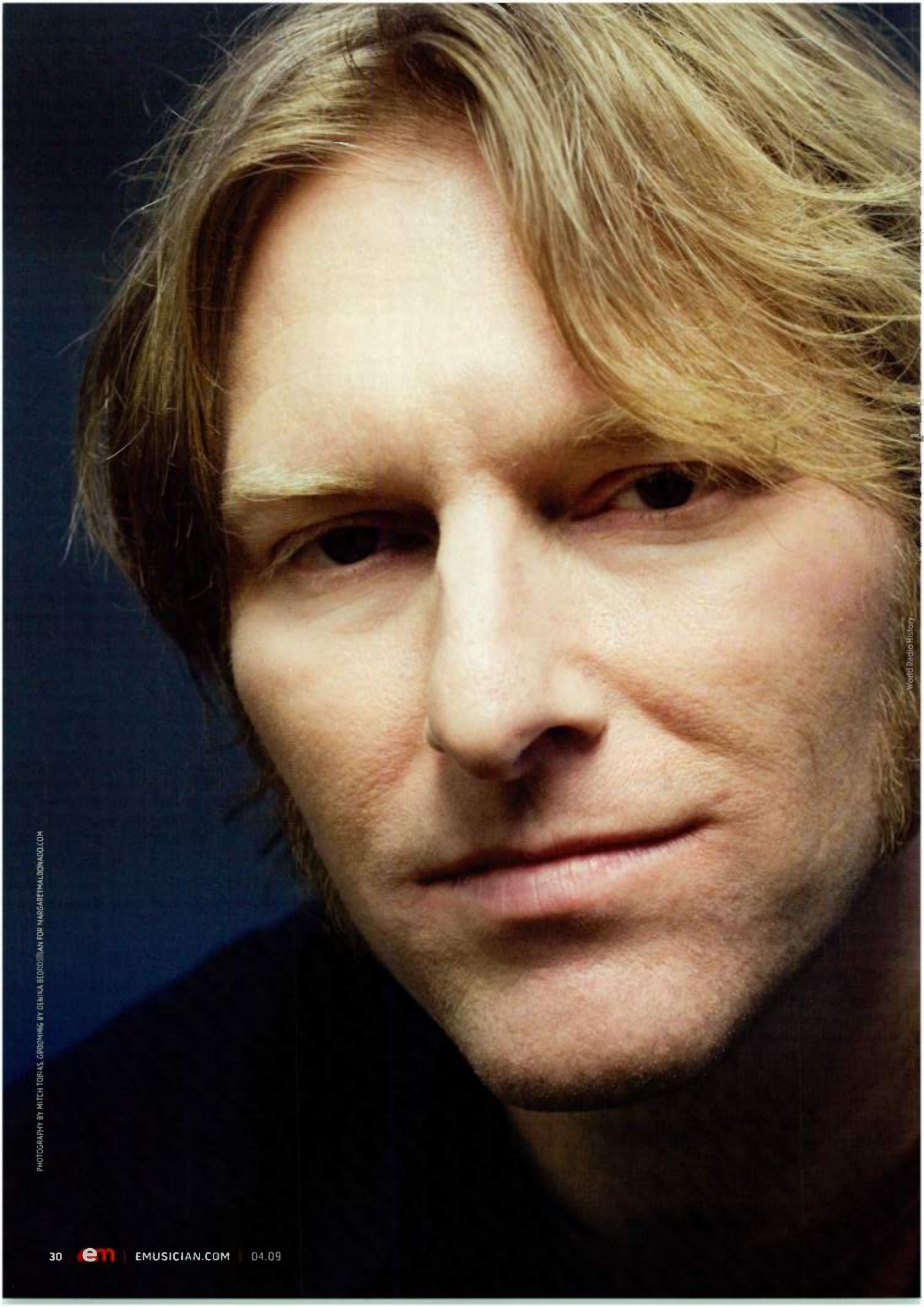
Don't be afraid to commit to sounds. If you like it, print it. Don't get squeamish and print a "clean" version for safety. The only way you can move forward is if you get rid of old habits and think in new ways.

Similarly, it's good to move quickly and not overthink what you're doing. The more you analyze, the less honest and direct the results will be.

Be sure to let the musicians hear the sounds you're recording while they play, no matter how weird the sounds are. They'll react to what they're hearing and play differently, giving you a more engaging performance.

Above all, don't be afraid to experiment. Ideas that may sound dumb and useless on paper will sometimes be the funnest and most rewarding to try. Just keep an open mind and try something new. You'll be glad you did. em

D. James Goodwin is a producer-engineer in Woodstock, New York. He is also the cofounder of the independent-music consortium the Satellite Union. Visit him at www.djamesgoodwin.com.



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Movie-Music Maestro

Inside the world of Hollywood film scoring with *Watchmen* composer Tyler Bates.

By Mike Levine

Tyler Bates picks up his Togaman GuitarViol (see Fig. 1), a six-string electric instrument that's tuned like a guitar and bowed like a cello, and starts playing it into a Boss Loop Station pedal connected to a Fender amp. He records an initial legato pass and then layers several more over it as it loops. The resulting piece of music is rich, ambient, and heavily delayed. Bates is demonstrating to me one of the methods he uses for developing score ideas. "I explore textural ideas with it," he says of the instrument. "By using delays and different bowing techniques, motifs and thematic ideas often emerge in a crude form. I frequently extrapolate elements from these little space jams that ultimately become central to the orchestral aspect of a score. The GuitarViol was all over *300*" (see Web Clip 1).

ONLINE BONUS MATERIAL

Bates, who has been busy scoring movies since the mid-1990s, has been on a major roll over the past several years. In addition to *300*, he composed music for *The Day the Earth Stood Still* (the 2008 remake), *The Devil's Rejects*, *Halloween* (Rob Zombie's 2007 remake), and the Showtime series *Californication*, among many others.

He does most of his work from a modestly sized but well-equipped studio on the ground floor of his L.A. home (see Fig. 2). Bates's scores cover a wide range of musical styles, frequently blending orchestral and electronic elements. The electronic aspects of his music are often developed through collaborations with Wolfgang Matthes (aka "Wolfie"), who brings a deep knowledge of synthesis and sound design into the mix. Bates told me that most of the electronic and nonorchestral acoustic instruments in his scores are played live rather than programmed. Matthes has been involved in most of the scores that Bates has created over the past 11 years, and the two have developed a unique work style, with many musical concepts developed on the fly as they bat ideas back and forth from their respective keyboards in Bates's studio. (For more on Bates's gear, see the online bonus material at emusician.com.)

I had a chance to visit Bates's studio and talk to him at length about *Watchmen* and his approach to scoring.

You're comfortable with both orchestral and electronic scores, as well as with hybrid ones. How do you decide which approach is going to work?

I have no presumptions of what a score should be. I tend to think in terms of what it *can* be, with respect to the director's artistic sensibilities.

FIG. 1: Tyler Bates often uses his Togaman GuitarViol for generating score ideas.

Regardless of how interesting an idea is, it has to register within the director's musical vernacular; otherwise, he or she will have difficulty understanding how it's affecting their film and ultimately will lack confidence in the score. Time and budget are also important when conceptualizing a score, as are its production values. In my studio, we always ask ourselves, "Does it sound expensive?" *[Laughs.]* Joking aside, these details, in addition to the texture of the film, lighting, editing style, and pacing, all influence whether the emphasis leans toward orchestral or nonorchestral music. Nearly all of my scores end up as hybrids because of the process I engage in from the beginning.

When you start on a scoring job, what are you trying to figure out from the material at hand?

It is critical to get into the emotional palette of what the movie is and who the characters are before writing any music. It is also important to understand what the director wants to communicate with the film in general, and to know whose scene it is when two characters share a scene that consists primarily of dialog. I tend to look for a connection between that material and something that I have experienced personally.

What inspires you musically when you're writing a score?

I don't consciously think in terms like we should do a [Gyorgy] Ligeti thing, or a Brian Eno–type thing, or a Jerry Goldsmith thing, for that matter. I think I would be a bit embarrassed saying something like that out loud. There's no doubt that music and images have seeped into my brain over the years, which must influence my train of thought and my sensibilities. I guess that's what sets the parameters for any artist. I'm not sure I can answer your question in a general way. I am always battling the insecure artist within me. Maybe trying to kick its ass is my greatest inspiration? *[Laughs.]* I'm not sure.

Let's forget scoring for a minute. Musically, if you had to say where you're coming from, where would that be?

The answer to that question is a cliché waiting to happen. I would say that inherently I am always looking to experience that feeling I had as a kid when I put on a new record. It gave the space I was in—usually my bedroom—an ambience that was specific to that record. I desperately attempt to channel that s--t every day. And once in a great while, it actually happens. There is plenty of music that immediately triggers that feeling for me, like Stevie Wonder and Sly and the Family Stone, and even Kiss! There are composers who dredge up that feeling in me, like Samuel Barber. Don Ellis's scores for *The French Connection* movies get me pretty worked up also. And, of course, those who embrace dissonance and beauty in the same frame, like Bartok, Ligeti, Gang of Four—all the great masters of jagged rhythm and sadness.

Do you have a classical background?

Not in the formal sense. But after I heard the cannon blast in Tchaikovsky's 1812 Overture for the first time, I learned that you can kick some serious butt with an orchestra.

But you do have a rock background.

You could say that I do, but to be honest, before I ever became a rock musician, I was exposed to a broad spectrum of music of all genres. I spent a lot of time as a kid listening to records with my mother, who was a music freak. She would buy 10 or 12 records a week, and listened to music nonstop. She read the liner notes to me until I learned to read them myself. I memorized the

Tyler Bates: Selected Credits

Watchmen (Warner Bros., 2009)

Rise of the Argonauts video game (Liquid Entertainment, 2009)

The Day the Earth Stood Still (Fox, 2008)

Californication TV series (Showtime, 2007 to the present)

Halloween (Rob Zombie's version; Weinstein Company, 2007)

300 (Warner Bros., 2007)

Slither (Universal, 2006)

The Devil's Rejects (Lions Gate, 2005)

Dawn of the Dead (Universal, 2004)

Get Carter (Warner Bros., 2001)

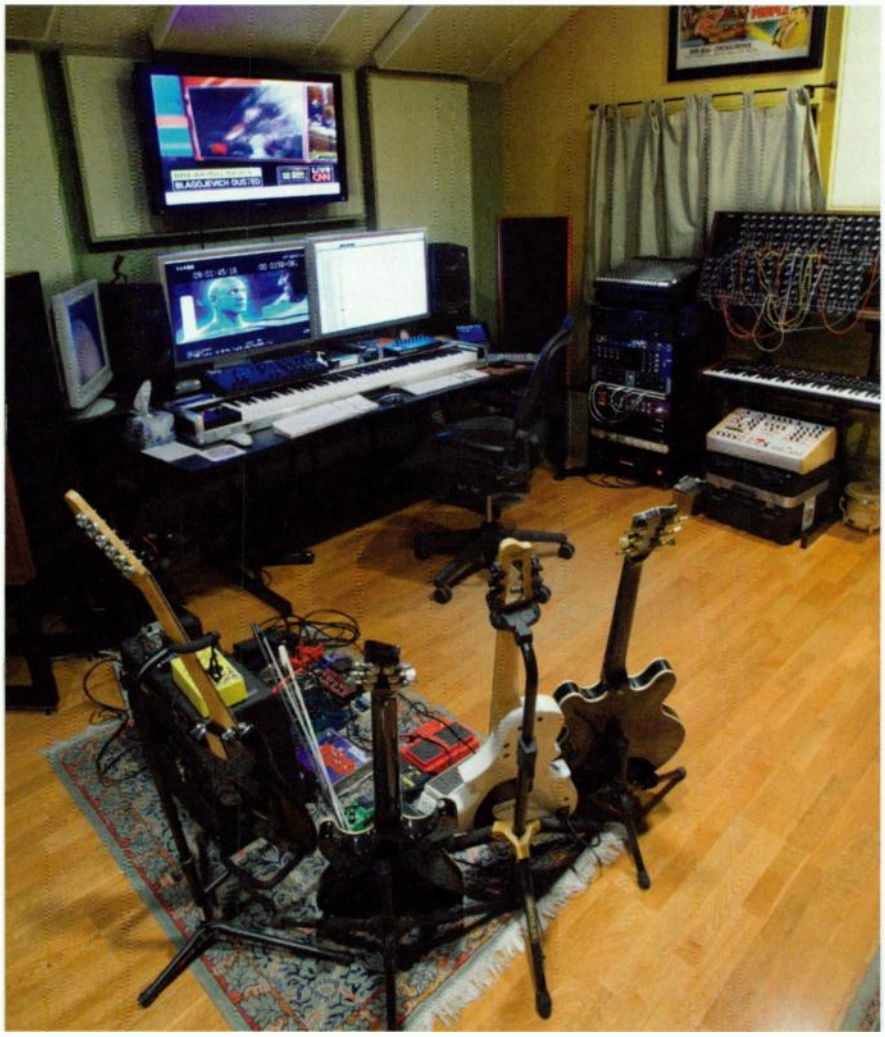

FIG. 2: Bates's home studio, with Wolfgang Matthes's Syrthesis Technology analog modular synth (right).

arrangements, musicians, and producers, but for whatever reason, not so much the lyrics. I didn't give much thought to doing film music until I was in my twenties, but I have always loved instrumental music that provided an escape from reality.

How did you get started doing scoring?

I was in a studio in Chicago working on a project, and my brother called from L.A. He was line producing a low-budget film that ran out of money and needed some rock cues. They gave me the lengths of the cues and where they wanted changes to occur in the arrangements. I turned them around in a day, and $300 later I had my first film credit. If only it were always that easy! The producer of that film asked if I was interested in scoring a movie he was directing, so I said, "Sure." I moved to L.A. and got started. Fortunately, one led to the next, and probably my first 15 movies happened in the first three years I lived in L.A., which kept my rent paid while my band, Pet, pursued the rock 'n' roll dream *[laughs]*. All of these films were super-low-budget. If you were to listen to any of those scores, I would seriously have to apologize.

I bet it was a good way to hone your chops.

Sure. It was great. Most of the time, I was paid enough to make my rent and to eat. I learned along the way from directors, producers, mixers, and music supervisors. I was fortunate that most people I encountered were gracious and patient with me. I didn't meet an actual film composer until I had done nearly 20 film scores. I was pretty clueless for a while. After I did a couple of movies, I was like, "Oh yeah, I guess I need a computer, don't I?" *[Laughs.]* Then I got an [Alesis] ADAT and started from there. I did a bebop film called *The Last Time I Committed Suicide* [Tapestry Films, 1997], just after my band signed to Atlantic Records. After seeing a screening of the film, my manager, Arthur Spivak, said, "Tyler, you should do movies. The rock business is for s--t." I thought about it, but my band was just about to make a record, so that remained my priority for a while.

Was this the deal that Tori Amos helped you with?

Yeah. She happened to be in town at the time that our band was signing to Atlantic Records, and she came to one of our shows and flipped out over us. And she was like, "You guys have to do a record now! I will finance your f--king career if I have to!" That was a nice bump for us at the time.

So what happened next?

Things went pretty well for a while. We recorded our record at her place in Ireland. We managed to get a song on the soundtrack album of *The Crow: City of Angels* [Dimension Films, 1996]. That album went Platinum, which was cool. We toured with some pretty big-name bands before the rock 'n' roll clichés got the better of us and we fell off the tracks. But the experience

> The editor's rhythm will be integral to the tempo of the music in the cue.

Howlin' with Wolfie

Wolfgang Matthes is not only Tyler Bates's close friend, but the two also work together to develop nonorchestral concepts—which are often synth and sample based—for Bates's scores. Matthes is usually credited with doing the "electronic development," which means that he carries out the sonic experiments that composers generally don't have time to do themselves when they're in the process of writing a film score. Matthes's work yields unique and complex textural themes. "Wolfgang's understanding of programming techniques and synthesis are far beyond my technical knowledge," says Bates.

FIG. A: Matthes with his Synthesis Technology MOTM analog modular synth.

But Matthes also helps Bates out with numerous other aspects of a scoring job. "His spirit is connected to everything in the score, including the mix," says Bates. Over the years, Matthes has mixed many of the scores that Bates has composed. "He's always involved in the mix," Bates says.

In addition, Matthes helps him integrate new gear into his studio, something Bates is usually too busy writing music to deal with. "Regardless of how much preparation time you have, there is usually not much time to learn or research new gear, especially to the extent that Wolfie does," Bates says. "He gives me the CliffsNotes!"

Matthes also brings along an impressive knowledge of synthesis and a Synthesis Technology MOTM analog modular synth rig (see Fig. A) that's often a key part of the electronic aspects of Bates's scores. According to Matthes, the MOTM accounts for 90 percent of the electronic textures they use. "It's a classic," Matthes says, "basically like a Moog modular, but brought into the year 2000. I have 25 modules, which is midsize."

Bates and Matthes have a collaborative work style that relies on a lot of back-and-forth. "It's like a band jamming together," says Bates. "Often what we'll discuss are concepts. And then I'll work on a framework for the film and an overview of the movie while he goes off to his dungeon [studio] for a week or so and experiments with variations on ideas we've talked about. Next, we get together to preview the work that he does. Often he's thinking of a sound in a specific register, and I'll be like, 'What if it's three octaves this way or that way?' He usually gives me an off-color glance and pretends not to hear me *[laughs]*. This stage is always fun and exciting because a lot of discoveries are made by chance that turn out to be very cool."

forced me to really consider the film-scoring thing seriously. I knew at that point that I didn't want to work within the confines of a band.

Let's talk about the creative pressure of scoring. Songwriters generally have the luxury of waiting for inspiration to hit before they write something. Whereas in scoring, you basically have to create on demand, right?

In the scoring world, especially television, there are no days off where you're like, "I'm not feeling it." You have to come up with two minutes a day or else you'll end up behind the eight ball and the music will suffer terribly.

Let's say you get in a situation and you're not feeling it. Do you have any methods to pull yourself out of that hole and come up with ideas?

I try and do something outside my studio. Once in a while, you need to feel intense artistic pressure, or even a bit of panic, in order to create something impacting. I'm not talking deadline pressure. I'm talking about artistic pressure. When that becomes really intense, it shifts your focus away from the peripheral stuff, like the expectations of everyone involved in a project, to just getting into your work.

Give me an example.

Let's say I sit down in my studio and I have nothing. I may pick up an instrument and

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Scoring the Prison Fight Scene

In the prison fight scene from *Watchmen* (see **Fig. B**), Bates was faced with scoring an action sequence that changed from real time to slow motion and back again and included a lot of fast cutting. A scene like that, with a visual rhythm that varies so radically, can be very challenging for a composer.

"The editing was really crazy," Bates says. "There was no way to sort of rock through it with a singular tone or tempo, so I looked at it in sections. There are certain shots that have a specific attitude, which need to be supported in tone with music. When fast fighting stuff is happening, volume and intensity are way up. There is a slow-motion shot of Silk Spectre II [one of the *Watchmen* characters], who just kicked the s--t out of somebody, so we break it down to half tempo to give her an iconic acknowledgment—just rocking really heavy and low for a second or two—then we pick it up again as the action continues in real time, and the tone becomes more about kicking ass in a fun, almost '80s way."

Transitioning between the various sections was key to making the music accentuate the rapidly changing visuals. "That's where this comes in handy," says Bates, pointing to his Dave

COURTESY WARNER BROTHERS

FIG. B: Here's a still from the prison fight scene in *Watchmen*. It features fast cutting as well as changes from slow motion to normal speed.

Smith Instruments Evolver synth. Taking advantage of the Evolver's ability to generate tempo-based sounds, Bates or Matthes would adjust its bpm control in real time as they watched the picture, trying to match the visual tempo. "We just kind of spin it up really fast," Bates says. "A lot of it is the transition, too. Let's say Wolfie is working with a filter; he might open it up wide right up to the cut and then just slam it shut, and we move into the next section of music."

It was necessary to write in some odd meters in order to make the music match the picture cuts. Sustaining sounds were often used to mask the awkward musical transitions. "It makes you forget about the actual rhythm at that moment and sort of sucks you in and transports you into the next figure. It's such an intense sequence. It's like something that comes at you like a train and rolls over you," says Matthes, "and suddenly you find yourself in the next section and you don't even know why you're there."

play a bit, or I might experiment with synths, effects, or instruments that are not necessarily related to the project I am working on, just to get music flowing in some way. Then it is about being steady and tenacious in this exercise and not allowing yourself to procrastinate, which I sometimes do anyway *[laughs]*.

Do you spend a lot of time coming up with tempos that accentuate certain hit points in the music?

Sure. For instance, I am working on a fight sequence, and the editing is MTV-style, hard-and-fast cutting. In that case, the editor's rhythm will be integral to the tempo of the music in the cue. Depending on how intense the cuts are, the editing can mandate the parameters rather specifically, limiting your choices with regard to tempo and color. But in some cases, a director may not want you to hit the action or accentuate the cuts. The story, the acting, and the editing may make the point without knocking the hell out of the picture. Obviously, with genre films, you will most likely be directed to hit the smash cuts, and if you're doing something that's rhythm oriented, you have to really land synchronous to the picture in order to accentuate the action onscreen.

And how do you go about doing that?

I work up an idea after finding a tempo that feels right with the scene. With film music, tempo tends to move around a bit. I try to avoid drastic tempo changes in the middle of complex sequences because it not only draws attention away from the picture, but it's very difficult to get the orchestra to execute cleanly. That's something you need to be mindful of when writing for orchestra. However, if that's what's called for, it might be best just to punch in the orchestra at that point.

Do you start figuring out your tempo by playing a click track against the scene?

I start with the tone of a scene, and then with the help of a click, I find a comfortable tempo that feels good against picture. For instance, I may be feeling good with a section of music with an average tempo of 130 bpm, and I need to land a hit that coincides with a cut or an event onscreen. I want to avoid having that hit occur on a 16th note if I can make it work on

the top of a beat. So in that case, I would ramp the tempo up and down over time to naturally hit my sync points, which also makes the music feel more natural and exciting than it would at a static tempo.

So talk more about how you approached the music in *Watchmen*.

[Director] Zack Snyder tends to make huge films that explore the headspace of his characters. It's common that an action scene will take place behind narration in his movies, which presents a lot of musical challenges. In general, loneliness is a common denominator among the characters in *Watchmen*. The score is the din of the headspace of those characters. It is intended to express what they can't come to terms with within themselves.

So how did that translate musically?

The musical approach is ambient and emotional as opposed to what you might expect from seeing the trailer. There is no leitmotif [recurring theme] or typical superhero themes in the score.

Is the music kind of angst-ridden?

Some of it is, and some of it is deeply sad.

> In the scoring world, especially television, there are no days off.

What percent of the *Watchmen* score is orchestral?

There are probably 65 minutes of orchestra and 20 to 25 minutes of nonorchestral/electronic music.

What about for the action scenes? Are those mostly orchestral, or did you bring in more rock instrumentation?

The action sequences are mostly orchestral, although none of them are entirely so. There's a prison fight scene, for which Zack asked that the music be heavy, rocking, and fun. And the picture cuts are a bit wild, switching between slow-motion and ramp-tempo [speeding up or slowing down] events, so it seemed natural that bass, guitars, and drums would be part of the music. Beneath it are programmed bass lines, percussive sequences, and drums, intended to create a contemporized expression of an '80s sound. The Dave Smith Evolver came in handy for this, in addition to an Elektron Monomachine and a Synthesis Technology MOTM analog modular system. [For more on how Bates composed the music for this scene, see the sidebar "Scoring the Prison Fight Scene."]

You mentioned that you don't really have a classical background, so how did you learn how to write for an orchestra?

My first formal training came when I played saxophone in the school jazz band. I've educated myself a fair bit by reading various books on orchestration and harmony, as well as studying classical music on my own. Also, the orchestrators I have worked with along the way have helped me improve my orchestral writing and knowledge—especially Tim Williams, who is my orchestrator and conductor, and next-door neighbor.

How fleshed out are your orchestral arrangements when you give them to your orchestrator? How does that process generally work?

I leave very little if any room for speculation, because I have to produce convincing demos for the directors and producers involved in each film project. It's best not to ask for suspended disbelief or to make disclaimers when playing a cue to them. When music is ready to be orchestrated, I will put a copy of the

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> I am always looking to experience that feeling I had as a kid when I put on a new record.

[Digidesign] Pro Tools session for each cue on a drive and then hand it over the fence to Tim. He has an identical Pro Tools system, so it opens and plays in his studio exactly as it does in mine. This ensures that he knows exactly what my intent is with each instrument in a given cue. Once he prepares the cue in [MakeMusic] Finale, we go over the score and discuss where we may add color to emphasize specific melodies or voicings, or perhaps effects played by brass or strings.

Let me change gears a bit and ask you what you would recommend for composers trying to break into film scoring.

Create a reel, or a body of work that shows your abilities to prospective directors and producers. If necessary, find film clips on the Internet or even take classic films and write music to the picture without sound—anything that can show who you are as a composer. Make a Web site with examples of your work. Solicit yourself to student filmmakers in local colleges. You may want to write to directors you admire and see if they will listen to your music. You should have an idea of the kind of movies that you want to write [music for]. Learn the technological side of music so that you can possibly assist an established composer. There is really no succinct answer to this question.

But would an established director or composer pay attention to someone who is unknown?

You never know. Someone may hear a clip they love and phone you up. I read as many of the emails that are sent to me as possible. I do my best to answer people and also listen to their music if they ask me to. You have to show up every day and try new ways to improve as an artist in order to create opportunities for yourself. EM

Mike Levine is EM's executive editor and senior media producer. He hosts the monthly Podcast "EM Cast" (emusician.com/podcasts).

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FIG. 1: Using Omnisphere's parameter presets is the key to quickly building new sounds from scratch.

Get Intimate with Omnisphere

Set the controls for the heart of the synth.

By Geary Yelton

For anyone who enjoys programming synthesizers, Omnisphere may be the ultimate virtual playground. Spectrasonics' flagship soft synth takes you as deep as you want to go while making every parameter relatively easy to find. Its architecture and nomenclature are standardized enough that anyone with any experience using synthesizers should be able to easily navigate its well-organized parameter pages. With envelopes offering an infinite number of stages, dozens of possible modulation routings, and a huge and ever-growing pool of patches and waveforms, Omnisphere gives you plenty of resources for experimenting and developing your own timbral palette. In this tutorial we'll take a closer look at several functions of special interest to anyone who wants to create original sounds.

Build a Better Launchpad

You can approach Omnisphere as you would any other synth, either modifying existing patches or building sounds from the ground up by defining an oscillator-filter-amplifier pathway. Either way, the best place to start is usually the Edit page. The Edit page presents the building blocks of synthesis in sections that provide clear-cut access to the oscillators, filters, envelopes, LFOs, and modulation.

When you first instantiate Omnisphere, the Default patch gives you a predictable starting point for building new sounds from scratch. Omnisphere lets you quickly construct new patches with a minimum of effort, thanks mostly to its ability to save and recall parameter templates. I'll guide you through the simple process of building custom templates

FIG. 2: Eight additional oscillators are hidden until you enable Harmonia mode, which gives Omnisphere some additive synthesis capabilities.

you can use as launchpads for creating your own patches.

In the Default patch (reinstantiate Omnisphere to get there if necessary), begin by clicking on the Edit button if you're on a different page. Click on the little triangle next to the Oscillator header, and you'll see a menu that lists the oscillator presets (see Fig. 1). Select Giant Unisync and play a few notes. Drag the Oscillator section's Hard Sync slider until its value reads 0.830, turn the Analog knob down to 0.000, and play a bit more. Return to the menu, choose Save Osc Preset, and name it Giant Unisync 2.

Now let's check out the Filter presets. To hear any changes, you must first click on that section's Power button, located immediately to the left of the Filters header. (Turning off a section's Power button conserves CPU cycles.) After you've listened to a few factory presets by selecting them from the pop-up menu, select Dual Stereo Bandpass from the Specialty Filters.

Next, go to the Envelopes section and increase the amplitude release time slightly by raising the R slider. Select Copy Envelope Preset from the Envelopes pop-up menu, click on the Envelopes section's Filter button, and choose Paste Envelope Preset from the pop-up menu. Reduce the filter envelope's decay to 0.00, and then choose Save Envelope Preset and give it a new name. You have created a simple new patch just by recalling and manipulating oscillator and filter parameter presets.

Oscillator Magic

Oscillators are the heart of Omnisphere, even more than they are in most synths. You might not know it to look at the Edit page, but Omnisphere gives you as many as ten oscillators per Part—one for each Layer, and in Harmonia mode, four additional oscillators per Layer. What you can do with those extra oscillators depends on whether you click on the Oscillator section's Sample or Synth button.

> Omnisphere gives you plenty of resources for experimenting.

Starting with the Default patch again, click on the Sample button at the top of the Edit page's Oscillator section and use the Oscillator browser to find the Psychoacoustic waveform Bowlimba. Now click on Mult (short for Voice Multiplier) in the row of buttons below the Oscillator browser display. See that menu that says Unison? Click on it and select Harmonia. Four rows will appear, each with a button on the left, a pop-up menu on the right, and three knobs in between (see Fig. 2). Each button turns its corresponding oscillator on, the menu determines its octave, and the knobs control its level, panning, and fine-tuning. To hear the additional oscillators, click on the Power button immediately to the left of the menu that says Harmonia. Enable all four Harmonia oscillators and try different settings to get a feel for how the Voice Multiplier works.

If you click on the Synth button rather than Sample, little arrowheads will appear just above the knobs. Clicking on the right-hand arrow assigns additional functions to the same knobs—Shape, Symmetry, and Sync—and to the menu to their right. Shape offsets the waveshape relative to the main oscillator; because there's no waveform display, though, you'll have to adjust it by ear. Symmetry is another means to alter the waveshape; when applied to a pulse wave, it alters the pulse width. And the Sync parameter offsets hard sync relative to the main oscillator.

You can assign host automation to control any of these knobs, but you can't apply any modulators as you can with the main oscillator's corresponding parameters. However, you can modulate the mix of Harmonia oscillators relative to the main oscillator in the Modulation section. Just select any modulator you like in the Modulation section's Source menu, and then select Oscillator→Harmonia Mix in the Target menu. If the source is, say, Key Tracking, the harmonic content will grow more complex as you play higher notes of the keyboard. If the source is Mod Wheel or Aftertouch, you can manually control the spectrum to impact expressivity as you play.

Fab Mod Gear

When you want to add motion to your sound by assigning modulation routings, Omnisphere lets you choose the best approach. You have at least three ways to link sources to destinations: right-click on a parameter and choose a mod source from a contextual pop-up menu; define mod routings one at a time on the left side of the Edit page; or go directly to the Mod Matrix Zoom page to simultaneously view and edit as

FIG. 3: Omnisphere organizes all of the modulation routings for both Layers on the Mod Matrix Zoom page. The Smooth slider lets you slow a modulation source's output; experienced synthesists may recognize this function as lag.

MAKING TRACKS

Creative Pitch Correction

Going beyond vocal fixes. | By Brian Smithers

Vocal repair is the bread-and-butter application for pitch-correction software such as Celemony Melodyne, but I'd rather just work with a singer who has good pitch. That leaves me free to explore the more creative uses of tuning software. Look beyond the autocorrection aspects of the program, and you'll find plenty of opportunities for making cool sounds.

Just Desserts

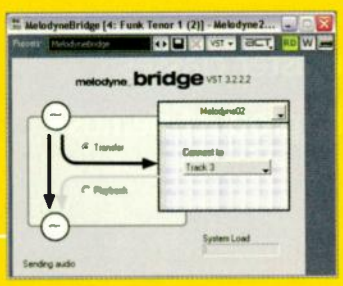
One thing that always bugs me about emulative synth parts is equal-tempered keyboard tuning. No horn or string section "tunes" chords in the way a piano does. The thing that makes a great horn section really pop is each player's ability to bend notes up or down slightly to align the notes of a chord properly. When possible, instrumentalists and singers tune harmonic intervals to *just intonation*, which is based on the natural integer ratios of the harmonic series. (For links to useful information about tuning, see the **online bonus material** at emusician.com.)

The moral of the story is that if you use autotuning software recklessly, you risk taking the natural tuning adjustments out of the harmony parts. Armed with a knowledge of what to look for and, more important, a keen ear, you can restore the intervals to their proper size (the size that really good musicians would have played and sung to begin with). The most obvious fixes include perfect fifths and minor thirds, which should be slightly wider, and major thirds, which should be slightly narrower.

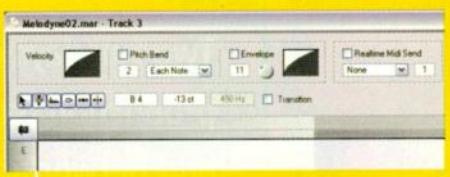
In **Web Clip 1**, I apply this principle to MIDI-triggered string samples in Cakewalk Sonar. Using a respected sample library, I recorded a simple 3-part I-V-IV-I phrase and printed each part to a mono audio track. On each of these tracks, I linked to Melodyne using the MelodyneBridge plug-in. MelodyneBridge is one step short of a real-time plug-in, in that you must transfer the audio into Melodyne (running alongside the host) before tuning it. Once the audio is in Melodyne, any changes you make will play back immediately in the host.

When Melodyne's Edit Pitch tool is

STEP-BY-STEP INSTRUCTIONS

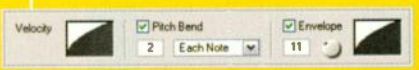


Step 1: Transfer audio from the host into Melodyne using the MelodyneBridge plug-in.



Step 2: Show the audio-to-MIDI parameters in the Editor window. You can do this from the View menu or the MIDI menu.

Step 3: Enable export of pitch-bend and envelope data, choosing the appropriate controller number and pitch-bend mode. Tweak the Velocity and envelope curves if necessary.



active, you can adjust selected notes in hundredths of a semitone, called *cents*, by typing values in the Selected Note Offset field (see Fig. 1). Curiously, I had to correct the root of the tonic chord by a couple of cents. I then tuned the fifth of each chord up by 3 cents and the third (they were all major thirds) down by 13 cents. To maintain continuity from chord to chord, I tuned the V chord from the slightly sharp fifth scale degree and the IV chord from the key's tonic.

Having thus satisfied theory, I threw caution to the wind and made my final tweaks purely by ear. I adjusted nothing more than a cent or two, and I attribute most of the adjustments to the inherent minor imperfections of the samples.

Horn of Plenty

When blending acoustic instruments and synths, it can be tough to match phrasing as nearly as you'd like. The biggest obstacle is that a saxophone, for example, is a very different type of controller from a keyboard. Playing the synth parts on a wind controller such as the Akai EWI can help significantly, but that isn't always an option.

Melodyne's pitch-to-MIDI conversion is accurate enough and has enough performance detail to help create the synth parts directly from the acoustic tracks that they're supposed to match (see "Step-by-Step Instructions"). You can do only so much to make a synth part convincingly emulative, of course, but if you can match the phrasing well enough, it will sound like a skillful and deliberate orchestration choice (see **Web Clip 2**).

The key is to include enough controller data to bend and shape the synth part in the way that an acoustic performer does. Melodyne exports pitch variation as MIDI Pitch Bend data and exports volume as a combination of Velocity and a continuous controller (CC 11 by default). You can bias both Velocity and controller values by adjusting graphic response curves, much like those on a keyboard controller.

Pitch-bend amount must be matched to that of the synth, and Melodyne features three pitch-bend modes to suit different situations. I found dealing with a couple of horn falloffs to be easier using the Transition (portamento) function than the pitch bend. It's a good idea to clean up any pitch-detection errors in Melodyne before exporting to MIDI, as the note numbers, pitch bends, and transitions are interrelated.

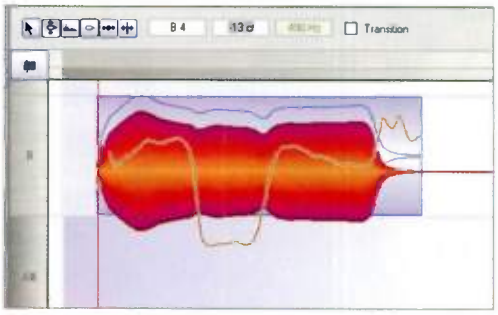
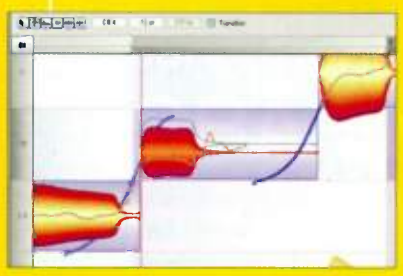


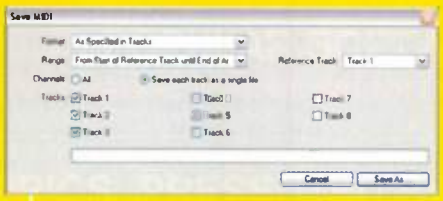
FIG. 1: You can tune your tracks more sonorously by tweaking individual notes by small amounts. Melodyne's Selected Note Offset lets you tweak pitch in hundredths of a semitone (cents).

Sophisticated tools such as Melodyne are too often either abused and overused or discounted as a form of cheating. Used imaginatively, however, pitch-correction software ends up being the ultimate bridge between acoustic and electronic instruments. Sometimes plain old curiosity—not necessity—is the true mother of invention. em

Saxophonist and composer Brian Smithers is department chair of workstations at Full Sail University.

Step 4: Correct any misanalyzed notes within Melodyne before exporting. Tweak the intonation of individual notes for optimum harmonic effect.





Step 5: Use the Save Audio As MIDI command to export the desired tracks to individual Standard MIDI Files. To preserve alignment between tracks, set the Range to From Start Of Reference Track Until End Of Arrangement.

Step 6: Import the MIDI files to the appropriate tracks in your host sequencer and assign them to the desired synths. Be sure that the synths' pitch-bend ranges match the range set in Melodyne.

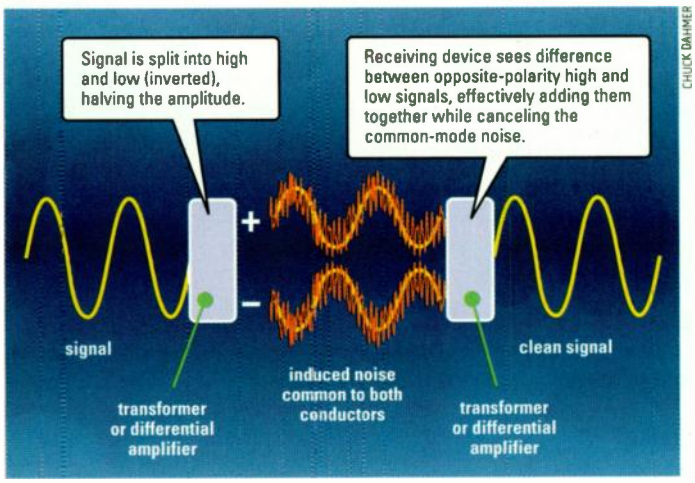


FIG. 1: In a balanced circuit, the matched (balanced) impedance of two conductors causes induced noise to be identical between them. The two noise signals then cancel each other at the differential amplifier.

Balancing Act

Balanced-line connections help keep audio signals clean and clear. | By Brian Smithers

Don't bother to read this article if you never record vocals, don't perform or mix live, or produce electronic music using only software synthesizers and prerecorded loops processed through plug-ins, bounced to disk, and burned to disk internally. You are among the few musicians and engineers who never need to connect a music-making device to another piece of audio gear, other than to headphones or powered speakers.

For the rest of us, it takes mics, amps, instruments, speakers, cue boxes, recorders, computers, mixers, and a bunch of other physical devices to produce and perform music. All those things have to be connected somehow, which requires cables. Unfortunately, cables are susceptible to transmitting various types of induced noise, such as electromagnetic interference (EMI). *Balanced* lines are often used to combat this problem.

Balance Beam

A balanced line uses two primary conductors whose impedance is precisely matched. Their matching impedance renders them equally susceptible to interference, so they end up carrying the same induced noise signal. The receiving device effectively inverts one signal before adding the two together, thereby canceling the noise.

This is known as *common-mode rejection*. In other words, the balanced circuit rejects the signal that is common to the two conductors (the interference). The effectiveness of a balanced circuit is judged by the relationship between the common-mode input (or induced) signal and the remnant of the common-mode signal at the output. This value is the *common-mode rejection ratio*, or CMRR.

Uncommon Valor

The desired signal, then, must not be common to the two conductors, or it too will cancel when the signal on one side is inverted and the two signals are combined. Although it is perfectly acceptable for the signal to be present entirely on one conductor, the more common arrangement is for one conductor to carry an equal but opposite copy of the other. In other words, its polarity is inverted so that a positive voltage on the second wire corresponds to a negative voltage on the first wire (see Fig. 1). If the signals carried by the two wires were to be combined directly, they would completely cancel each other, resulting in no output. Instead, the receiving device sees the difference between them, effectively adding them together.

This *differential* signal is created at the source and resolved at the destination by either a differential amplifier (electronic balancing) or a transformer (transformer balancing). Although the sonic merits of each are the subject of some debate, the performance of the balanced line is not affected by mixing and matching the two. In any case, the critical aspect of a balanced line is not whether the high (normal) and low (inverted) halves of the signal are perfectly equal, but whether the *impedance* of the two lines matches exactly.

Optimum Connections

When connecting balanced inputs to unbalanced outputs or vice versa, it may be minimally acceptable to tie the low conductor to the cable shield at the unbalanced end. To retain as much of the benefit of the balanced line as possible, however, it's far better to use a transformer to isolate the two from each other at the unbalanced end of the cable. A device designed for this purpose is known as a *balun* (for "balanced/unbalanced"). A direct injection (DI) box is fundamentally a balun, although it often incorporates additional features.

Their robust resistance to induced noise makes balanced cables useful in carrying analog audio, digital audio (such as AES3), and data (including Ethernet). There is a less-is-more school of thought that holds that balanced connections introduce unneeded circuitry into an audio chain, and that it's therefore better to prevent interference in the first place and use only unbalanced lines. For most real-world studios and P.A. systems, however, balanced lines offer powerful insurance against induced noise and EMI. em

Brian Smithers is department chair of workstations at Full Sail University in Winter Park, Florida, and the author of Mixing in Pro Tools: Skill Pack *(Cengage Learning, 2006).*

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FIG. 1: Kevin Teasley stresses the importance of networking for getting film-trailer composing work.

Q&A: Kevin Teasley

What it takes to work as a movie-trailer composer.

When you watch a movie trailer, or a commercial for a movie, it's easy to assume that the music you hear is from the movie itself. But for the most part, that's not the case. That music was likely written months before the film was scored, probably by a composer like Kevin Teasley (see Fig. 1), who specializes in creating film-trailer music. The owner of Los Angeles–based Distortion Music and Sound Design, Teasley has written trailer music for an array of major movies, including *Indiana Jones and the Kingdom of the Crystal Skull* (Paramount, 2008), *The Mummy: Tomb of the Dragon Emperor* (Universal, 2008), and *Jumper* (Twentieth Century Fox, 2008). In this interview, he sheds light on the inner workings of the world of movie-trailer music and offers advice for composers looking to get involved in it.

By Mike Levine

Is it always true that trailers get scored by people other than the film's composer?

It's probably 90 percent true, because the "teaser" for a movie, which is the 60-second version of a trailer, usually comes out anywhere from eight months to a year before a big-tent-pole (blockbuster) movie like a *Spiderman* or a *Batman* or something like that might come out.

So at that point, the movie music hasn't even been composed.

The music hasn't been composed, and usually when they're cutting the actual (main) trailer, there's anywhere between a month to three months before the film gets released.

There are several kinds of trailers, right?

The teaser is 60 seconds, and that's used to kind of tease the audience. Let's say it's this Christmas, and let's say *Spiderman 4* is coming out next September. They might give you a 60-second teaser that's very vague on the story line and the characters, just to get people excited.

So a teaser would be one of those "Coming next spring" type of trailers?

Absolutely. A great example is when J. J. Abrams did *Cloverfield*. The teaser for that left everyone going, "Wow, what is this movie going to be about?" And it was 60 seconds long. And then what they do when they get closer, for a big-tent-pole movie, they'll do what are called trailer A, trailer B, and trailer C. And for a big movie, it gets to trailer D a lot of times. How that works is that trailer A is what they think is the best general-audience trailer. Then they'll cut a

trailer B that might be geared toward young males. Trailer C might be more character driven, and trailer D might deal with the love relationship in the movie, or like that.

And each trailer would need its own score because each one has different excerpts from different scenes, right?

Absolutely. And sometimes there will be some cross-pollination, so to speak, of some cues. Like if it's a big action film, they're going to have the big action montage at the end, so that [the music for that part] may stay the same.

Is the picture that's in a trailer generally cut to the music, rather than the music being scored to the picture?

Yeah. When I got into the industry years ago, I didn't know that 99 percent of the time they're cutting to these music cues. They'll massage the music cues here and there to say, "Oh, it needs a ramp-up here" or "Let me just jump two minutes ahead." But they really cut to how these music cues shake and to the beats in them. So when they give us the temp score and say, "Hey, we need something heroic like this," there is a golden rule: if this trailer is cut to this [temp] cue that's 98 bpm, stay at 98 bpm or you'll miss all of the editor's hits.

Does any trailer music get composed outside of Los Angeles?

I'm pretty sure people compose what we would consider trailer music all over the world. But the main companies [that compose trailer music] are all right here in L.A. I'm sure there are one or two in New York, and a lot of music libraries service the trailer industry. But probably 99 percent of the major players are based in Hollywood.

You compose through your company, Distortion. Is there much trailer music that gets composed by individuals?

There is, but it's a little trickier to get a foothold in it because an individual composer who is trying to do an 80-piece orchestra with 100 voices, well, that [costs] a lot of money. So usually what these individual composers do is that they will go on as ghost-writers or a work-for-hire sort of thing for companies like mine or other companies here in L.A. that just do that. That's if you're going to do the orchestral thing. There are so many other genres of music out there.

> The great thing about trailers is that the licensing is all nonexclusive.

Once you write a cue or cues for a trailer, do you give up all rights to that music?

The great thing about trailers is that the licensing is all nonexclusive. So if you have a song, you could license it eight times in a year at $15,000 a pop.

Is there trailer music commissioned for indie movies?

Yes. In indie films the budgets are a lot lower. So what happens is that they can't afford to license a high-end music-library cue. If you're an indie film and you're working on a budget, and you have three cues in your trailer and each one is costing $7,500, that's a ton of money just on music for your trailer. So what will end up happening [instead] is they'll hire a young composer—or an older composer, it doesn't matter—who is willing to custom-score the trailer. They might say, "Can you score the whole trailer for $500?" Who knows? It's up to each individual to decide whether that's worth doing.

But that might be a way in the door.

It is, and it helps you build a catalog.

If you were new in town and you wanted to try to get into the trailer-composing business, what would be the two or three things you would do, knowing what you know now?

Make sure to become literate to the craft, the skill set—not only on the creative side, but the business side. Make sure to learn what composers are charging for certain cues, how they should be delivered, and who should mix them. How does the licensing work? Who licenses it for you? What are the terms that you should know? The one thing you really don't want to happen is to finally get that meeting with that person you want, and when you leave they say, "This person has no clue."

When you first start out, how do you even get anyone to pay attention to you?

I wish I had the key to unlock the golden door: "This is how to break in." It's so much about meeting as many people as you can. For me, and I say this with a smile and tongue in cheek, you know it wasn't from asking many musicians or composers, because even though they're friends, they're trying to get the same work as me. So they may not be as willing to share information. So I tried to find out how to become friends with the editors, because they're the guys that actually put the music [on the trailers]. In the trailer world, the editors have a lot of power in what they choose for music. So I'm like, 'How can I know editors? Where can I meet editors?" The music supervisors and the editors are the most important people to know. So if you sent them an email, they might say cordially, "Yeah, send me some stuff." And you send some stuff, and it may never get listened to.

I don't mind sharing what I did, because I think that everyone should try to pursue their dreams. I made postcards. And I knew every time I sent postcards, they were going to chuck them in the trash, but I did that for six months to a year. So when I finally did call them, subconsciously they said, "Oh yeah, I've heard of you," only because they saw my postcard. So I spent a lot of money making these great-looking postcards, and whenever I would get a credit, I'd put the credit on the postcard and send that postcard out. It was hardest getting the first credit, which is true in almost anything you do. And I say that because when you do get your first one, don't be the diva. Be the one that's knowledgeable. Definitely be on time. Always meet your deadlines. They don't care if your computer crashed; you'd better run to Kinko's. Do whatever you have to do. No one wants to hear your sob story. Don't involve them in any of that.

ONLINE BONUS MATERIAL

*(Editor's note: For more of this interview, see the **online bonus material** at emusician.com.)* EM

Mike Levine is EM's executive editor and senior media producer. He hosts the monthly Podcast "EM Cast" (emusician.com/podcasts).

MOTU

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CONS: CD burning not Red Book compliant. No automatic crossfades when comping.

FEATURES	1	2	3	4	5
EASE OF USE	1	2	3	4	5
DOCUMENTATION	1	2	3	4	5
VALUE	1	2	3	4	5

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ONLINE BONUS MATERIAL

GUIDE TO EM METERS

5 Amazing: as good as it gets with current technology
4 Clearly above average: very desirable
3 Good: meets expectations
2 Somewhat disappointing but usable
1 Unacceptably flawed

By Mike Levine

Digital Performer has always offered Mac users a huge range of features and robust native performance. With the release of version 6, the program adds a slew of impressive improvements, including a redesigned user interface (see Web Clip 1), dedicated comping features, convolution reverb and leveling-amplifier plug-ins, Final Cut Pro import and export features, and plenty more.

The Look

When you first open DP6 (see Fig. 1), you'll notice that the program has had a makeover and now sports a more modern look, with a color palette that's lighter and less austere. Nowhere is this new look more strikingly manifested than in the Mixing Board (see Fig. 2).

Although the Tracks window looks fairly similar to past incarnations, it has been given a key new feature: vertical zooming, which allows you to make the tracks larger. I've always found the Tracks window text to be uncomfortably small, so this capability is a welcome addition.

The Feel

More significant than the cosmetic changes are the functional ones. A lot has been done to rearrange the DP work space to make it more efficient. The first part of the restructuring that you're likely to notice is the Control Bar, which has been simplified significantly, with a large field in the middle devoted only to the main and auxiliary counter readouts. The pullout drawers from previous versions, which contained project audio settings, buttons for accessing the various windows, and more, have been removed. These features are now accessible through the Sidebar windows or the new, customizable Shortcuts window.

Across DP6, Mini-menus have been changed. They now reside as drop-down menus on the right of windows and are hidden under disclosure triangles. Also, it's now easier to open and close the Sidebar on either side. Double-clicking on the divider at the edge of the Consolidated window accomplishes that.

Also new are Inspector palettes, which are small info windows that can be displayed in a

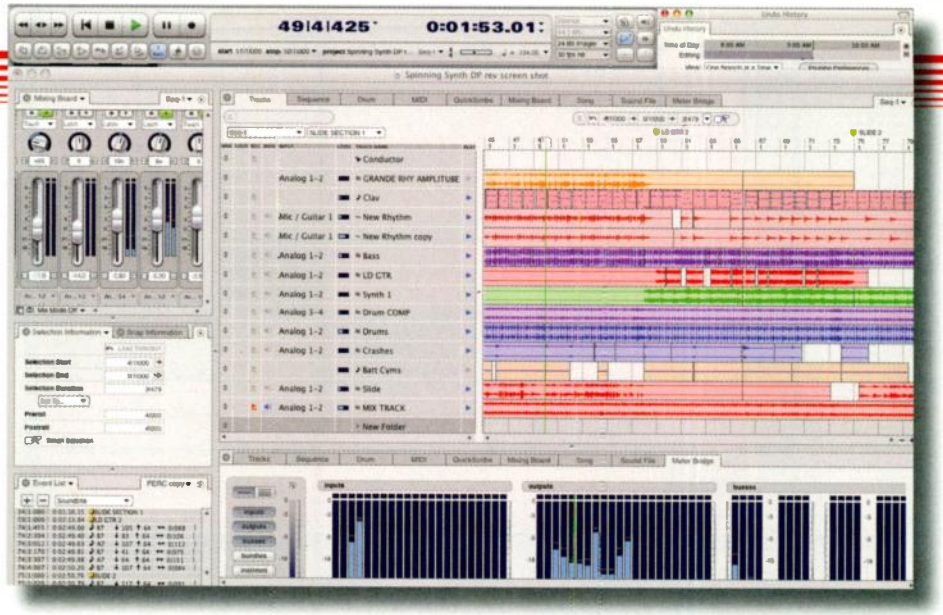


FIG. 1: DP6 includes a spiffier, brighter look and streamlined functionality.

Sidebar cell or popped out of the Consolidated window and floated. These include Snap Info, Cursor Info, Event Info, Selection Info, and Sound File Info. Having these windows readily available improves your ability to quickly ascertain status of a range of parameters and settings.

For those short on screen real estate, a new feature lets you open multiple tabbed windows within a single Sidebar cell. You can then switch back and forth between the different windows by clicking on their tabs.

The new Universal Track Selector is a window that opens in a Sidebar, which updates to match the track selections in the active editor window. Although I see its utility, I would have also liked an option for it to work as a master track selector, which would override track selections in the individual windows. That way, you could be working on a set of tracks in, say, the MIDI editor, and then switch to QuickScribe without having to reselect those same tracks.

Comp This

Probably the most talked-about new features in DP6 are the ones dedicated to track comping. Getting started is easy. First, open the Sequence window and pull down the Track Settings menu of the track you're comping. Next, select Show Takes, and all the takes you've recorded of the track are displayed underneath the track, slightly indented, and are ready for comping or to be turned into separate tracks (see Fig. 3). Using the Comping tool, you then drag over the sections in the takes that you want in your comp, and they appear as separate Soundbites in the comp track at the top. There you can further tweak them and easily add crossfades. I would like to see an automatic crossfade option added. While some users will want to add their own crossfades, others might find such an option to be a time-saver.

FIG. 2: In DP6, the Mixing Board sports a totally new look.

You can set up as many comp takes as you want. Just make sure to create a new take before comping again, or you'll overwrite your previous one. You can even comp your comps. Overall, the comping features are intuitive and well thought out. And unlike similar features in some other digital audio sequencers, you don't have to use them unless you want to, which I like.

Plugging into DP6

The sexiest additions to DP6 are its two new plug-ins, ProVerb and MasterWorks Leveler (see Fig. 4). ProVerb is an excellent-sounding convolution reverb that's markedly superior

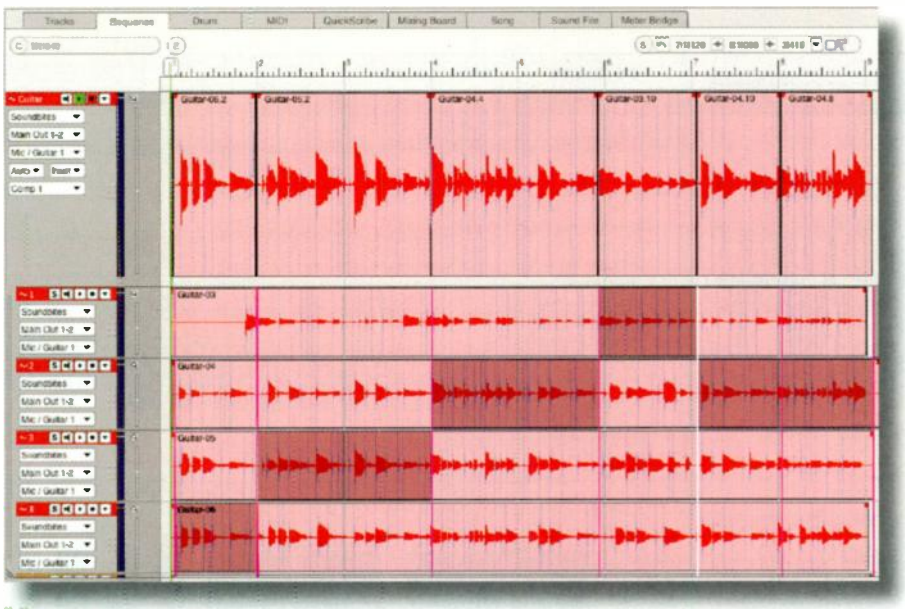


FIG. 3: DP's new comping features let you select sections from your takes to construct a comp track (at top).

to DP's other reverb plug-ins. You can choose from a nice selection of impulse responses (IRs) ranging from European concert halls to instrument plates to parking garages. For future revisions, IRs of classic reverbs and delays would be a useful addition.

You don't have to wait to expand your IR collection, though, because ProVerb lets you load your own. (You can find downloadable IRs at a variety of Web sites.) In fact, you can load any audio file as an IR (if it's in a supported format), which makes ProVerb a useful tool for sound design as well.

Other controls on ProVerb include four bands of EQ, Mix, Predelay, and Damping. A feature called Dynamic Mixing utilizes a compressor designed to duck the reverb tail, dependent on the input level and user settings. The idea is to let elements sound wet, but not overly so.

The other new plug-in is MasterWorks Leveler, which models a Teletronix LA-2A. It offers both compressor and limiter settings and four response curves: Slow Vintage, Fast Vintage, Slow Modern, and Fast Modern. The differences between the Vintage and Modern settings are subtle, but to my ears, the latter sounded more present and the former more tubey. You also get Gain Reduction, Makeup Gain, and Response knobs. As a whole, MasterWorks Leveler is easy to set and sounds really good. The additions of ProVerb and MasterWorks Leveler make DP's plug-in collection even more well rounded.

> You can choose from a nice selection of impulse responses.

A related improvement is the new Plug-in Set feature. It lets you set up custom sets with only the plug-ins that you want active. Doing so will allow you to reduce RAM usage and make DP launch a lot faster. By holding down the Option key when you start DP, you can choose which Plug-in Set to load.

Burning for You

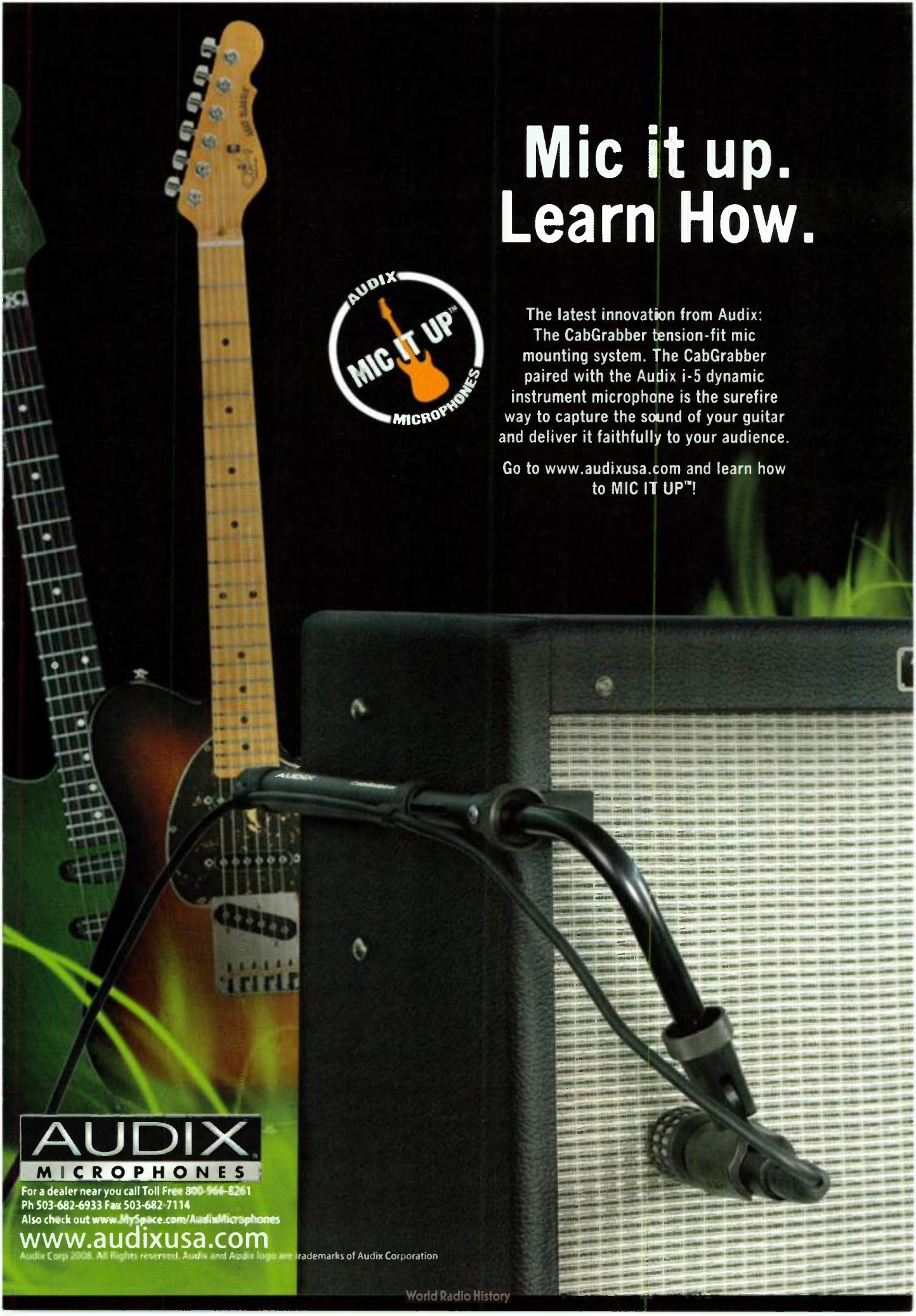
DP6 also marks the debut of the program's CD-burning capabilities. Within the Bounce to Disk window, you can choose Burn Audio CD from the Project Format menu. DP will then prompt you to insert a blank CD once the bounce is complete. You can alternatively choose to create a disk image for later burning.

The boundaries of the CD tracks can be defined by Soundbites or by Markers (or both), which gives you a lot of flexibility. You're also able to set the Pre Gap, which is the space between tracks, to a duration of your choosing. Note that CDs burned by DP are not Red Book compliant. If you're planning on professional replication, you'll need to burn the final disc in another application.

Thus Rendered

In previous versions of DP, if you wanted to include a virtual instrument track as

FIG. 4: DP6 introduces two stellar new plug-ins: ProVerb (left) and MasterWorks Leveler (right).



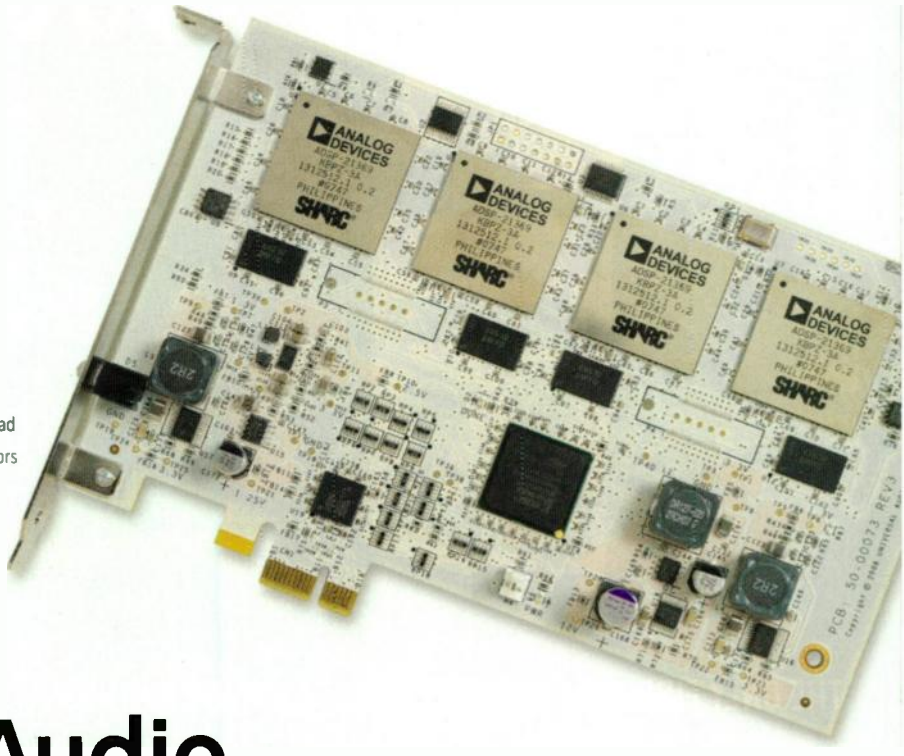


FIG. 1: The UAD-2 Quad sports four SHARC processors and fits in a PCIe slot.

Universal Audio

UAD-2 (Mac/Win)

The UAD Powered Plug-In format gets supercharged.

PRODUCT SUMMARY

DSP accelerator	
UAD-2 Solo	**$499**
UAD-2 Duo	**$899**
UAD-2 Quad	**$1,499**

PROS: Amazing-sounding plug-ins.

CONS: Latency induced by non-host-based DSP. Doesn't work well with Mackie Control Universal (in HUI mode) in Pro Tools.

FEATURES	1	2	3	4	5
EASE OF USE	1	2	3	4	5
QUALITY OF SOUNDS	1	2	3	4	5
VALUE	1	2	3	4	5

Universal Audio
uaudio.com

ONLINE BONUS MATERIAL

By Eli Crews

For those of us who closely follow Universal Audio's UAD updates, an email about a new plug-in or a new set of features can light up our in-box like a Christmas tree. When I got the email about the introduction of the UAD-2 card, which boasts 2.5 to 10 times the power of a single UAD-1 card, depending on your configuration, it was more like fireworks.

The UAD-2 is a PCIe card with one, two, or four SHARC processor chips attached (covering the Solo, Duo, or Quad versions, respectively), for use in Mac and PC desktop computers. Universal Audio notes that each chip on the UAD-2 has 2.5 times the processing capability as the UAD-1. That means the UAD-2 Quad that I received for review is 10 times faster than the card it replaced (see Fig. 1).

The PCIe card format has been around only for a few years, so check if your computer has the older PCI/PCI-X slots before you consider this upgrade. The three-year-old G5 in my studio didn't have PCIe slots, so I upgraded to a Mac Pro specifically to use the UAD-2—that's how excited I was about the upgrade. Installing the PCIe card is relatively easy for anyone remotely tech savvy, although it does entail opening up your computer.

Next, you install the software, which runs on the UAD-2's DSP chips, thereby freeing up your computer's resources. You can install the software either from the included DVD or from a download page at Universal Audio's Web site. (Either way, you'll want to keep an eye on the download page because the company regularly updates its plug-in set, often based on user requests.) During installation, you have the option of including VST, AU (Mac only), or RTAS versions of the Powered Plug-In set. (To use the RTAS version, you need to install the VST version because you'll use FXpansion's VST-to-RTAS adapter.) A little LED on the UAD-2 card

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glows green when communication with the software is stable.

At this point, you can use the base set of seven Mix Essentials plug-ins, but to authorize any additional plug-ins, you must purchase and download an authorization file from your user area of UA's Web site. Along with the plug-ins, the UAD Control Panel application is installed; it is a manager utility that handles configuration, performance, and authorization for the plug-ins (see Fig. 2).

The Times Are a-Changing

I began the review running Digidesign Pro Tools LE 8.0 with the UAD-2 card on my 8-core, 2.8 GHz Mac Pro. When I opened a session that was mixed with the UAD-1, the first thing I noticed was that the Delay Comp utility was gone. That plug-in is one part of the compensation routine I've developed to be able to use latency-inducing plug-ins in Pro Tools LE. The latency caused by DSP hosts is inevitable, but if your DAW has full automatic delay compensation, you don't have much to worry about.

For Pro Tools LE users, the Delay Comp plug-in has been replaced by the Mellowmuse Software ATA (Auto Time Adjuster) plug-in, which is included with the UAD-2. (It is available to UAD-1 users for $39.) ATA calculates the latency compensation for you, but you still have extra routing to do. And as far as I could establish, this setup works only if you're mixing in the box through a master fader. For those of us stemming audio to outboard-processing and analog-summing gear with the UAD-2 in Pro Tools LE, it's still better to do the math for manual compensation using Digidesign's Time Adjuster plug-in.

I also tested the AU versions of the Powered Plug-Ins in Apple Logic Pro 8, which does provide automatic delay compensation, giving you a much nicer user experience overall. Another benefit of using Logic to run the UAD-2 plug-ins is that there is access to numerical values of all control parameters in addition to the standard UAD-2 GUI. Yet another plus is that the Mackie Control Universal protocol works much better through Logic to control UAD-2 parameters.

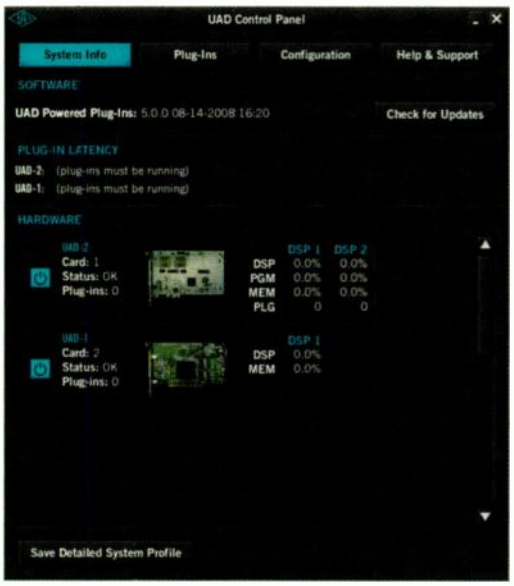

FIG. 2: UAD Control Panel helps you configure the plug-ins and monitor the performance of the DSP cards.

Pumped Up

Up to four each of the UAD-1 and UAD-2 cards can run on the same computer, assuming that you have the open slots. If you're switching over from UAD-1 to UAD-2, all of your prized plug-ins (except for the amp-modeling system Nigel, which has been discontinued) are available for the new card. And as of this writing, Universal Audio just eliminated the upgrade fee to transfer the licenses to the UAD-2 system. That means all you pay for is the hardware upgrade.

I've been running two UAD-1s for a while now, so in essence the UAD-2 Quad unit I reviewed gives me five times as much processing as I had before but requires one less card slot. So instead of having to economize with the processor-hungry plug-ins—Fairchild 670, Neve 33609, Helios 69, Neve 1081/1073, 1176LN, Moog Filter, and Plate 140, to name a few—I'm able to use them as needed. The boost in performance is quite staggering, and it allows me to base my plug-in choices on creative reasons instead of pragmatic ones.

Going Live

LiveTrack mode, a new feature for the UAD system, lets you temporarily disable the buffering that causes the card's extra latency. This is useful if you want to hear an effect while recording, although it's for monitoring purposes only. (You could bus the audio to another track if you wanted to print the wet signal.)

The inherent latency of your DAW's buffer size still applies, so even with LiveTrack I found a host buffer setting of 128 to be the largest I could use without latency being problematic. Both LiveTrack and low buffer settings dramatically increase the strain on your computer's CPU, so I recommend disabling large plug-ins and making unnecessary tracks inactive while using LiveTrack.

> The boost in performance is quite staggering.

Universally Endorsed

If you're a UAD-1 user and are used to scrimping and saving on plug-in instantiations, get ready to have your mind blown with the UAD-2. On the other hand, if you've never heard the UAD plug-ins before, you couldn't pick a better time to get to know the power these DSP cards offer. With the UAD-2, Universal Audio has made one of the most attractive plug-in families even harder to live without.

Eli Crews is over compensating manually at New, Improved Recording (newimprovedrecording.com) in Oakland, California.

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FIG. 1: The DTXtreme III is a major upgrade in Yamaha's electronic drum line. The new cymbals behave realistically, and the sound module has sampling and audio-file import capabilities.

Yamaha

DTXtreme III

A new level of performance in electronic drum kits.

By Brad Schlueter

PRODUCT SUMMARY

electronic drum kit	**$3,999**

PROS: Sampling. USB transfer of sounds. Pad Control knobs.

CONS: Supports only USB 1.1. Memory chips must be purchased separately to sample or import sounds.

FEATURES	1	2	3	4	5
EASE OF USE	1	2	3	4	5
QUALITY OF SOUNDS	1	2	3	4	5
VALUE	1	2	3	4	5

Yamaha
yamaha.com

ONLINE BONUS MATERIAL

With the DTXtreme III, Yamaha raises the bar by offering a range of new features and refinements over its previous electronic drum kits. It boasts more than 1,000 new sounds, including some meticulously sampled Yamaha acoustic drum sets, as well as sequencing, recording, improved effects, a brand-new rack, a versatile click track, and sampling capabilities.

The kit comes in two versions: Standard and Special. I reviewed the Special version, which includes four tom pads, three cymbal pads, and a complete set of hardware mounted on Yamaha's new Hex Rack (see Fig. 1). (The Standard kit has three tom pads, two cymbal pads, and a lighter rack; it costs $3,199.) This rack, with its hexagonal-shaped bars and versatile new clamps, was designed for acoustic drums, so it's very sturdy and, as a result, heavier than offerings from the competition. But unlike other racks, it can be used with your regular kit, too.

Into the Zone

The DTXtreme III's drum pads have a rubber surface rather than a mesh head like those used in the high-end Roland kits. Mesh heads are popular because they add a high, trampoline-like bounce to your sticks that makes you feel like your technique has magically improved. However, I prefer the rubber surface because it has a more realistic rebound.

The snare and tom pads offer three triggering zones: one on the head and two on the rim. The latter allows for natural-feeling rim shots (when a drummer strikes the rim and head simultaneously) and rim clicks. The rim area from about 12 to 3 o'clock is the rim-click zone and the remaining area is the rim-shot zone. Yamaha could improve these trigger pads by

FIG. 2: The sound module includes dedicated function buttons and volume faders, as well as a good-size LCD.

designating the top half of the pad for one trigger zone (rim clicks) and the bottom half for the other because left-handed drummers are forced to rotate their snare pad to play a rim click in the area lefties use (from 9 to 12 o'clock).

Even though I'm right-handed, I ran into difficulty playing Steve Gadd's sampled kit—the NY '70s preset—and emulating his groove from Paul Simon's "Late in the Evening." For this groove Gadd struck the rim of his floor tom, and the narrow area that Yamaha designated for a rim sound forced me to twist my hand awkwardly to play the pattern (see Web Clip 1). However, you can edit the kit and put the rim sample in a more convenient place.

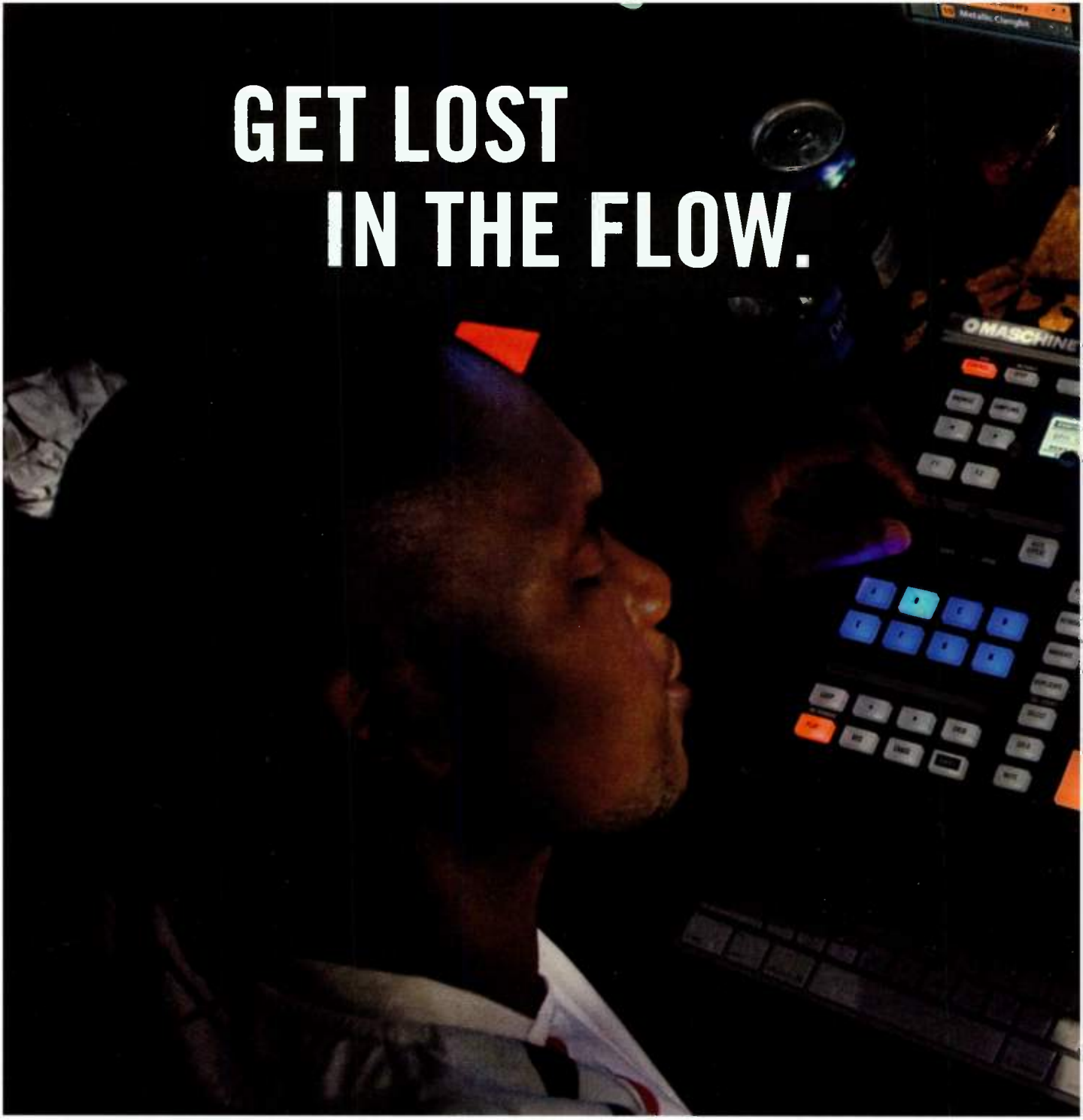
One nice feature of these drum pads is the red Pad Control knob that enables you to quickly adjust the pitch of a tom or the tightness of the snare wires (see Web Clip 2). That means you don't need to enter an edit menu to tweak your kit.

> It also has modes that help you improve your playing.

At 12.5 inches, the bass drum pad is relatively large for an electronic kit, but the size allows it to easily accommodate a double bass-drum pedal. The kick has a rubber surface that feels similar to a bass drum head. Unfortunately, it lacks that handy Pad Control knob, which would be useful to adjust the drum's pitch or decay time.

Yamaha includes updated cymbal and hi-hat pads with the DTXtreme III. The cymbals are 15 and 13 inches in diameter and mount from the center, so they balance and move like normal cymbals. The cymbal pads have three trigger zones—edge, bow, and bell—and you can assign a different sound to each. The cymbals also support choking as well as muting sounds if you strike the cymbal while holding it. I like the new cymbal pads because they feel substantial under my sticks and respond with a good measure of realism.

Yamaha's hi-hat pad mounts on the included stand. The hi-hat gives you open, closed, edge, bow, and splashing sounds that occur when you briefly strike and release the hi-hat cymbals. Playing these hi-hats while closed and varying your foot pressure changes the pitch just like with real hi-hats.



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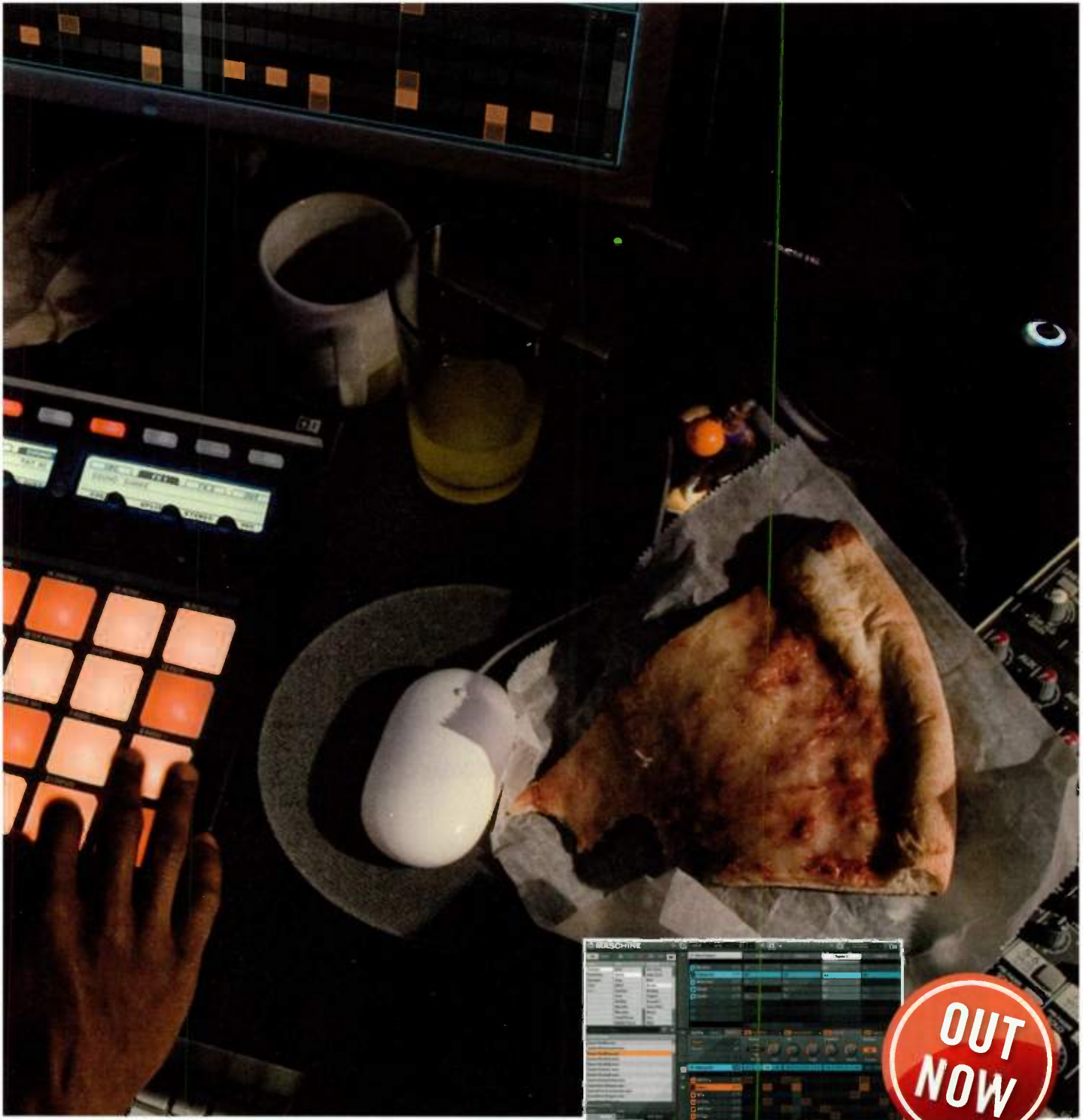

NATIVE INSTRUMENTS

THE FUTURE OF SOUND

Having acoustically quiet pads on your set is important for apartment dwellers who like to practice. The DTXtreme's pads are relatively quiet compared with harder, rubber pads, producing a similar amount of sound as Roland's mesh pads when compared side by side.

Import Duties

The DTXtreme III's sound module allows you to sample your own sounds at a variety of rates up to 16-bit, 44.1 kHz using the auxiliary input. In addition, you can import WAV or AIFF files via the USB ports. This is great for pro drummers who want to use their own sounds for live and studio work without dealing with the hassles of a separate sampler and the resulting MIDI delay that is noticeable when playing percussive sounds.

The sound module is intuitive to use, with numerous volume faders, dedicated function buttons, and a large LCD (see Fig. 2). Unfortunately, the DTXtreme III has a USB 1.1 port instead of the faster USB 2.0, which is puzzling (see the sidebar "Xtreme Connections"). Professional users will gladly pay for the features they need, such as the faster file-transfer capabilities. And in order to load your own sounds or use the sampling feature, you must purchase and

Xtreme Connections

You can see that the Yamaha DTXtreme III is designed for professional drummers and studios by looking at the connectivity provided on the sound module. Besides the stereo output pair, six assignable ¼-inch outputs are included, as well as a S/PDIF digital stereo output on a coaxial jack. Aux In/Sampling In allows you to feed a stereo analog signal into the unit with a TRS cable. Along with MIDI I/O ports, there are two USB 1.1 ports, one each for a host (connecting to a computer) and a device (a memory stick or hard drive).

The module offers trigger inputs for a basic 6-piece kit (snare, kick, and four toms), with three cymbal inputs, a hi-hat input, and four additional trigger inputs that can handle 2- and 3-zone triggers. The hi-hat control input on the left can be used to transmit Control Change and other MIDI messages using the hi-hat controller.

install DIMM chips in the bottom of the unit. There are slots for two DIMMs, and up to 1 GB of memory is supported (see Fig. 3).

FIG. 3: To load your own sounds or use the sampling capabilities of the DTXtreme III, you'll need to purchase and install memory chips in the sound module. In this photo, you can see where the DIMM slots are located.

You can load up to 100 sounds per pad zone and designate sequential strikes to produce alternate sounds (such as left- and right-hand samples). This offers greater realism and reduces the machine-gun effect that rapid playing with electronic percussion often produces. The result is that the 3-zone snare pad can have up to 300 sounds assigned to it. However, you are limited to 500 voices per kit.

There are 50 factory kits and 50 user kits onboard, but this can be expanded with a USB flash drive, allowing you to create hundreds more kits. The factory kits include Rock, Jazz, Latin, R&B, Orchestral, World, Brush, and Electronic categories, as well as samples of Yamaha's Maple Custom, Oak Custom, Birch Custom, and Beech Custom drum kits (see **Web Clips 3 through 7**). These latter kits use multiple samples per drum rather than just one tom sample that has been detuned to simulate smaller or larger toms. These were some of my favorite kits in the DTXtreme III because they offer a great deal of realism.

The DTXtreme III includes a variety of songs to play along with, and you can vary their tempo or mute the drum, bass, or accompaniment parts. The sound module provides elaborate click-track features with tap tempo and various click sounds. It also has some modes that help you improve your playing, such as Groove Check and Rhythm Gate, which allows your notes to sound only when they are close to the click.

It's a Hit

For any drum module to be considered truly professional these days, it must be able to sample or load user sounds. The DTXtreme III's does that, as well as offering tons of great sounds.

The improved pads, heavy-duty rack, and many innovative features make the DTXtreme III as good as any electronic drum set I've played. This is the finest electronic kit yet from Yamaha.

Brad Schlueter is a professional drummer, music teacher, and freelance writer. He is also a recovering Scottish snare drummer taking it one day at a time.

SE ELECTRONICS

sE4400a

By Emile Menasché

If you're looking for versatility, the sE4400a is a large-diaphragm condenser with four switchable polar patterns that's suitable for recording vocals, guitar, percussion, and more.

Microphones are like potato chips: you can't have just one. But in today's economy, you may have to choose between a collection of inexpensive mics and one or two really good ones. For the latter course, the mic should be versatile enough to handle anything you throw at it. The sE4400a is a Class A, discrete FET, large-diaphragm, multipattern condenser that has versatility well covered. You can purchase it individually ($999) or in the configuration I tested, a hand-matched pair ($2,099).

THE PACKAGE

The pair came in a steel-reinforced lunch-box-type flight case that holds the mics securely and has additional room for the included shockmounts. Right out of the box, you can feel the microphone's quality. Its sturdy chassis is coated in a nonmarking black-rubber finish designed to help it blend into the background in stage and film environments. Even the windscreen feels sturdy. The hand-tuned, gold-sputtered, twin-diaphragm 1-inch capsule works in omni, cardioid, hypercardioid, and figure-8 patterns.

The physical design (reminiscent of the AKG C 414's) has four switches on the mic's face—handy for when you're recording yourself. One switch engages a pad (–10 or –20 dB), and another engages bass cut (60 or 120 Hz). The remaining switches select the polar pattern. One switches between omni, cardioid/hypercardioid, and figure-8 modes, and when that one is in its middle position, the other switch toggles between cardioid and hypercardioid.

The mic's combination of good sensitivity and the ability to withstand high SPLs lets it handle a variety of sources, from vocals to drums and from acoustic instruments to amps. Frequency response is from 20 Hz to 20 kHz (±3 dB), though it varies by polar pattern around the upper and lower extremes. The cardioid pattern has a slight and smooth rise from the upper mids to the highs, which works nicely on vocals and guitars.

A SYSTEM TO THE SHOCK(MOUNTS)

I tested the mics both individually and as a pair, plugging them directly into an Apogee Ensemble interface, as well as a Trident-MTA Signature Two preamp connected to a TC Electronic Konnekt|24D. Playback was mostly on Genelec 1030a monitors and a pair of Ultrasone Pro 900 headphones.

As a pair, the mics were easy to set up thanks to a cleverly designed shockmount cradle that lets the mic pivot to several different positions (you can mic closely and still use the shockmount) and a bracket that accommodates both mics at the same time. Each cradle—which can also be mounted on a conventional stand—sits in its own 4.75-inch-long slot in the bracket. A large thumbscrew lets you tighten or loosen the cradle and slide it within the bracket; my one complaint is that it can be hard to tighten completely.

Between sliding the inside bracket and pivoting the shockmount, you could use one stand to position the mics in any number of ways, at distances ranging from overlapping to about 26 inches apart. The mics don't even have to be on the same plane, which can be especially useful when you're using both mics, but not as a stereo pair. For example, when close-miking an acoustic 12-string, I pointed one at the fretboard and the other at the lower bout to capture that guitar's full range—not the most conventional method, but it worked well. The best part was that I could position the mics myself while sitting with the guitar, something that would have been impossible with a pair of mic stands.

ON TARGET

Unlike vintage mics designed for the tape era, the sE4400a was specifically calibrated to work well with digital gear. I liked the detail in the top end, which was present but never harsh. Male vocals sounded warm yet articulate, with a solid midrange. The mic captured plenty of body on female vocals, and the track sounded rich and thick without that muffled tone some so-called warm mics deliver. Those same qualities were superb on flute.

For electric guitar, one slightly off-axis mic in cardioid worked especially well on an overdriven tube amp. Though some recordists prefer small-diaphragm condensers on acoustic guitar, the sE mics were responsive enough to capture plenty of attack, and they translated the instrument's body and overtones ably. Low-mid response was terrific on cello, both bowed and plucked. The pair also worked well as room mics, capturing a nice sense of space and direction.

With excellent sound, versatility, and rugged good looks, the sE4400a hits the target nicely. A matched pair definitely isn't cheap, but it's a worthwhile investment.

Value (1 through 5): 4
sE Electronics
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SAMPLE LOGIC

Synergy (Mac/Win)

By Marty Cutler

Sample Logic Synergy provides a stew of imaginative timbres with plenty of tools for customizing them.

I'm always attentive when sampling's focus turns from literal interpretations of acoustic and electronic instruments to more-imaginative sound design. Over the last few years, I've heard lots of great examples of brilliant sample manipulation, ranging from Spectrasonics Omnisphere to Cakewalk Rapture, Heavyocity Evolve, and Native Instruments Absynth. Sample Logic has developed several software instruments exploring the more abstract side of sampling, and its most recent entry into the surreal sweepstakes is Synergy ($299 [MSRP]), an instrument with nearly 20 GB of sample content and programs.

The ubiquitous Native Instruments Kontakt Player 2 (KP2) hosts standalone versions of Synergy for Mac and Windows and plug-ins in AU, RTAS, and VST for Mac and DXi, VST, and RTAS for Windows. KP2 can do virtually any trick that Kontakt (its fully programmable sibling) can do, but it limits user access to deeper programming features. Nonetheless, the manufacturer can provide user-programmable goodies such as built-in arpeggiators, step sequencers, and MIDI controller mappings. Synergy has many of these extras, along with copious customization options. I tested Synergy as a standalone and in several VST and AU hosts on a 2.8 GHz Intel Xeon 8-core Mac with 6 GB of RAM under OS X 10.5.5.

SOUND AND FURY

Overall, the quality level of the patches is quite good. Sounds in the Ambience folder run the gamut from tonal, sweeping drones with harmonics darting in and out to predominantly noise-infused effects and practically everything in between. Nuclear Residue is a good example of that middle ground: vaguely tonal, with a cloudy, bell-like inharmonicity (**Web Clip 1**).

ONLINE BONUS MATERIAL

Do not dismiss patches because of their titles or categories. Rumbles in the Bronx could be the ideal disturbing backdrop for your next Lovecraft-inspired film scene (**Web Clip 2**), and Until Tomorrow could easily be repurposed from a bass line to an arpeggiated square-wave lead. Speaking of repurposing, it's worth mentioning that Synergy gives you access to resonant highpass and lowpass filters, a phase shifter, delay, chorus, and reverb. You also get Pulser, a gating effect that lets you create synchronized rhythmic pulsing, and an arpeggiator with a generous number of controls that you access with a single mouse-click. The latter two effects even worked well with pads owing to amplitude controls for attack and release.

You won't find any GM-compatible patches or sampled TR808 sounds in the Drum Kit folder. Although some sounds use traditional kit pieces, many (though percussive and eminently useful) are warped beyond recognition. The Large Ensemble section holds an assortment of bowed, struck, and otherwise-excited percussion with a cinematic flair. The instrument also delivers a fine assortment of ethnic percussion.

The Impacts folder holds a collection of one-shot percussive sounds including some with more bowlike envelopes. Many are heavily processed and electronic in nature, others are metallic and atonal, whereas still others have plenty of fundamental and could serve well as interesting pads.

A few patches—particularly in the Large Ensembles subfolder of the Drums section—are hard to distinguish. Many had a similar ambience. Airy, a folder of Ambience patches, was too functionally redundant for my taste. I also wish some of the patches had a more extensive keyboard range; a quick boost of two octaves with the Pitch Bend wheel verified my opinion that many samples could gracefully withstand the stretch.

Not all is percussion and atmospheric effects. You can find terrific-sounding offerings among the tonal instruments. A Melody patch entitled Black Note Sapporo uses Velocity-induced vibrato combined with delay to produce an arpeggiated, kotolike instrument (see **Web Clip 3**).

THE GREATER GOOD

Synergy's Multis are also excellent. I was pleasantly surprised by a bundle of instruments rife with rhythmic and timbral motion. Many of the single patches that I found somewhat nondescript came brilliantly to life in combination with other sounds. The Multis work in a variety of settings, from atonal, cinematic pads to bubbling, arpeggiated Tangerine Dream song starters (see **Web Clip 4**). And Sample Logic leaves you plenty of room at the patch and Multi levels for sonic and polyrhythmic mayhem.

Synergy's strengths far outweigh its weaknesses. The generous collection of patches and Multis provides plenty of inspiring and useful compositional tools for those looking for more-fanciful sound sources. It's heartening to hear sampled instruments delving into less charted sonic territory, and Synergy rates highly among its competition. Give it a listen.

Value (1 through 5): 4
Sample Logic
samplelogic.com

CAKEWALK

E-mu Proteus Pack

By Marty Cutler

Cakewalk's E-mu Proteus Pack for Dimension Pro re-creates the presets of six Proteus sound modules.

Despite other synths in its price range that had more-robust synthesis capabilities, the rackmount E-mu Systems Proteus was a tremendous success. Its popularity hinged on its crisp, clean sound and a generous ROM, which was packed with well-chosen instruments and waveforms from E-mu's acclaimed sample library. Response to the trailblazing module led to a bumper crop of genre-specific modules specializing in orchestral, dance, ethnic, hip-hop, Latin, and more. The later modules boasted larger ROMs and more-sophisticated filters and modulation capabilities. For years, you could scarcely find a MIDI studio that didn't have at least a couple of Proteus units.

Although those classic E-mu instruments are no longer in production, Cakewalk and Digital Sound Factory (the original developer of the sounds) have resurrected them by introducing E-mu Proteus Pack for the software synthesizers Dimension Pro and LE. The sound libraries derive from samples of the source instruments rather than the Proteus modules. You can purchase the entire collection ($379 disc, $279 download) or sound sets for individual instruments ($99 disc, $79 download). For convenience and instant gratification, I chose to download the collection, which Cakewalk delivers as a Zip archive that's roughly 530 MB when unzipped.

PROTEAN SHAKE

The Zip file supplies individual installers for six E-mu modules: Mo' Phatt, Planet Earth, Proteus 2000, PX-7, Virtuoso 2000, and Xtreme Lead 1. Although installation required additional steps because I put the data on a different directory than the default, it didn't take long to get things up and running.

In many instances, sounds are layered and Velocity-switched, combining tonal variation with playing dynamics. Much of the programming relies on SoundFont settings rather than Dimension's architecture. Instead of using multiple oscillators or Elements in Dimension, the SoundFonts often contain layers of multisamples. But some presets, particularly in the Xtreme Lead collection, do rely on Dimension's filter, LFO, and envelope-generator settings for timbral and rhythmic motion.

My favorite sounds were almost uniformly in the processed and synthetic categories. Mo' Phatt's spiky, gritty sounds and Xtreme Lead's unabashedly synthetic content are my picks of the litter. They're creatively programmed, and their samples are excellent starting points for your creations.

REALITY SHOW

The realism of many bowed- and plucked-string patches in the Planet Earth set is compromised by short loops or insufficient multisampling, which is entirely the result of the original module's limited resources. I like the banjo as a springboard for new sounds; as a banjo, however, it reveals the sonic strains inherent in a reduced sample map. I found similar problems with many of the acoustic and electric guitars in Proteus 2000. Short samples are all that's needed to capture the life cycle of a kalimba, and the samples used in Planet Earth's kalimba presets are realistic and tangy. Multisampling is much less of a problem in the Virtuoso 2000 module, and the Hall Velocity Legato strings patch is exceptional, with an expressive, Velocity-sensitive bloom that responds beautifully to stronger dynamics (see Web Clip 1).

ONLINE BONUS MATERIAL

I can never get enough drum and percussion sounds, and the PX-7 drums are a welcome addition to my collection. You'll find plenty of contemporary-sounding kits with bright, spicy snares and punchy, deep kicks (see Web Clip 2), as well as lots of gritty hip-hop and drum 'n' bass kits, buzzy synth-bass patches with woofer-bending subharmonics, and a generous assortment of Latin and African percussion—a nice array of tools for almost any sort of rhythm section.

The Proteus patches invite inevitable comparisons to Dimension Pro's factory sounds, which were developed without the memory constraints of older hardware instruments and reflect the soft synth's more-elaborate modulation routing. However, Digital Sound Factory did a fine job of reproducing the original synths, in which clever programming trumped memory capacities. Some documentation (at least a list of patches and waveforms) would be welcome, particularly in the case of Virtuoso 2000, which has loads of useful orchestral instruments but little information about how to make them speak appropriately.

PACKING THEM IN

If you thumb through back issues of EM, you can easily find state-of-the-art sound libraries that are rife with complex loops, one-finger grooves, and more envelope stages than there are notes in the average song. Cakewalk's E-mu Proteus Pack, however, is not one of them. Instead, it dishes out solid, useful patches that bear the unique stamp of E-mu's heralded sound-design team. Unique, ear-catching sounds for almost every musical application passed in review as I auditioned each sound set. E-mu Proteus Pack represents a valuable and versatile roster of sounds for Cakewalk Dimension owners. em

Value (1 through 5): 3
Cakewalk
cakewalk.com

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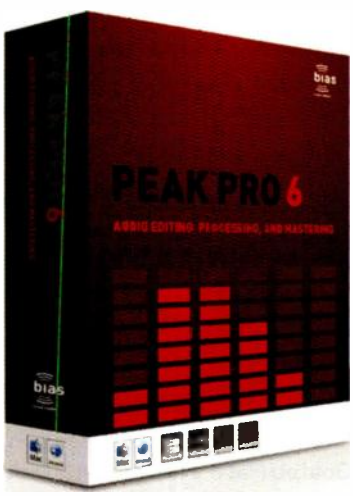

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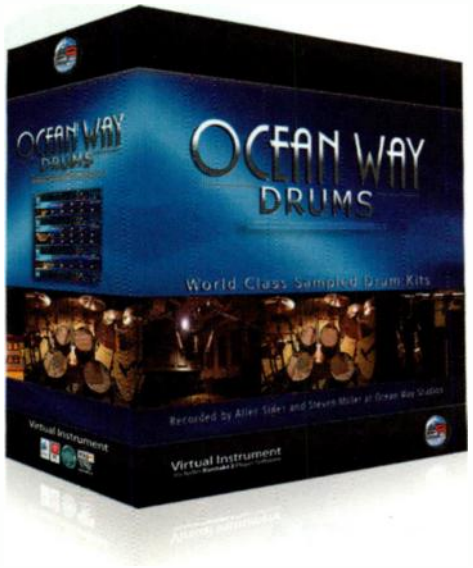

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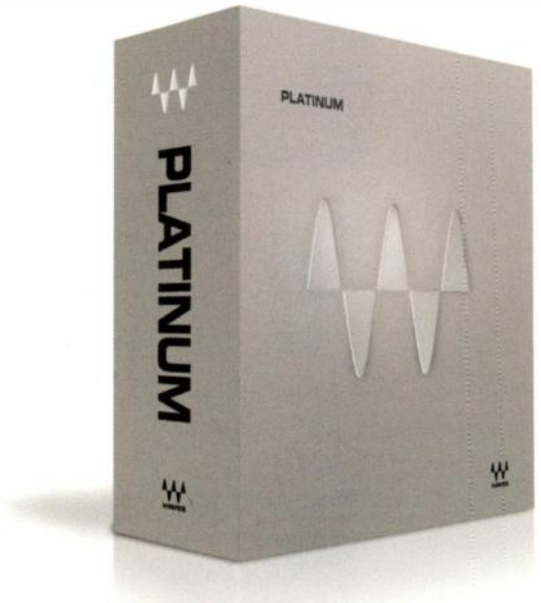

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Gosh, I Sound Great!

By Nathaniel Kunkel

(This is an excerpt from a longer article, available at emusician.com. —Ed.)

Auto-Tune and Melodyne: if you ask a well-respected singer, they are four-letter words. If you ask a not-so-good singer, and they answer you honestly, they will probably tell you that it is the only reason they have a chance of being on the radio at all. More important, if you ask the record-listening public, they have no idea what you mean. Well, that is changing.

I recently got an email from Antares (the makers of Auto-Tune) telling me about all the exposure that Auto-Tune has been getting in the press. I know why they are happy about it. I just don't know if it's a good thing. One of the keys to Auto-Tune's original success was that no one knew about it—in some cases, not even the singer it was used on.

This public airing of the music business's dirty little secret started with a *New Yorker* article by Sasha Frere-Jones. When most people are able to grasp what Auto-Tune does, they get disheartened, if not disgusted. Not one person I have asked thinks that this trend of "Tune everything" is cool. While record executives were thinking that all listeners wanted was a hot young artist singing a hit song, they forgot about one important issue: they were lying to their customers. Most people who buy that hot new twenty-something's release actually think the person can really sing like that. No offense, but no one sings like that. Remember how much everyone loved Milli Vanilli before it was exposed that they did not sing on their own album? How fast was their fall from grace? Is there a difference between Milli Vanilli and a singer who has every word rephrased and tuned? If a tuned vocal is credited solely to the singer, should the keyboard player who uses *Vienna Symphonic Library* string samples credit the Vienna Orchestra exclusively?

While many artists can make a record without using Auto-Tune, almost every new release currently on popular radio is tuned, even if only a little bit. (Sometimes more than you could ever imagine.) One observation I have made is that some singers have been getting tuned for so long that they actually think they sound that way. I have worked with singers who issue a "Never tune me" order and then reject every comp until they are tuned and phrased clandestinely. The denial is spectacular....

There is another dynamic. Some singers not only know about Auto-Tune and Melodyne, but they also insist that the software be used on their vocals before hearing them. They consider their instrument incomplete without tuning and processing. I don't think that's a bad thing—it's the natural evolution of a generation of people who grew up with the combination of listening to tuning all the time and not being afraid of embracing technology.

Here is an interesting question: before we give a Grammy Award for a vocal performance, shouldn't the nominee need to be able to prove that they actually sang the performance that was nominated? Should we give the Pro Tools engineer a vocal Grammy, too? It sure would be telling who opposes that idea.

Anyone who has seen a deal that labels are signing these days has noticed that they are 360 deals (that is, they take a part of the entire earning potential of the artist—album sales, publishing, performance fees, all of it). Being able to perform live (without a net) might soon be as important as it was in the '70s and '80s, because all of your live revenue will be up for grabs, be it ticket or merchandise income. It could soon be that if a singer cannot perform adequately without being tuned, they might not look as attractive to a label anymore.

So what's it going to be? The perfect stuff we are used to, or the organic stuff human beings can actually make? Because we are going to have to make a choice now that we are being forced to acknowledge tuning as the facet of popular culture it has become. Until now, we have all been blissfully ignorant of the fact that those two choices are mutually exclusive.

Perhaps we will soon think of older projects with untuned vocals and imperfect tracks just like we think of albums made before we could punch in on a multitrack. Cool in a nostalgic kind of way, but not anything we would ever want to do again. Would that be the loss of an art form, or would that be progress? Or both? Because it seems the current reality is that those two choices are not mutually exclusive.

Nathaniel Kunkel (studiowithoutwalls.com) is a Grammy and Emmy Award–winning producer, engineer, and mixer who has worked with Sting, James Taylor, B.B. King, Insane Clown Posse, Lyle Lovett, I-Nine, and comedian Robin Williams.

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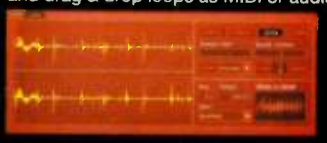

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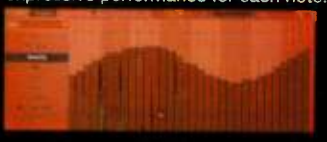

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