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## FEATURES

# 2010 EDITORS' CHOICE AWARDS

### COVER STORY:

## 30 2010 EDITORS' CHOICE AWARDS

Every year, *EM*'s editors select the best of the best, the finest hardware and software we can lay our hands on. Please join us in congratulating the winners for 2010.

### 24 PRODUCTION VALUES: TRANSITION MAN

Harvard grad, whiz-kid producer, online marketing genius, recording artist. Those are some of the terms that describe Ryan Leslie. With his CD *Transition* just released on Universal Motown, Leslie sat down with *EM* to discuss the new album, his production techniques, his production and marketing for Cassie, his use of live players in the studio and a lot more.



### 40 CREATIVE COMPRESSION

You probably already use compression for dynamics control and subtle coloration, but what about for more radical effects? We'll show you techniques such as reverse compression, serial compression and sidechain compression, which unleash your compressor for some hard-hitting audio manipulation.

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  - ROLAND AX-SYNTH** keyboard synthesizer
  - SYNTHOGY IVORY UPRIGHT PIANOS** sampled upright pianos
  - SHURE X2U** XLR-to-USB converter



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*EM* (ISSN 0884-4720) is published monthly by Penton Media, Inc., 9800 Metcalf Ave., Overland Park, KS 66212 ([www.penton.com](http://www.penton.com)). This is Volume 26, Issue 1, January 2010. One-year (12 issues) subscription is \$24. Canada is \$30. All other international is \$50. Prices subject to change. Periodicals postage paid at Shawnee Mission, KS, and additional mailing offices. Canadian GST #129597951. Canadian Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 40612608. Canadian return address: Bleuchip International, P.O. Box 25542, London, ON N6C 6B2. POSTMASTER: Send address changes to *EM*, P.O. Box 15605, North Hollywood, CA 91615.





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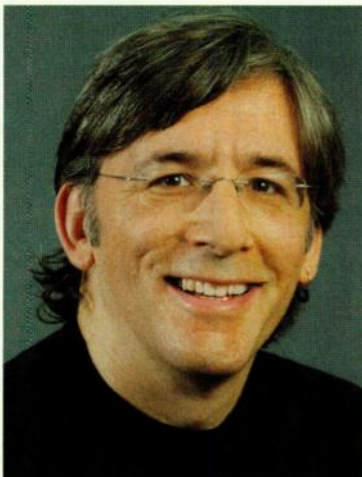
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# Blast From the Past

It's the Editors' Choice issue again, and I thought it would be fun to dig back into the *EM* archives and see what the awards were like back in the early days. Until doing some research for this column, I didn't know when we started giving them out. When I was hired at the magazine in 1999, Editors' Choice was already an established tradition.

I was also kind of curious to see what kinds of products were winning awards in those days, and whether they were mostly older versions of the products we know today or gear and software that now resides in the proverbial dustbin of music-technology history (wherever that is). Not surprisingly, the answer was that it was a mixture of both.

Anyway, I discovered that the first Editors' Choice awards were in the December 1992 issue. Back then, instead of having all the editors and key contributors vote in every category (as we do here in the "modern" *EM* era), each editor was assigned to come up with five winning products. "This year we decided to compile a list of these favorites, with each of *EM*'s four editors contributing five products," wrote *EM*'s editor at the time, Bob O'Donnell. "This is not the definitive list of the most important or best products of the year; it's just four guys' opinions on what was cool."



MARIA COHEN

So what was cool that year? As it turns out, some of the winners were indeed from the dustbin category, such as the Ensoniq DP/4 effects processor, the Turtle Beach Multisound sound card and a \$1,595 pitch-to-MIDI converter called the SynchroVoice MidiVox. However, there were some very familiar names in there, too. The first version of Digidesign Pro Tools won in '92, as did Steinberg Cubase Audio 1.1. Then there was this product called Microsoft Windows 3.1. I have to admit to being surprised by that. I never knew an operating system had won an Editors' Choice.

In 1995, the number of products receiving awards had ballooned up to 43. Wow, when you consider that each winning product had to have a short summary written about it for the

article, I'm surmising that it must have been a busier-than-usual month for the editorial staff. Winners that year included Apple's HyperCard 2.2, Adobe Premiere 4, Dr. T's QuickScore Professional (remember Dr. T?), the Genelec 1030A monitors, the Tech 21 SansAmp PSA-1 and Emagic Logic Audio 2.

Jumping to 1997, the number of winners had dropped back to a more manageable 24 products. The introduction to the awards article offered solace for the non-winners that is still relevant today: "The products that didn't win are not necessarily losers. If it were that simple, we wouldn't bother to publish approximately 100 reviews plus assorted face-offs each year!"

Winners that year included BIAS Peak 1, the Kurzweil K2500 and the Yamaha 02R digital mixer. Also winning were the Akai S2000, a rackmount sampler; the Alesis NanoVerb, an outboard reverb; the E-mu Darwin, an early hard-disk multitrack; and the Tascam DA-38, a tape-based digital multitrack. Those winners are indicative of the fact that at that time, although computers had already become important in the studio, they hadn't yet subsumed everything into the box.

I hope you liked that little stroll down Editors' Choice memory lane, and that you'll enjoy reading about this year's winners. I also want to wish you a Happy New Year from everyone here at *EM*.

Mike Levine  
Editor



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World Radio History

## Download of the Month

### Harrison Consoles Mixbus (Mac) By Len Sasso

If you think the Mac world doesn't have room for another DAW, Harrison Consoles ([harrisonconsoles.com](http://harrisonconsoles.com)) is out to change your mind with Mixbus (\$79.99). Its low price belies its full feature set, which combines the open-source Ardour DAW ([ardour.org](http://ardour.org)) with a mixing console created by the designers of Harrison's high-end digital consoles for the film, recording and broadcast industries. Each channel strip—input, track playback, bus and master—sports a 3-band EQ, a highpass filter and a compressor with Level, Compress and Limit modes. The compressors on the four bus-channels also offer sidechain inputs. As Harrison's Ben Loftis puts it, this is not an emulation of Harrison's DSP; this is Harrison's DSP.

In addition to such handy features as time stretching, pitch shifting and variable-speed playback; the Rhythm Ferret for transient slicing; real-time transition between forward and reverse playback; and the usual DSP operations, you'll also find some of the quirks that often haunt open-source software. Audio routing requires the free and included Jack Audio Connection Kit (Jack OS X), and that entails a bit of setup. AU

plug-ins are supported, but their graphics are sometimes iffy. The documentation is sketchy, but combined with a little DAW experience, there's enough to figure out most features.



Although Mixbus is not likely to become your only DAW (for one thing, it doesn't host virtual instruments or offer MIDI sequencing), it is a worthy addition to your kit. Its low-CPU footprint makes it ideal for live recording on a laptop. You can import stems of MIDI and audio tracks from your main DAW into Mixbus, and then use its straightforward yet powerful mixer for editing and post-production in the studio or on the road. And Mixbus is a great tool for sketching and remixing with files in your audio library (see **Web Clips 1** and **2**).



### OPTION-CLICK By David Battino

## Ivory-verb

Discover unexpected features in popular programs

When you want to move an instrument back in a mix, the obvious approach is to crank up the reverb. But many virtual instruments offer more subtle—and realistic—ways to alter the listener's perspective. For example, Synthogy Ivory (Mac/Win, \$169 to \$349, [synthogy.com](http://synthogy.com)) lets you roll off the highs, reduce the mechanical noise, shrink the

stereo width and switch to "audience" mic perspective (see photo), all of which enhance the sense of distance. Turning those controls the opposite way brings the instrument forward.

Complete the effect by adding a touch of reverb appropriate for the space: a small room ambience for nearby instruments, say, or a

deep hall for distance. As a bonus, using less reverb can make your mix clearer.

(Thanks to Christian Martirano, whose free *Beyond Piano* presets for Ivory [[synthogy.com/downloads](http://synthogy.com/downloads)] create unique ambiences by layering pad sounds



Synthogy Ivory's key noise, timbre, stereo width and stereo perspective controls can create a sense of distance without artificial reverb. Look for similar parameters in other software.

with the pianos.)—David Battino, [Batmosphere.com](http://Batmosphere.com)

## This Month on Emusician.com

### RYAN LESLIE TALKS PRODUCTION

Watch a video interview with this emerging artist that includes footage from the *Transition* recording sessions.



### THE ROBAIR REPORT

Our intrepid former editor blogs about all issues relating to music technology and offers periodic updates about the ground-up rebuilding of his home studio.



# THIS MONTH'S SOUNDTRACK

By Mike Levine

These releases encompass a diverse array of styles, including chill-out reggae, math rock, hip-hop with lap steel and more.



KERRY BROWN

## FAT FREDDY'S DROP: DR. BOONDIGGA & THE BIG BW (THE DROP)

Infectious, soul-infused reggae flows from this New Zealand septet in their second release. Cool vocals, silky horn-section parts and tasty synth lines abound.



JOHANNY MORENO AND FRANCES VELASQUEZ

## JASON LINDNER: JASON LINDNER GIVES YOU NOW VS. NOW (ANZIC)

Jason Lindner, drummer Mark Guliana and bassist Panagiotis Andreou are Now Vs. Now, an electric jazz trio that mixes rock and hip-hop elements. The album was produced by Meshell Ndegeocello and mixed by renowned engineer Bob Power.



PAUL TURPIN

## ROOFTOPS: A FOREST OF POLARITY (CLICKPOP RECORDS)

Comprising three guitars and drums, this self-described "indie-post-math-rock" band from Bellingham, Wash., debuts with a riffy, mainly instrumental album that's both highly listenable and well-played.



MARK SCHEIDT

## SLO-MO FEATURING MIC WRECKA: GIMME WHAT YOU GOT (AUTHENTIC RECORDS)

Take a lap-steel guitarist (Mike "Slo-Mo" Brenner) and add a hip-hop front man (Mic Wrecka), and you've got a roots-rock-rap music mélange that works really well.



## BASSNECTAR: COZZA FRENZY (AMORPHOUS/CHILD'S PLAY)

Lorin Ashton, aka Bassnectar, serves up powerful mix of dubstep, hip-hop and electro that he refers to as "omnitempo maximalism." Samples, synths and subwoofer-shaking basslines are present throughout.



AMORPHOUS MUSIC



See a video interview with Bassnectar and listen to clips from many of the albums mentioned here in the Online

Bonus Material section at [emusician.com](http://emusician.com).

## EM CAST: TODD RUNDGREN

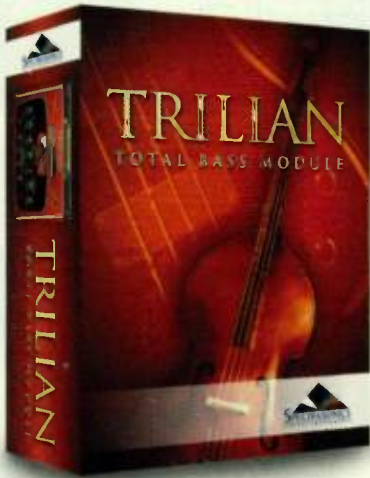
The legendary musician and producer talks about a range of subjects including what DAW and amp-modeling software he uses in his studio, his work with video and more.



## STRETCHING INTO SOUND FORGE 10

Read more about the new zplane élastique Pro time-stretching plugin that comes with Sony Creative Software Sound Forge Pro 10 and listen to examples of it in action.





## SPECTRASONICS TRILIAN

Spectrasonics ([spectrasonics.net](http://spectrasonics.net)) has released Trilian (Mac/Win, \$299 MSRP, \$99 upgrade), the long-awaited successor to its sampled-bass virtual instrument TrilogY. Trilian sports an all-new 34GB library of sampled electric, acoustic and synth bases along with remastered versions of all the basses in the classic TrilogY and Bass Legends sample libraries. It uses the same Steam Engine technology that powers Omnisphere, letting you use Trilian's library in Omnisphere 1.1 for extended sound design. Beyond that, you'll find the full complement of effects from both Omnisphere and Stylus RMX and an advanced arpeggiator incorporating Groove Lock technology for locking to an RMX groove or a MIDI file. Trilian is eight-part multitimbral, and it lets you keyswitch seamlessly between articulations.

**PUT THE FEET ON THE MUSIC**

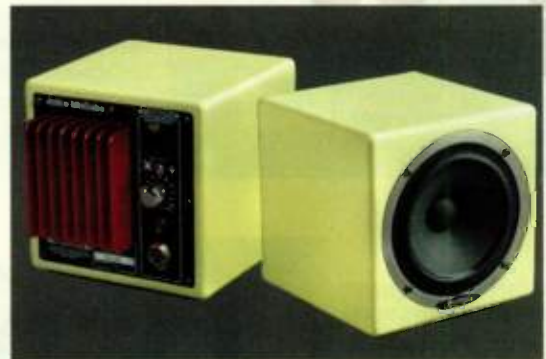
## NATIVE INSTRUMENTS THE FINGER

Native Instruments ([native-instruments.com](http://native-instruments.com)) The Finger (Mac/Win, \$79 download) lets you instantly insert and arrange multiple effects from your MIDI keyboard or DAW. MIDI notes select effects, and the order in which held notes are played controls the effects' serial order. The Finger is hosted by the company's free Kore Player, and it will also run in Kore 2 and Reaktor 5. The Reaktor version lets you set up custom effects presets and note mappings. The Finger's array of 42 processes includes sample transformers (reverse, scratch, granular, loop etc.), filters, gaters, delays,



**A BIRD IN THE HAND**

reverbs, distortion and modulation. You'll find videos on Native Instruments' Website of instrument creator Tim Exile wreaking havoc with all 10 fingers.



## AVANT ELECTRONICS AVANTONE ACTIVE MIXCUBES

**BLOCK PARTY**

Avant Electronics ([avantelectronics.com](http://avantelectronics.com)) has redesigned its Avantone MixCube line of active monitors from the ground up. The Avantone Active MixCubes (\$459 pair, \$239 Mono-Blok) now boast low-noise and -distortion Class A/B amplifiers delivering 60 watts RMS per box. The buttercream-colored, 7.125-pound, 6.5-inch cubes claim a usable frequency response of 90 Hz to 17 kHz. The speakers employ a proprietary 5.25-inch aluminum frame. The back panel houses 1/4-inch TRS/XLR combo jacks supporting +4dB balanced and -10dB unbalanced input, a detented gain knob, and ground-lift and on/off switches.



## AKAI LPD8 AND LPK25

Akai ([akaipro.com](http://akaipro.com)) makes it easier to take your music on the road with two bus-powered USB-MIDI controllers. The LPD8 (\$69) features eight backlit, velocity-sensitive pads and eight 270-degree knobs. You can program each control to send MIDI note, CC or program-change messages. The LPK25 (\$69) offers a two-octave, velocity-sensitive mini keyboard; sustain, octave and tap-tempo buttons; and a built-in arpeggiator. Both units have four programmable memory banks and come with software editors for the Mac and PC, and each is designed to fit comfortably in a gig bag or laptop case.

**IN THE BAG**

## MODARTT PIANOTEQ PRO

Winner of *EM*'s 2008 Editors' Choice award for most innovative product, Modartt Pianoteq ([pianoteq.com](http://pianoteq.com)) has reached a new level of programmability with Pianoteq Pro (Mac/Win, \$595 approximate MSRP). The big news is per-note access to 22 physical-modeling parameters.

**HIGH STRUNG**

Double-clicking on any slider for which per-note adjustment is available opens the Note Edit window, where you adjust individual values on a piano-roll-style bar graph. The global sliders then offset the whole bar graph. The Note Edit window has randomize, smooth and rescale functions, letting you quickly create your own prepared-piano-style variations. A free upgrade to Pianoteq 3.5 for Pianoteq owners includes the much-enhanced physical-modeling engine in Pianoteq Pro. You'll find full details and an instructional video on Modartt's Website.



## Sound Advice



### Soniccuture Glass / Works

Soniccuture's ([soniccuture.com](http://soniccuture.com)) latest labor of love is a sample library of three rare instruments made of glass. *Glass / Works* (\$159) is Soniccuture's first Native Instruments Kontakt Player instrument—you don't need to own Kontakt to use it. "Le Cristal" is a 1952 sound sculpture by Bernard and François Baschet comprising four octaves of tuned glass rods. Tones are produced by rubbing the rods with wet fingers. A metal block and large steel plate provide resonance and amplification. "Glass Armonica," invented by Benjamin Franklin, is fashioned from glass goblets. Harry Partch poached discarded cloud-

chamber bowls from the UC Berkeley Radiation Laboratory and hung them from a wooden frame to create "Cloud Chamber Bowls." Check out the demos and pictures on [Soniccuture's Website](http://Soniccuture.com).

### Bitword Oxide Kits Volume 2

Bitword ([bitword.com](http://bitword.com)) is back with more Oxide for your electro-organic percussion tracks. *Oxide Kits Volume 2* (\$79) is a 1GB library comprising 2,928 samples of pitched and un pitched percussive oddities, musical noises and analog drums (some highly processed). All reverberant hits are also provided dry. The package includes 24-bit, 44.1kHz WAV files as well as 48 sampler kits with 61 hits each for Native Instruments Kontakt and Battery, Apple Logic EXS24 and Ableton Live Drum Rack. You can also purchase the library as



a Propellerhead Reason ReFill and crossgrade to the full bundle for an additional \$10.

### Loopmasters Circuit Bent Sounds 2

Loopmasters ([loopmasters.com](http://loopmasters.com)) has teamed up with U.K. circuit-bending pioneer Paul Norris ([circuitbenders.co.uk](http://circuitbenders.co.uk)) to produce the second of its bent-circuit libraries. *Circuit Bent Sounds Volume 2* (\$29.95 download). The collection includes loops and hits from a broad range of tortured drum machines (119 loops and 76 hits), synths (144 loops and 132 hits) and children's toys (44 loops and 250 hits). In addition to Acidized WAV and REX2 files, you get preconfigured instruments for a variety of popular samplers.





## SHURE KSM313

Although it is more commonly associated with dynamic and condenser mics, Shure ([shure.com](http://shure.com)) also has a long history of manufacturing ribbon mics. The company has now decided to continue the Crowley and Tripp Naked Eye ribbon mic, which it acquired from Soundwave Research Laboratories, in its KSM series. The KSM313's (\$1,295) Roswellite ribbon boasts higher tensile strength and more resilient shape memory than foil ribbons. That makes it suitable for high-SPL applications such as close-miked drums and guitar cabinets. A Dual-Voice ribbon motor-unit assembly lets you choose between the warm, full sound (front) best for instruments and the bright, accurate sound (rear) better for vocals. The KSM313 is hand-assembled in the United States, and it comes with a mahogany case and monocle swivel mount.

**SHURE THING**

## SONIVOX SAMPLA

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Sonivox ([sonivoxmi.com](http://sonivoxmi.com)) has beefed up its line of hip-hop production tools with Sampla (Mac/Win, \$149). This stand-alone, AU and VST virtual instrument lets you record and import samples, slice and edit them, map them to notes or pads on your MIDI controller, and apply a variety of built-in filters and effects. For modulation, you get a full-featured pattern arpeggiator along with LFOs and envelope generators. Sampla comes with a 3.5GB library of factory content including sampled virtual instruments, loops and pad-and-keyboard setups. More than 200 sampled instruments cover drum kits (acoustic and electronic), basses, keyboards, synth leads, guitars, strings, pads, vocals and sound effects.



## Get Smart

### Course Technology PTR *Getting Great Sounds: The Microphone Book*

In *Getting Great Sounds: The Microphone Book* (\$39.99 MSRP) from Course Technology PTR ([courseptr.com](http://courseptr.com)), educator and recording engineer Tom Lubin reveals hard-won lessons on the selection and placement of microphones. The book begins with chapters on mic history and technology and then takes you through the details of recording specific instruments. Two appendices cover compression and EQ. A companion Website hosts audio and video examples. The author presents the material in an informal style, often using humor to detoxify the more technical details.



### Hal Leonard *The Desktop Studio*

The revised edition of *The Desktop Studio* (\$27.99) from Hal Leonard ([halleonard.com](http://halleonard.com)), written by *EM* contributor Emile Menasché, fills in the five-year period during which most aspects of music production migrated to the desktop. The book is a compendium of tools and techniques for recording, using software instruments and effects, mixing, editing, video production and online distribution resources such as iTunes and MySpace. You'll also find tips for beginners and sections devoted to laptop musicians and handheld recorders. The book ends with a roundup of the latest gear and a look at what advances to expect in the future.



### Routledge Music *Music Theory Through Improvisation*

University of Michigan Professor of Music Edward W. Sarath aims to bring the teaching of basic theory and musicianship into the 21st century with *Music Theory Through Improvisation: A New Approach to Musicianship Training* (\$64.95) from Routledge Music ([routledgemusic.com](http://routledgemusic.com)). Although it adheres to the traditional progression from diatonic to non-diatonic harmony, the book departs from the Euro-classical emphasis on four-part chorale writing. Instead, the theory evolves from improvisation and composition in diverse contemporary styles ranging from jazz to pop. Although designed for music theory courses, the accompanying CD and companion Website make the book viable for independent study. **em**





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Home base: Portland, Ore., and Oxford, Miss.

Primary software: Ableton Live 8 and Digidesign Pro Tools LE

Field recorder: Zoom H2

Website: nojunkculture.blogspot.com



## Sound Scavenger

Junk Culture is always on the prowl for samples for his lo-fi glitchscapes

When the old-school among us think of the art of sampling, visions of vintage wax, turntables and Akai S1000s dance to the fore. But 20-something musician and producer Deepak Mantena says he feels limited by the prospect of just mining records for beats and melodies; to him, the process is much more encompassing. It's a virtual sound journal that describes the world and informs the collage-based textures of his debut EP, *West Coast* (Illegal Art, 2009), under the ironic and aptly chosen moniker of Junk Culture.

By Bill Murphy

"The sound element is what I'm interested in," says Mantena, fresh from a promotional swing through the Pacific Northwest that has paired him with Illegal Art label mate Girl Talk (aka Gregg Gillis). "Obviously a room recording of a record that's playing over someone's stereo is going to sound different than a sample taken direct from the turntable. That's part of it, but I also like the aftermath. After I take these samples and layer them together, they really start to sound like something wholly different, and that's where it can get really wild."

The action begins with Mantena's handheld Zoom H2 recorder, which he uses to capture anything from his brother


Nitin playing drums to snatches of 70s rock classics blaring over the speakers at a local coffee shop. In between, he'll record himself on guitar or keyboards, and then he'll dump a cluster of WAV files into Ableton Live, where he edits, tweaks and zaps the results with all manner of effects and filters. After a song begins to take shape, Digidesign Pro Tools LE serves as his overdubbing and mixing platform. It's a simple, bare-bones setup, but Mantena is up to the challenge of squeezing a lot out of it.

"I know it's a cliché to say it, but Ableton Live has totally changed the way that I write and work on music—especially in the session view," he says.

"It just seems so natural to me to take a section of a song and try it out in a different place, or to try a bunch of different beats with a certain melody. That's something I've always done with other pieces of software, and it's been way more tedious until now."

*West Coast* opens with the stop-start melody of the title cut—a jaggedly funky lilt that turns almost mournful when the key changes from major to minor, while sampled voices and synth pads repeat throughout in a trance-like rhythm (see [Web Clip 1](#)). A Roland Juno 106 synth line anchors the frenetic percussive parts of "My Two Hands," which

segues into the Ableton-enabled wet distortion of the 30-second piece "Watson's Glassy Stare." An alien chorus of chopped vocal samples including whispers, croons, and guttural Tuvan throat singing drives the tempo of "That's Not Me." That theme of strange juxtapositions finds its apex in the closer, "Carmel Valley Girls," which jumps jarringly from Middle Eastern-sounding flutes to rocked-out guitar lines and flaring organ and Rhodes chords.

Taken as a whole, Mantena's music surges with an emotional complexity that isn't easy to fake with only editing software and a stack of samples as your creative tools. "A year or two before I started making music as Junk Culture, I made a conscious effort to stop caring about what gear I should be using or what the fidelity of my recordings was," he says. "Instead, I really focused in on what the basis of my music is. For me, the goal is to make people feel something. That's why when we play live, my brother is on drums and I've started singing over some of the newer songs. We want to bring more human elements back into what people would refer to as a 'laptop band.'" 



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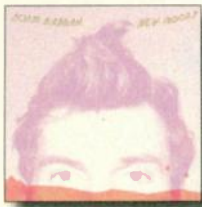
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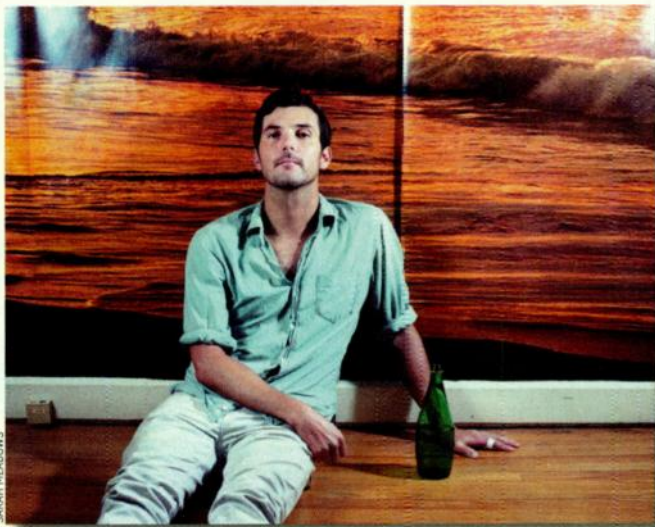


Home base: Los Angeles

Sequencer of choice: Ableton Live 6

Outboard effects processor: Electro-Harmonix  
Big Muff Pi

Website: bobbybirdman.com



CARAH MEDONIS

## Winging It

Bobby Birdman uses the grab-whatever-is-laying-around approach

**B**obby Birdman's electronic-folk is a strange anomaly—a mixture of daft lyrical wordplay, fantastic and original loops, and a firmly held garage-band aesthetic. The brainchild of L.A.-based musician Rob Kieswetter, the band is mostly a solo act with occasional drums by Jona Bechtolt (Yacht) and various guest backing vocals. Kieswetter recorded most of *New Moods* (Fryk Beat Records, 2009), his third full-length album, in his home studio. He took his Apple MacBook Pro with him to some other studios during the process and experimented with recording additional tracks.

By John Brandon

"I have always just tinkered around with whatever is laying around in a studio," says Kieswetter, who ended up doing some tracks at Dub Narcotic Studios in Olympia, Wash., where a few of the Matador Records bands have recorded. That studio has such a wealth of classic analog equipment and instruments that Kieswetter, a self-taught musician, would just grab and record parts on top of the basic tracks in his MacBook.

For the most part, this eclectic sound—one part Lil Wayne and one part John Cage—comes from his "anything goes" attitude; he'll often combine several styles in a musical blender to see what

comes out. On the song "Dust Design," there's a fuzz-bass (see [Web Clip 1](#)) that could fit well on a song by 50 Cent. Other tracks mimic the bizarro-beats of bands such as Little Dragon or even Sunn O))) (minus the goth). Kieswetter says he also tried his hand at the screwed and chopped (also called "slowed and throwed") technique common in rap, where a song is slowed down and chopped up.

Interestingly, he used an M-Audio MobilePre USB audio interface for most of the recording—a far cry from some of the higher-end units out there, but functional and small enough for bedroom

recording. Kieswetter says he does not use any external compressors and tends to use low-end gear such as an MXL 990 condenser microphone, a crusty Fender Telecaster, a no-name three-quarter-size nylon string guitar he bought at thrift shop and a Electro-Harmonix Big Muff Pi fuzz box, which he patches into Ableton Live.

"I have used a lot of organic instruments, anything I can get my hands on, but also a lot of stuff built into Ableton Live," Kieswetter says. "I've always been into building loops. I used to make them with reel-to-reels to put together little accompaniments. Live is set up to make

the workflow easy so you can build and build and build. Sometimes I have a song mapped out, but other times I have a recorded sound that I build up. It's like building up a mountain with these grains of sonic sand."

For Kieswetter, this process of combining sounds—such as the clapping drums on "Victory At Sea," (see [Web Clip 2](#)) or the unpredictable rap-by-way-of-Frank Sinatra on "Bloody Mess"—is what makes a loop interesting.

"When something is too clean, it just sounds like a loop—a dead ringer," he says. "They are so clean and so clearly done by some guy in a studio trying to make a loop. With a good loop, the source material would not be immediately identifiable. I use a lot of hand percussion, organic and analog instruments, then chop them up and manipulate them digitally."

He says he'd like to do a traditional pop recording someday, mostly because he tries to get a clean, straight sound and record music that is listenable and not too complex. Can his blender-of-sounds approach work for a more straightforward pop record? No one really knows—except maybe Kieswetter. **EM**



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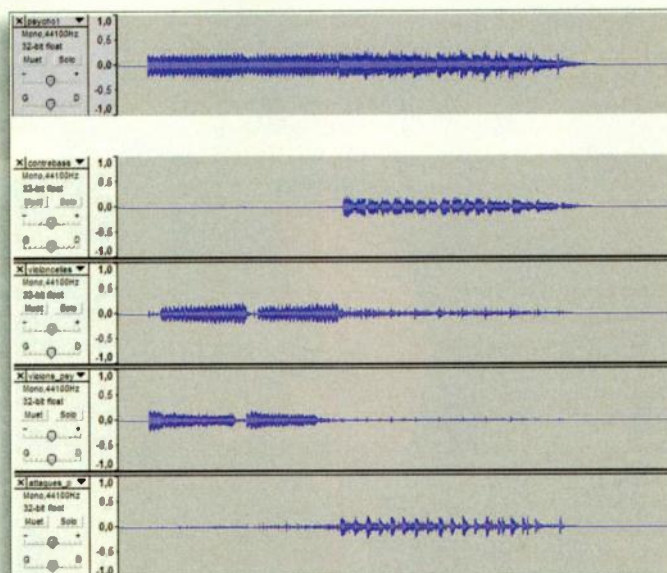
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➤ The top waveform display represents the original mono mix of the musical theme from the movie *Psycho*. Below it are the separated stems after applying ADX.

# Unmixing

Sophisticated track extraction from mono and stereo mixes | By Scott Wilkinson

For most projects, musicians ultimately think about mixing many audio tracks down to two or, at most, 5.1. But the other direction is also important sometimes: expanding an existing stereo or mono mix to multichannel. Of course, there are many algorithms that purport to do just that, but they rely on phase and level shifts to merely simulate surround sound.

What if you could run a stereo or mono audio file through your computer and extract individual tracks or instrumental sections? That's the idea behind ADX (Audio Dynamic eXtraction), a new DSP algorithm from Audionamix ([audionamix.com](http://audionamix.com)). Developed during the course of five years, ADX might well propel us far beyond anything we know today in this regard.

The company is circumspect about exactly how ADX works. Suffice to say that it uses sophisticated DSP techniques to identify and isolate different types of sounds—such as vocals, bass, drums, sound effects and so on—within a mono or stereo mix. These tracks can then be processed and recombined as desired. Audionamix claims that all separated tracks are phase-consistent and add up exactly to the sum of their parts, preserving the integrity of the original recording.


ADX runs on standard workstations under Windows, Mac OS X or Linux. In its current state of development, the software takes days or even weeks to process a 1-hour file, depending on the complexity of the project—though, interestingly, stereo files take no longer than equivalent mono files.

The applications for such a process are many and varied. For example, older movies have a mono or stereo soundtrack, and when those films are restored and re-released on DVD and Blu-ray, consumers expect a 5.1 soundtrack. In 2007, Audionamix used ADX to separate the tracks in early 20th-century mono recordings of French chanteuse Edith Piaf for the surround soundtrack of the biopic *La Vie en Rose*. Other such projects have included François Truffaut's *The 400 Blows* and Wes Craven's *A Nightmare on Elm Street*.

The same process can be applied to older music recordings for which the original tracks are no longer available. Even if the original multitrack tapes can be found, they are often in poor condition, making it difficult if not impossible to remix from those original elements. Another important application is noise removal and restoration, which is accomplished by separating the intended sound from any unwanted elements, such as wind or crowd noise.

For now, Audionamix uses ADX to provide a service to copyright holders and remastering engineers, but the company also envisions a brisk business with documentarians and archivists. DJs and other musicians could engage Audionamix to extract various tracks from existing songs to remix or crossmix them into entirely new pieces. You send the original mono or stereo file to Audionamix, and the company returns a multitrack file that is compatible with professional audio systems such as Digidesign Pro Tools.

What about releasing ADX as a commercial product? This is a distinct possibility in the future, perhaps as a plug-in for Pro Tools and other common audio programs. In fact, you can download a stand-alone demo version from [unmixingstation.com](http://unmixingstation.com) today. This limited and fully automatic version is optimized for acoustic instrumental music, such as jazz trios.

I've heard a few examples of what ADX does, and while they aren't perfect—I could still hear just a bit of other elements and some odd artifacts in the extracted tracks—these problems are easily masked in the remix, and the process allows far more precise manipulation of individual tracks within a mono or stereo mix than has ever been possible before. I hope to see ADX become available as a product in the music marketplace, where it will likely stir things up. 

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# Transition Man

Ryan Leslie makes the move from producer to recording artist.

By Mike Levine

Scholars, economists, lawyers and politicians may come to mind when you think of Harvard graduates, but generally not producers and musicians.

But then there's Ryan Leslie. He got his degree from Harvard in 1998 at the age of 19 (he started at age 15), and in pretty short order, he has gone on to establish himself as a successful producer and music-industry entrepreneur. Now he's making a big push as an artist in his own right.

His career began to take off when he was signed to a production deal by Sean "Diddy" Combs (aka "Puffy") in 2003, and he went on to produce a number of R&B and hip-hop artists. Leslie solidified his reputation in 2006, when he signed, produced and marketed a then-unknown singer named Cassie and helped turn her into a star.

The year before that, Tommy Mottola had signed Leslie to a recording and publishing deal. "It took me all the way to 2009 to actually get my first record out," Leslie says, "because I was doing so well as a producer."

But succeeding as a recording artist is clearly an important goal for Leslie. "With my own material, I can really spread my wings and experiment," he says, "and I can create a full body of work." So he began to steer things in that direction. In early 2009, his first album, *Ryan Leslie* (Universal Motown), was released.

*Transition* (Universal Motown) followed in November. It features more live musicians and less beat-based material than was on his debut. Leslie did a lot of the songwriting and preproduction for *Transition* at his home studio in Harlem, but he recorded and mixed it primarily at Chung King Studios, a commercial establishment in lower Manhattan. He also tracked portions in L.A. and at studios in Holland and Germany.

I had a chance to sit down with Leslie at Chung King and talk about *Transition*, his gear and his production style.

#### Who are some of the artists you've produced?

Working with Puff, you work with anyone who comes through his studio. The first record

that I worked with him on was the *Bad Boys II* soundtrack. I ended up with two records on that soundtrack, one for Beyoncé and one for an artist that he had at the time called Loon [who now calls himself Amir]. And then I went on to do singles for New Edition. I did a record for Britney Spears, which ended up on an international release. I did a record for another artist he had called Cheri Dennis, which was a single. And eventually, that mentor-protégé relationship [with Puff] turned into a partnership when I signed Cassie, who ended up having a really big record with "Me & U." That was something that I not only put together from a musical standpoint, I also spearheaded the online marketing effort, and it turned out to be a really big story, because she became one of the first pop stars to be made on the Internet.

#### How did that end up happening?

Online marketing really was, at the time, one of the only ways that we could get her music to the world. We're talking about a new artist with no previous track record





🎛️ Ryan Leslie playing his Alesis Andromeda at New York's Chung King Studios, where most of the production for *Transition* took place.

and a relatively unknown producer that was making all the stuff myself. And to get on mainstream terrestrial distribution for content, like radio and television, is challenging. So we looked to online, and I still use it to this day as a direct method of distributing content. I film everything I do, and that's what we did with Cassie. Puffy went on to use that blueprint to build the very robust online presence that he currently enjoys. And I've sort of used it as a foundation for exposing everything I do.

**And how did you get Cassie's name out there, specifically? Which sites did you use?**

It was a combination of search-engine optimization and search-engine marketing, meaning Google search results. We knew how to optimize her Web presence, so that when people searched for related content, she would be available as an option for them to consume, entertainment-wise. And then from a social-media standpoint, it was right in the nascent stages of MySpace. She was a top MySpace artist for a long time, and we just saw that we had a hit on our hands

with "Me & U," and a hit is a hit anywhere, not just on radio or television. It works the same online.

**What year was that?**

That was '05 and '06.

**And now with Twitter and Facebook, there are even more online promotional outlets. Are you using those to push this album?**

Yeah, I'm on Twitter; [twitter.com/ryanleslie](https://twitter.com/ryanleslie) is 117,000 family members strong. I'm on Facebook and MySpace. Actually, all of those social media tools are aggregated at [ryanleslie.com](http://ryanleslie.com), which is kind of a video diary that really just recounts my day-to-day experience in the music industry, and it proved to be just a great destination for interacting with the audience that wants to consume the entertainment and music that I put together.

**So we're here at Chung King, which is a full-service studio, but you also do a lot of production for the album at your home studio, right?**

I actually did the whole Cassie album at home—you know, 650,000 units sold worldwide and a

number-one record. And everything was done with a [Digidesign] Digi 002 system right in a one-room apartment uptown.

**You did it all on Pro Tools LE?**

Yeah, did the whole thing on LE. Mixed and everything, straight out of the Digi 002 box.

**What else do you have in your home studio?**

I really just have that. I've got an Avalon mic pre, I've got the Neumann TLM 103 and some of my favorite boards [synths], which are transplanted to this studio.

**How much of *Transition* did you do in your studio?**

I did songwriting up there and just sort of messed around. But it's like being a kid; if you can have a bigger train set, you want the biggest one you can. I don't remember the scale of the train sets; I used to know. But the big one was always the G-scale train. So you can consider [Chung King] the G-scale. You've got a Neve console, you've got the live room, you've got the three levels of monitoring, and you can get really loud without getting complaints from the

neighbors. Yeah, this is sort of the home base, this room right here.

**You also recorded some of *Transition* in L.A. and then some in Europe, right?**

I went to a studio called Global Studios in Amsterdam, which is a much more stripped-down version of this. It's much closer to my home studio. And to a much smaller room called Tritonus Tonstudio in Berlin. But those were really sort of outliers in the process. The real process took place here. And what was cool is that I made all the records and then had a chance before the album was released to go and actually perform some of them. And the live performance of the record really inspired me to bring some players in here and put those live elements on some of the record.

**How much of *Transition* was programmed?**

I would say it's very close to 40 percent live overdubs, and the other 60 percent is all me. You had records like "Never Gonna Break Up," and that's 100 percent programmed. But the live version comes alive so much.

**What is it about the live approach that you like better?**

I just like the textures of having really proficient players run down something in one take. And then there are some nuances that aren't going to happen when you're just looping something.

**And they're bringing their experience to the table and interpreting your material, right?**

Yeah, they have their interpretation and their years of practice that they've put into making love to their instruments, and that gets poured into my records.

**Do you ever feel like you had this thing in your head a certain way, and you hear someone play it and it's not like you want it?**

I definitely direct it. I do have a very specific musical vision that I hear and convey to any of the players that are in. And inasmuch as they do something that I like, that I didn't hear [in my head previously], that's really the magic of having them in the studio.

**So you play keyboards and drums, what else?**

I play around on everything. And the beauty of the studio is that I can play it over and over until we get a take that works. But from a live standpoint, I mostly stick to a lead synth or keys.

**Do you use a lot of software plug-ins in your productions?**

Really, I just use the out-of-the-box stuff: the DigiRack suite, Long Delay, Extra Long Delay, the compressor. Now they've got the 4-band EQ III, but I actually prefer the 4-band EQ II.

**Do you use any software synths or only hardware?**

Yeah [hardware only]. I like these boards because I know the sounds, but it's going to be time to adapt soon. But it's just about taking the time to get acclimated to the virtual.

**So these are your three main synths: an Alesis Andromeda, an Access Virus, and what's this Korg one?**

That's an R3, which I use a lot in my live performances; it's got some cool lead sounds. And this Virus is actually a one of a kind. It's called a Gold Filter, and it was made to celebrate the anniversary of Access. And I actually had to bid for it, after someone won it from Access.

**When you program tracks, what are you using for drum sounds?**

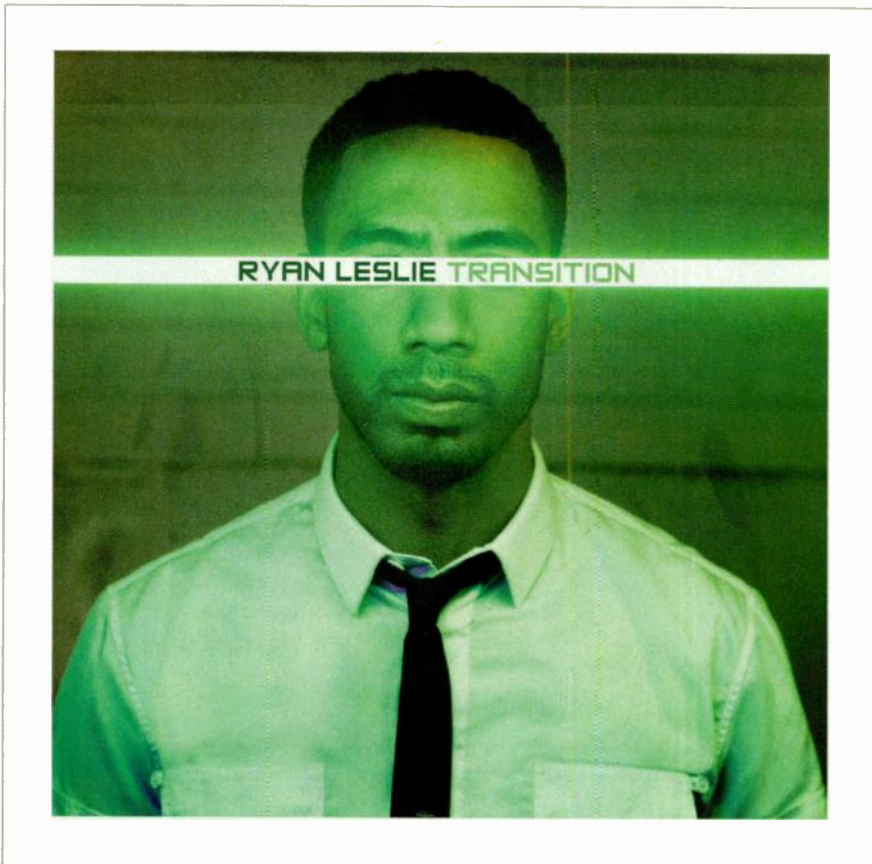
I have a pretty extensive library of drums. I've collected sampled sounds.

**What are you triggering them from? Do you have an MPC?**

I actually just program them on the grid.

**So you're placing the audio files into the grid on Pro Tools.**

Yeah.



On *Transition*, Leslie used more live musicians and less programming than on his first CD.

**Do you find that lets you program the intricacies of a drum part?**

Yeah. Sometimes you might have a loop that's live that already has some human nuances, where it's not exactly on [timing-wise], but if you loop it, it has a vibe that you can attach a grid to. Or you might have a sound that you can nudge along the grid to make it sound a bit more human. On top of that, I'll also play a lot of drums over stuff or create my own loops, or the same thing with programming like a shaker or something from a [Yamaha] Motif or some cool drum sounds. I always do those live, never quantized.

**And you've been a Pro Tools user all along?**

Yeah.

**What is it about Pro Tools that you like in particular?**

Familiarity. I started out with the program in 1999 or 2000, so nine years later, it's just that level of familiarity.

# I really feel that the beat-driven way is restrictive.

**When you're producing your own stuff, do you have someone else in the studio whom you can turn to and say, "Hey, is this working?"**

I go with what I feel. This album is such a departure from sort of the slick production on the first album, I really had to hold my ground with my usual "ears"—the team of young interns and staff that I have who listen to everything on the radio. They didn't really get it.

**Overall, what are the main differences between your first album and *Transition*?**

This album is really song-driven, and it's really sort of inspired by the experiences of a summer. So it's just sort of three months of writing about anything that I was going through. It's really song-driven; you can play all the songs with a piano. Whereas, if you tried to play "Diamond Girl" [from the first album] on a piano, it would become almost very boring [because it's based around loops]. With these, there are a lot of changes, movement, chord changes, transition, bridges. It's very song-driven.

**You said that production-wise, *Transition***

**is less slick. Did you not have the live players on the first album?**

I did. I actually had T-Bone Wolk, who plays with Carly Simon. Tommy Mottola actually played a little guitar on my first album, David Sancious on keys. I mean, yeah, we had those elements there. The records that ended up being singles, though, were the synthy, slick, club [type of tracks]. This album really lives in a different place.

**From the producing and arranging side of things, were you consciously going for a different sound on the new CD, or did it just sort of work out that way?**

I just wanted to express musically, with as much impact as I could, what

After starting his career as a producer, Leslie is now focusing more on being a recording artist.



COURTESY UNIVERSAL MOTOWN

# RYAN LESLIE

...stayed answering longer than 5 mins! Check my profile for responses. I'll be back soon. Photo shoot in the am + Grammy U tom afternoon. [about 2 hours ago](#)

## Transition (The Film)

113 Comments  
The CDs are in the transition to get Thank you all for listening and with



Login

Although you can check out my site as much as you like without signing in, signing in unlocks extra functionality and allows me to get in better you better! I use Facebook. Comment so you don't miss the transition from the first album presentation was so exciting decided to present the album again on November 11th at the transition

Leslie uses online marketing very effectively. On his Website, he posts frequently and uploads videos documenting his experiences regularly.

### Her being?

Her being the muse behind this album.

**Run me through your typical production process on a song. Do you begin with an idea, then start messing around with tracks at home and then bring them into the studio?**

Yeah. To this point, a lot of the records are really beat-driven. So I hear something in my head [he sings a drum beat]. And then sort of a race to find the drum sounds and pads that fit that drum sound. And then I might hear [he sings melody line], I hear that and I'm like, "Is that a guitar; is that a synth?" You know. And it's always sort of a race to actualize what I hear. But once I do that, I may hear a lyric or melody. With this album, it's a little different, because I actually had chord

structures with actual songs, and then it was about, "What's the actual musical backdrop that's fitting with this thing?"

**So you weren't writing from beats; you were using song structures?**  
That's right.

**How do you compare the two methods? Is one better for you than the other?**

No, I like both ways, although I really feel that the beat-driven way is restrictive. Because what happens is a lot of times, especially in urban music, the beat is going and that's what people get into. And then you can sing any type of nonsense over it, because you don't want to mess up the groove of the beat. So I like the idea that you can put chord changes and B-section and a bridge. I think that may have been what threw off my staff, honestly. They're used to that four bars looping or eight bars repeating for the full duration of the song, and then when I take it to a B-section or a bridge, they're not accustomed to it.

**Did you mix *Transition* yourself?**

Yes, I did. And that's an area where I definitely have a lot of room to grow.




**Did you mix it here at Chung King?**

Yes, but really, I mixed it in the box.

**So you weren't using the Neve console that much on the mix?**

Not really. That's what I'm saying. The next record, we're going to set everything up and run analog, with a bunch of tube mics and preamps and really make the thickest, fattest-sounding record that we can make.

**You're going to track it to 2-inch and dump it into Pro Tools later?**

Yes. Motown is doing this Michael Jackson remix suite, and I was able to listen to the [analog] stems from the Jacksons' records. They sound so incredible. If I have the opportunity to do it, I'm definitely going to do it that way. 

See the Online Bonus Material section of *emusician.com* for "Ryan Leslie Talks Production," a video that includes footage from the *Transition* recording sessions.

Mike Levine is EM's editor and senior media producer.

# 2010 EDITORS' CHOICE AWARDS

We celebrate the finest gear we've seen all year

By Mike Levine, Len Sasso and Geary Yelton

Each year in the January issue, *EM*'s editors acknowledge the best gear—both hardware and software—from the past 12 months. Although 2009 may have been a down time economically for many, end-users had plenty to be happy about, especially on the software side. Most of the major DAWs had significant upgrades, and a few new ones emerged. Modeling software continued to become more sophisticated, with several very solid guitar-amp-and-effects modelers being introduced or upgraded during 2009. It was an especially good year for signal-processing plug-ins, with so many to choose from that we ended up with a tie in that category.

Overall, we found deserving products in 22 separate categories including, for the first time, Apple iPhone music apps. The process of choosing the award winners was based not only on the judgment of *EM*'s regular edit staff, but also on input from a select group of our writers and contributing editors.

To be eligible for the awards, products had to have shipped between Oct. 1, 2008, and Oct. 1, 2009. Those that shipped too close to the deadline to be sufficiently evaluated were moved to next year's eligibility pool.

So without further ado, now we get into the fun part: the awards themselves. We present them here, alphabetized by category name. (To hear a few audio examples and find links to the manufacturers' Websites, check out the **Online Bonus Material** at [emusician.com](http://emusician.com).)



## Audio Editors

### Apple

#### Soundtrack Pro 3 (Mac)

Although it's available only as part of Apple Logic Studio (\$499) or Final Cut Studio (\$999), Soundtrack Pro still got our vote for the top audio editor because of its combination of ease of use, solid features and stability. For many Mac users, it's the go-to stereo editor for numerous types of projects, and it's



marvelous for tweaking audio tracks from video files, even if you're not editing a Final Cut Pro project. Soundtrack Pro offers solid multitrack editing and mixing, too, as well as effects from Logic Pro's collection. Among the new features in version 3 are the Lift and Stamp tools, which allow for level, EQ and effects matching of different tracks in the Multitake Editor.

## Audio Interfaces

### MOTU

#### Traveler-mk3 (Mac/Win, \$849)

MOTU has long been a major player in the audio interface world, and the Traveler-mk3 reflects the company's experience. The FireWire interface (compatible with both FireWire 400 and 800) offers eight channels of analog I/O (supporting up to 192kHz sampling rates), including four mic/instrument combo jacks with clip-protection limiters. You also get three digital I/O formats: 16 channels of ADAT and two channels each of AES/EBU and S/PDIF. The unit's built-in DSP not only lets you monitor with effects such as reverb, EQ and the Leveler (an LA-2A emulation), but you can print with them as well. There's even an optional battery pack available. The Traveler-mk3 is a flexible and solid interface for many different situations.



## Auxiliary Hardware

### Moog Music

#### MP-201 (\$499)

The ergonomic and versatile Moog Music MP-201 multi-pedal was a clear standout among auxiliary hardware. The

sturdy, all-metal unit is equally at home with hardware and virtual instruments and effects on both Mac and PC, and naturally, the MP-201

works seamlessly with other Moog devices. You can individually program its four outputs as analog signals (CV, gate or LFO) or MIDI data. Its four footswitches, treadle and rotary-encoder/pushbutton let you dance your way through a host of controller options. Dual-purpose backlit rings around the footswitches and an LCD provide essential feedback even on stage. MIDI (standard and USB) and analog (1/4-inch TS) outputs are conveniently arrayed along the back.



## Control Surfaces

### Akai Professional

#### APC40 (\$399)

Ever since Ableton Live appeared on the scene, users have been trying to conscript their keyboard, knob-and-slider and drum-pad controllers into service triggering Live's clip slots. The Akai Professional APC40, designed in collaboration with Ableton for just that purpose, makes life a whole lot easier. Its matrix of 40 backlit clip-launch buttons is easy to orient even over very large arrays of clip slots. Sliders, knobs and additional buttons give you equally fast access to mixer, transport and plug-in functions. Although APC stands for Ableton Performance Controller, the unit is as handy in the studio as it is on stage. It's an elegant solution to a formidable challenge.





## DAWs Digidesign

**Pro Tools 8 (Mac/Win, \$149.95-\$249.95)**

The DAW category was a highly competitive one, with almost all of the major players offering strong new versions. However, Digidesign Pro Tools 8 eked out the win thanks to the quality and quantity of its new features, which significantly improved an already excellent application. PT8 highlights include an expanded plug-in collection (featuring four new virtual instruments), the Elastic Pitch feature and a redesigned user interface, which has been improved in both



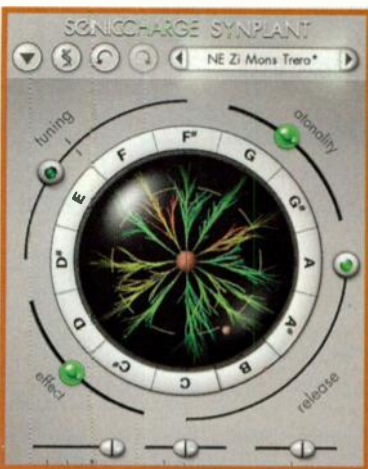
form and function. Add in the new Sibelius-powered score editor and the MIDI-editor window, and you've got yourself a winner.

## Download of the Year

### Sonic Charge

**Synplant (Mac/Win, \$89)**

Picking the best from the year's broad selection of low-cost and innovative Downloads of the Month is never easy; they're all winners. Top choices from 2009 included the free version of Submersible Music DrumCore and a mysterious sound-forager called Forester from independent U.K. developer Leafcutter John (also



free). This year's award goes to Sonic Charge Synplant, one of the most unusual synths we've seen. Synplant adapts the model of genetic evolution to an analog synth engine, and most importantly, the results are convincing. It is dead-simple to evolve sounds, and although they cover a broad timbral range, you can exert great control over the outcome. You won't quickly tire of programming or playing this synth.

## DSP Hosts

### Universal Audio

**UAD-2 Solo/Laptop (Mac/Win, \$499)**

Universal Audio is well-known for making top-notch emulations of analog studio gear from Fairchild, Harrison, AMS Neve, Pultec, Teletronix, Trident Audio Developments and other esteemed manu-



facturers, as well as modeling its own vintage hardware. Opening the door to UA's entire line of Powered Plug-Ins requires a UAD card, and for laptop owners, the ultimate solution is the UAD-2 Solo/Laptop. This high-performance DSP accelerator takes the load off your laptop's CPU, just like the UAD-2 Solo does for desktop computers. It plugs into your ExpressCard slot and comes with four essential plug-ins to get you started: UA 1176SE Compressor, Pultec EQP-1A, CS-1 Channel Strip and ReaVerb Pro.

## Instrument Controllers

### Novation

**SL Mk II (\$499.99)**

The new version of Novation's Remote SL series brings more visual feedback along with touch-sensitive dials and faders. Available with a two-, four- or five-octave keyboard or none at all, one of the models will fit in just about any studio configuration. The improved Automap 3 control-mapping software, with its semitransparent heads-up GUI, lets you make fast work of setting up and seeing what each control does. The unit retains the excellent keyboard mechanics from the original series but replaces the finger-numbing drum pads with soft-feel pads.



## iPhone Music Apps

### Intua

**BeatMaker (\$19.99)**

Many music apps on the iPhone/iPod touch platform are designed to appeal to both musicians and nonmusicians alike. While this can spur sales, it often results in apps that are more like toys than real musical tools. Not so with BeatMaker, a sampling workstation app that is clearly designed



with musicians in mind. It offers a deep feature set that includes trigger pads, a sequencer, user sampling, a large library of content, mixing capabilities, file import/export and lots more. Intua has imbued BeatMaker with a comparatively easy-to-use interface, which is no small feat considering the size of the iPhone's screen and this app's multitude of features. In our opinion, BeatMaker is the most capable music-production app in iPhone land.

## Microphones

### Shure

**SM27 (\$299)**

What your studio really needs is a versatile, affordable condenser microphone that faithfully reproduces vocals and instruments, right? *EM* has just the mic for you, and we're touting its virtues by giving it an award. The SM27 replaces and improves on Shure's respectable KSM27, with lower noise and a bit more high end. With a 1-inch diaphragm, this side-address cardioid condenser is designed for practically any application that demands accurate sound without coloration. Whether you're using it onstage or in the studio, the SM27 is an excellent general-purpose mic for acoustic and electric guitars, woodwinds, percussion, voice-over—pretty much anything you'd care to throw at it.



## Most Innovative

### Roland

**V-Piano (\$5,995)**

### Propellerhead Software

**Record (Mac/Win, \$299)**

In a world of ingrained expectations and time-tested best practices, deviating from the paradigm is laudable if risky—it better bring something important to the table. This year's Most Innovative award goes to two very different breakout products.

With the exception of Modartt Pianoteq, the 2008 winner of this award, pianos are made either of wood and strings or of samples. Roland ponied up with the R&D to change that and succeeded admirably with the V-Piano

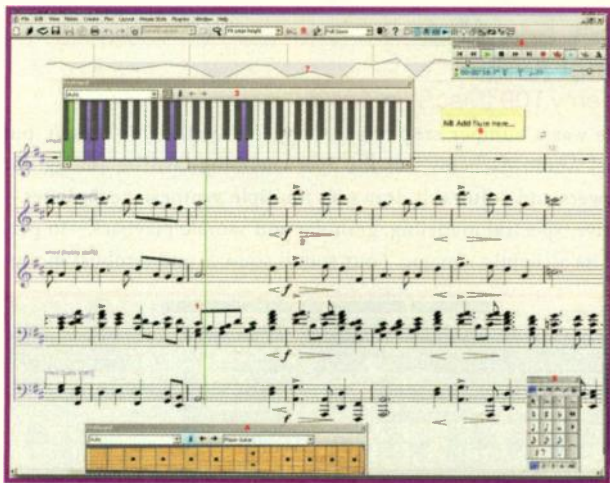


(pictured top). You can build a physical-modeled virtual piano from scratch, dialing in the characteristics of each of the piano's physical components, or you can enjoy and tweak the factory presets. With the aid of the included V-Piano Editor software (Mac/Win), neither process is as difficult as you might think. Roland's 88-key Progressive Hammer Action keyboard offers an excellent playing experience. If not quite the real thing, the V-Piano is definitely the next best thing.

In contrast with most other recording and sequencing software, Propellerhead Software Record (pictured bottom) is a closed system, keeping with the spirit of Propellerhead's flagship product, Reason. The result is a very CPU-efficient application that offers outstanding audio performance, especially for time-stretching. Record is a stand-alone product, but its rack and sequencer strongly resemble Reason, with which it seamlessly integrates. In addition, it sports a gorgeous mixer modeled visually and sonically after the SSL SuperAnalogue XL 9000 K. Boasting a wealth of built-in effects and a General MIDI-like sample-based instrument, Record is well-suited to full production as well as final mixdown.



(tie)



## Notation Software

### Avid

#### Sibelius 6 (\$499)

Although there are other competitors, the notation software market, for the most part, is dominated by its two 800-pound gorillas: Avid Sibelius and MakeMusic Finale. These programs are perpetually locked in a never-ending arms race to be the most feature-rich notation application. In our humble opinion, Sibelius edged out ahead this year with the release of version 6. The most significant new feature is the Magnetic Layout tool, which intelligently moves dynamics marks, chord symbols, lyrics and so forth as you add to the score, so you don't have to go back and reposition them countless times. Another key addition is ReWire support, meaning Sibelius can work in tandem with your DAW.

## Recorders

### Sony

#### PCM-M10 (\$299)

A direct descendent of two previous winners, the Sony PCM-M10 offers a lot of what most impressed us about the Sony PCM-D1 and PCM-D50, but it's smaller and lighter and boasts some handy new features such as a built-in speaker and an included remote. It records MP3s and up to 96kHz stereo WAV files through two built-in omnidirectional microphones. It can even capture 5 seconds of audio before you press Record. Adjust speed without affecting pitch, or pitch without affecting speed. To expand its 4 GB of onboard RAM, just slide in a microSD or Memory Stick Micro card. Even with two AA batteries (lasting up to 46 hours), the truly pocket-sized PCM-M10 weighs less than 7 ounces.



## Signal-Processing Bundle

### Abbey Road Plug-ins

#### TG Mastering Pack Native (Mac/Win, \$335)

Since the early '70s, Abbey Road Studios has relied on the TG 12410 Analogue Transfer Console, designed by EMI specifically for mastering. Two years ago, Abbey Road Plug-ins introduced a pair of TDM plug-ins



that duplicated its tone control and filter modules for high-end Pro Tools systems. Those plug-ins went native in 2009, offering their unusually musical sound and straightforward functionality to virtually all DAW users. Compatible with AU, RTAS and VST hosts, TG Mastering Pack Native comprises a 4-band parametric EQ with five EQ shapes, and a 3-band filter with midrange presence, to help you capture that classic British sound.

## Signal-Processing Hardware

### Eventide

#### PitchFactor Harmonizer (\$499)

Among the dozens of new hardware effects we see every year, it's difficult to select just one award winner. Fortunately, this year's winner was obvious. The PitchFactor Harmonizer delivers many of the same signature effects as Eventide's rack-mount studio processors, for a fraction of the price. Along with up to four voices of diatonic and harmonic pitch shifting, the PitchFactor offers 1.5 seconds of stereo delay, whammy-bar simulation and even a 16-step sequencer. This USB-, MIDI- and expression-pedal-controllable box handles guitar and bass or line-level inputs, and its two-voice synth emulation sounds like nothing else on earth.



Signal-Processing Software

2CAudio

Aether (Mac/Win, \$249.95)

iZotope

Ozone 4 (Mac/Win, \$199)



The quality and variety of today's software tools for polishing your audio recordings are unprecedented. That makes it especially difficult to pick just one winner in this category. After much deliberation, two worthy recipients have come to a draw. For stereo mastering, no software has caught on more quickly than iZotope Ozone 4 (pictured top). This multiformat plug-in gives you six independent processors under one roof, with functions including a mastering reverb and multiband stereo imaging. With new features such as midside processing, parallel compression and more visual feedback than ever, Ozone 4 is an obvious winner.

One look should tell you that 2CAudio's Aether (pictured bottom) is an algorithmic reverb plug-in like nothing you've ever seen. Its depth of programmability is quite simply astounding, but its real claim to fame is the pristine, organic quality of its sound. You can customize sounds that would be impossible with a convolution reverb, dynamically blending early and late reflections in ways you never dreamed of. With sophisticated damping and modulation capabilities, and 33 infinitely customizable virtual spaces to choose from, Aether is ideal for everything from modeling traditional spaces to out-of-this-world sound design.

Soft Synths

Camel Audio

Alchemy 1.09 (Mac/Win, \$249)

There was a bumper crop of excellent soft synths this season, but Camel Audio Alchemy was the overwhelming favorite among our reviewers and editors. It draws on multiple synthesis techniques—additive, spectral modeling, granular and sample playback—to perform its alchemist's magic. Four sound sources and a robust modu-



lation scheme, including multisegment envelopes, step sequencing and arpeggiation, enable a broad range of timbres. A simplified performance view makes Alchemy a pleasure to play, and if programming is not for you, you'll find more than 750 presets in the factory and add-on sound banks.

Software Drummers

Spectrasonics

Stylus RMX 1.8 (Mac/Win, \$399)

Spectrasonics' versatile Stylus RMX first won the Editors' Choice award in 2006 with version 1.2.1. Since then, RMX has evolved into an even more amazing product, and all upgrades have been free. Most notable

in the latest version is Time Designer, which will revamp any loop from the RMX library to the time signature of your choosing and to the groove of any other RMX library or external MIDI file. All of the effects from



Spectrasonics Omnisphere have been added to RMX. For fodder, the factory Core library has grown to a massive 7.4 GB, third-party libraries abound and you can convert any collection of REX files to RMX format.

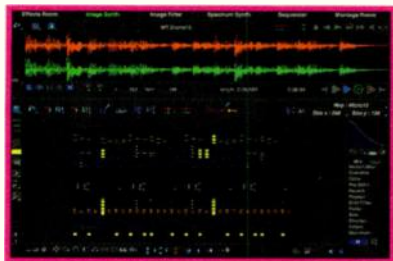


## Sound Design Software

### U&I Software

MetaSynth 5 (Mac, \$599)

Another 2006 winner, U&I Software MetaSynth got the editors' attention with a new release that supports Mac OS X Leopard. This favorite of sound designers offers new tools and processes in most of its sound-design rooms. Eleven new resynthesis-instrument modes beef up image synthesis. The Spectrum Synth lets you restrict most processes by pitch range. The Effects room adds convolution to the Crossfade effect and lets you render to disk, which overcomes the 6-minute sample-editor memory limit. The Montage sequencer now has 24 tracks, and you can apply Effects room processing directly. Best of all, MetaSynth is more CPU-efficient, and its diverse processes are more fully integrated.



## Sounds

### Mixosaurus

Kit A (\$699 on internal HD, \$799 on external HD)

Can you imagine how many sound libraries we hear in 12 months' time? Even with so many choices (some containing so many instruments you'd lose count), the one that stood out was Mixosaurus Kit A—a 122GB library comprising a single drum kit. Delivered on its own hard disk, this Native Instruments Kontakt-compatible sample collection captures every nuance of one kick, one snare, one hi-hat, four toms and seven cymbals. Does it sound convincing? Is the sky blue? With tons of articulations for each drum and cymbal, and note-mapping templates for virtual drummers such as FXpansion BFD and Toontrack Superior Drummer, Kit A could fool even the most sophisticated listener.



## Synths (Hardware)

### Arturia

Origin (\$2,490)

From the French company best known for its spot-on software emulations of classic analog synthesizers, Origin is a unique hardware synth. Like its virtual forebears, it models the ARP 2600, Yamaha CS-80, Roland Jupiter-8,



Moog Music Minimoog and Sequential Prophet VS, but it lets you mix and match their constituent parts with one another—controlling a Moog filter with an ARP envelope shaping VS wavetables, for instance. The result is a synthesizer *tour de force* that sounds like no other instrument made. With a wealth of hands-on controls and a big color display, programming Origin is a joy. It seamlessly meshes the best of vintage analog sound and control with the advantages of computer-based synthesis.


## Virtual Amps/Effects

### IK Multimedia

AmpliTube Fender (Mac/Win, \$199)

There was also plenty of competition in this category, but the collaboration between IK Multimedia and Fender produced the most compelling amp-modeling product released in 2009. AmpliTube Fender runs either stand-alone or as an AU, VST or RTAS plug-in. It offers 12 modeled Fender amps, both vintage and modern (three of which are bass amps), and matching cabinets for all of them. You can mix and match the amps and cabinets and dial in an array of modeled stompboxes, rack effects and microphones to the signal path. Our reviewer,



Michael Cooper, put it this way: "I really felt like I was blowin' out of a real Fender tube amp with vintage spring reverb." High praise, indeed. 

For a list of reviews and other coverage of the winners, see p. 38.

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WAVEMACHINE LABS

## 2010 EDITORS' CHOICE AWARDS

### The Award Winners in Review

All of our award winners have been covered in the pages of *EM* or soon will be. For products with reviews still in progress, we have completed enough testing to feel confident about our conclusions. You can find our published coverage online at [emusician.com](http://emusician.com).

2CAudio Aether	November 2009
Abbey Road Plug-ins	
TG Mastering Pack Native	May 2009
Akai Professional APC40	July 2009
Apple Soundtrack Pro 3	October 2009
Arturia Origin	March 2009
Avid Sibelius 6	in progress
Camel Audio Alchemy 1.09	August 2009
Digidesign Pro Tools 8	May 2009
Eventide PitchFactor Harmonizer	October 2009
IK Multimedia	
AmpliTube Fender	September 2009
Intua BeatMaker	June 2009
iZotope Ozone 4	June 2009
Mixosaurus Kit A	November 2009
Moog Music MP-201	December 2009
MOTU Traveler-mk3	March 2009
Novation SL Mk II	July 2009
Propellerhead Software Record	November 2009
Roland V-Piano	September 2009
Shure SM27	October 2009
Sonic Charge Synplant	June 2009
Sony PCM-M10	in progress
Spectrasonics Stylus RMX 1.8	December 2009
U&I Software MetaSynth 5	in progress
Universal Audio	
UAD-2 Solo/Laptop	December 2009

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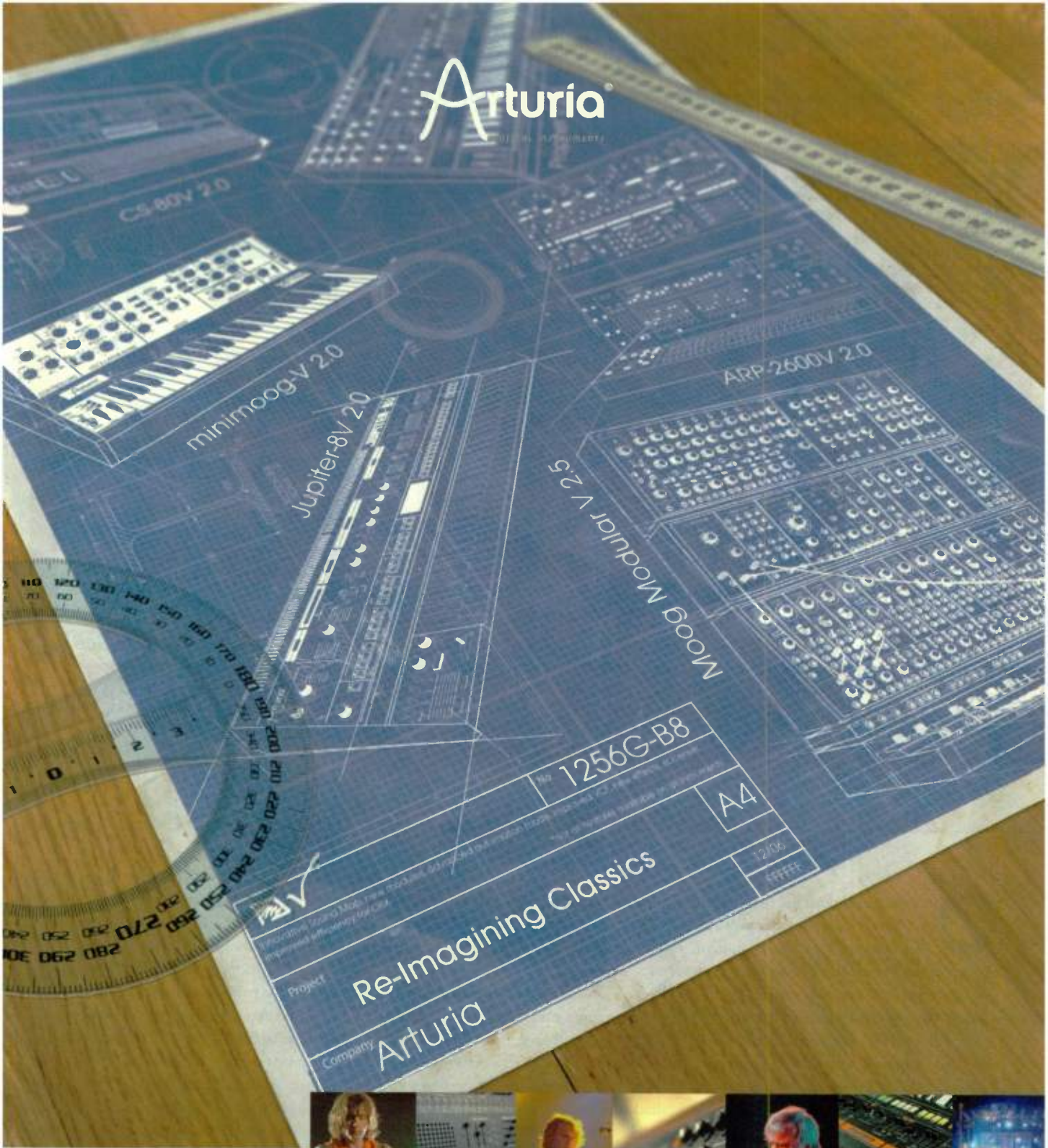
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# CREATIVE

# COMPAR

## Advanced techniques that go beyond dynamics control and subtle coloration

By D. James Goodwin

Over the years, much has been written and discussed about compression. Everyone has a passionate opinion about how and when it should be applied, and what types of compressors should be used. Some people have gone as far as to say that the overuse of compression has destroyed the process of recording beyond repair. Personally, I love compression. To me, it's one of the great wonders of the production world.

My aim here is not to restate the already well-covered conventional compression techniques. Instead, I will offer up some less-common and more aggressive applications for compression that use it to heavily manipulate audio.

### Dynamics in Reverse

This first technique has been around for quite a while, and it is a vastly underused form of colorful compression. I refer to it simply as *reverse compression*. That name means exactly what it

implies. Though this method has been in use for many years, beginning in the old days of analog tape recording, reverse compression is much easier to achieve in your DAW.

To start with, take a drum track or some other source with dramatic dynamic changes. In your DAW, reverse the audio file. Next, insert a compressor of your liking on that channel and play around with the attack and release times a bit. This is the tricky part, but also where all the magic is. Of course, you can just throw caution to the wind and try an extreme setting, such as a fast attack, fast release and about a 10:1 ratio.

Either way, when you're feeling good about it, you can either process the track with the plug-in or bus it in real time, using a send, to another track. When you have printed the effect, select your processed audio and reverse it yet again so you're back to the normal audio (see Fig. 1). Now you'll hear the compression you printed while

it was reversed. With luck, you will have completely mangled the audio into something way beyond what normal compression is capable of. If you're not happy with the results, change the compression parameters and try again.

I tend to use the most extreme forms of this technique on drums, where the transients cause a tremendous amount of artifacts. On drums, you'll hear the typical breathing and pumping that you can get with extreme compression, but depending on how you set the compressor, you can also achieve exaggerated envelopes that seem to suck into each drum hit rather than after the hits, as you would with normal compression. On a recent session with Finnish band Lapko, I used this technique most notably on one particular drum track that needed to be a bit special (see Web Clip 1).

While it's used mostly for extreme manipulation, reverse compression can serve as a more subtle effect on sources such as vocals and guitars. In certain instances, you can get







a vocal to compress heavily without the major artifacts you would normally hear. Remember, because your audio is reversed when you apply the compression, the compression artifacts will also happen in reverse when the audio is played back in its original direction.

The key to getting good results is to experiment with the compressor's parameter settings. It's hard to generalize about what the best settings are because it depends a lot on the source. However, I have found that short release times and slow attack times together will give you an almost gate-like effect, whereas longer release times will sound smoother and the effect more subtle.

### Chain, Chain, Chain

If you listen to pop music, especially of the dance variety, you've no doubt heard the effects of sidechaining. It amazes me that this technique, which is an extremely powerful method of cre-

ating wild textures with otherwise lackluster tracks, hasn't become more popular as a mangling tool in rock music. I've been on a mission for some time to bring extreme sidechaining into rock music, manipulating more than just the usual suspects such as bass and kick drum.

In the land of the DAW, sidechaining is easy to accomplish, and there are many shaping options available. One of the classic struggles in the studio is how to take a dull track and give it some explosiveness and verve. Many times, when I get asked to mix a project, the tracks I get are exactly that: dull and lifeless. Of course, drums typically suffer the most, but guitars can also fall prey. One way to liven up a guitar track and create some space is either to reamp it into a real space or to create an aux channel and insert a good room-type reverb on it. The reverb plug-in should be set to output wet signal only, with none of the original dry signal. Of course, I'm sending the guitar to the reverb send.

After the reverb, I like to insert a fairly aggressive compressor or limiter that has a sidechain input. I use Digidesign Pro Tools primarily, and one of my favorite plug-ins is the Waves SSL G-Master Bus Compressor because it both sounds fantastic and has a sidechain input. Now, set up another send from the guitar so that it feeds the sidechain input of the compressor. Once that's all routed (see Fig. 2), I like to set the compressor so that it aggressively ducks the reverb while the guitar is at its loudest and quickly releases as the guitar quiets down. This is obviously most effective with guitars that are dynamically active or staccato because the reverb plug-in excites whenever the guitar stops, creating a more lively and active space around the guitar. And unlike simply putting reverb on the guitar, the result is rhythmic pumping from the compressor as it ducks and lifts. As an additional benefit, it allows you to retain some of the clarity that reverb tends to obscure in a dense mix.

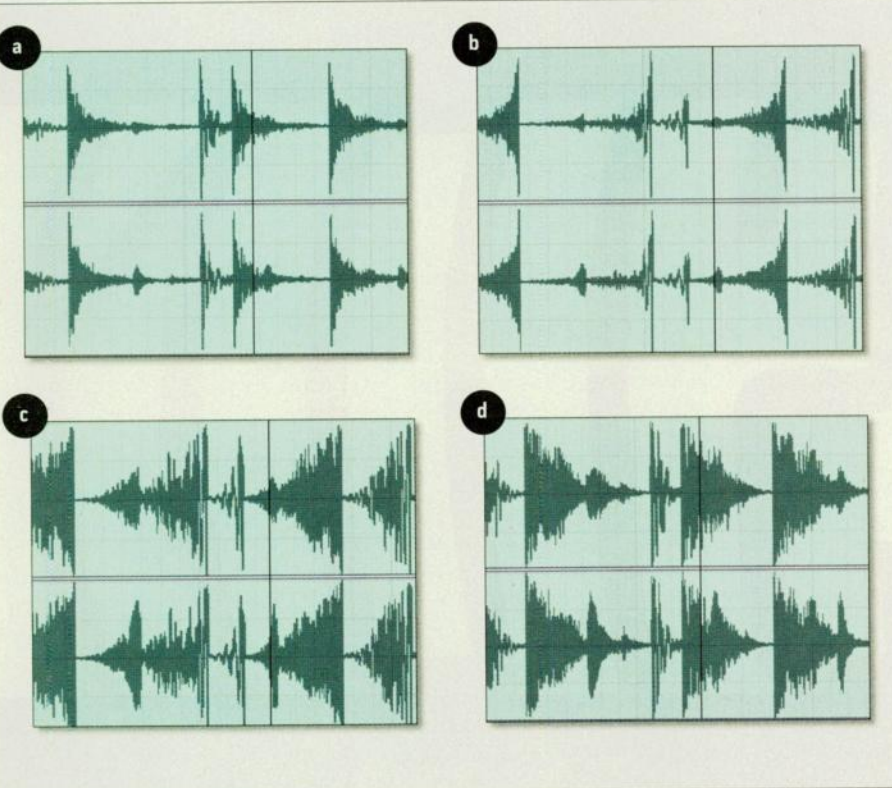


FIG. 1: This example, using a stereo drum loop, shows the steps for reverse compression: Take the original loop (a) and reverse it (b). Then compress the reversed loop (c). Finally, reverse it one more time (d) so that it's facing forward again.

I used this technique most recently on the new LP from New London Fire. We had one guitar track that just didn't have enough excitement (see Web Clip 2a), so I set up a similar chain and the guitar started to come to life (see Web Clip 2b). It saved the guitar track and helped the mix immensely.

The above technique is not just for guitars; it can be handy on multiple sources. This past summer, I worked on the new record by The Bravery (*Stir the Blood*, Island Def Jam, 2009) with producer John Hill. Throughout the tracking, we set up a variation of this chain in both the analog realm and the digital realm. First, we set up a send to an old spring reverb, then we ran it through my Smart Research C2 compressor and fed the sidechain input with various sources while we worked.

We also set up a chain in Pro Tools using the wonderful Universal Audio UAD Plate 140 and the Waves API 2500. We used the digital setup for more precision rhythmic effects, such as sidechaining from a click track or specific drum

pattern. In some cases, we would send something like a snare to a fairly distinct reverb and then sidechain the compressor from another rhythmic element, such as the kick drum or the hi-hat. This can get fun pretty quickly, and doing it while the musicians are playing allows them to tailor their performance to the sound even more to exploit the effect.

The beauty of the sidechain is your ability to modify and manipulate what it's detecting. Because the compressor or limiter only grabs when the sidechain detects signal, you can aggressively alter the signal that is triggering it without mucking with the sound of the compressor itself. This is the basic principle of frequency-dependent compression, such as is used in de-essing or multi-band compression. But in this case, I'm not interested in the tried and true. I want to push some extremes.

One way to experiment with this technique is to set up an aux input with your console or DAW and send its output to your compressor's sidechain input. On the aux channel,

experiment with different processors such as delays, tremolos, phasers, envelope filters, etc. Remember, the output is only going to the sidechain, so you will have to play around a bit with the compressor's threshold control and find a setting that interests you. Though it can be time-consuming, this approach can be enough to turn a track on its head and give you some needed inspiration.

You can also use it to fix problem areas in a particular track. For example, take the case of an overly muddy bass sound. By setting the pre-sidechain EQ to boost the areas of muddiness (say, boosting 220 Hz), the sidechain will react more aggressively to those frequencies. You can set the Q to be very tight so it grabs only on that frequency. It's basically like de-essing, but in the bass realm.

### Serial Killer

When I need to sit a vocal track better in a mix, I often employ a technique called *serial compression*. It involves using multiple compressors—mostly with very low ratios and high thresholds—placed on the same source. I will usually set up the first compressor to hit the vocal mildly at, say, a 3:1 ratio with a slow-to-medium attack and a moderately fast release. Then I will insert a really short delay immediately after the compressor and set it up so that the signal is about 30-percent wet on the out-

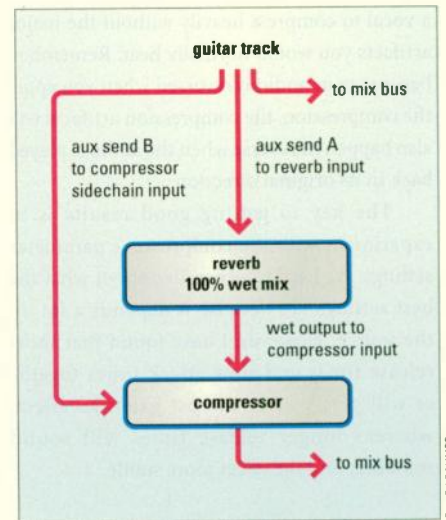


FIG. 2: Here's the signal routing for a sidechain-compression application that makes it possible for reverb on an aux send on a guitar track to be ducked when the guitar plays loud notes.

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Time to clean your room

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FIG. 3: Here are typical plug-in settings for a serial-compression-with-delay effect on a vocal track. All the plug-ins shown here are inserts. First comes a Massey compressor (a) set for mild compression, next is a Universal Audio UAD RE-201 (b) and finally a Chandler Limited TG 12413 limiter (c) set to a high ratio and quick release.

put. For the delay, I typically use something like a Roland RE-201 Space Echo, or even the UAD RE-201 plug-in (see Fig. 3).

After I set up the delay, I will insert an EQ if needed, but otherwise will go straight to inserting a limiter or a compressor with a very high ratio (20:1 or higher). I'll usually set the limiter to grab very aggressively and release very quickly so I can introduce a bit of distortion, as well as the breathing and pumping of the limiter while it exaggerates the delay on the vocal without sounding like a simple slapback. It will sometimes sound like a small room rather than a delay because the second limiter doesn't release until after the delay begins to taper off, creating a sense of excitement and space on the vocal itself. You can also do this with reverbs instead of delays.

### Cheesy Squeezy

In the April 2009 issue of *EM*, I wrote an article ("Radical Recording Tips," available at



FIG. 4: Not only do old consumer cassette decks often have built-in limiters, but many times they also have an onboard noise-reduction circuit. After recording through it, try disabling the circuit for playback and you'll get an interesting exciter-style compression.

musician.com) in which I talked about the use of old cassette machines as a way to manipulate individual tracks. Old cassette decks often have an onboard limiter or compressor built in. When you send tracks out to them, you can usually run through the line input and engage the limiter without even using a cassette tape and recording. As you might expect, these onboard units tend to operate poorly, so you can coax some extreme accidental sounds out of them, including distortion and filtering. What's even better, by running the signal onto a cassette tape, you can get some good old tape compression to boot.

Here's how to do it: Start by putting a beep or stick-hit tone at the beginning of your track because you're going to have to import the processed track back in afterward and line it up. Next, send your signal into the tape recorder and try to hit the tape pretty hard with your input so your meters drive into, or beyond, the red area. Cassette tapes have a pretty low threshold for compression, so you'll hear it clearly. In fact, you can drive a cassette tape into extreme compression very easily by cranking your input to the recorder. Purity and transparency aren't the goals of this process, so don't be worried if you get a little fuzz on your signal.

The last step is to record the track back into your DAW from your cassette deck and line it up with the original track using the beep you put in as a visual reference.

There's even more you can do with cassette machines. Many of the old recorders, as well as some open-reel decks, had integrated Dolby or DBX noise-reduction circuits (see Fig. 4). If your recorder has the ability to record with these circuits engaged, then the noise reduction will encode the cassette tape

with its process. Then you can play the recording back with the noise reduction disengaged so that it doesn't decode the sound on the way out. Because these noise-reduction circuits are basically just enhanced high-frequency compressors, the undecoded playback will be very bright and aggressive. I've used this method to great effect on pianos and acoustic instruments as a way to make them sound a bit more alien and atmospheric, without the use of reverb.

This same principle can be implemented if you have an old modular Dolby or DBX multitrack studio unit around, such as a Dolby Type-A card with its own host rack. Simply engage the unit on the input, but not on the output. You now have yourself a complementary high-frequency compressor/expander.

### Drive It Home

Finally, don't underestimate the use of overdrive and its resulting compression. Many times, I'll overdrive the input of a mic preamp or even a compressor itself to create a more distinct type of limiting that verges on the sound of electronics exploding.

For instance, if you overdrive certain mic preamps with a guitar, you can push it to a point where the circuit itself compresses the audio while distorting the life out of it, making the guitar sound as if it's being destroyed. It's a wonderful way to introduce extreme, heavily compressed fuzz on virtually any source. **EM**

*D. James Goodwin is a producer/engineer in Woodstock, N.Y. He can be found twisting sounds at his studio, The Isokon. He has most recently worked with The Bravery, Norah Jones and Lapka. Visit him online at [www.djamesgoodwin.com](http://www.djamesgoodwin.com).*



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## Note for Note

Creating easy-to-read lead sheets in your DAW and notation program | By Eli Krantzberg

**A** good lead sheet contains clear, easy-to-read chords, melody and lyrics (see Fig. 1). I'll show you some ways to create these with Apple Logic Pro 9, but you can apply my techniques in most modern notation software (see **Step-by-Step Instructions** below).

### Play it Straight

It's helpful to think of the three elements—melody, chords and lyrics—separately. Use either step entry or a MIDI keyboard to enter the melody. If you are playing the melody in, slow down the tempo as necessary, record with a click, quantize and begin phrases right on the beat as much as possible. The goal is for it to look good, not sound good.

For real-time entry, the Interpretation function in Logic's Score window will help make rhythms easier to read by lengthening shorter notes to avoid unnecessary rests. If you use step entry, leave Interpretation off.

The Syncopation function will replace tied notes with dotted values whenever possible. For intricate rhythms, the Display Quantization value provides additional control over how the melody looks.

To reduce accidentals, drag in the appropriate key signature from the Part box. If some notes are still displayed incorrectly, use the Score window's Attributes menu or double-click directly on the note heads to enharmonically shift them. Also keep in mind that you can change the staff style at

any position to display the melody in a different clef or octave.

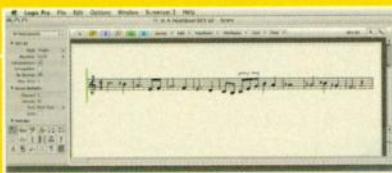
### Tab Tips

Logic's text objects let you enter multiple chord symbols quickly and simply. Either drag the Part box's Chord Symbol object to the desired location or click the location with the Pencil tool while the Chord Symbol object is selected.

As you type in the chord symbols, letters are placed on a lower extension line and numbers and their accidentals are placed on an upper extension line. Placing a comma after a chord extension will force it onto the lower line, whereas characters entered after the comma are placed on the upper

### STEP-BY-STEP INSTRUCTIONS

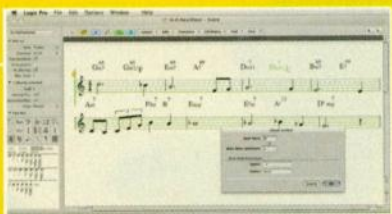
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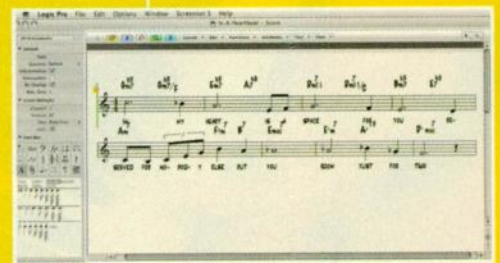
**STEP 1:** Enter the melody either in real time or using step input.

2

2



**STEP 2:** To enter chords, drag the Part box's Chord Symbol object into position and type in the names.



**STEP 3:** Add the lyrics with the Part box's Lyric object. Use the Tab key to move the insertion point from note to note.

line. Letters following a forward slash are entered as bass notes. While you're in Chord Entry mode, the Tab key will position your insertion point at the next displayed note or rest. Double-clicking any chord will open the Chord Symbol window, letting you edit the placement of elements.

Use a similar strategy to enter lyrics with the Part box's Lyric object. Using the Tab key locks cursor movement to the notes. Logic will automatically adjust the spacing to accommodate the underlying lyrics. Using Shift + Tab lets you enter lyrics under tied notes. If you haven't entered lyrics or chords in a single pass, use the Align Object Positions key command to align them after the fact.

## Cleaning Up

The difference between a good lead sheet and a great one is formatting. Logic's Text Styles window lets you assign individual font attributes to various elements in the score. Create additional styles from the New menu for rehearsal letters, the title or other special markings. Try to keep a unified look by restricting the total number of fonts. Once you've set up a new text style, make sure it is selected

in the Event Parameter box's text field, then click in the score with the Text tool and start typing.

Page numbers, bar numbers and instrument names are generally unnecessary. Hide them using the Project Settings Score page to get a cleaner look and leave more room for the other elements. When things look cluttered and cramped, you can adjust the spacing in the header and between the staves in the Project Settings Global Score tab.

A great lead sheet is easy to sight-read. Place double bar lines at the ends of each section and set the Project Settings to display four bars per line. (Sometimes eight bars per line will also work.) New sections should start at the beginning of a staff. If the form of the piece requires irregular numbers of bars per line, then drag them up or down with the Layout tool to override the default settings. Generally, three or five bars on a line will still look fine.

You can drag in ornamentations, dynamics and articulation markings from the

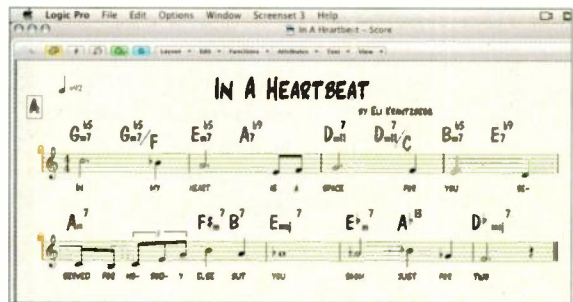


FIG. 1: Well-positioned melody, chords and lyrics make for an easy-to-read, professional-looking lead sheet.

Score window's Part box. Adding a tempo marking in the upper-left corner is a nice touch. The Resize tool will let you freely resize these along with any other element on the page.

Finally, don't forget to credit the author of the tune. This should appear underneath the title, either centered or offset to the right. Once you type it in, use the Layout tool to position it.

*Eli Krantzberg is a Montreal-based bandleader, musician and sound engineer. You can find his training DVDs at [www.groove3.com](http://www.groove3.com).*



**STEP 4:** Use the Text Styles window to format the chords and lyrics and to create additional text styles for the title and rehearsal letters.




**STEP 5:** Go to the Project Settings Score page to adjust the space in the header and between the staves.



**STEP 6:** Add double bar lines, tempo markings and the author's name. Use the Resize and Layout tools to make necessary final adjustments.



 This impulse in Ableton Live is processed with a delay, two IK Multimedia T-Racks mastering plug-ins and a rack of Ableton Live effects.



## Acting on Impulse

Exploring the realm of snap, crackle and pop | By Benjamin McFarlane

Impulses, momentary spikes in amplitude, are used in audio mainly as a tool for testing rooms or programming convolution reverbs. An impulse is as close to a non-sound as you can get and still get a sound. That raises an interesting sound-design possibility: triggering audio effects chains with impulses and relying exclusively on the effects to shape the sound. I'll use Ableton Live's robust effects rack implementation for my examples, but you can apply similar techniques using any DAW's effects sends and inserts (see the screenshot above).

### Resonance, Reverberation And Reflections

A logical first step is to create decay using delay reflections or reverb. I started by feeding an impulse to a ping-pong delay with a delay-time setting of 8.8 ms. Short delay times (less than about 50 ms) produce a discernible pitch, and the ping-pong of the delay creates a stereo flutter (see Web Clips 1 and 2).

The rapidly repeated impulses create a pitched sound whose frequency is 1,000 divided by the delay time—approximately 114 Hz in this example. (Conversely, divide the desired frequency into 1,000 to calculate the delay in ms.) You can use that to program a melody by automating the time delay parameter. Depending on the modulation capabilities of your DAW, you might use track automation

or a MIDI keyboard to control the delay time and, therefore, the pitch.

Next, I used a few other plug-ins to round out the sound. I started with Live's phaser plug-in and set its frequency to 123 Hz (B2), which is close to the pitch generated by the ping-pong delay (see Web Clip 3). I followed the phaser with Live's distortion effect, Erosion, to add some body (see Web Clip 4). Live lets you use the arrow keys on your keyboard to nudge effects parameters, and that's a great way to find the sweet spot. As an afterthought, I added Live's Chorus effect with feedback and a slow modulation time to create a squeaky pitch shift (see Web Clip 5).


All effects are fair game once you've given the impulse a body. Try using a compressor to soften the attack. Decrease the dry signal of your reverb or delay to reduce the volume of the original impulse.

### Creating Patterns, Exploring Space

Exploring a single impulse processed by a delay with a fixed delay time gets you only so far. To produce random patterns of impulses, first create a loop from the original impulse and then play the loop through the delay effect while manually changing the delay time. Try decreasing it to 1 ms and then slowly sweeping it up to a higher value. That will give you a random, rhythmically coherent pattern (see Web Clip 6).

To create something more suggestive, I dropped the pitch of the sample and added Live's Saturator to the track. Both of those serve to thicken the impulse and fatten the sound (see Web Clip 7).

Wondering what a more spatial effect would sound like, I first tried using multiple delays on multiple tracks panned left and right. Eventually, I opted for a natural sound source: Kellogg's Rice Krispies. That's right, maybe the crazy little elves were onto something. I picked a quiet moment to set up a pair of condenser mics in the kitchen and dropped Rice Krispies on several pans (see Web Clip 8). Lowering the pitch of the sample and shaping it with a phase EQ evoked natural scenes like a crackling fire or the sound of rocks churning underwater (see Web Clips 9 and 10).

Feeding an impulse into a delay may sound a bit like using a pulse oscillator, but delay-time modulation and the ability to create repeating syncopations and stereo patterns adds an experimental dimension that is absent in simple synthesis. In addition, using a different impulse or using a recording of an impulse-like sound (such as a Rice Krispies snap) effects predictable timbral changes. In this article, I've used impulses, but you can use any short sound-grain you want. 

*Benjamin McFarlane is editor-at-large and Web producer of ModernBeats Hit Talk ([modernbeats.com/hit-talk](http://modernbeats.com/hit-talk)).*





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MICHAEL WEINSTEIN

Hyatt says that the etiquette for self-promotion on Facebook differs greatly from that on MySpace.

## Q&A: Ariel Hyatt (Part 2)

Using Facebook to promote your music

**S**ocial Websites allow musicians to tap into the power of word of mouth in a way that has never been seen before. The site that has the most users and spreads messages more quickly and powerfully than any other is Facebook. It's a site that all musicians interested in marketing their music should include in their overall strategy.

Many musicians are familiar with marketing on MySpace, but the techniques for using Facebook effectively are different. To find out how different, we once again turn to Ariel Hyatt, the founder of Ariel Publicity. Ariel is a publicist, social media expert and author of *Music Success in 9 Weeks*, a nine-step program that helps artists implement social media and Internet marketing to increase their fan bases. Last month, Hyatt talked about how to use Twitter for music promotion (the interview is available at [emusician.com](http://emusician.com)). In part two, she offers salient advice for doing the same on Facebook.

By Jason Feehan and Randy Chertkow

### Why should musicians use Facebook?

Facebook is the number-one emerging social network, and has over 250 million users. If Facebook were a country, it would be the fourth-largest in the world. It's also the number-one photo-sharing site on the Web. If you're a musician and you're not on it, you're absolutely not in the game. As we said with Twitter [in last month's interview], it's all about building a relationship with your fans to get people to discover your music.

### What's the difference between Facebook and Twitter?

With Twitter, you usually have people following you that you don't know. They're following you because they like what you tweet, find you interesting or like your music. Facebook is a much more personal, two-way connection because both people get to approve who they're connected with. So if I want to friend you and you don't want me to be in your community, you can ignore me. But if we do friend each other, it's a

phenomenal way to better connect, to spread information about yourself and your music, and to build your relationship online.

### Do you need to be on Facebook if you're already on MySpace?

I'm glad you asked that because there's quite a few clients of mine that don't want to use Facebook. They're exhausted from how much they worked to build up their MySpace presence and can't believe

there's another social network to get into. The answer is yes, you need to be on both. They're different. And musicians need to approach them differently. MySpace taught musicians to add as many friends and blast as many bulletins as possible. While that's acceptable at MySpace, that etiquette is not going to get you very far on Facebook. For example, I get invited every day to 50 or 60 events that are nowhere near where I live—art openings in Cleveland, raves in Indonesia. There is nothing on

event. One inventive way to get people to come to your events is to make someone else an administrator for your event so they can invite their friends—such as a super fan who wants to help you out. If you do this, though, make sure they send the invite to the right group of people. Of course, you want to also update your Artist page. This won't annoy anyone because unlike an Event, it's a passive way of informing people. You're informing those who opted in to your page.

two communities so you can continue the relationship on Facebook.

Second, one way to get people involved is to look at other bands who you get compared to and look at their Facebook presence. Join their groups and start getting into conversations. Post on their walls. Comment on their music. Talk to their fans. Later, you can ping their fans and say, "Hey, I see you're friends with [Artist]. I'm in a band that's similar that you might enjoy. Would you like to join

## If Facebook were a country, it would be the fourth-largest in the world.

my page that indicates I am heading to Indonesia, and I don't have any Indonesian friends. It's inappropriate behavior and says, "I don't care about you, fan, I am just blasting my own stuff." So you need to be very conscious of the difference and change your strategy.

### What is the right Facebook strategy?

First, after you create a Facebook profile, you want to create an Artist or Band page [both are Facebook page types] for your music. I don't think using your personal Facebook profile is appropriate for your music—even if you're a solo musician—because your friends and family might want to hear from you on a very personal level through your profile. The Artist page will allow you to share streams and information about your business as a musician—shows coming up, albums for sale, things like that—without alienating your friends. Plus, if you're in a band, you can share access to this page so other band members can post.

Second, you should group everyone into categories, such as by where they live, who's in the music business, other musicians, etc. This will allow you to target your messages and announcements to the right people. When you have a show in New York, message your New York fans. When you're in Boston, hit the Boston people.

### Facebook allows you to invite people to events. How should musicians use this feature?

Again, categorize your friends by regions and be selective as to who you invite. That way, you can avoid spamming everyone in your Facebook for every

### Facebook has a lot of applications that allow you to add extra features to your pages. Are there any in particular you'd recommend to a musician?


Absolutely. For your Artist pages, I recommend the iLike and ReverbNation applications. Both allow you to put up a music player, banners and show dates. I also love ReverbNation's free blog app, fan collector/mailling list tool, and their MyBand app that you can add to your personal profile to introduce your music to your personal network. Also, consider using apps that allow you to connect your Twitter account to your Facebook so when you tweet, it updates Facebook. If you use Twitter as much as I do, this is a good way to consolidate the two platforms and simplify your life a bit.

### So I'm a musician, I created my Artist page and I have the right apps to share my music. Now what? What do I share? How do I get people involved?

You should start with those people you've already established relationships with. I'm going to warn you, this takes an inordinate, inappropriate and annoying amount of time. That's the bad news about social media. But if you take the time, it will pay off. So if you have hundreds or thousands of friends on your MySpace page, reach out to them and send them a short message stating, "Hey, I just started a Facebook page and would love to have you participate with me there. You're probably spending more time on Facebook like me, and so I'd love it if you'd join me." Again, don't give up on MySpace—it's an important and viable presence—but you definitely want to start incorporating your

my page?" That's one of the most powerful things about Facebook: People are publicly showing you what they're interested in, and you can talk to them about it.

Third, I recommend sharing photographs. I should point out a basic marketing principle: In general, people are not so much interested in you as they are inherently interested in themselves. So to be very effective on any social-network platform—Facebook, Twitter, MySpace—you need to focus and involve them. This is where photos help. Facebook allows you to tag people within the photo itself and associate that part of the image with another person's Facebook profile. So if I was in a photo you took, you could tag me and I'd get a notification that I'm in a photo of yours. If you take photos of your audience at shows and tag them, they'll drop by. It's a great way to acknowledge people, and they'll come and look at photos of themselves over and over.

Lastly, Facebook allows everyone to comment on anything. So start a conversation with your fans. Comment on their status updates. Write on their walls. Don't worry so much about blasting your information and making it all about you; what you want to do is genuinely get in public conversations with others about them. They'll likely reciprocate, take notice of your music and explore what you're all about. 

*Randy Chertkow and Jason Feehan are authors of The Indie Band Survival Guide: The Complete Manual for the Do-It-Yourself Musician and The D.I.Y. Music Manual, and founders of the open and free musician resource IndieGuide.com.*

»» FIG. 1: Although their GUIs have different skins and are organized differently, the controls and metering options for Waves CLA-2A (shown here) and CLA-3A are exactly the same.



# Waves

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By Michael Cooper

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**\$1,600 MSRP TDM**

**PROS:** Excellent emulations of classic analog compressors. Outstanding sound quality. Very low CPU drain. Easy to use.

**CONS:** Instantaneous A/B comparisons between CLA-76's Bluey and Blacky modes compromised by jumps in output levels.

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

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**W**ith the release of CLA Classic Compressors, Waves has expanded its line of plug-ins that model vintage hardware processors. The cross-platform bundle includes models of Grammy Award-winning mix engineer Chris Lord-Alge's personal handpicked Teletronix LA-2A, UREI LA-3A and UREI 1176 compressors. Lord-Alge has mixed pop and rock icons Green Day, Daughtry, U2, Dave Matthews Band and Avril Lavigne, to name just a few.

Unlike the original analog units (which were mono), all three plug-ins in the CLA bundle come in mono and stereo versions. Waves offers both TDM (Mac and PC) and native bundles. The native bundle supports RTAS, AudioSuite and VST formats for Mac and Windows, and AU for Mac. I used the AU versions of all three plug-ins in MOTU Digital Performer 6.02, using an eight-core 2.8GHz Mac Pro running Mac OS X 10.5.4.

### That's So Classic

CLA-2A models the Teletronix LA-2A leveling amplifier, an electro-optical tube compressor originally produced in the early 1960s (see Fig. 1). The plug-in's twin sibling, the CLA-3A, models the UREI LA-3A audio leveler, a solid-state opto compressor originally produced in 1969. (The LA-3A is essentially a solid-state version of the LA-2A. For more background on the hardware processors that CLA Classic Compressors are modeled on, see the sidebar opposite, "Plug-in Pedigrees.") Although the GUIs for CLA-2A and CLA-3A have different skins and layouts, the controls and metering options are exactly the same.

True to their hardware counterparts, CLA-2A's and CLA-3A's compression curves are program-dependent—their GUIs provide no attack and release controls. Turning up the Peak Reduction control increases compression depth, for a maximum 40 dB of gain reduction.

there's another social network to get into. The answer is yes, you need to be on both. They're different. And musicians need to approach them differently. MySpace taught musicians to add as many friends and blast as many bulletins as possible. While that's acceptable at MySpace, that etiquette is not going to get you very far on Facebook. For example, I get invited every day to 50 or 60 events that are nowhere near where I live—art openings in Cleveland, raves in Indonesia. There is nothing on

event. One inventive way to get people to come to your events is to make someone else an administrator for your event so they can invite their friends—such as a super fan who wants to help you out. If you do this, though, make sure they send the invite to the right group of people. Of course, you want to also update your Artist page. This won't annoy anyone because unlike an Event, it's a passive way of informing people. You're informing those who opted in to your page.

two communities so you can continue the relationship on Facebook.

Second, one way to get people involved is to look at other bands who you get compared to and look at their Facebook presence. Join their groups and start getting into conversations. Post on their walls. Comment on their music. Talk to their fans. Later, you can ping their fans and say, "Hey, I see you're friends with [Artist]. I'm in a band that's similar that you might enjoy. Would you like to join

## If Facebook were a country, it would be the fourth-largest in the world.

my page that indicates I am heading to Indonesia, and I don't have any Indonesian friends. It's inappropriate behavior and says, "I don't care about you, fan, I am just blasting my own stuff." So you need to be very conscious of the difference and change your strategy.

### What is the right Facebook strategy?

First, after you create a Facebook profile, you want to create an Artist or Band page (both are Facebook page types) for your music. I don't think using your personal Facebook profile is appropriate for your music—even if you're a solo musician—because your friends and family might want to hear from you on a very personal level through your profile. The Artist page will allow you to share streams and information about your business as a musician—shows coming up, albums for sale, things like that—without alienating your friends. Plus, if you're in a band, you can share access to this page so other band members can post.

Second, you should group everyone into categories, such as by where they live, who's in the music business, other musicians, etc. This will allow you to target your messages and announcements to the right people. When you have a show in New York, message your New York fans. When you're in Boston, hit the Boston people.

### Facebook allows you to invite people to events. How should musicians use this feature?

Again, categorize your friends by regions and be selective as to who you invite. That way, you can avoid spamming everyone in your Facebook for every

### Facebook has a lot of applications that allow you to add extra features to your pages. Are there any in particular you'd recommend to a musician?


Absolutely. For your Artist pages, I recommend the iLike and ReverbNation applications. Both allow you to put up a music player, banners and show dates. I also love ReverbNation's free blog app, fan collector/mailling list tool, and their MyBand app that you can add to your personal profile to introduce your music to your personal network. Also, consider using apps that allow you to connect your Twitter account to your Facebook so when you tweet, it updates Facebook. If you use Twitter as much as I do, this is a good way to consolidate the two platforms and simplify your life a bit.

### So I'm a musician, I created my Artist page and I have the right apps to share my music. Now what? What do I share? How do I get people involved?

You should start with those people you've already established relationships with. I'm going to warn you, this takes an inordinate, inappropriate and annoying amount of time. That's the bad news about social media. But if you take the time, it will pay off. So if you have hundreds or thousands of friends on your MySpace page, reach out to them and send them a short message stating, "Hey, I just started a Facebook page and would love to have you participate with me there. You're probably spending more time on Facebook like me, and so I'd love it if you'd join me." Again, don't give up on MySpace—it's an important and viable presence—but you definitely want to start incorporating your

my page?" That's one of the most powerful things about Facebook: People are publicly showing you what they're interested in, and you can talk to them about it.

Third, I recommend sharing photographs. I should point out a basic marketing principle: In general, people are not so much interested in you as they are inherently interested in themselves. So to be very effective on any social-network platform—Facebook, Twitter, MySpace—you need to focus and involve them. This is where photos help. Facebook allows you to tag people within the photo itself and associate that part of the image with another person's Facebook profile. So if I was in a photo you took, you could tag me and I'd get a notification that I'm in a photo of yours. If you take photos of your audience at shows and tag them, they'll drop by. It's a great way to acknowledge people, and they'll come and look at photos of themselves over and over.

Lastly, Facebook allows everyone to comment on anything. So start a conversation with your fans. Comment on their status updates. Write on their walls. Don't worry so much about blasting your information and making it all about you; what you want to do is genuinely get in public conversations with others about them. They'll likely reciprocate, take notice of your music and explore what you're all about. 

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*Randy Chertkow and Jason Feehan are authors of The Indie Band Survival Guide: The Complete Manual for the Do-It-Yourself Musician and The D.I.Y. Music Manual, and founders of the open and free musician resource IndieGuide.com.*

## Image Line FL Studio 9 (Win)

The popular virtual studio grows bigger and more powerful

By Jim Aikin

### PRODUCT SUMMARY

**DAW**  
\$299 Signature Bundle (download)  
\$199 Producer Edition (download)

**PROS:** Powerful suite of built-in synthesizers and effects. Deep feature set with many unique edit commands. Great price. Lifetime free updates.

**CONS:** Window-intensive user interface.

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

image-line.com

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

Saying Image Line FL Studio has a rich feature set is like saying a Christmas tree has some pretty things hanging on it. It's accurate, but it doesn't even begin to describe what you'll see. This DAW is packed, and it's also somewhat quirky—definitely not a “me too” multitrack sequencer. If you're migrating from another program, you may need a few days to get used to the FL way. (The excellent video tutorials on Image Line's Website will help get you up to speed.)

Version 9 adds some important new features, but it's not a major overhaul. Image Line reports that FL Studio will run on Intel Macs using Boot Camp with either Windows XP or Vista; PC users can use Windows 7, Vista, XP or 2000. I reviewed it on my trusty MusicXPC laptop, powered by Windows XP. FL Studio has always been rock-solid for me, and V. 9 was no exception. I encountered only one minor glitch, which has already been fixed for the next release.

The program is available in four versions; I reviewed the high-end Signature Bundle. The Image Line Website has a large chart with details on how the versions differ.

### Time in the Studio

If you've never seen or worked with FL Studio, here are some things you'll want to know. It comes with a large and varied set of software instruments and effects. The included instrument set features FM synthesis, virtual analog, sample playback, speech synthesis, a plucked-string model and a full-bore modular D.I.Y. synthesizer builder called SynthMaker. (For a closer look at a few of the instruments, see the sidebar on page 54, “A Big Box of Toys.”) Also included is a massive sound library. Portions of the library are not installed, but you can download them from within the program.

FL Studio has all the DAW features you'd expect—audio and MIDI tracks, VST and ReWire hosting, MP3 export, automation—and some you wouldn't expect. The automation includes some intelligent features such as control-signal mixing and real-time mathematical processing not found in any other DAW. FL Studio can also run as a DXi or VST instrument in another host, or as a ReWire client. Purchasers get lifetime free updates.

The user interface is quite window-intensive (see Fig. 1). FL Studio lacks a system



FIG. 1: Image Line FL Studio in action: the browser (left), step sequencer (inner left), mixer (upper right), playlist tracks (center right) and multiband compressor (center foreground). A portion of the panel of the optional Poizeone 2 synth is visible at lower right.

for saving and restoring screen layouts, but you can open and close windows with the computer's Function keys. Creating beats using sampled drum sounds is extremely quick and intuitive, thanks to the integrated step sequencer. Thinking of songs as collections of repeating patterns is encouraged in FL Studio, but you can record in a linear way if you want. Slicing up sampled beats is built in, and beat-slicing has lots of cool, unexpected features, thanks to the ridiculously powerful Slicex instrument (see Fig. 2).

**New UI Features**

The Playlist window in FL Studio, equivalent to other DAWs' Track window, has long been a work in progress. In V. 9, you can finally name your tracks and mute them, just as you can in most DAWs. (You can still mute sound sources the old way, too, in the list of Generators.) This new approach to muting audio clips is a tremendous improvement.

The names of patterns are now displayed in the bar at the top of the Step Sequencer window, and you can select a pattern from a drop-

down in the same location. This simple feature means a big improvement in workflow.

Not a UI feature, but definitely worth noting: FL's multithreading has been beefed up. If you have a CPU with multiple cores, this will increase the number of effects and virtual instruments you can run simultaneously.

**Vocodex**

The original FL vocoder was strictly mono; it uses the left-channel input as the carrier and the right-channel as the modulator. It's still included in the program for compatibility with existing songs, but the Vocodex plug-in is entirely new. Vocodex uses a mono modulator signal, but the carrier can be stereo due to the mixer's new side-chain capability (more about that soon).

For previewing and live performance, Vocodex has its own basic sound source. You can choose from about 25 sounds, such as Elderly and Tube, which are optimized for vocoding. When Vocodex is the front window, the sound source responds to a MIDI keyboard so you can play chords on the keyboard, speak into a microphone and vocode onstage.

Vocodex uses the standard FL multi-segment envelope window (also used in mixer automation, the Sytrus FM synth and so on) for contouring more than a dozen parameters across the frequency spectrum. Using the envelope contours, you can adjust band gain, width and distribution; modulator gain; envelope attack, hold and release; and so on. I'm not aware of any other vocoder that gives you so much control (see Web Clip 1).

**Mixing and Recording**

The FL Studio mixer has been expanded from 64 channels to 99. More significant, you can now send any channel's output either to aux buses (in any combination) as before or to the new sidechain buses (in any combination). So far, only a few of the FL effects take advantage of this feature. In addition to Vocodex, the Fruity Limiter accepts a sidechain input in Compressor mode, and the Fruity Stereo Shaper can send its in/out difference signal to a sidechain. A new plug-in Options window lets you route MIDI and sidechain audio into third-party plug-in effects.

## A Big Box of Toys

Image Line FL Studio includes a large group of built-in instruments and effects, far too many to discuss them all in detail here. Some of the instruments, such as the new Sakura (Mac/Win, \$99) physical-modeled plucked-string and Toxic Biohazard (Mac/Win, \$99) FM synth, are optional add-ons. They come installed with FL Studio so you can try them out, but they won't be loaded with songs you save until you purchase them.

Others, such as the Sytrus (Win, \$179) FM synth and DirectWave (Win, \$99) multisampler, are included in the high-end FL Studio Signature



**FIG. A:** Gross Beat gives you instant access to 36 delay contours and 36 amplitude contours. The big graphic editing area shows the contour that's active for editing in green, and the other contour that's currently playing is in brown.

Bundle but are available as optional add-ons in less-expensive versions of FL Studio. (They're also available as VST plug-ins that should work with any Windows DAW.) Still other instruments are fully functional even in the less-expensive versions; for details, consult the features chart on the Image Line Website ([flstudio.image-line.com/documents/features.html](http://flstudio.image-line.com/documents/features.html)).

To give you an idea of what FL Studio can do, let's look at the new Gross Beat effects plug-in (Win, \$99) and a small selection of the older instruments (all included in the program).

**Gross Beat:** Gross Beat is a very fun and intuitive rhythm-oriented effects plug-in. It produces gated rhythms, stuttering delays and scratch-type sounds (see **Web Clip A**). It's based on a delay-line section and an amplitude-control section, each of which is edited graphically (see **Fig. A**). Each section has a number of editable presets, and you can switch presets while the music plays either using mouse-clicks or by tapping keys on a MIDI keyboard. Preset switching can occur instantly, on the next beat or on the next bar line. At the moment, Gross Beat is limited to one bar of 4/4 time, but that's not going to be a problem for most of the music styles that you'll use this type of effect in.

By dragging points around in the graphic envelope window, you can edit either the amplitude or the delay of the incoming signal, again without interrupting the flow of the music. The window has a snap grid, naturally. Attack and Release knobs can smooth out the sharp transitions in amplitude gating, which otherwise may click audibly, and both sections have wet/dry knobs.

**Wasp and Wasp XT:** Vintage analog synth lovers will gravitate toward the Wasp and Wasp XT synths. They have a similar three-oscillator design with dual LFOs, but the XT version adds a filter keyboard tracking knob, a mod envelope and a couple of other features.

**Speech Synthesizer:** For robot voices, nothing beats a cheesy speech synthesizer, and FL has one. Type whatever phrase you like in ordinary English (no arcane code to learn), choose a voice from among 20 options such as Old Woman and Topsy, and click the Accept button. The phrase will be saved as a collection of samples and loaded into a Slicer instrument, and a piano-roll note clip will be created to play the Slicer. You can then add repetitions, make the voice sing and so on.

**Slayer:** Want to play guitar rock but you don't have a guitar player? Not to worry; just load FL Slayer (see **Fig. B**). This modeled instrument has a movable pickup, string damping, amp and speaker models, and two pitch-bend inputs—one of which can be stepped by semitones to simulate slides up or down a fretboard.

**Autogun:** New in FL 9, Autogun is a presets-only, noneditable synth based on Image Line's additive Ogun synth engine. The panel leads you to believe there are more than 4 billion presets. When you find one you like (and most of them sound great, by the way), you can scribble the number down somewhere. But because all of the presets I tried had names, one-sentence descriptions and a credit for the name of the programmer, and there were apparently only seven or eight programmers in all, I assume that there must be some repetition in the preset bank. No matter. The idea is to find a sound that inspires you and make some music.



**FIG. B:** The Drive, Feedback and Presence knobs ensure that Slayer will cut through a mix like a dentist's drill—that part is no joke.





FIG. 2: FL's built-in Slicex instrument can slice loops, crossfade between two loops, send slices to separate mixer channels and process individual slices using as many as eight independent Articulators. Each Articulator has its own filter, LFO, envelopes and so on.

When audio recording was first added to FL Studio, the Edison audio editor was inserted as an effect and you recorded into Edison. The audio in Edison was then dragged into a track and saved to a disk file. You can still work this way in FL 9, but now you can record straight to the track, the way it's done in other DAWs.

In Loop-Record mode, FL mutes the previous audio takes as the new loop starts. I had no trouble using this feature to comp a vocal track, though I had to discover by trial and error how to mute individual audio clips after slicing a take apart. Alt-clicking on a clip mutes it, but even after I figured this out, I couldn't find it mentioned in the manual. I'm sure it's in there somewhere, though: The manual (a large Windows Help file) has been beefed up considerably for this release. It's full of

cross-links, but because FL Studio is a complex program, you may need to poke around to find the details you need.

### The Big Picture

I've been a fan of FL Studio for a long time, but thanks to the improvements in V. 9, I can finally stop adding "...although the audio track handling is a little weird" whenever I talk about it. Audio recording and audio track mute buttons now work the way musicians expect. The new Vocodex vocoder and improved multithreading are just the icing on a rich and tasty cake. Yes, I still have a few little items on my wish list. But if you're a Windows user who's looking for a full-featured DAW, there's no excuse for not downloading the demo and checking out FL Studio. **EM**

*Jim Aikin writes about music technology and teaches classical cello. His story "Leaving the Station" appeared in the December '09 issue of Asimov's Science Fiction.*

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FIG. 1: Although their GUIs have different skins and are organized differently, the controls and metering options for Waves CLA-2A (shown here) and CLA-3A are exactly the same.



# Waves

## CLA Classic Compressors (Mac/Win)

Plug-in bundle emulates three vintage favorites

By Michael Cooper

### PRODUCT SUMMARY

compressor plug-in bundle  
 \$800 MSRP Native  
 \$1,600 MSRP TDM

**PROS:** Excellent emulations of classic analog compressors. Outstanding sound quality. Very low CPU drain. Easy to use.

**CONS:** Instantaneous A/B comparisons between CLA-76's Bluey and Blacky modes compromised by jumps in output levels.

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waves.com



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Unlike the original analog units (which were mono), all three plug-ins in the CLA bundle come in mono and stereo versions. Waves offers both TDM (Mac and PC) and native bundles. The native bundle supports RTAS, AudioSuite and VST formats for Mac and Windows, and AU for Mac. I used the AU versions of all three plug-ins in MOTU Digital Performer 6.02, using an eight-core 2.8GHz Mac Pro running Mac OS X 10.5.4.

### That's So Classic

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True to their hardware counterparts, CLA-2A's and CLA-3A's compression curves are program-dependent—their GUIs provide no attack and release controls. Turning up the Peak Reduction control increases compression depth, for a maximum 40 dB of gain reduction.

The Gain control provides makeup gain. A virtual switch toggles between compression and limiting modes (which, like with the LA-2A and LA-3A, sound very similar unless you hit the plug-in hard). You can switch the virtual VU meter for each plug-in to show the gain-reduction amount or the input or output level.

Another rotary control mimics a pot for a pre-emphasis circuit—originally designed for broadcast purposes—that was located on the original hardware processors' rear panels. Turning down this control makes the plug-in increasingly more sensitive to higher frequencies. That might be useful for de-essing a vocal, for example, but you'll want to use the flat setting for most music applications. The two plug-ins also have a virtual three-way switch that selects between models of 50Hz and 60Hz hum and noise or defeats these analog artifacts.

## Black and Blue

CLA-76 (see Fig. 2) has two modes, Bluey and Blacky, that respectively emulate the Silverface Bluestripe and Blackface versions of the vintage FET compressor the UREI 1176 peak limiter. When you switch between the two modes, the entire control layout remains the same and all your previously wrought control settings are retained. Only the plug-in's skin (and, of course,

its sonic performance) changes.

Four buttons let you select among 4:1, 8:1, 12:1 and 20:1 ratios. An additional All setting duplicates the aggressive compression curve and added distortion produced on a vintage 1176 by pushing all four ratio buttons in simultaneously. The input control drives the compression depth. Controls for adjusting the output level and the attack and release times are also provided. CLA-76 offers the same VU-style metering, metering source points (input, output or gain-reduction levels) and modeling of analog artifacts (50Hz, 60Hz or off) as CLA-2A and CLA-3A. Additionally, you can completely defeat compression to use CLA-76 simply as a subtle tone-shaping plug-in (emulating only the 1176's preamp section).

All of the CLA Classic Compressor plug-ins have the WaveSystem toolbar familiar to Waves users. The toolbar offers facilities for toggling between two setups for comparison purposes, saving and loading user presets in



FIG. 2: CLA-76 offers two modes of operation that model different revisions of the classic 1176 FET compressor. The GUI for Blacky mode is shown here.

Waves' file formats, initiating as many as 32 levels of undo and redo, and opening the current plug-in's operating manual.

## Nice Curves

In use, CLA-2A and CLA-3A transparently compressed a very dynamic male lead vocal. Their compression curves sounded identical (as they should, since they model the response of the T4 opto cell used in both hardware counterparts). Using CLA-2A's Compress mode, the compression curve sounded admirably close to that of my LA-2A hardware unit. Compared to using the CLA-2A, I could get a hair more gain reduction out of my LA-2A before hearing the slightest hint of amplitude modulation, but the

## Plug-in Pedigrees

To fully appreciate the value of the Waves CLA Classic Compressors, it's helpful to examine the original hardware pieces that these plug-ins were modeled on. What made them so valued?

CLA-2A emulates the tube-based LA-2A opto compressor. The LA-2A owes its lauded compression curve—famous for its pre-eminent transparency—to the T4 electro-optical cell it employs. The T4 comprises an electroluminescent panel and photoelectric cell that has an inherently slow attack time (around 10 ms) and two-stage program-dependent release. The first stage of release lasts about 40 ms to 80 ms. The second stage can last several seconds when compression is heavy or the signal remains over the threshold for a long time. The two-stage release allows engineers to compress tracks very heavily with little or no modulation artifacts such as pumping or thinning.

CLA-3A is modeled on the UREI LA-3A audio leveler, an opto compressor originally produced in 1969, which was basically a solid-state version of the LA-2A. Some other differences existed between the two processors, but most importantly, they both used the venerable

T4 opto cell and therefore had virtually identical compression curves. Compared to the LA-2A, the LA-3A has a more extended frequency response (both in the bass and high frequencies) and typically produces more depth. But the LA-2A's creamy, somewhat band-limited sound still remains extremely popular.

The CLA-76 is modeled on the '60s-era 1176 FET compressor. Whereas opto compressors typically offer the slowest minimum attack time, FET compressors (those that use Field Effect Transistors for their gain-control elements) produce the fastest—as quick as 20 microseconds in the 1176. The 1176 is renowned for its ability to smoothly process instruments having sharp transients, such as drums.

The 1176 was revised more than a dozen times before production was discontinued. Waves CLA-76's Bluey and Blacky modes model the Revision B (aka Silverface Bluestripe) and Revision D-LN (aka Blackface) versions of the 1176, respectively. The two versions of the 1176 have slightly different THD and noise specs, gain stages and time constants.

difference was very subtle. Waves maintains the difference is because the aging T4 opto cell in my LA-2A has a progressively less aggressive response over time.

In any case, CLA-2A had a slightly more creamy and band-limited (midrange) sound compared to CLA-3A's, which offered greater depth and detail. The difference was very much like that between the original hardware units. It's amazing how well both plug-ins make vocals sit in a mix, neither popping out or getting lost in dense arrangements. CLA-2A immediately became my favorite compressor plug-in for lead vocals, with CLA-3A coming in a close second.

On an electric guitar track, CLA-2A and CLA-3A each provided transparent compression and beautifully enhanced pick strike (see **Web Clip 1**). Again, CLA-3A provided the most depth and clarity, CLA-2A the most color.

CLA-76, whether in Bluey or Blacky mode, sounded awesome on room mics for drums (see **Web Clip 2**). Using the All (all-buttons-in) setting along with slow attack and fast release times produced hyperventilating drum tracks with wonderful pumping and coloration. Generally speaking, Bluey produces more compression and higher output levels compared to Blacky at the same settings, sometimes resulting in a slightly pluckier sound. Although all control settings are retained when switching between Bluey and Blacky modes, the stringently modeled gain staging of the original hardware pieces results in jumps in level when changing modes, making instantaneous A/B comparisons difficult.

CLA-76's Blacky model was my favorite on overhead mics for drums, increasing ambience and urgency. I could add pleasing solid-state-like grunge to ostinato electric guitar tracks by using Bluey with the compression turned off. All the CLA plug-ins sounded too subtle on bass and acoustic guitar for my tastes. However, CLA-76 Bluey gave a little more density and color to bass tracks and lent subtle presence and leveled dynamics to strummed acoustic guitar.

### Repeat if Necessary

All of the CLA Classic Compressors plug-ins are very efficient. With DP 6.02's buffer set to 512 samples, instantiating 144 plug-ins (48 each of the CLA-2A, CLA-3A and CLA-76) used only about 45 percent of my eight-core Mac Pro's CPU resources.

I rated the CLA Classic Compressors a 5 for features despite each plug-in's simple control layout. My reasoning was that all of the controls and metering options for the original hardware pieces are available in the respective plug-ins.

The bundle is a little pricey, but this level of quality commands a premium. The Waves CLA Classic Compressors bundle offers the most accurate emulations I've heard to date of

the LA-2A, LA-3A and 1176. The plug-ins are easy to use and sound particularly outstanding on vocals, electric guitar and drums. The CLA Classic Compressors bundle delivers. **EM**

*EM contributing editor Michael Cooper is the owner of Michael Cooper Recording in Sisters, Ore. Visit him at [www.myspace.com/michaelcooperrecording](http://www.myspace.com/michaelcooperrecording).*

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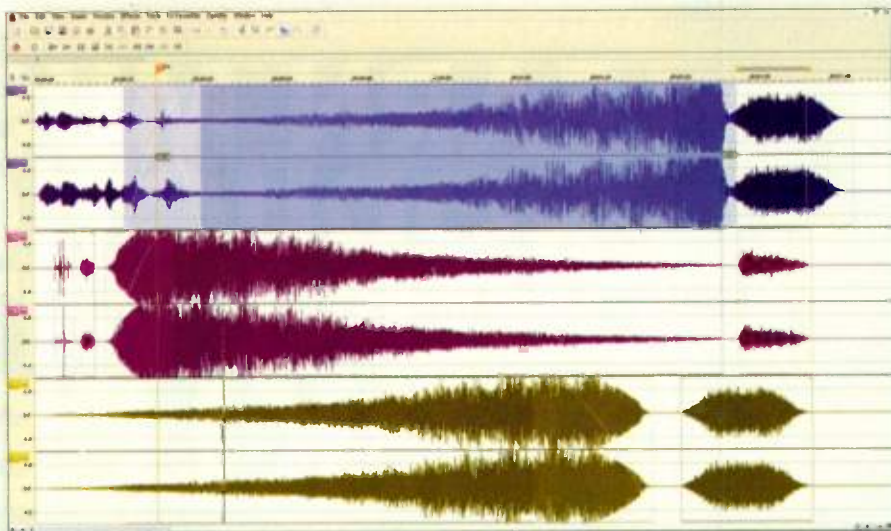
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»» FIG. 1: Sony Creative Software Sound Forge 10's new event-based editing can be used quite effectively in the multichannel audio window, where you can create events from within files and drag them into other tracks.



# Sony Creative Software

## Sound Forge Pro 10 (Win)

A popular editing app gets bigger, better

By Dennis Miller

### »» PRODUCT SUMMARY

**multichannel audio editor**  
**\$399.95**  
**\$249 upgrade**

**PROS:** Event-based editing. Built-in CD burning. New mastering effects. Extensive processing toolkit.

**CONS:** Tutorials don't get into much depth. Upgrade price not a great bargain.

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

sonycreativesoftware.com



**S**ony Creative Software's Sound Forge Pro multichannel audio editor has reached the major milestone of Version 10. Long one of the most popular and full-featured Windows audio applications, the new update receives a number of obvious enhancements and even more that are under the hood. Among the major additions are event-based editing; built-in CD authoring and burning; support for DLS, GIG and SF2 file formats; and new high-end plug-ins such as iZotope's Mastering Effects Bundle and 64-bit SRC and MBIT+ dithering effects. Combined, these features move Sound Forge Pro ever closer to a full-blown audio production workstation.

We reviewed Sound Forge 9 in the August 2007 issue, so have a look at that review (available online at [emusician.com](http://emusician.com)) if you haven't been following the development of the program. This review will focus primarily on the new features in V. 10.

### Main Event

Sound Forge Pro 10's most significant update is event-based editing. This feature allows you to have multiple independent clips of audio on a track and move them around as needed. Events can be selected and dragged or copied to a new location with automatic, adjustable crossfades applied, or you can add an effect to or process just a single snippet. You can also apply simple envelopes (ASR only, but with variable curves) with just a few clicks. It's easy to split a long file into any number of events, or you can drag an event onto the workspace to create a new file.

Event-based editing gives the program a huge boost in flexibility. Working in Sound Forge's multichannel environment (see Fig. 1), which was introduced in Sound Forge 9, I was able to load multiple files and view them simultaneously, then create events from different files and drag them to a new file to create a composite track. In older versions, this type of work would require numer-

ous copy-and-paste operations, often using trial and error to find the correct location within the destination file. You can copy a mono file to one or both tracks of a stereo file, yet you can't simply drag and drop an event if it has a sample rate different from that of your intended destination and retain the original tempo. This requires resampling the source clip to play at the correct speed.

In addition to creating events manually, Sound Forge will create an event automatically if you simply highlight a region of a file and apply an effect or process to it. At that point, you can either move the event to a new location or leave it in place, and the entire file will play back seamlessly.

Sound Forge doesn't support recording multiple tracks of audio simultaneously, and it couldn't be described as a true DAW. Yet editing and manipulating events in the multichannel window really gives you the feel of working in a multitrack environment, and the program is now suitable for many mixing chores.

## Bend and Stretch

Another new addition is zplane's *élastique Pro* time-stretch and pitch-shift plug-in, which is found in several other popular programs (Ableton Live and Native Instruments Traktor, for example). This plug-in supports stretching from one-tenth to 10 times a selection's original length, and it lets you specify the new length as a ratio, a new tempo (BPM) or an exact time (showing old time vs. new). It also supports pitch-shifting up to two octaves in either direc-

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You won't find many other additions to the Effects or Processes menu in V. 10, but there's a new resonant filter that has a lot of potential. I prefer to use dedicated software such as GRM Tools for most of my filtering needs, but this effect sounds really great. It offers a choice of low/band/highpass options plus adjustable frequency, resonance and wet/dry balance (see Web Clip 3). Sound Forge also now sports high-quality bit and sample-rate conversion via iZotope's tools for those purposes. I do a lot of work using direct sound synthesis in Csound, a software-synthesis programming language, and I appreciate Sound Forge's ability to convert my digitally generated 24-bit files to CD-ready, 16-bit resolution. These converters will also come in handy if you're recording at high sample and bit rates or if you generate a lot of high-resolution audio with soft synths.


## Get the GIG

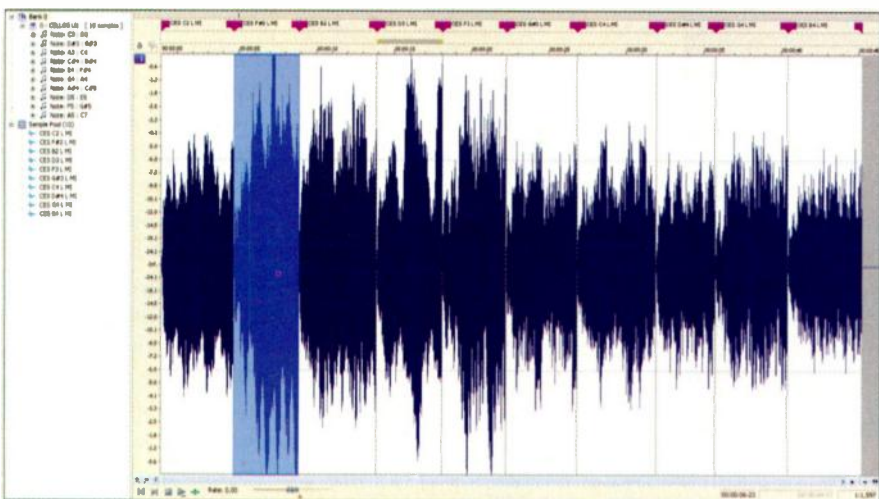
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A number of improvements to the interface should make your workflow more efficient. For example, the new tabbed window-browsing feature really helps organize your workspace, especially when you have multiple windows open. You can now create and save a different custom window layout for each of the main types of projects you work on. There's also a new option to show an adjustable number of grid lines overlaid on top of a highlighted selection, which is particularly handy if you do a lot of work with loops.

Sony has included a number of new interactive tutorials that should make learning Sound Forge easier. The tutorials run directly from within the program's interface, and they cover a variety of topics including applying an effect and burning a CD. These do a nice job of walking you through each step of the process, but they don't get very deep or cover advanced topics. I hope this series will continue and that more high-end features—for example, working with Sound Forge's excellent Acoustic Modeler convolution effect—will be added.

I've been a Sound Forge user for many years, and the program has always been one of the most stable and reliable applications I've owned. I've also had good success running this on my Mac under Boot Camp. I'd be hard-pressed to recall any time where it crashed or failed to perform as expected. Version 10 adds even more features to an already rich and mature program, and if you haven't upgraded recently, now may be a good time. Even if you own Sound Forge 9, you might find that there are enough enhancements to compel you to upgrade. Check out the demo at Sony's Website to see if the new features suit your needs. 



**FIG. 2:** Sound Forge Pro's support for DLS, GIG and SF2 files means you can tweak your sample libraries directly within the program. Shown here is a cello sample from the Miroslav Vitous Mini Library.

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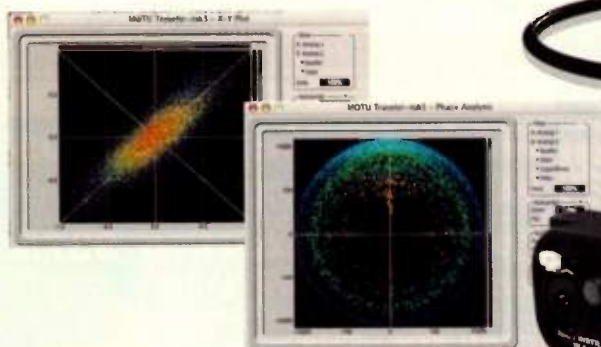
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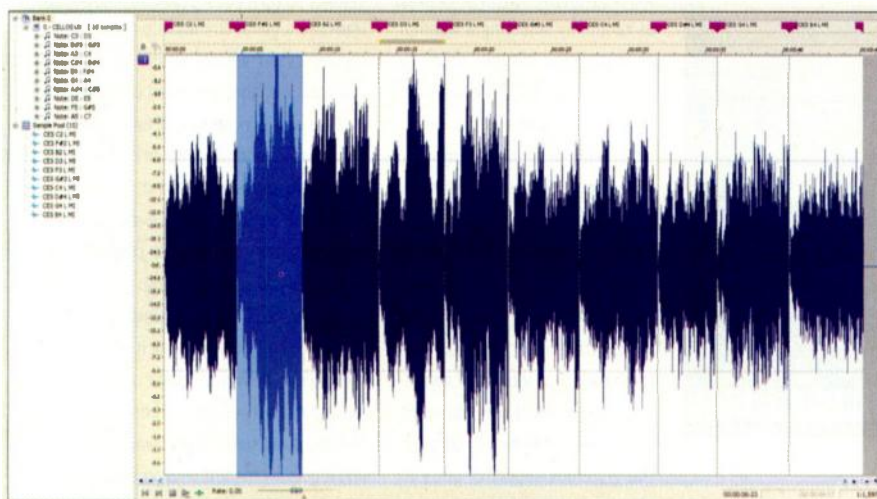
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## HEAVYOCITY

### Evolve Mutations (Mac/Win)

By Marty Cutler

When Heavyocity first introduced Evolve (reviewed in the December 2008 issue of *EM*, available online at [emusician.com](http://emusician.com)), it caught the attention of a broad spectrum of electronic musicians: game scorers, film composers and those just looking for unabashedly processed and imaginative sounds. Its inspirational sound design and programming earned it a 2009 *EM* Editors' Choice award.

Following its own tough act, Heavyocity teamed up with Native Instruments to deliver Evolve Mutations, a similarly themed library (\$119 download from [native-instruments.com](http://native-instruments.com)). The collection comprises 275 instruments drawn from roughly 2 GB of sample data. That's not a gargantuan sound set, but programming matters more than size, and I found more originality here than in collections several times as large.

### COMPUTATIONS

Make sure you have a fast Internet connection, as it will take a while to download the

contents. Installation is easy, and authorization using the Native Instruments Service Center is fast and painless—all you need is the serial number.

I tested the Kontakt 3 or Kontakt Player 3 version of Mutations on my 2.93GHz MacBook Pro running OS X 10.5.8 with 2 GB of RAM. The current version, which is also available on DVD, requires Kontakt 4 or Kontakt Player 4 (a free download) and, on the Mac side, an Intel Mac running OS X 10.5 or later.

### PERMUTATIONS

Mutations divides its content into four main areas: Rhythmic Suites, Stings and Transitions, Percussive Kits, and Tonality and FX. Rhythmic Suites subdivides into Percussive and Tonal loops. These are menus of tempo-synched loops whose additive effect creates larger-than-life, dramatic underscoring. But, you can scale down the effect by playing just a handful of loops. Loops found in the menus are also provided as individual instruments. That lets you adjust the overall pitch by playing different keys and lets you add individual hits, which are mapped to keys above the loops.

Finding something fresh, different and useful in these menus is as easy as randomly selecting a handful of keys. If you stagger notes by some increment of the rhythm, you'll get countless permutations of the original patterns (see [Web Clip 1](#)). These include simple rhythms and complex, syncopated passages that are sometimes played on traditional drum-and-percussion instruments, but more often on objects such as trash cans and sources of mysterious origin. Most are processed before recording or run through the generous supply of unusual effects provided by Kontakt.

The tonal elements of the Rhythmic Suites also serve several

purposes. In menu form, they combine to create powerful rhythmic motifs. As single loops, they are more easily adapted to different keys and chord changes, which you combine to build rhythmic, pulsing chords. What makes these rhythmic loops stand out among myriad collections of loops is Heavyocity's use of space; most other collections I've heard rely on unrelenting streams of eighth- and 16th-notes. Mutations' batch dovetails more gracefully.

### STING LIKE A BEE

At their most effective, Stings are startling, attention-grabbing sounds. Mutations has these in good supply, including metallic, largely inharmonic sweeps of sound; more tonal, ambient washes; and saturated, snarling billows of tone (see [Web Clip 2](#)). There's something here to suit almost any underscoring need, and the effects—which include bit reduction; distortion; low-, high- and bandpass filters; reverb and delay—provide plenty of latitude for your own sonic stamp.

In the Tonal and FX folders, you'll find sounds as diverse as intriguingly warped and distorted guitars and electric pianos, and shofar, the traditional ram's horn instrument played during Jewish holidays. One of my favorites is Dangerous Harmonics, guitar chimes with a tempo-synched rhythmic tail whose attack becomes more emphatic with the mod wheel (see [Web Clip 3](#)).

Pads and FX holds rafts of tonal and unabashedly atonal sounds, at turns smooth and inviting or abrasive and edgy. It's worth mentioning that among this surfeit of sound, every patch proffers an ADSR envelope generator coupled to amplitude for further sound shaping.

Mutations is a terrific companion library to Evolve. Once again, Heavyocity has pulled out the stops to deliver a palette of evocative tools for any modern electronic composer's canvas. Mutations will surely find its way into film scores, and it gets my highest recommendation.

**Overall rating (1 through 5): 5**  
[heavyocity.com](http://heavyocity.com)

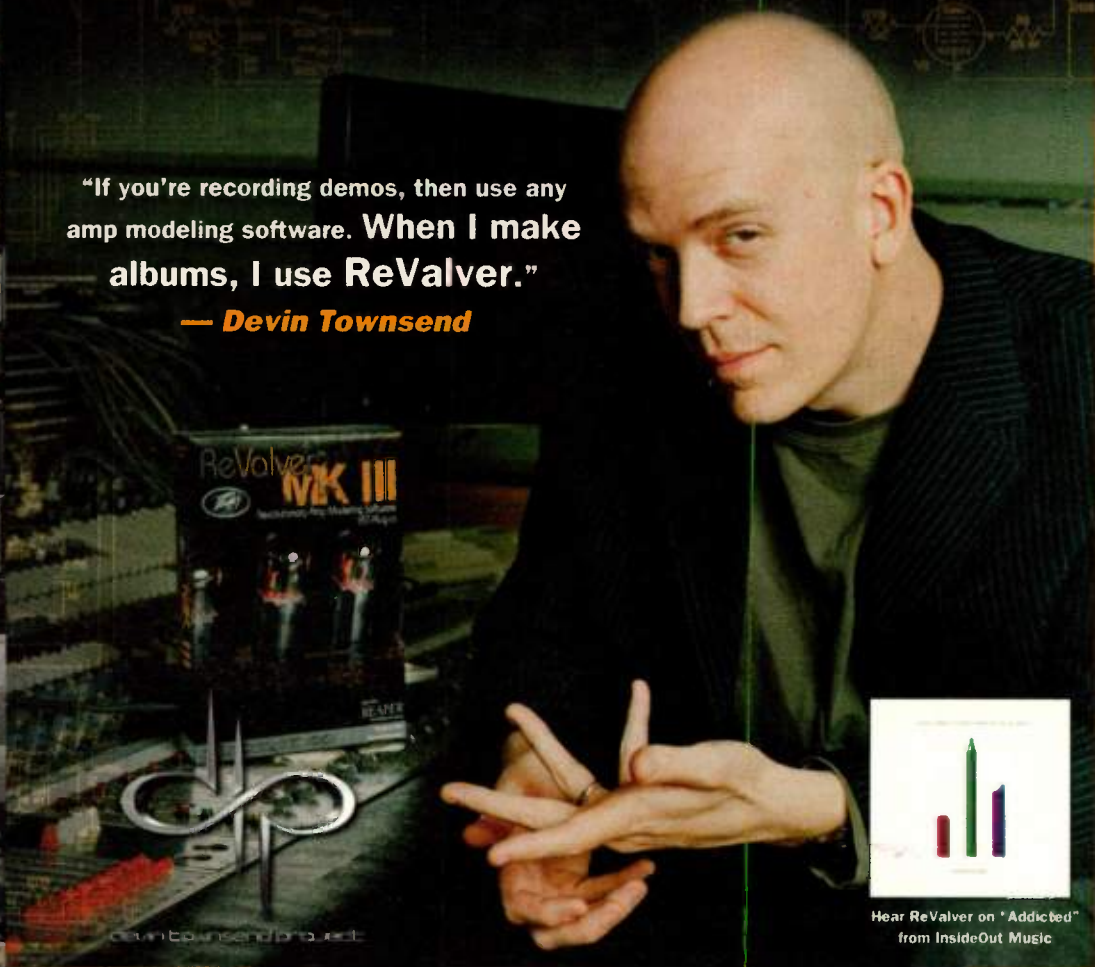


Heavyocity Evolve Mutations is a sweeping collection of imaginatively processed instruments, stings and loops with a cinematic emphasis.

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**ROLAND**

**AX-Synth**

By Dave Reik

Even if you aren't a performing keyboardist, you've probably at least seen the AX-7, Roland's out-of-production, strap-on keyboard controller. The AX-7 hung from a strap across your shoulders, much like a guitar, with a short neck housing real-time controls for your left hand. Such controllers are known as keytars, and they've remained popular ever since the Moog Liberation first appeared in 1980. Roland recently began shipping the AX-Synth (\$1,199), a new keytar that's bound to turn some heads. Now you can get out from behind your keyboard stack and rip some serious solos side by side with your guitarist.

**SOUNDS APLENTY**

Compared with the AX-7, the AX-Synth's most obvious and compelling advancement is its onboard 128-voice polyphonic synthesizer. Its internal sounds are derived from the Fantom-G sound engine, along with a small selection of realistic instrumental timbres generated by Roland's SuperNatural technology. For a performing keyboardist, having so many new

AX-Synth's primary purpose—playing lead—though the standard polyphonic sounds are compelling, too (see Web Clip 1). A set of 256 Fantom-inspired Tones are grouped into eight Families, each with 32 Variations. You also get four SuperNatural Tones (Violin, Cello, Shakuhachi and Trombone; see Web Clip 2) and four Special Tones (Trumpet, Sax, Strings and Jazz Scat; see Web Clip 3). Special Tones are based on different technology and don't have as much tonal variation and expression as SuperNatural Tones. For customizing factory patches and crafting your own Tones, a dedicated AX-Synth Editor (Mac/Win) is included.



**CONTROLS AND PERFORMANCE**

On the front surface of the control section (the neck), alongside the modulation bar and ribbon controller (for pitch bend), the infrared D-Beam controller affects whatever parameter you indicate using the adjacent Pitch, Filter and Assignable buttons. Two Octave/Variation buttons let you shift pitch by as much as three octaves, or scroll through either your Favorites or through Variations from any Family you select with the front-panel Tone buttons. (Another fast way to change Tones is by pressing a Tone button to select a Family, holding the Shift but-

Three buttons flank the Volume and Aftertouch knobs. The first turns on portamento—great for classic synth leads—and the second turns on Bender mode, which determines how the ribbon responds. With Bender mode enabled, the ribbon affects only the last note you play, so you can emulate a lead guitar by simulating a guitarist's double-bend technique (see Web Clip 5). The third button engages a hold function and serves the same purpose as a sustain pedal. Sustaining the last-held note frees your right hand so you can bend or filter that note with the D-Beam controller, which is terrific in a live-performance situation.

**ONSTAGE AND UP FRONT**

The AX-Synth weighs less than 9 pounds and was comfortable to play. Although the neck felt a bit wide in my left hand, all of its controls were positioned naturally under my fingers, making them easy to reach. The 49-note velocity-sensitive keyboard felt a little stiff, but that's not unusual for a new keyboard. The keys go from C to C, which I prefer to the AX-7's 45-note, E-to-C layout.

If you want to switch from playing solos to two-handed playing, simply move the strap to pin number 2 on the back—a simple but a effective design. That one touch



Housed in a strap-on keyboard controller, the AX-Synth is a 128-voice-polyphonic synthesizer with a wealth of real-time controls.

sounds onboard is a monumental improvement over wielding a mere controller, because you no longer need MIDI cables to connect to an external sound device. Just add an audio cable or, better yet, a wireless transmitter, and you'll be working the crowd in no time. And because it operates for up to 6 hours on eight AA batteries, you don't even need to be tethered to a power supply.

Many of the onboard sounds (which Roland calls Tones) accommodate the

ton beside the three-character LED display, and then pressing notes on the keyboard's highest octave to select a Variation.)

On the back of the neck are two rotary knobs you can easily control with your thumb. The Volume knob comes in handy when you're switching from background chords to smashing out a lead (see Web Clip 4). The Aftertouch knob sends channel aftertouch messages, offering an expressive additional modulation source for playing the AX-Synth.

makes the AX-Synth not only a great ax for live performance, but suitable for studio situations, too. For any keyboardist who's ever been jealous of a guitarist's ability to stand at the front of the stage, bend strings, and whack the whammy bar, Roland has packed everything it could into the ideal strap-on keyboard.

**Overall rating (1 through 5): 4**  
rolandus.com

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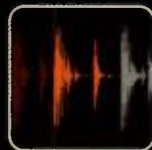


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## SYNTHOLOGY

### Ivory Upright Pianos

(Mac/Win)

By Nick Peck

Following up on the success of its universally praised Ivory Grand Pianos library, Synthogy now presents Ivory Upright Pianos (\$299). This library features four very different uprights that have been scrupulously sampled and meticulously programmed to yield a terrific sounding, greatly detailed and charming package of piano sounds.

Upright Pianos uses the same Ivory engine as Synthogy's Grand Pianos and Ivory Italian Grand libraries. For more information on the Ivory engine, see the review in the August 2006 issue of *EM* (available online at [emusician.com](http://emusician.com)). Upright Pianos runs on 1.0GHz Mac G4s and later as AU, RTAS and VST 2 plugs-ins, and on 1.3GHz PC Pentium 4s and later under RTAS or VST. A stand-alone version of the player is provided for both platforms.

There are about 20 presets per piano, offering different levels of resource usage and a variety of effects and settings. Some presets incorporate synth layers to add understated pad sounds. Although they're not authentic to the genre, these pads are unobtrusive and could add a nice bit of fill to pop songs.

#### BARROOM AND VINTAGE

The next time you score a Western, Ivory Upright Pianos' 1915 Packard Barroom Upright will bring back the feeling of six-shooters, 10-gallon hats and sheriffs taking on the cattle rustlers (see [Web Clip 1](#)). The tinkly sound of this nearly century-old piano has a metallic top end, thin bottom and sharp attack. The piano is in tune (unless you detune it purposely for added authenticity), but there is a subtle warble to the pitch. This piano is perfect for ragtime, honky-tonk, old-time rock 'n' roll or just adding loads of charm and character to a modern track.

The Vintage Upright piano, based on a 1914 A.M. Hume piano, brought me right back to my earliest piano lessons. This instrument has a mellower, creamier sound than the



Synthogy Ivory Upright Pianos brings the flavor of the Old West into your DAW.

Barroom Upright (see [Web Clip 2](#)). The upper strings have a delicate, flowery flavor with just a touch of metallic upper harmonics; they sound particularly characteristic for melodies played in octaves. This piano is perfect for playing classical music, and a few brighter presets are excellent for recreating '50s-era rock 'n' roll.

#### MODERN AND TACKY

The Modern Upright, a Yamaha U5 upright, is my least favorite of the bunch. Synthogy did a fine job of recreating the original, but the piano itself is a clean, flawless instrument, and it lacks the vibe and character that make the other three pianos in this collection so interesting. To be sure, you'll find some bright, punchy presets that could make it useful in a rock mix, and I like the intimate nature of the recording (see [Web Clip 3](#)). But I'd probably pick Ivory Grand Pianos in most circumstances when I might choose the U5 upright.

Tack pianos are created by pressing thumbtacks into the felt hammers where they strike the string; this gives the instrument a sharp attack and a metallic bite. Such disparate artists as Ray Manzarek of the Doors, Joe Zawinul of Weather Report, and classical luminaries Glenn Gould and Conlon Nancarrow have used tack pianos for their distinctive sound.

Synthogy's Tack Piano has a sharp, noisy attack that is especially prevalent if you play a lot of notes quickly. The body of the sound

is somewhat thin, as you would expect for the type of piano that would be sacrificed by ruining its hammers with tacks (see [Web Clip 4](#)). When you play with the sustain pedal down, the instrument sounds like a curious cross between piano and auto-harp. Experiments with the onboard chorus and reverb can reveal lush, otherworldly sounds to get lost in.

#### CREAKING AND GROANING

The uprights recorded for this library were meticulously maintained to create the cleanest sound possible. But Synthogy included a separate layer of wood creaks and clunks that you can add to the mix for a bit more old-time authenticity. You can set these sounds to play at random or record them as a separate track for more control. When used sparingly, they add a nice extra dimension of subtlety to the piano.

Unless you own a piano warehouse or work at Abbey Road, the likelihood that you will have access to this variety of novel piano flavors is remote. There is nothing like the gorgeous sound of a great grand piano. But if your song calls out for a more intimate, charming sound or you are scoring a Western or you simply want to channel the ghost of Conlon Nancarrow, Synthogy's Upright Pianos is the library for you.

**Overall rating (1 through 5): 4**  
[synthogy.com](http://synthogy.com)



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**X2u (Mac/Win)**

By Mike Levine

XLR-to-USB converters allow you to use any mic in your collection to record directly into your computer over USB, and they function essentially as mini audio interfaces. Because of their minimal size, they're particularly useful for portable setups, allowing you to plug a mic into your laptop without having to carry a bulky external interface.

The Shure X2u (\$129) is approximately 5 inches long and 1 inch wide, and it comes with a carrying pouch and a USB cable. The metal-encased, cylindrical unit feels surprisingly hefty for its size, and it features a female type-B USB jack on one end and a female XLR connector on the other. It has three thumbwheel-type controls—Mic Gain, Volume and Monitor—as well as an indicator light that shows when the unit is connected to USB, and a +48V phantom power switch with a status light. On the side is an 1/8-inch stereo headphone output.

The Mic Gain control is self-explanatory; I was able to get plenty of level using both condenser and dynamic mics (as expected, I got more with the former). The Volume wheel controls the headphone level. The Monitor control lets you adjust the rela-

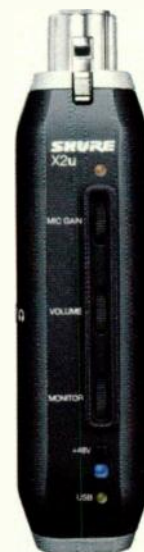
as an input and an output in Ableton Live 8, Apple Logic Pro 9, Apple GarageBand 5.1 and MOTU Digital Performer 6.02. The only program I had problems with was Propellerhead Record; the software simply would not recognize the X2u.

On my Windows laptop (running Vista), setup was smooth in programs such as Sony's Acid Pro 7, Acoustica's Mixcraft and Audacity, which support WDM drivers. But Cakewalk SONAR 8, which only supports ASIO, didn't recognize the X2u until I installed the freeware ASIO4all driver (asio4all.com). In Live 8, for which Ableton's specs say ASIO is the preferred driver format, I got much better results using ASIO4all.

The mic pre in the X2u is surprisingly good for a product in this price range. It was a tad hyped in the upper mids, but overall I found it quite useable. Since the X2u supports only 16-bit audio (with up to a 48kHz sampling rate), it may not be your choice to record your next album, but it's fine for demos.

**TRY ME, PLEASE**

I recorded an acoustic-guitar-and-resonator-guitar duet into Live using a Rode NT5 pencil condenser through the X2u on both sources. I recorded them one at a time, and I was pleased with the sound (see Web Clip 1).



In a portable setup, the Shure X2u can function as a pint-sized mic pre and audio interface.

X2u. I also discovered I needed to be careful to orient the male type-B connector on the USB cable correctly when plugging it into the X2u. That may sound like a no-brainer, but it's easy to accidentally connect it upside-down; it still feels like it's fitting in correctly, but the unit doesn't work.

I also found it was best to use an XLR cable between the mic and the X2u. Because the X2u is a bit heavy, it was somewhat clumsy to have it plugged directly into the mic on the stand, especially considering that I had a headphone cable plugged into it, too. Putting the mic cable in between also greatly reduced the potential for the USB cable to come loose. It allowed me to lay the X2u flat, reducing the chance for accidental pulling and eliminating gravity from the equation.

**THE FINAL BIT**

Overall, the X2u is a solid, well-made and good-sounding product that does what it's designed to do. If you're looking for an inexpensive and portable recording interface—and the 16-bit limitation isn't an issue for you—then the X2u is an excellent choice. **EM**

**As usual with Shure products, the build quality is impressive.**

tive volume of the microphone to the audio coming back from the DAW. Shure recommends muting the microphone's output in the DAW itself when recording to avoid hearing disconcerting latency delay.

**MAC VS. PC**

The X2u is designed to be plug-and-play; in many applications, you don't need drivers for it to be recognized by Mac or Windows software. On the Mac side, the X2u showed up

I also tried the same setup on violin with equally good results. In addition, I recorded voice-over tests through an Alesis GT AMS2 mic; those sounded clean and kept the mic's character intact.

As usual with Shure products, the build quality is impressive. I did have a bit of an issue with the USB cable not fitting snugly into the type-B jack, but that seems to be a problem endemic to such connectors rather than a design issue with the

**Overall rating (1 through 5): 3**  
shure.com

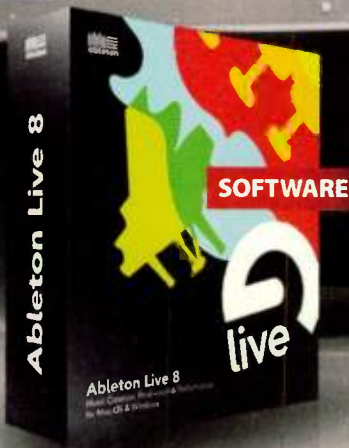




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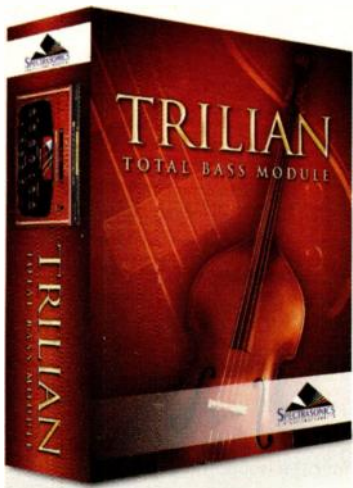
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## Spectrasonics Trilian

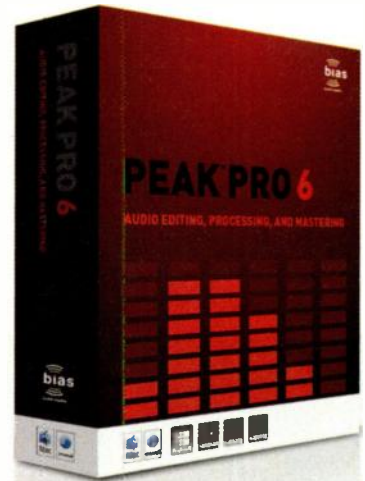
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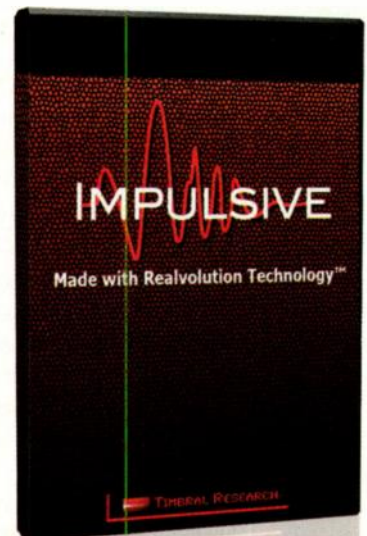


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# Why Red?

By Nathaniel Kunkel

When digital workstations first came on the scene, there was so much effort put into using the methodologies and nomenclature of the historical recording arts. I mean, if you can do anything with a computer, why not make a digital corollary of the analog tool? People could understand and adapt to it quickly that way. But Studer/Neve combinations and Digidesign Pro Tools are very different under the hood. You can do so much more with DAWs than you ever could with their analog counterparts that we are seeing the move away from the interface conventions of yore. For instance, ever since the sequencer Vision was released by Opcode, the concept of a single linear recording of multiple tracks has been on its way out. They were playing multiple independent sequences simultaneously in the late '80s!

But now we are a generation of users into these new methodologies, and as Opcode found, the old nomenclatures of professional audio are no longer helping the user to migrate to the latest technologies. In fact, they can limit the scope of what we can do. In those areas where DAW manufacturers have abandoned the old terminology and assumptions, they've created options we can't live without. For instance, unlike analog mixers, DAWs are not limited to multing a signal three or four times before it gets loaded down and sounds bad. As a result, we never

have to worry about being able to send a signal to 500 places at the same time.


But some of the old workflows are still with us, constricting our options. For example, why do faders only go up to +12 dB? Why is there not an option for the channel mute to also mute pre sends? Why is there not a global sync control that quantizes all play stop commands, so that when you are working the song always starts, stops and restarts on a pre-determined interval of time, like a quarter-note? You would never need to find your pocket again before you dropped in.

And why is the record button red? In the old days it was because if you pressed it by accident, you were screwed. What



does it matter now? (You know what should be red? The combination of command-period that aborts your recording in Pro Tools.) You can always do it again, or undo it if it never gets better.

All that being said, the new ways of working are not completely beneficial. Way back in the steam-engine days of audio, when the record button was red for a reason, we got good at doing one thing: being able to tell if something that was just played was good or not. We had to; if we tried it again and it sucked, we lost the first one. Our auditing ability was paramount to our success. If the first solo was great, we moved on. It wasn't worth the risk of losing the great one. The end result was that we were always honing that production skill. Now that muscle only gets exercised when we comp, and that is having an impact on our product. I've watched younger engineers go right past great stuff with great players because they don't have the proper reverence for what was just done. They haven't needed to yet.

You know why most kids are probably still listening to Led Zeppelin? Because those records were produced by what may have been the last generation to actually listen to what they were making while they were making it. I submit that it might make a difference. 

---

*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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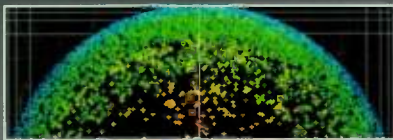
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