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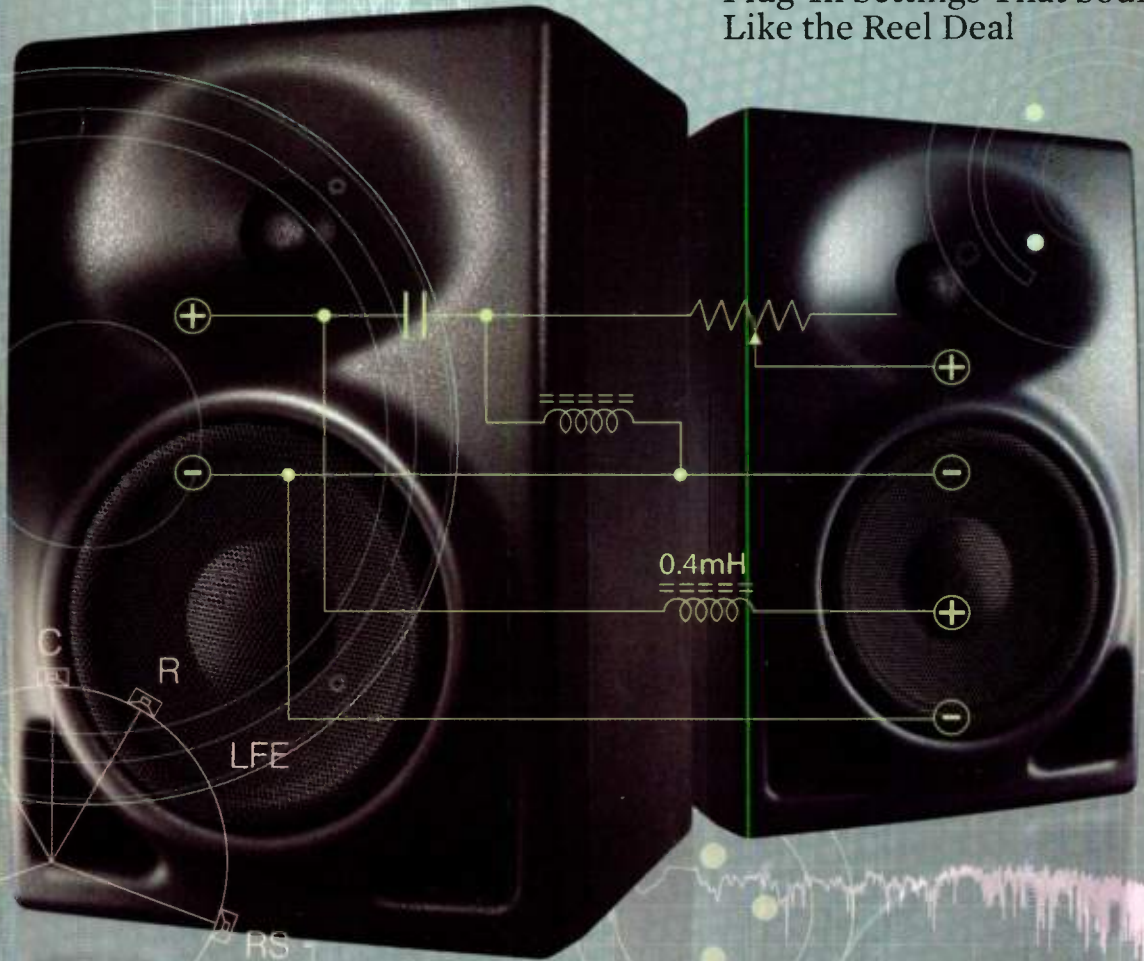


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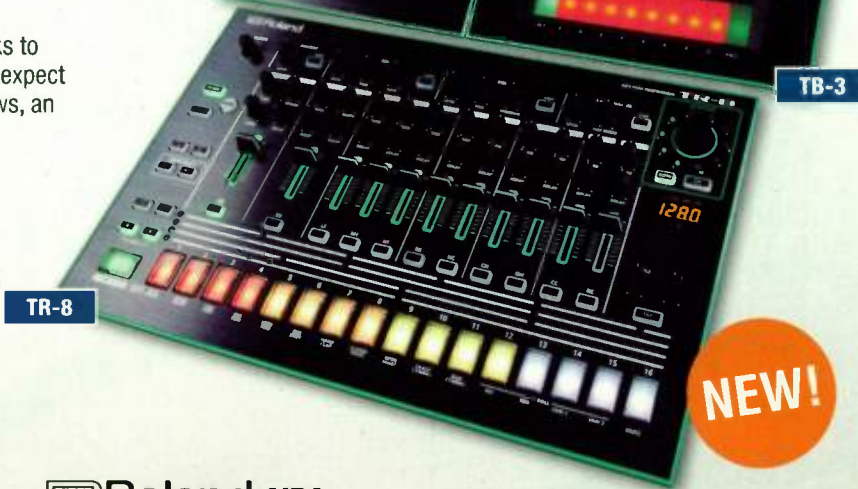
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10.2014



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## LESSONS FROM WEIRD AL

I'VE ALWAYS had a soft spot for Weird Al Yankovic; those perfectly hokey pop parodies get me every time.

Yankovic has long enjoyed a devoted following, but his popularity has suddenly reached a new high: His 14th album, *Mandatory Fun*, debuted at Number One—a first in his four-decade career, and the first comedy album to top the charts in more than 50 years.

This runaway success was no fluke, and the marketing strategy is already legend: Leading up to the release, Yankovic launched eight world premiere videos, over eight days, on eight blockbuster media sites ranging from Yahoo! to the *Wall Street Journal* to Funny or Die. In a genius win-win move, Yankovic offered these sites exclusive premieres in exchange for picking up the costs; he opted for big-budget productions and reached new niche audiences.

With a new release every day, Yankovic built momentum and kept the conversation current. He further fueled his Internet event with a massive #8videos8days social media blitz. The payoff has been huge: a Number One album, more than 46 million hits in eight days, and more than 3 million Spotify streams.

There's no one tried-and-true way to market your music. Granted, Weird Al has a big name and hit records. But he also embraced an evolving music industry, reaching



SARAH JONES  
EDITOR  
[sjones@musicplayer.com](mailto:sjones@musicplayer.com)

a new generation of fans. He found his magic formula. What's yours?

# COMMUNITY

**"I HAVEN'T BEEN ASKED FOR AN AUTOGRAPH SINCE THE INVENTION OF THE IPHONE WITH A FRONT-FACING CAMERA. THE ONLY MEMENTO KIDS THESE DAYS WANT IS A SELFIE. IT'S PART OF THE NEW CURRENCY, WHICH SEEMS TO BE HOW MANY FOLLOWERS YOU HAVE ON INSTAGRAM."**

Taylor Swift, on the challenges of surprising her audience in the age of YouTube, in the *Wall Street Journal*, July 7, 2014

### The Electronic Musician Poll

DO YOU SPEND MORE TIME PRODUCING OR PLAYING MUSIC?

ABOUT THE SAME

22%

MORE TIME PLAYING

27%

MORE TIME PRODUCING

51%

# IN THE STUDIO

## >> Marco Benevento with Richard Swift

BY BARBARA SCHULTZ

"ON MY PREVIOUS RECORDS, I WOULD GO INTO THE STUDIO ILL-PREPARED," says multi-instrumental artist Marco Benevento. "I'd have about 40 percent of the material done in my mind, and 60 percent left up to 'who knows what might happen in the studio.' I might spend six months on post-production overdubbing keyboards and rearranging songs. But for this record, everything was 90 percent there and we recorded it live in three days."

Benevento—whose own personal studio is packed with synths, instruments, and recording gear—demo'd the new material with his bandmates (bassist Dave Dreiwitz and drummer Andy Borger) in Coyote Hearing Studio (Oakland, Calif.) before road-testing the songs extensively on tour. By the time album tracking started, the songs were well-formed.

The band recorded and mixed in Pro Tools in National Freedom Studio with engineer/producer/musician/Shins member Richard Swift. *Swift* the album features the band's clever and fluid blend of synthetic sounds with reinterpreted acoustic instruments. Mellotron, memotron, and Juno keys interplay with a hot-rodded 1920s acoustic piano that's captured via K&K transducer pickups that are run through a Roland Cube amp and miked up with an SM57.



"That's what we do live," Benevento explains. "We travel with that little 64-key piano that was made to be used in train cars. That's a big part of our sound."

Another key to the sound and inspiration behind *Swift* was Benevento's Casio RC1 drum machine. "That rhythmic element puts you in a sort of hypnotic trance with layers and layers of sound, almost like Talking Heads or LCD Soundsystem-ish, where you're just soaked in the synths-drum machine sequence. Everything you could sing over that is going to sound cool."

Read Marco Benevento's song-by-song notes on the sounds of his album at [emusician.com](http://emusician.com).

## ask!

I MAKE DANCEHALL AND GET MANY IDEAS FROM YOUR PUBLICATION, SO THANK YOU FOR THAT. I AM WRITING BECAUSE I FINALLY SWITCHED FROM A STANDALONE RECORDER TO A WINDOWS-BASED SETUP, WHICH HAS A 128GB SOLID-STATE DRIVE AND SEPARATE 7200RPM 2TB USB HARD DRIVE FOR AUDIO DATA. I ALSO BOUGHT SEVERAL VIRTUAL INSTRUMENTS, BUT I'VE RUN OUT OF SPACE AND CAN'T INSTALL ANY MORE PROGRAMS. HIGHER-CAPACITY SSDS ARE EXPENSIVE, SO DO I NEED TO REPLACE THE SSD WITH A BIGGER TRADITIONAL HARD DRIVE?

STEVENSON ALCINE  
PEMBROKE PINES, FL  
VIA E-MAIL

That's probably not necessary. Your operating system and the programs themselves should fit in 128 GB, but virtual instruments usually default to installing their sample libraries on your root drive because they don't know what drives your system includes. Fortunately, during installation you can usually specify a different content location.

Consider purchasing a third high-capacity drive and dedicating it to content; when you install content on that drive, the instrument will know to "look" to that drive for its library. If you've already installed the content, you can usually move it and specify a different file path in the program's preferences.

Two cautions: If your system configuration

changes and alters the drive letter, your programs won't recognize where to find the samples. So, rename the drive to its original drive letter. Also, your system drive can become clogged with downloads, temp files, and so on. Deleting temp files and moving downloads off your main drive can reclaim significant storage capacity.

THE EDITORS



MOTU's MachFive's sample library has been relocated to the G: drive, as specified in Preferences



Got a question about recording, gigging, or technology? Ask us! Send it to [ElectronicMusician@musicplayer.com](mailto:ElectronicMusician@musicplayer.com).

## Be.On.It.Productions Tops Strange Arrange Competition

### Winning Arrangements Mash Up Kanye West, Jhene Aiko, David Guetta, and TV Theme Songs

NOW IN its second year, Soundtrack Entertainment's Strange Arrange band competition shakes up traditional "battle of the bands" contests, with musicians performing live re-arrangements involving popular music mash-ups and remixes.

This year's Strange Arrange was held in Nashville at a new entertainment venue called Anthem, where five finalist bands performed for more than 1,000 fans and a panel of celebrity judges: producer/musician/songwriters Nisan Stewart and Tommy Sims, and Maroon 5 keyboardist/producer PJ Morton.

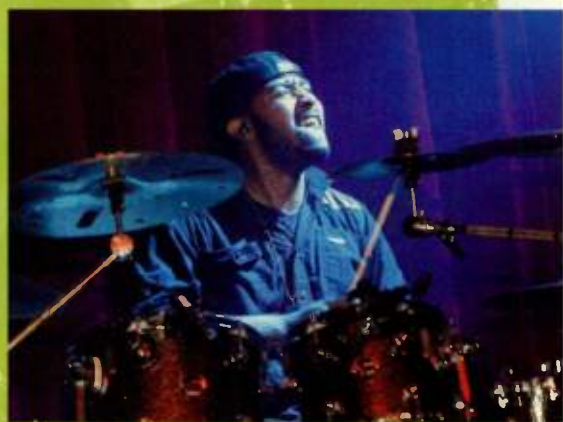
"Strange Arrange starts with bands submitting their music videos via YouTube; we post them on our website, and America votes for their favorite band," says Leighandria Oden, PR Specialist for the Strange Arrange/Soundtrack Ent. LLC. "We get anywhere from 50 to 100 bands and narrow it down to 10, and then let the public decide who should perform live in Nashville."

Those top finalists for 2014 were the Smash Brothers (Charlotte, N.C.), Nurdy Tunes (Miami, Fla.), Elite Creations (Indianapolis, Ind.), The Glove (Boston, Mass.), and this year's grand prize winners, B.On.It.Productions (Indianapolis). All of the finalists are required to perform an eight-minute set, including three different arrangements of one hip hop song, one R&B song, and one pop song.

"This year the bands were allowed to choose any song from any era, and include unique intras, outros, and transitions to add flavor to their performance," says Strange Arrange founder and creator Courtney "Coko" Eason. "It puts you in the mind of a DJ—the way they are mixing songs, creating mash-ups, and slowing down and speeding up beats."

"This year's winners had a combination of songs, everything from Kanye West's 'Power' to a new popular song by Jhene Aiko called 'The Worst,' and they actually incorporated the theme music to *Ghost Busters* and wowed the crowd by playing along to the ringtone of a Skype call during their arrangement, which set them apart from any other band that performed that night," Oden says.

The inventive musicians who won this year's Strange Arrange—drummer Joe C. Elliott III, keyboardist Brandon Bufford, keyboard player CJ Warfield, guitarist Jessie Thompson, and bass player Shawn Davis—received a cash prize, appearance in a Sony Creative commercial, and a recording session/video shoot with PJ Morton at the Blackbird Academy, one of the sponsors of Strange Arrange. Other sponsors of the 2014 event were Soundtrack Ent. LLC, Sony Creative Software, T.E.A.M. MC, and *Electronic Musician* magazine.



For information about Strange Arrange 2015 and to view footage of this year's show, check out [www.strange arrange.com](http://www.strange arrange.com).

# State of the Industry, 2014

## Music Trends: Streaming, Not Selling

Nielsen SoundScan recently released its 2014 mid-year report, which compares the first six months of this year with the same period last year, and the harsh reality will not surprise anyone working in the business: Consumers are listening to more music, but they don't want to buy it.

According to the report, which measures U.S. recorded music point-of-sale, radio airplay, and music streams, streaming saw a 42% increase compared to 2013, but that growth is eclipsed by a 19.9% decline in physical album sales and an 11.6% decline in digital album sales.

In better news, the vinyl resurgence continues with sales up 40% since last year, with 4 million units sold in the first half of 2014, and sales of 8.3 million units projected by year end.

The numbers, at a glance:

Unit Sales, in Millions	Dec-June 2013	Dec-June 2014
Total Albums	235	227
Digital Albums	129.1	113.2
Stream Equivalent Albums	24.8	46.9
Vinyl Albums	2.9	4

Source: Nielsen SoundScan 2014 mid-year U.S. music sales airplay and streaming data, December 30, 2013 through June 29, 2014

## app tip Supermegaultragroovy Capo

Let your device figure out the chords, and then transpose them to any key.

BY GEARY YELTON

**GETTING YOUR** computer to analyze a recording and recognize all the chords in a song is extremely challenging, especially when it has numerous instruments, drums, and vocals. Capo (and its iOS counterpart, Capo Touch) from Supermegaultragroovy ([www.supermegaultragroovy.com](http://www.supermegaultragroovy.com)) not only detects the chords, but it completes the job quickly. Nonetheless, because Capo isn't perfect, it's up to you to use your ears, eyes, and mouse to find and correct any mistakes it makes. Try these simple tips to make that job easier:

**1. Open Capo on your Mac, create a new file, and then drag a music file either from the Finder or from iTunes to the window that appears.** In moments, Capo will analyze the recording and display its waveform, spectrogram, and chord notation.

**2. Play the resulting Capo file and accompany it by playing the chords it displays.** If a chord is in the wrong location, click and drag to reposition it. If you encounter an incorrect chord, stop playback and double-click on the chord name.

**3. A pop-up box will display several chord choices in order of likelihood.** Click on one to select it. If the correct chord isn't among the choices, type the name of the correct chord or your best guess.

**4. By default, Capo detects and places chords on the downbeats.** To place a chord anywhere else, position the cursor at the desired location and click on the New Chord Entry button. If the new chord is incorrect, double-click on the symbol and repeat Step 3.



**5. Once you've edited all the chords to your satisfaction, you can transpose the song to whatever key works best for you by dragging the Pitch slider.**

Capo for the Mac is \$14.99; the iOS version is \$4.99 (both available at iTunes).

See these tips illustrated in detail on [emusician.com](http://emusician.com).



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**ANALYSIS** Designed to sound like the original, but with modern features.  
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**HIGHLIGHTS** USB 2.0, 24-bit/96kHz interface with two Class A mic preamps, MIDI I/O, and balanced 1/4" TRS line outputs • switchable line- and instrument-level inputs • includes large-diaphragm condenser mic with cable and headphones • software includes Capture Duo for iPad and Studio One Artist 2  
**TARGET MARKET** Personal studio, mobile recording, education facilities  
**ANALYSIS** The i-series AudioBox handles mic, line, and instrument-level input—a great fit for use with the included recording software.  
[presonus.com](http://presonus.com)



**4**  
**Expert Sleepers**  
**Disting**  
 Multifunction Eurorack module  
**\$170**  
**HIGHLIGHTS** Provides 16 features in one module • VCO, with linear FM or waveshaping • dual waveshaper • clockable echo/delay • full-wave rectifier • precision adder with voltage offsets • slew rate limiter • sample-and-hold with noise source • pitch and envelope tracker • quantizer • two types of LFOs • comparator with adjustable hysteresis • linear/exponential converter • 4-quadrant multiplier • minimum/maximum controller  
**TARGET MARKET** Eurorack modular synth users  
**ANALYSIS** I cannot think of another module that packs as many useful features behind a 4HP panel.  
[expert-sleepers.co.uk](http://expert-sleepers.co.uk)



**5**  
IK Multimedia  
**SampleTank 3**

Software sample player  
**\$199.99-\$349.99**

**HIGHLIGHTS** ROMpler-style software instrument offering 4,000 sounds divided among 21 categories, 2,500 audio loops, and 2,000 MIDI patterns • Play, Mix, and Edit windows • built-in MIDI player • pitch-shifting and time stretching capabilities • 55 effects • round-robin sample playback • tiered pricing for owners of other IK Multimedia software  
**TARGET MARKET** Musicians and producers working in the studio or onstage  
**ANALYSIS** A mature product that provides a wealth of sampled instruments, grooves, and loops at a reasonable price.  
**sampletank.com**

**6**  
Cerwin-Vega  
**P-Series P1000X**  
Powered loudspeaker  
**\$1,169 each**

**HIGHLIGHTS** 2-way, bi-amped, active speaker with 10" woofer and 1.75" tweeter • 1,000W Class D amp • built-in 3-channel mixer accepts XLR and TRS connections • highpass filter and bass boost • scalable from clubs to larger venues by daisy-chaining additional P1000X cabinets • can be used as a floor monitor  
**TARGET MARKET** Small- to medium-sized venues and installation use  
**ANALYSIS** The P1000X was engineered to be lightweight and easy to setup and carry.  
**cerwin-vega.com**

**7**  
Fiedler Audio  
**AD 480 Pro**  
Reverb for iOS  
**\$14.99**

**HIGHLIGHTS** Audio recording, playback, and offline processing • import/export capabilities • 108 presets • variable room size • supports sample rates from 44.1 to 96 kHz • routing matrix offers 24 input and output channels • preset file sharing • MIDI support • latency as low as 64 samples • Audiobus 2.1.1 integration • Free and Basic (\$3.99) versions available  
**TARGET MARKET** Studio and live-sound engineers, musicians  
**ANALYSIS** Inspired by the Lexicon 480L digital reverb, this app brings pro-level reverb features to the iOS platform.  
**fiedler-audio.com**

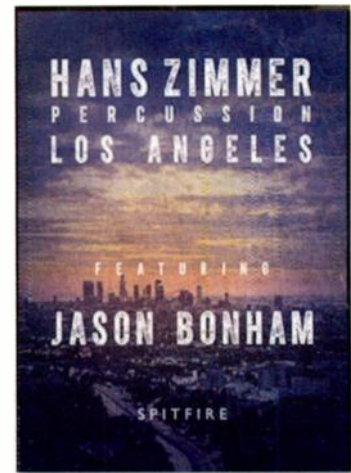
**8**  
Numark  
**NV Controller**  
DJ controller  
**\$699.99**

**HIGHLIGHTS** Provides four decks of control for included Serato DJ software and Toolroom Remix Pack • two 5" dual-zone platters • 16 velocity-sensitive trigger pads with 10 performance modes • touch-activated controls for the effects • 3-mode filter on each channel • BPM meters and sync button • 24-bit USB 2.0 interface • two full-color screens • XLR outputs • RCA I/O • 1/4" mic input  
**TARGET MARKET** Producers and DJs  
**ANALYSIS** A complete, state-of-the-art DJ system in one package.  
**numark.com**

*Continued*



10



**9**  
 Starr Labs  
**AirPower 3**  
 Wireless MIDI system  
**\$399 street**  
**HIGHLIGHTS** Receives signals up to 250' away (line of sight) from the transmitter, according to the manufacturer • compatible with any MIDI-over-USB device that requires USB power • rechargeable power supply • 6 hours of device power from the 4000 mAh Li-ion battery  
**TARGET MARKET** Musicians who need to work wirelessly in the studio and onstage  
**ANALYSIS** A small, compact system designed to get those pesky MIDI cables out of the picture.  
**starlabs.com**

**10**  
 Modulus  
**modulus.002**  
 Hybrid analog/digital synthesizer  
**\$5,200**  
**HIGHLIGHTS** multitimbral, 5-voice polyphonic synth with two oscillators and one LFO per voice • sub oscillators • morphable 4-pole filter • 5-octave, semi-weighted keyboard with Aftertouch • 4 performance modes • joystick • 16-track, 32-step sequencer that can sync to MIDI • Hold mode • Animator feature • XLR and TRS outputs • stereo audio inputs • discrete output for each voice available on D-sub connector • Ethernet port  
**TARGET MARKET** Keyboardists and composers  
**ANALYSIS** A promising new entry in the high-end keyboard polysynth market.  
**modulus.me**



**11**  
 Akai Pro  
**iMPC Pro**  
 MPC-style app for iPad  
**\$19.99**  
**HIGHLIGHTS** Multitouch production workflow (including swing modes) inspired by the classic hardware MPC instruments • 64 tracks, with timeline view, mixing and automation • audition, slice, and edit samples • effects • create samples from your iTunes library, the iPad mic, and audio from other apps • upload tracks directly to the Web  
**TARGET MARKET** Producers, DJs, and musicians with iPads  
**ANALYSIS** Step it up by connecting Akai's MPC Element pad controller using the Camera Connection Kit.  
**akaipro.com**

**12**  
 Spitfire Audio  
**Hans Zimmer Percussion Los Angeles Featuring Jason Bonham**  
 Virtual instrument  
**\$338**  
**HIGHLIGHTS** Features Bonham playing a DW Vistalite kit and synth percussion created by Zimmer • wide variety of instruments, kit setups, mic configurations (including 5.1 surround) and ambiences • GM Performance Kit • Recorded at the Newman Scoring Stage at 20th Century Fox Film Studios and the Sony Pictures Scoring Stage • uses NI Kontakt Player  
**TARGET MARKET** Composers, arrangers, and musicians  
**ANALYSIS** A continuation of Zimmer's ever-expanding, highly personalized, and high-quality percussion sample library.  
**spitfireaudio.com**





**13**  
**Future Retro**  
**Swynx**  
 Synchronization device  
**\$180**  
**HIGHLIGHTS** Converts MIDI messages into DIN Sync, MIDI Clock, (Roland) CR-78, or analog clock output on a TRS jack • Reset output signal available • MIDI In/Out ports • DIN Sync output • controls for Time Signature with shuffle levels and Swing amount • 12 time signature/swing-interval pairings • includes 9VDC power supply • **TARGET MARKET** Synth players, drum machine users, DJs  
**ANALYSIS** A great solution for adding shuffle and swing to drum machines that don't provide it.  
**future-retro.com**

**14**  
**Waves**  
**SoundGrid Studio**  
 DSP system  
**Price varies depending on configuration**  
**HIGHLIGHTS** Provides real-time processing and networking with compatible Waves and select third-party plug-ins • low-latency monitoring • includes SoundGrid application, eMotion ST Mixer, and SoundGrid ASIO/CoreAudio driver • compatible with most popular DAW hosts • provides Ethernet connectivity and expansion options • DSP processing can be performed by a SoundGrid DSP server rather than your host computer  
**TARGET MARKET** Pro and personal studios  
**ANALYSIS** Designed for production environments where high-quality processing and routing flexibility are crucial.  
**waves.com**

**15**  
**Novation**  
**Launch Control XL**  
 Control surface  
**\$199 street**  
**HIGHLIGHTS** Designed with Ableton Live in mind • controller also works with most major DAWs and MIDI-compatible iOS apps • 24 knobs, 16 buttons, and 8 faders • knob layout reflects Live's mixer interface • two template-switch buttons • USB bus powered • includes software editor and Ableton Live Lite  
**TARGET MARKET** Musicians, DJs, producers  
**ANALYSIS** Designed to provide a complete and highly portable control system for Live when paired with Novation's Launchpad S to control session view.  
**us.novationmusic.com**

**16**  
**Dave Smith Instruments**  
**DSM01 Curtis Filter**  
 Euro:ack module  
**\$179 street**  
**HIGHLIGHTS** Features switchable 2-pole (-12dB/octave) and 4-pole (-24dB/octave) lowpass filter • integrated VCA • independent filter outputs before and after VCA circuit • CV inputs for frequency, resonance, and VCA • Boost switch for introducing harmonic distortion • 8HP wide  
**TARGET MARKET** Modular synthesizer owners  
**ANALYSIS** The classic Curtis chip sound (made famous in the Sequential Circuits Prophet-5 and Pro-One, as well as the Oberheim Expander and Korg MonoPoly, among others) is now available for your Eurorack system.  
**davesmithinstruments.com**

# Tiptop Audio Trigger Riot

A sequencing module that will extend your creativity

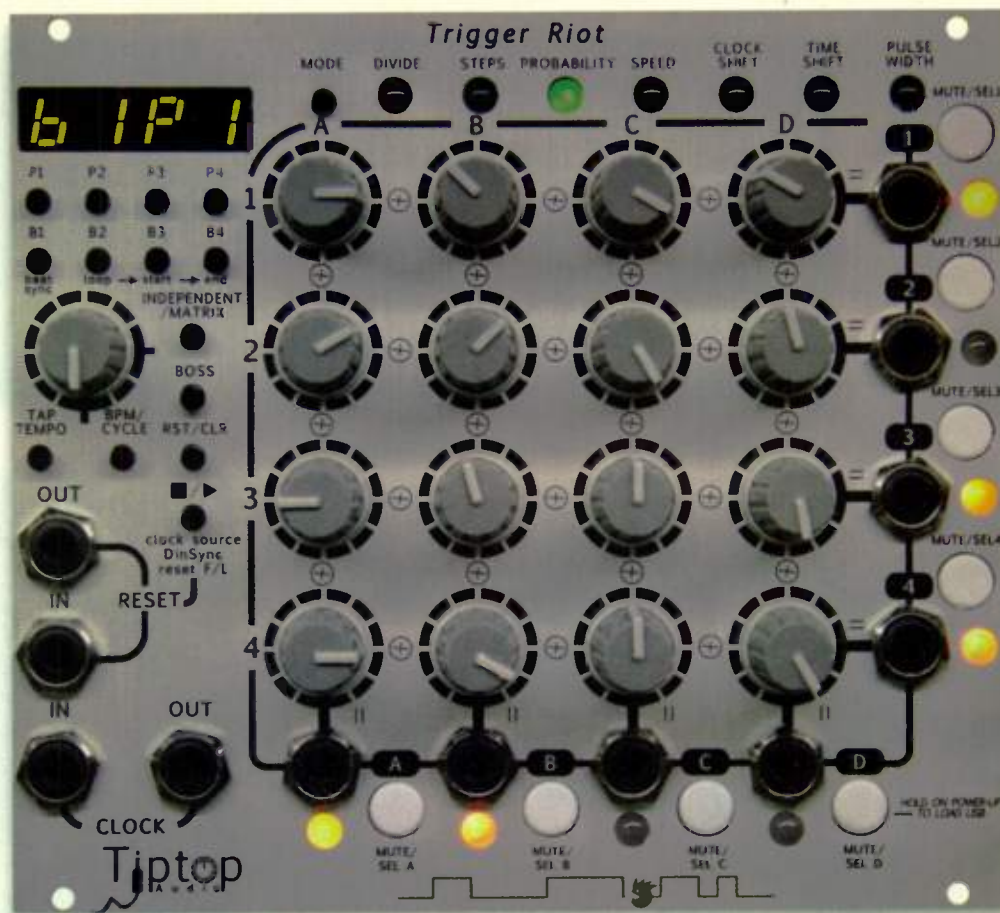
BY GINO ROBAIR

SOPHISTICATED BEAT sequencing requires a toolset that can manage time scaling on several levels simultaneously. That's a tall order for a hardware device designed for stage as well as studio, but Tiptop Audio has nailed it with the Trigger Riot (\$500 street), a Eurorack module that packs a lot of punch in a 28HP panel.

Enhancing its trigger and gate sequencing capabilities, the Trigger Riot can divide a clock pulse in a variety of ways, alter and combine the pulse width of gate signals, shift pulses in time at multiple scale levels, and even set the probability distribution of individual events. If you can think like a drummer, this unit will help your synth respond like one.

**Enter the Matrix** The module is based around 16 rotary encoders and eight trigger/gate (0-5V) outputs—four positioned vertically and four horizontally—each with a dedicated Mute/Select button. The knobs are arranged in four rows of four pulse settings (one for each knob) that sum to trigger outputs 1-4, and four columns of four pulse settings that sum to trigger outputs A-D.

The module has two playback modes—Matrix and Independent. In Matrix mode, when you create a pulse-division using a knob, it affects the outputs of the corresponding column *and* row. For example, adjusting the top left knob will alter the pulse pattern in outputs 1 and A. In Independent mode, setting the pulse-division with a knob affects only the output in the column or row you've selected. Consequently, Matrix mode exhibits an organic interaction between the horizontal and vertical outputs, whereas in Independent mode, each knob will have a different setting depending on which output is selected. You can store four banks of four presets for each of the modes in non-volatile memory and switch between them in real time.



The pulse relationships that you set with each knob are added together by row and column before appearing at each of the 8 outputs.

The lone rotary encoder on the left handles tempo, clock source, and rate, while 15 additional buttons are used for programming and playback functions (start/stop, tap tempo, beat sync, loop functions, reset/clear, and so forth). Having dedicated buttons for the majority of features makes the Trigger Riot particularly well suited to live performance.

You can run the Trigger Riot from the internal clock, an external source, or the Tiptop SyncBus, which is used to synchronize multiple Trigger Riots internally connected by a ribbon cable. Input and output jacks for external clock are provided, as well as jacks that output the module's reset signal and accept an external signal for reset.

**Check Your Pulse** You can easily edit the timing of a pulse for each output using an encoder knob in combination with the Mode functions at the top of the module. Divide mode is the clock divider used to create timing differences between the pulse outputs. Pulse Width mode is for altering the gate length of an output in order to create syncopation, particularly as gates are stretched across clock pulses.

Clock Shift moves a trigger in time by complete clock steps (0-15 range), whereas Speed mode is used to further subdivide your pulses—quarter to 64th notes, including dotted and triplet values—by changing the number of clock ticks that a division is based on. Time Shift, which offsets a trigger in smaller amounts (0 to 360 range), is useful for adding swing or moving a pulse slightly ahead or behind the beat.

In Step Mode, you can create a trigger based on a single clock count within a predetermined cycle. To humanize your groove with pseudo-randomized variations, use Probability mode. Although it may sound complicated, these functions allow you to build beats intuitively once you grok the interface; the manual's excellent quick-start tutorial will have you up and running in minutes.

Although the Trigger Riot works well with modules (particularly Tiptop Audio's 808 Series percussion), it interfaces easily with external hardware such as the Nord Drum 2. This is one utility module that will extend beyond your Eurorack and impact your entire synth system. ■

# Into the MIX.



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- High-quality, precision faders
- Two studio-quality compressors
- 48-volt Phantom Power for condenser microphones

**MXP124FX:** Bidirectional USB interface with 100 24-bit, low-noise digital effects

### MXP144 / MXP144FX

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- 3-band active EQ on all channels
- High-quality, precision 60mm faders
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- 48-volt Phantom Power for condenser microphones

**MXP144FX:** Bidirectional USB interface with 100 24-bit, low-noise digital effects

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# **SAMSON**



## DECADES OF DANCE

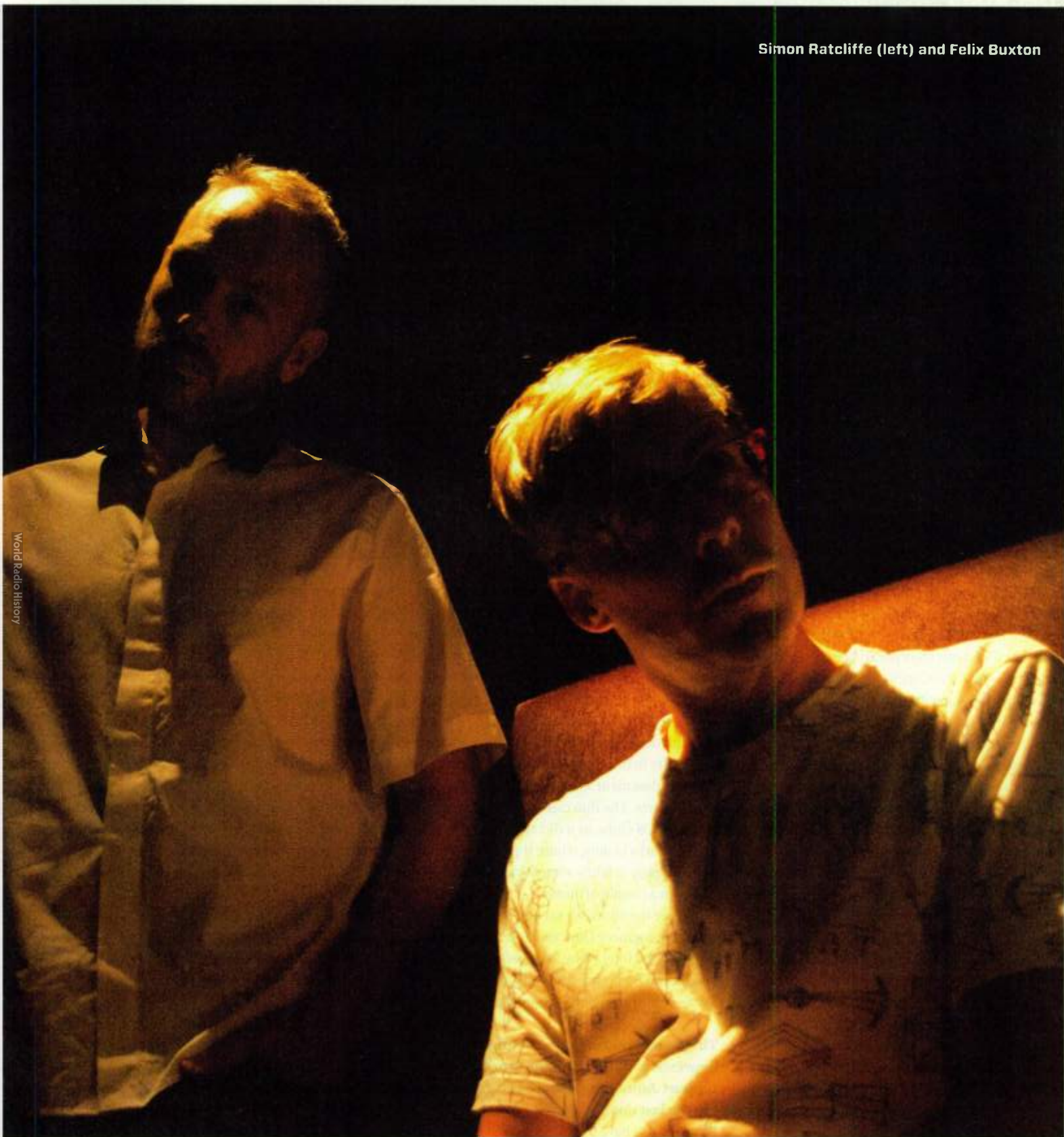
### London's *BASEMENT JAXX*

has survived radical swings in dance music's popularity by placing the song above the beat.

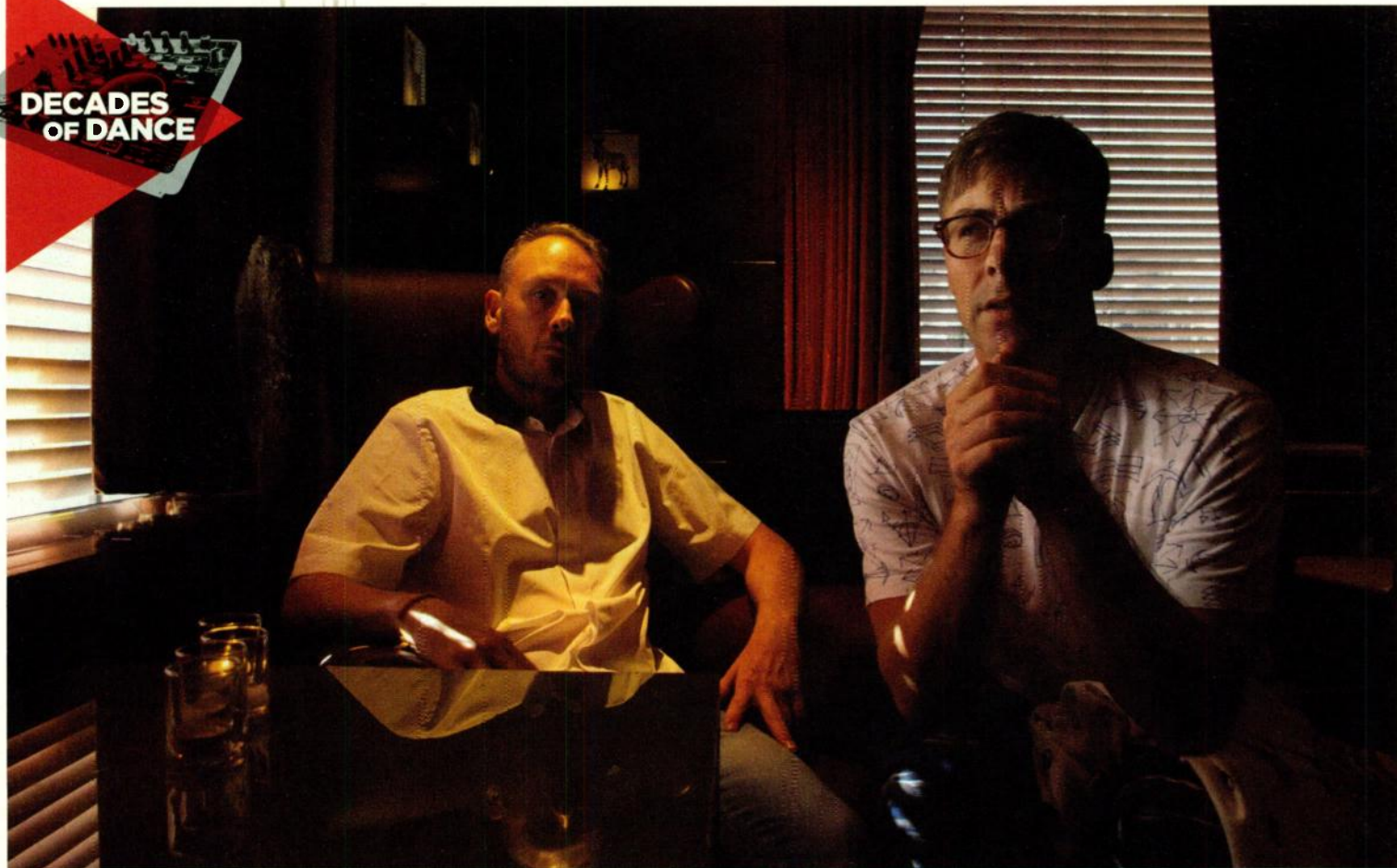
BY MARKKUS ROVITO

WHO KNOWS about Basement Jaxx? Your mom does. Well, she may not know that she knows them, but if "Where's Your Head At?"—the 2001 international hit shout-along anthem that has starred in a billion commercials and television interstitials—started playing, she'd recognize it. And if the '70s-inspired soulful dance smash from 2003, "Good Luck," came on, she'd even like it. But enough about your mom (for now). The point is that if your mom knows Basement Jaxx music, pretty much everybody does.

Simon Ratcliffe (left) and Felix Buxton



DAMIEN CASTANEDA



DAMIEN CASTANEDA

The two-man duo of Felix Buxton and Simon Ratcliffe, out of the Brixton district of South London, England, has been crafting dance music rooted in house but incorporating pop, hip hop, dancehall, and Afro-Caribbean styles for 20 years. While they belong with the other great two-man British dance acts like the Chemical Brothers and Groove Armada, Basement Jaxx's music also has crossover appeal rooted in the fact that the production team prefers to write songs that could stand on their own, whether played on a single acoustic guitar, fully produced, or played with the large band that backs Basement Jaxx when they do their live performance gigs rather than simply DJing.

The act helped define house music of the late '90s through the mid-2000s, scoring Number Ones on the U.S. Dance chart with tracks such as "Rendez-Vu," "Red Alert," and "Bingo Bango." Since releasing a stellar singles collection in 2005, Basement Jaxx has entered what could be called their "mature" period, releasing cohesive albums and even branching out into film scoring by teaming with Steven Price for the music on the 2011 British indie-sci-fi sleeper hit, *Attack the Block*.

The seventh Basement Jaxx studio album, *Junto*, came out on August 25, and is followed by a tour with the group's stage band. *Junto* stays true

to the normal Basement Jaxx celebratory vibe, including straight-up vocal house like "Unicorn" and "Never Say Never," as well as a big injection of Latin and Afro-Caribbean flavors fit to cause a street festival's worth of people to move their feet on tracks like "Power to the People," "Rock this Road," and "Mermaid of Salinas."

With dance music again enjoying a spike in popularity in the United States, the time may be right for Basement Jaxx to reclaim the top of the dance charts. The duo can certainly still pack mid-sized US clubs, as it did at San Francisco's Public Works in July, where the crowd included as many early-twenty-somethings as aging ravers, and even a couple of moms.

Before the show, we sat down with the guys and their engineer Duncan Brown in the chic and trendy Clift Hotel lobby for lobster tacos, truffled mushroom flatbread, and a talk about Basement Jaxx's recording and performing methods.

**The stage show for your last tour was quite impressive. When you start touring for to support *Junto* this year, are you going to try to top the last one?**

**Buxton:** You have to always try and make progress and get better and slicker, and I suppose it'll suit the new material, as well. In a technological way, it would be lovely to advance

the live act, but that's all to do with cash. How much can you pump into the show? Part of that is how well the album does. Everything's so related.

**Do you have a regular band you work with and keep together?**

**Ratcliffe:** Yeah, three of our singers have been with us for over a decade, and the drummer. There's a strong core.

**Is the stage show very technical or are you running everything live? Are you working with any sequencing onstage?**

**Buxton:** We've just got Logic playing backing tracks, and we've got live instrumentation: drums, percussion. We've got DJing and live band at the same time.

**Ratcliffe:** Keyboards, guitar, brass—all on top—and then about five vocals.

**It sounds like it's not entirely technologically foolproof, but you're basically running a live show. It's not like you'd be screwed if the computer shut down.**

**Buxton:** We have had the power go out before.

**Ratcliffe:** It has happened.

**Buxton:** Yeah, but we had a mic that worked. We ended up having someone play guitar and just had a couple of vocalists. And that's all we had

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for a show, which is great! We've got people who play rhythm, so people can hit whatever is around—even if it's hitting a microphone.

**Is that the worst disaster you've had onstage?**

**Ratcliffe:** It's pretty close, actually. That was quite a bad one. There was a period where Felix was singing through a vocoder on the track "Raindrops," [from *Scars*] and the computer kept crashing. We found out subsequently that the laptop was not designed to be used [that way]. It was a very basic Mac laptop, and it didn't have enough power, so the [engineer] we had a while ago, he should've known that, really. We trusted him to know what he was doing, and it turned out it just wasn't powerful enough. It happened a few times. It happened on a live TV show, as well. So basically [Felix] would sing, and then you fuse his voice through the MIDI programmed notes, but then it would just crash.

**In the 20 or so years you guys have been DJing and producing, things have progressed so much that computer power isn't much of a problem anymore. What do you think about the current state of making music? Do you like how it's advanced technologically?**

**Buxton:** It's miles easier. If you think about when we started, getting the beats to sound a certain way—now you've got thousands of beats already done, and you can manipulate them and technology just keeps jumping forward. It's exciting; it's really good. I think that what 10-year-olds will be doing in five years' time will be amazing. That's what's exciting.

One thing I heard about recently is a helmet a scientist in England is working on. It takes your brain patterns, your thought patterns, and uses it to sync up to music creation. The idea that people can think their own music, and think melodies—they've actually proved that it works. So maybe we won't be doing this at all; everyone will be creating their own music, which is amazing.

I do want to find out more about it. I thought with our album we should really try to get that involved somehow, because that's real, new technology and really exciting. That could be like when vinyl first came along or when people first had the radio. It could be a massive step in the way that we get creative and perceive things, and also for everybody to get involved.

**When you write music, do you often just hear something in your head so that a helmet like**

**that would be perfect for you, or do you more often sit down and tinker with melodies until you have something?**

**Ratcliffe:** Both, really. Sometimes you're just playing around, something comes along and you just persist with it. Other times you have a very clear idea of what you think it should be, and it might be a bass line or a melody or a beat or rhythm, and you start with that.

**Do you write along with the band, or on your own?**

**"I haven't really got any good instruments on my computer, so sometimes I'll just actually tap the rhythm, and I'll do it all by mic. I'll just do layers, and it's an absolute mess for anyone to listen to. But at least for me, it's simpler."**

**—FELIX BUXTON**

**Ratcliffe:** We tend to write on our own. We've got three possible working rooms in our studio now, so sometimes together, sometimes separately. Then we bring singers in and might try several singers on one song.

**Buxton:** On this album we've got more collaborations with other people than ever before. So it was writing a song with someone else. But I think a lot of dance acts often just get someone who comes in and does a top line. We've always been more like a band in the fact that we create the songs, which could be around the fireside.

**A lot of the album's songs sound like it was a party in the studio, with a ton of vocalists and musicians. Do you record big groups of people at once or track individually?**

**Buxton:** Generally individually. One track, "Mermaid of Salinas," developed over two years, and [guitarist] Andrea [Terrano], he came up with the melody, and then kind of a smooth guitar riff. We took his original file of that guitar

and embellished it, looped it and used that as the beginning of the process. Then a trumpeter was coming past, and he did like half an hour of soloing. Then I spent like a month or something editing [laughs]. [Engineer] Duncan [Brown] cleaned it up in the end. So that's one part of it.

Then the song actually develops around these parts, because you get really good parts and then it's kind of like doing a patchwork or a collage. You just keep on adding layers. Then Andrea was around my house, and I was saying the song should have a melody and a vocal on it as well. He said he wasn't very good at writing songs, because we were trying to tell the story of the Mermaid of Salinas: Basically he went into the sea and he ended up making love with this woman who was a stranger. So we sat together through every emotion of this experience and got the melody. Then we did a DJ set somewhere else and he did a live acoustic version and went off going all Flamenco-y. Luckily someone had filmed it on a camera, so we had a record of what it was, and then that piece led to adding a bridge. So that song over two years kind of grew and grew and grew.

**What's your studio space like?**

**Ratcliffe:** We moved there two years ago. Before that we were in just a room basically for a decade in Brixton. That was starting to leak and fall apart, so we decided to find somewhere nicer. We got a place with a mixing room with an SSL desk, a writing room, and a vocal booth.

**Buxton:** One of the main things we got back that we had in the beginning was a window. Often studios are dark and all sealed off. Where we moved, the writing room can have the window open, and you don't need to play music loud to have ideas. So that's why one room is specifically for mixing; you can pump it up, and it's completely soundproofed. The other room is a bit soundproofed.

**How often do you work in the studio?**

**Buxton:** Every day.

**Ratcliffe:** Five days a week. I try not to work weekends if possible.

**Do you always have the next project in mind when you're working?**

**Ratcliffe:** When we decided to do an album, for the last two years that's been the primary goal.

**Buxton:** And then there are mixes of various songs if we're DJing out, like a dub version that would be good to play this weekend, or Andrea the guitarist is always turning up with little bits and asking what we think. So we may do a couple of hours editing what he's got and just helping other people with stuff, as well.



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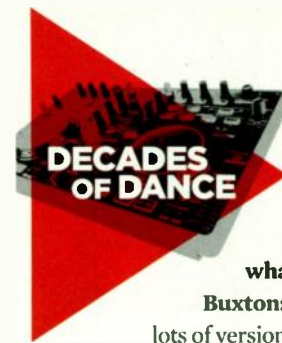


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Do you create  
versions of  
tracks to play  
out that are  
different from  
what's on the albums?

**Buxton:** Oh yeah. We play lots of versions. At the moment, on our USB stick there's like "Blue Flute 7," "Blue Flute Miami," and there's maybe a mastered file and a re-edit. With the live show, that's the same, as well. The last year, the "Power to the People" song has changed quite radically from a year-and-a-half ago. It's actually got a different vocal melody and song on the top, and different backing music. I mean, it still goes "boom-boom-boom;" it's a 4/4 track.

**If you're not in the studio, do you do much work on just a laptop or an iPad?**

**Ratcliffe:** I've done bits, but I'm not very good without fiddling on the keyboard. I like having keyboards and all the options. But a lot of people do work like that.

**Buxton:** I do a lot of ideas on the computer at home. Often actually, because I haven't really got any good instruments on my computer, sometimes I'll just actually tap the rhythm, and I'll do it all by mic. I'll just do layers, and it's an absolute mess for anyone to listen to. But at least for me, it's simpler. I do kind of orchestral bits like that at home. I've got things I've been working on for a few years now—just a couple of hours listening over something and playing in really bad sounds. In a way, it shouldn't matter what sound it is. I know electronic music is often fueled by the sound, but the core is what's moving you. Melody for me is the prime thing that moves me.

**If you're doing those orchestral bits, are you looking to do more scoring work?**

**Ratcliffe:** Film scoring, I'm interested in doing. We've done two. It's a slightly different experience, 'cause obviously, you're being told more what to do; you've got more restrictions, which are quite good in a way—quite liberating.

**Buxton:** And generally most films, they have a lot of three-note [themes]; you can do work for tension, you know. Warren Brown, who helped us a bit on the album; he's an engineer. He was working on *Dawn of the Planet of the Apes*. I was saying to him, "really, the music was just 'bom-bom-bom...'" 'Cause it's like when the monkeys come and



DAMIEN CASTANEDA

they attack and you have the tension strings or whatever—nothing really there—and then everything going “bang-bang-bang.”

**Ratliffe:** But there’s tons of producer packs for film, so they’re all pretty good, and amazingly recorded.

**Buxton:** And he said the main thing for this movie, they got an old grand piano, and they put loads of screws and nails in it, which is like, if you really listen closely you can probably tell there’s something in the timbre.

**Buxton:** A lot of the process of music, part of it is just doing it yourself, even if it does sound like a sample pack. There’s something in there that you put a bit of your vibe in the way you do it. It’s not as perfect as a sample pack, but that’s why you notice it. It’s the imperfections that make us click into something.

**It sounds like you’d be comfortable working with whatever tools are in front of you, or do you have favorite software you prefer to use?**

**Ratliffe:** It’s just what we have. We have all the Native Instruments stuff, we use Omnisphere, we use samples, a lot of soft synths. We do have a [Roland] Juno-106 that we use occasionally, which we always used. That sound’s kind of come back into fashion, so we have been using that. We haven’t got a ton of software.

**Buxton:** Duncan worked with us for a

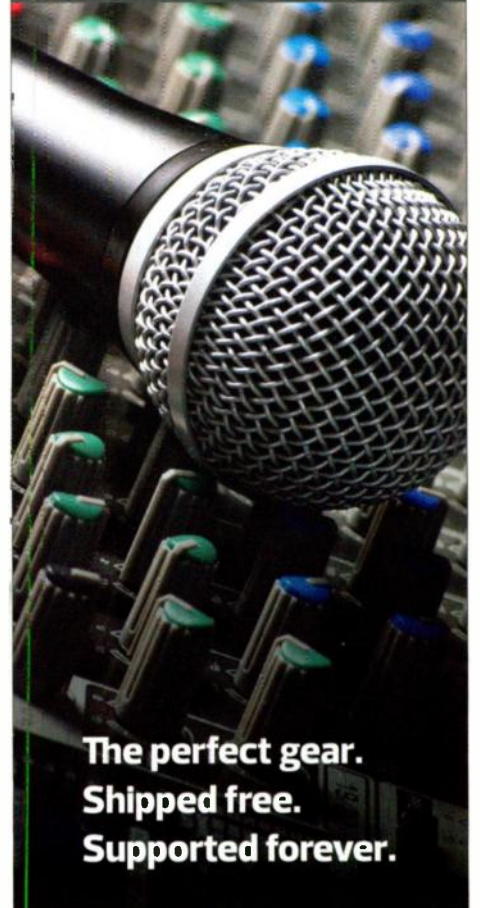
couple of years. The fact is, he’s new-school, so we wanted the next generation. Basically it’s, “Duncan, have you heard of anything that’s any good out there?” That’s what I do. And also, “how do you use it; how does it work?”

**When you are working in the studio, do each of you gravitate toward your own roles, or do you both work on everything?**

**Buxton:** With Simon, he gets two bars to sound like a track. For me, I’ll do the whole thing, and I’ll play it to Simon, and he’s like, “I can’t hear a thing of what’s going on.” I can hear a whole song that’s all in there, but it sounds like a mess. So it’s kind of like the elements are more important to me than the way it sounds. Obviously it has to sound good, but that’s the way my mind works.

I think generally our music-making process has always been very much a mixture of organic and electronic. So we could be in the studio playing some live instruments; it might be playing the furniture, because it sounds good making a noise. And then processing that, and using synths in the box and things from outside. And then if it sounds good when that train goes past, let’s put the mic out the window and record that. Everything is just sound, and then you try to make that as quality as possible. ‘Cause we’ve always had lots of layers, and that just builds a picture. ■

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# LAETITIA SADIER

The Stereolab cofounder and producer/drummer Emma Mario combined a simple recording approach with eclectic gear choices to record *Something Shines*, her third solo release, in three studios in three countries.

BY KEN MICALLEF

AS CO-LEADER of the highly influential London-based group Stereolab, Laetitia Sadier forged a unique style driven by a Krautrock-informed “Motorik” beat, Esquivel/Burt Bacharach-inspired arrangements, and lounge-scented melodies that captivated the senses while her (occasionally Marxist) lyrics intrigued the mind.

Sadier’s third solo album, *Something Shines* (Drag City), was recorded in three studios across as many countries, and finds the 44-year-old as immersed in politics and social critique as ever, while her music retains its playful edge.

“I use guitar and my musical imagination to capture something not too conventional and something people won’t expect in terms of chord sequences,” Sadier explains, from Paris. “I work only with my ears because I was not trained in an institution; I play by

ear. Sometimes I work from lyrics but mostly it’s chord-based music that can sound good or melancholic or a bit twisted or makes me think, ‘Oh! I don’t hear that too often.’”

Recording vocals, bass pedals, and guitars in her Oyster Concrete studio in Paris, Sadier traveled to Switzerland to track vintage organs, slide guitar, and electronics (including a \$55 Gakken SX 150 DIY analog synth) with multi-instrumentalist David Thayer at his Little Tornado studio. Producer Emma Mario added drums and percussion in London. Chorus vocals, percussion, brass, and strings were cut by Stefano Manca at Sudestudio in Lecce, Italy.

“In Stereolab, my voice was used very much as an instrument,” Sadier says. “It wasn’t your classic vocal-forward configuration. I don’t necessarily record my voice super loud now, unless I am working on a radio single. In my records [which include *The Trip* and *Silencio*], the vocal tends to be a little louder than with Stereolab.”

Sadier’s home studio is built on a simple platform of Mac/Logic Audio, Audio Technica 4050 microphone, ADAM Audio monitors, and RME Fireface Audio Interface. “I do have a Neve preamp,” she says, “but the FireFace soundcard is really good for my vocals. I usually practice before tracking vocals, then three or four takes, then comp a little bit. There is usually one better take and if something is messing up, we just catch it from another take. What sounds good and what sits well in the track are what matters.”

Opening track “Quantum Soup” is *Something Shines*’ production centerpiece, a dreamy mélange of plucked bass, humming keyboards, off-kilter guitar, flute, ambient sounds, and spoken-word French vocals. “That was quite a chunk,” Sadier exclaims. “It took a long time to string together and to find its way. It came out beautifully in the end. We thought this one could fall flat on its face, but in the end



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it did come along and we were all very happy with it. It's an ambitious piece of work."

"Then I Will Love You Again" has the classic, forward-motion Stereolab sound, the song chugging along in a blissful Motorik groove. "Oscuridad" was inspired by French theorist Guy Debord's Situationist International, which criticized the overreaching power of the ultra-rich 50 years before today's various Occupy factions denounced the "1 percent."

Working in Cubase SX on a PC with various plug-ins, RME Fireface Audio Interface, and a Tascam M30, producer/drummer Emma Mario approached tracking with a minimalist approach that suited Sadier's individual-centric ethos.

"I recorded on an old Rogers drum kit that belonged to Stereolab," Mario says. "It's old and fragile. Usually, I'm only using three microphones to record the drum kit: an Audio Technica 4050 (omni position) for the single overhead mic, an old East German RFT/RDA Funkberater MD 30-2 dynamic mic for the snare, and a Russian Oktava Mk-012 for the kick (omni position, 50 centimeters from the kick drum). It's all direct to the soundcard, or sometimes, for the snare or overhead mic, I record via Laetitia's Empirical Labs Distressor or my Tascam M30."

Sadier and Thayer work in Logic, but Mario remains loyal to Cubase. "I'm using Cubase SX for 15 years now," he says. "You can do everything with this editor. I'm really familiar with it. So that's why I prefer Cubase. I don't want to spend hours on technical points; I want to make music. An editor is just a tool you have to know by heart.

"I don't like to talk about plug-ins," he adds, reluctant to divulge his secrets. "It's intimate, really personal. Sometimes I work in Nomad Factory, Native Instruments, a Waves bundle, a lot of free plug-ins, too. I've created my own presets for years, but I don't like to use the same preset and the same process for recording for every song on the same album. I need to change from one track to another. I



"Usually, I'm only using three microphones to record the drum kit: an Audio Technica 4050 for the single overhead mic, an old East German RFT/RDA Funkberater MD 30-2 dynamic mic for the snare, and a Russian Oktava Mk-012 for the kick."

—EMMA MARIO

never put the mics exactly at the same places, and never use the same plug-ins. Sometimes I have old, cheap mics everywhere. I love external noises and anything that can create accidents. Most importantly, I trust my ears and my ADAM Audio A7 monitors."

Mario, who also drums with Astrobal, Holden, Arnaud Fleurent-Didier, Nina Savary,

Orion Rigel Domisse, and Swann, sometimes describes recording techniques as "magic." "I like to create magic," he says, "which means all the sound or mixing treatments, all the hours I spend traveling on every sound, remodeling, equalizing, compressing, adding some noises, sounds. I love to cook, and my kitchen is Cubase. I think mixing is also part of composing. I don't have much hardware, except the little Tascam M30 8-track mixer, and Laetitia's Distressor."

In addition to recording solo albums since Stereolab went on hiatus in 2009, Sadier joined with Pram's Rosie Cuckston in Monade; they've released *Socialisme ou Barbarie* (2003), *A Few Steps More* (2005), and *Monstre Cosmic* (2008). "Two years ago we hired Jim McIntire's SOMA studio to record drums," Sadier reflects. "We couldn't record drums in my small attic. So that was a worthy expense, and it pays to get a skilled mixer for a beautiful result. It's good to know where to spend your money when you don't have a huge budget.

"But nowadays, the technology totally enables you," Sadier concludes. "What you need are three good microphones, a good sound card, good monitors, and you're set. Then you need to play well, and sing in tune. I recorded at my friend Stefano Manca's Sudestudio in southern Italy a while ago. I can't compare my little home studio to his brilliant state-of-the-art studio. But I self-finance everything, so you can only do so much, especially when you want to pay everyone well. Recording at home confers you a lot of freedom. And paying a lot of money for studio time is too much pressure. I want to take it easy!" ■

*Ken Micallef is freelance writer and photographer based in New York City. His work has appeared in many publications, including DownBeat, eMusic, and Modern Drummer.*



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World Radio History



From back to front:  
Blaine Thurier, John  
Collins; Todd Fancey,  
Kathryn Calder; Neko  
Case, Kurt Dahle;  
Carl Newman

# The New Pornographers' *Brill Bruisers*

New studio and synths inspire longtime band's evolved sound

BY BARBARA SCHULTZ

SINCE FORMING the New Pornographers in Vancouver in the late '90s, the bandmembers have worked within numerous other groups and projects, fanned out to disparate locations, and periodically reconvened to make something new together. Their latest album, *Brill Bruisers*, is at least partly informed by the best of '80s pop, with driving electric guitars and often lush vocal orchestrations, brightly embellished with synth sounds and effects.

"On most of the records we've made, our way of working has been: 'What have we got lying around?'" says Carl Newman, the principal songwriter, guitarist and vocalist, and co-producer

of the New Pornographers. "It would be like, 'We have a pump organ here, so let's put lots of pump organ on.'"

But for *Brill Bruisers*, the music-making process led by Newman and co-producer/engineer/bassist John Collins, started with a new studio and several new synthetic tools.

Collins installed a little writing/recording setup for Newman in a 300-square-foot, shed on Newman's property in Woodstock, N.Y.; he outfitted the shed with Digital Performer 8 (Collins' platform of choice), an API lunchbox, a Telefunken AK7 MkII mic, a pair of Avedis Audio MA5 mic preamps, and Elysia Xpressor 500 discrete compressors, as well as Newman's instruments and amps. The new "Little Blue" studio became the production heart of *Brill Bruisers*.



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**Carl Newman (front) with bandmate and co-producer John Collins in Little Blue Studio.**

more abrasive sounds," he says. "Champions of Red Wine' [with Neko Case on lead vocals] needed sounds that are softer and smoother. That collection has essentially a soft synth [version] of every single cool synth that's ever been played, so we could do a lot with that."

A smaller but mighty acquisition was the Animoog app, which was used to enhance atmospheric effects. "When that came out, there was a deal where you could buy it for 99 cents. I think I got my dollar's worth!"

"Once we have the song, and the bass, drums and guitars are essentially figured out, we're looking for bells and whistles to hang on them," Newman continues. "That's also where arpeggiation is really cool, and that was a really fun part of this record: trying to make the interplay between arpeggiators and real drums, and use that to make songs really propulsive."

Collins says that when he and Newman are developing sounds together, they produce "a lot of chaff. We both make a lot of stuff, and then we decide we don't like most of it and cut each other's parts."

"I'd say 80 percent of the vocals, 90 percent of the keyboards, and 90 percent of the guitars came from there," says Collins. "Carl and I were in there for six or seven months, just the two of us."

"Some songs just show up finished," Newman says about their process. "For example, on the title track, the game was just writing the lyrics. We started playing it, it sounded good, and we had it. But other songs like 'Backstairs'—that was completely a creation in the studio. I'd just

bought a Critter and Guitari Pocket Piano and came up with a weird little synth progression that I liked, and the whole song evolved from that. Then John took another Pocket Piano line, transposed it, and it turned into this bizarre, psychedelic, atmospheric section that became one of my favorite parts of the whole record."

Newman also added an Arturia V softsynth collection to his rig for this project. "On the song 'War on the East Coast,' it felt like we needed

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~ **David Rideau**  
Engineer/producer - Janet Jackson, Sting, TLC, George Duke and Jennifer Lopez.



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~ **Butch Walker**  
Engineer/Producer - Avril Lavigne, Fall Out Boy, Pink, Sevendust, Hot Hot Heat, Simple Plan, The Donnas.

**"I love the way the control and tracking rooms sound now... and so does everyone that records here!" ~ Butch Walker**

"We have to go, 'Let's listen to the song and take out what doesn't work and throw out the garbage.'" Newman says. "We're mining for gold."

Working in a small, one-room space meant traveling an unusual path to some of the keeper tracks, however. A longtime engineer with his own fully loaded facility (JCDC, Vancouver), Collins is a bit sheepish about the way guitar sounds evolved. "We were DI'ing everything to begin with, to a USB keyboard into the Performer synths," he says. "We were playing with tempos and keys the whole time, changing things, so we kept one of Carl's electrics and a bass DI'd just to keep the ball rolling while we figured things out, but eventually we got fed up with not knowing what proper kinds of guitar sounds we were going to use.

"So I put his Matchless amp outside, in the woods, in his Honda Element with a 57 on it, ran some cables out there," Collins continues. "I also DI'd it. We were in a one-room building with no isolation, and I wanted to get some objectivity on the sound of the amp. But we quickly realized that the nice tone of his Matchless didn't seem any better for what we were doing than the DI. It's almost embarrassing to say, but I kept comparing amp tones to simulated tones, and since I knew I would have access to more

simulators and a lot of other amps when I got everything back to my studio [to mix with studio partner David Carswell], I decided I was cool with the way the DI sounded."

After months of productive experimentation and recording in the Little Blue studio, Collins and Newman had developed tracks and sounds for most of the songs, and established the tempos for all of them.

"I was often trying to get things to be a bit faster," Collins says. "It can be difficult to convince a singer that a song needs to be faster. They want it to be the speed that they thought of it, but after a couple of years of playing it, it's going to be faster."

They then booked Greenhouse Studios in Vancouver, where Howard Redekopp recorded Kurt Dahle's drums to Pro Tools—sometimes as overdubs to tracks, and other times just to click tracks with the established tempo. "Howard records all the drums when we make records," Collins says. "On this, he put up a lot of mics, but nothing very close in, going for a big, open sound.

"Then in the fall, we got Neko's vocals," he continues. "We had to chase her around the country some [while she was on tour], but at one point we brought everything from Carl's studio and had her sing into the Telefunken in

[FarelMart], an ex-theater in an ex-post office that she owns. Then we had Todd [Fancey, guitarist] and Kathryn [Calder, keyboards and vocals] do their parts. Meanwhile, we can't forget, a quarter of the tunes were by Dan [Bejar, vocals and guitars] and those were coming together simultaneously in Vancouver. We had Dan's Shure SM7 going for a lot of the vocals, too. That's a staple with us. I wouldn't say this was the most convoluted thing I've ever worked on, but..."

"Now we are figuring out how this is going to work live, because we are playing festivals this summer and proper touring happens in October/November," Newman says. "I'm excited to play all this new material, but we have definitely entered a new technical age for this band, where we listen to our own record and go, 'How the hell are we going to work all these arpeggiators into our live sound?' It's going to be tricky." ■

*Barbara Schultz is Electronic Musician's managing editor.*



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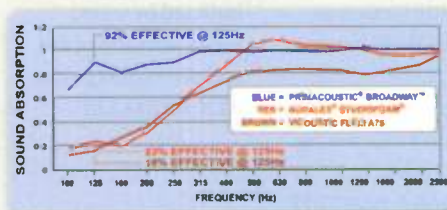
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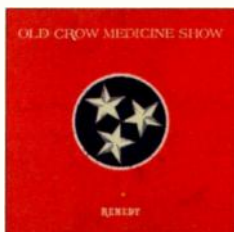
## Jenny Hval & Susanna

### *Meshes of Voices*

SUSANNASONATA

Inspired by bestiaries; the architecture of Antoni Gaudí; and Maya Deren's experimental 1943 film, *Meshes of the Afternoon*, Norway's Jenny Hval and Susanna explore piano, effects, guitar, noise, electric harmonium, drums, zither, and most evocatively, their unique voices, in this wonderfully bizarre collaborative effort. "Black Lake" combines plaintive vocals and searing noise into the sound of a gaping black hole ready to swallow. "I Have Walked This Body" exercises Hval's creaky groan against sirens, a roaring sea, and nightmarish lunar crunching. "Medusa" matches calliope with scary, inhaling sounds.

KEN MICALLEF



### Old Crow Medicine Show

#### *Remedy*

ATO

Old Crow Medicine Show's aggressive approach to picking stems from the players' equal love of punk and folk. This makes their producer, Ted Hutt (Mighty Mighty Bosstones, Lucero, Dropkick Murphys) a perfect match, and the band and producer's third project together, *Remedy*, benefits from their likemindedness with great attack and a friendly easiness. What's the difference between punkabilly and true mountain music? Well, for one thing, a traditional bluegrass band wouldn't title a song "Sh\*t Creek."

BARBARA SCHULTZ



### Duologue

#### *Never Get Lost*

WILD GAME

An ambitiously beautiful and bittersweet album that conjures Nick Drake singing over a glitch-filled terrain created by Massive Attack, *Never Get Lost* soars with sweetness, held earthbound by its alien electronic heart. Expressing tenderness and anxiety, Duologue's fragile vocals are framed by pulsing blips and bumping bleeps, but the total effect is more soothing than scientific—ethereal, ghostly harmonies buffeted by weird tones, acoustic piano, and occasional guitar.

KEN MICALLEF



### The Budos Band

#### *Burnt Offering*

DAPTONE

*Burnt Offering*, the fourth album by 10-piece act The Budos Band, is a caper, a careening 10-part circuit through streetwise funk and psychedelic haze. It's an early '70s supernatural grindhouse film culminating at a séance of prog and hard rock, navigating a crux when Deep Purple, Alice Cooper, Blue Cheer, Black Sabbath, and The Groundhogs conjured ritualistic grooves. Darting horns, churning organ, and fuzz-spooked bass rain acid over Rick Rubin-weight breakbeats, recorded live to tape for maximum possession.

TONY WARE



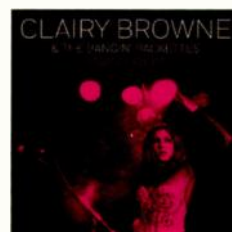
### Wray

#### *Wray*

COMMUNICATING VESSELS

The debut release from Wray caught my attention when it was revealed they are touring with the awesome Southern futro surf band known as Man... or Astro-man?. Wray's bent is darker, echoing the emo '80s synth rock of groups like Echo and the Bunnymen, but their music is fused uniquely with fuzzed-out surf rhythms and delicate guitar-noir riffs, a la their namesake. There's loud and beautiful guitar inspiration here for rock 'n' roll purists as well as for the black eyeliner set.

BARBARA SCHULTZ



### Clairy Browne & the Bangin' Rackettes

#### *Love Cliques*

VANGUARD

From nine-piece soul band Clairy Browne & the Bangin' Rackettes' drawling tones, you would never peg them as Aussies, instead expecting Deep South origins. Following their debut album with the four-track *Love Cliques* EP, a wealth of emotions is packed into this compact package. Whether it's on the threatening, high-octane "Jenny" or against the dreamy strings and come-hither horns of "No Fear," a big jazz sensibility and immense soul roots are pervasive.

LILY MOAYERI



### The Juan Maclean

#### *In a Dream*

DFA

The Juan Maclean has filtered perfectly paced out-of-step movement for a decade. Emulsifying the sizzle and throb of tech-house, deep house, post-punk, robofunk, cosmic disco, Italo, and Chicago house, producer/DJ John MacLean and singer/keyboardist Nancy Whang infuse new emotion into dance music's celestial arpeggio, Motorik shuffle, percolating bass, baritone melody, piano stab, phased fill, and vocal delay tropes. Never beholden to one era or scene, these spacious arrangements gel into the chaotic bliss of dancing the pain away.

TONY WARE



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Roundup

# Active Studio Monitors



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BY GINO ROBAIR

MICROPHONES AND speakers are the bookends of any studio setup. Whether you're tracking an album, recording voices for podcast or broadcast, composing sound for picture, or demoing songs on the road, your configuration needs balance in quality between both sides of the signal chain. In every case, your monitoring system should provide playback that is as clear and uncolored as possible, given the constraints of both your budget and your physical space.

In this article, I examine eight models of active near-field monitors (in some cases, more than one size for each model) that are designed for a variety of applications and span a wide range of prices. However, this article is not a shootout: As with microphones, choosing a monitor is a subjective process, and among the many factors you need to consider when selecting an appropriate pair for the job are sonic preferences and application specifics.

**Putting It in Perspective** When it comes to low-end response, size matters: A monitoring system with a 3.5" low-frequency driver

simply will not reproduce bass the same way an 8" woofer does. (See "Uncharted Territory" in the June 2014 issue of *Electronic Musician* to learn what you should look for in speaker frequency-response specs.) Of course, larger speakers come in bigger, heavier cabinets. While a monitor with a 5" woofer might fit comfortably on your desktop, the 8" model may crowd your setup (and the higher output could be hard on the ears at such close range).

On the other hand, if you need a pair of speakers that can be mounted in the back of a van for mobile recording, you will want a system that is small, tough enough to handle the road, and loud enough to cut through an environment with a higher ambient noise level than a soundproof studio. As we will see in a moment, an increasing number of powerful playback systems are small and lightweight, and provide affordable, pro-level resolution compared to consumer-grade multimedia speakers.

Other elements to consider include amplifier design (Class AB and Class D designs sound different, particularly when played at higher volume levels), the shape and layout of the cabinet, speaker position, the location of bass-reflex ports, the EQ controls, and input connector selection.

All of the monitors tested in this article were placed on stands positioned 3 feet from any boundaries; monitors designed for multimedia use were also tested on my desktop to see how their response changed. In every case, the speaker cabinets were placed on pads to decouple them from the stand or desk. (See the "Get 'Em Off the Shelf" sidebar on page 42 for resources for decoupling your monitors.) All prices in this roundup are MSRP unless otherwise noted.

Not included in this roundup are monitors recently reviewed in the pages of *Electronic Musician*: PreSonus Eris 8 (April 2013); KRK Rokit 8 G3 (December 2013); Yamaha HS5 (January 2014); JBL LSR308 (March 2014); and Mackie MR5mk (May 2014). Look for these online at [emusician.com](http://emusician.com).

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The CR3 and CR4, part of Mackie's new Creative Reference Multimedia Monitors line, are designed for desktop use in cost-conscious



**The Mackie CR3 (pictured) and CR4 are a snap to set up: One cable powers both, and a single speaker cable connects them to together. The front-panel Aux in and headphone jack add to the convenience.**

situations where space is at a premium and portability is important. Sold in pairs, these monitors stand out in a significant way: One speaker contains the active components (a 50W, Class AB amp), while the other is passive. That means only one power cable is used (though it is permanently attached to the active monitor).

The CR4 has a 4" woofer, the CR3 a 3" woofer, and both have a 0.75" silk-dome tweeter. The speakers are remarkably lightweight, with the powered speaker being the heaviest in each of the pairs: The CR4 is 7.1 lbs; the CR3 is 5.7 lbs.

The powered speaker's rear panel provides



two balanced 1/4" TRS inputs, two RCA inputs, and the main power switch. Having all inputs on one monitor is helpful when you only have short cables from your audio source and the second monitor is placed out of reach. The front features a secondary power switch (that also acts as a volume control), along with a headphone jack and a stereo Aux input that can accept signals from a portable audio player.

The powered speaker is connected to the passive speaker with the bare ends of a molded pair of wires; positive and negative spring-loaded terminals are located on each speaker. A switch on the powered monitor determines whether it acts as the left or right speaker.

Each monitor comes with a 2-piece foam pad to decouple the speaker cabinet from your desktop or stand. Depending on how you configure the pad parts, you can angle the monitor up or down, or set it level. The package includes two additional cables—a 3.5mm TRS-to-split-RCA and a 3.5mm TRS.

While the CR4 clearly produces more low end and an overall smoother sound than the CR3, at times I felt that the CR3 was more revealing and particularly useful in situations when I was listening for transients and edit points in sound effects and voiceover.

Percussion sounded punchy on both sets, getting pushed a little more forward in the mix than on the monitors with larger low-frequency drivers. Overall, both pairs produced a nice dimensionality, and the stereo imaging was surprisingly well-defined.

Despite being small and lightweight, these monitors can get surprisingly loud. Predictably, the highs begin to get crunchy when you push the playback level too much. At normal listening levels, however, both sets provide a remarkably full sound with a wide frequency range that befits speakers designed for multimedia environments.

## Tannoy Reveal 402, 502, and 802

**TANNOYSTUDIO.COM**

**\$139, \$179, AND \$279 EACH (STREET)**

Available with 4", 5", and 8" woofers, the bi-amped Reveal Series monitors are intended for home studio and desktop use, with a price and feature set that bridges the prosumer and pro-audio worlds very well. Each model has

an XLR input, an unbalanced 1/4" input, and an Aux input for the Monitor Link mode. To use Monitor Link, connect the two speakers with the supplied 3.5mm cable and feed a stereo signal into the Aux input of one of the monitors. A rear-panel switch on each monitor determines whether that monitor serves as the left or right speaker of the stereo pair. Monitor Link is very handy when you simply want to use your Reveal pair to audition sound files directly from a handheld, portable digital recorder or play synths from your iPad.

Other rear-panel features include a stepped volume control for setting playback level and an EQ switch providing -1.5 dB of high-frequency cut or +1.5 dB of high-frequency boost. (The corner frequencies are not given.) I ended up using the high boost the most, particularly with the 502 and 802, to hear more of the air band when working with raw audio tracks. The front-panel bass-reflex port allows you to place Reveal monitors closer to a wall with less effect over the low-frequency response than you could with monitors that have rear-firing ports.

Providing 50W, 75W, and 100W, respectively, the 402, 502, and 802 feel solid and well-built. The 402, which I brought on a couple of remote

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sessions, is light enough to schlep on the road for quick-reference monitoring, and feels like it can handle the abuse.

Attached to the bottom of each cabinet is a thin rubber pad that helps decouple it from the surface it's placed on (though I would still recommend the addition of a thicker pad to improve the bass response when using these or any other monitors in a critical listening environment).

Audio reproduction, transient response, and stereo imaging are very good throughout the Reveal line, and all three models have the ability to put out a strong, clean signal at higher volume levels. Among all the products in this roundup, the Reveal monitors exhibited

## Get 'Em Off the Shelf

Once you find the monitors that meet your needs, you can maximize their performance by decoupling them from the stands, shelf, and desktop. Acoustic-isolation pads and stands lower sympathetic surface vibrations that can negatively affect the upper bass frequencies and transient response of your playback system.

A range of products is available to match your speaker size and budget, from the inexpensive and simple Auralex MoPad and Primacoustic Isopad, to the heavy-duty Auralex ProPad and Primacoustic Recoil Stabilizers, to the line of affordable IsoAcoustics stands that offer tilt adjustment. As with every part of your studio, a few well-chosen accessories such as this are all it takes to increase the return on your investment—in this case, giving you the most accurate playback your monitors can provide.



The Primacoustic Recoil Stabilizer provides a layered surface that mitigates speaker movement in order to maximize performance.



**Tannoy's family of Reveal monitors have balanced and unbalanced inputs and include the Monitor Link system to easily connect a pair together when using mobile playback devices.**

the highest self-noise—amplifier hum, to be exact. That, and the lack of general product information, such as tolerances in the frequency response, are what make this line seem more prosumer oriented.

Nevertheless, for the level of detail they provide during playback, as well as the build quality, the Reveal monitors are extremely well-priced.

## Mackie MR8mk3

**MACKIE.COM**

**\$249.99 EACH (STREET)**

Intended for studio and multimedia applications, the MR8mk3 is the largest configuration in Mackie's latest iteration of its MR Series monitors. The complete cabinet overhaul includes significant design changes: The front baffle is symmetrically bowed forward, with a raised area surrounding the 8" woofer that affects the bottom portion of the 1" tweeter's waveguide, making it slightly asymmetrical. When you take into consideration the rounded edges on the cabinet, the overall results are intended to provide improvements in imaging by reducing diffraction.

The biamped Class AB system offers a total of 85W RMS and includes audio inputs to match most production needs—XLR, balanced 1/4" TRS, and unbalanced RCA—and a continuously variable gain control. Switches are provided for adjusting the low-frequency (0, +2, +4 dB below 100 Hz) and high-frequency (-2, 0, +2 dB above 3 kHz) response. The shape of the rear-positioned bass-reflex port has been changed—earlier models had a wide, oval shape, whereas the mk3 has a tube opening up at the top of the rear panel.

The improvements to the mk3 over the original pair of MR8s that I use were immediately apparent in the stereo imaging, as well as a more open sound in the mid- to upper



**A redesigned waveguide and bass port are part of the improvements Mackie added to the MR8mk3.**

frequency registers. However, the MR8mk3 has a pronounced bass response, even when positioned well away from any boundaries, giving the monitor a slightly scooped sound: It would be nice to have an option for lowering the bass shelving.

Still, for an active studio monitor with an 8-inch low-frequency driver, the MR8mk3 is a tough one to beat in its price range.

## Genelec 8010A

**GENELEC.COM**

**\$395 EACH (STREET)**

These guys are small—very small. When only one box arrived from Genelec, I presumed it held a single speaker (and that, perhaps, someone had even forgotten to pack one inside). But I was wrong; inside the box were two more boxes that looked as if they each contained a travel tumbler for coffee. Inside each of these was a diminutive 8010A.

The 50W, Class D, biamplified 8010A exemplifies Genelec's interest in providing high-quality monitoring for a wide variety of applications—in this case for portable use, desktop work, and surround. Each monitor stands just over 7.5" tall when sitting on the



**Quite powerful for its size, the Genelec 8010A packs a lot of punch when you need high-quality playback and ultimate portability.**



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supplied Iso-Pad base, and weighs 3 lbs., 7 oz. Although relatively lightweight, the 8010A feels substantial and solid, thanks to its die-cast aluminum enclosure.

The 3" woofer and 0.75" tweeter are each protected by a metal grille, and the recessed XLR input and power jack face downward from the back panel so that the cables are perpendicular to the floor rather than sticking straight out from the rear panel—perfect for

wall mounting. (Six threaded holes on the back and one on the bottom are provided.) Considering that the intended use includes desktop playback, I was surprised that the 8010A didn't have an unbalanced input (although the manual says you can plug in an unbalanced line-level source if you use the proper adapter).

The 8010A includes several recessed DIP switches to customize playback depending on how and where the monitor is used: Change input sensitivity for -10dBV levels; engage Intelligent Signal Sensing so that the monitor goes into standby mode (consuming 0.5W)

when no signal has been detected for a period of time; and adjust the bass response to match the room and mounting situation—wall (-2 dB at 100 Hz), freestanding (-4 dB at 100 Hz), or desktop (-4 dB at 200 Hz). The monitor has a rear-firing bass port.

As one would expect with a 3" low-frequency driver, the 8010A doesn't offer the deep bass response you get from larger woofers. However, this little powerhouse provides exceptionally detailed playback, with plenty of punch and clarity, whether you're working with music, sound effects, or dialog. Moreover, my ears didn't tire when using them for long periods at moderate volume levels while editing.

Priced for the professional, the 8010A offers pro-level sound, features, and build quality in a form factor small enough to pack in your carry-on (leaving room to spare for other gear).

## Focal Alpha 50, Alpha 65, Alpha 80

**FOCALPROFESSIONAL.COM**  
**\$349, \$449, AND \$599 EACH**

Focal has made a name for itself in the pro-audio world with several classes of great-sounding monitors. With the Alpha Series, designed for stereo or surround use, Focal has entered the personal-studio world, but only in terms of price point: Based on their performance level, all three models have a professional sound and should cost significantly more.

As you would expect, the size of the low-frequency driver is 5" on the Alpha 50, 6.5" on the Alpha 65, and 8" on the Alpha 80, with a 1" inverted-dome tweeter in each. Together, the HF and LF drivers are designed to provide a wide sweet spot, which is helpful in situations such as home studios where optimal speaker placement is not always possible. Input options are XLR and unbalanced RCA.

The Alpha Series monitors are bi-amped with Class AB electronics and provide a total of 65W for the Alpha 50, 105W total for the Alpha 65, and 140W total for the Alpha 80. On the back, a sensitivity switch provides +6 dB of boost, while high- and low-shelving filters let you boost or cut at 4.5 kHz and 250 Hz, respectively. A built-in compressor and limiter allow you to monitor at high levels without damaging the system. The monitors default to standby mode when powered up, and they automatically go back into standby mode if they don't receive audio for 30 minutes,

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The Alpha Series brings Focal's noteworthy playback quality into the price range of the personal studio.

significantly lowering power consumption.

The Alpha Series illustrates a situation in which size will likely be a consideration in which model you choose: Although the cabinets are only moderately larger as the woofer size is increased, the weight is greatly increased—16 lbs., 21 lbs., and 28 lbs.

Focal says it voiced the three models the same, and they do share a sonic signature. The overall resolution is fantastic among them, with an even frequency response across the board. However, there is a noticeable increase in fidelity in the Alpha 80 compared to the Alpha 50 and 65. The frequency spectrum from the Alpha 80 spreads out nicely without hype in the extreme frequencies or a scooping out of the midrange. And with that model in particular, I could hear *around* the instruments in the mix—an extra dimensionality that was very helpful.

With the Alpha Series, Focal has set a new level of audio quality for monitors in this particular price range.

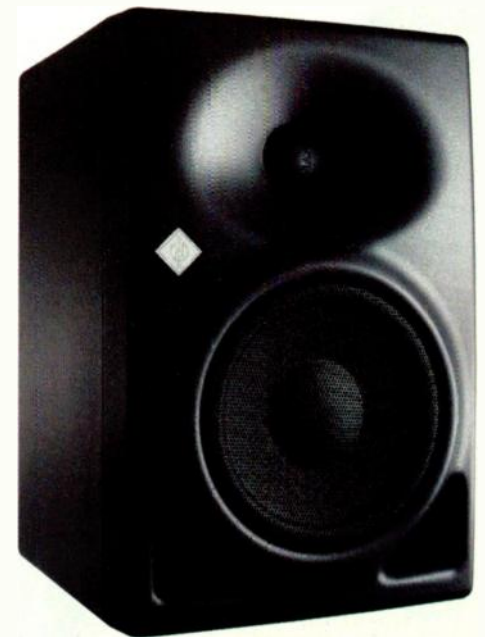
## Neumann KH 120

NEUMANN.COM  
\$749.95

Neumann designed the KH 120 for a broad range of work, from desktop monitoring in film, broadcast, and music studios to surround use and facility installation. That is one reason why the waveguide for the 1" tweeter is so big, the 5.25" woofer is covered by a metal grille, and the controls, DIP switches, and inputs are recessed.

Weighing in at 13.7 lbs., the KH 120 feels hefty and solid. Neumann did a great job of packing all of the useful features one needs for the above applications into a small area on the back panel. Three bands of EQ settings are provided to offset acoustic anomalies such as boundary effects: bass-cut (0, -2.5, -5, -7.5 dB); low-mid cut (0, -1.5, -3, -4.5 dB), and

treble boost/cut (+1, 0, -1, -2 dB). An input-gain control and output-level switches help you set the proper volume for your needs. You can dim or turn off the light behind the Neumann logo (which also acts as a overload indicator) for situations where you don't want the distraction, such as in an installation. To facilitate wall mounting, the XLR input and IEC power connector face downward. (M8 holes are provided for mounting.)



With front bass ports and an extended waveguide, the Neumann KH 120 is well-suited for critical listening in multimedia, broadcast, and surround situations.

### One Size Does Not Fit All

Ever wonder why some companies offer many sizes of the same model, but price them relatively close together? The main reason is to hit certain sweet spots in cost, which they hope will attract buyers.

Of course, if you are buying only one pair of monitors and the difference between a decent-sounding pair and a better sounding pair is a mere \$75, you certainly should make the extra investment if you can afford it. However, imagine that you are outfitting a classroom of workstations for an educational facility, and you have a strict budget to purchase, say, 20 pairs of powered monitors. That \$75 difference between the two models will have a major impact on your decision.



The PreSonus Sceptre S8 is based around a coaxial design that aligns an 8" driver with a 1" tweeter. Built-in DSP is used to eliminate the effects of horn reflection and coloration.

Bi-amped with 50W for each speaker, the KH 120 is powerful and sounds surprisingly smooth for its diminutive size, especially at louder levels. This monitor does not have that pinched, claustrophobic sound that smaller drivers often

display, especially when heard in combination with larger monitors as in a surround situation. Instead it produces a punchy low-end, projects solid mids, and doesn't get crunchy when cranked up—particularly handy in multimedia situations.

The result is a monitor that you can work with for long periods of time and not feel as fatigued as you would with a low-cost product. The KH 120 is clearly designed for the professional market.

## PreSonus Sceptre S8

**PRESONUS.COM**

**\$749.95 EACH (STREET)**

Packing 180W and featuring Class D amplifiers, the Sceptre S8 is unique in this roundup: It has a coaxial design that works in conjunction with DSP—a system PreSonus calls CoActual. Here, an 8" midrange driver and 1" horn-loaded, titanium high-frequency driver are placed inline in order to phase-align the upper and lower frequency spectrum. Meanwhile, 32-bit/48kHz digital signal processing is used to correct time and frequency anomalies. (PreSonus also offers the Sceptre S6 [\$649 each, street], which includes a 6.5" midrange driver and 1" high-frequency driver.)

The S8's rear-panel tuning controls are set electronically. Acoustic Space attenuates frequencies below 100 Hz (linear, -1.5, -3, and

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-6 dB) to compensate for boundary reflection, while HF Driver alters the tweeter's playback response (linear, +1, -1.5, and -4 dB). High Pass is used to reduce the bass response by 24 dB/octave (linear, 60, 80, 100 Hz) when you're using the S8 with a subwoofer. Other pro-level features include balanced 1/4" TRS and XLR inputs, and a sensitivity control with a range of -10 dBV to +4 dBu for matching levels with your interface or mixer. As a result of the coaxial speaker design and breadth of controls, the S8 was easy to position and tune to the peculiarities of my studio.

I wasn't at all surprised that the S8 sounded noticeably different from the other monitors in this roundup. The overall frequency spectrum was well-balanced, with no hype added to the extreme registers. The transient response was crisp, revealing subtle details in a variety of types of musical material—rock, jazz, and orchestral music.

In rock mixes, vocals and punchy midrange instruments tended to move forward with the S8 compared to the other speakers, and there was more energy in the upper frequencies, particularly in percussion instruments such as cymbals, triangle, and tambourine. The S8 also exhibited increased definition with short-decay instruments such as mandolin and single-note acoustic-guitar lines.

All told, the Sceptre S8 provides a revealing and different audio perspective, which is important whether you're in the recording or mix phase of a project.

## Dynaudio BM12 mkIII

**DYNAUDIOPROFESSIONAL.COM**  
**\$1,229.99 EACH**

Although price isn't always an indication of quality, in the case of the Dynaudio BM12 mkIII, you definitely get what you pay for. The BM12 is part of a mature product line with a well-earned reputation for exceptional resolution, and the mkIII continues the legacy by providing an uncluttered low end, a revealing midrange, spaciousness in the upper registers, and a precise transient response. The stereo imaging is outstanding, with a surprisingly wide sweet spot, thanks to the improved waveguide design. Moreover, this model sounds exceptionally smooth at high volume levels.

The BM12 mkIII combines an 8" woofer



**The Dynaudio BM12 MkIII provides exceptional audio resolution that is well-suited to mixing and mastering applications.**

with a 1.1" soft-dome tweeter, and is bi-amplified to provide 150W of power that is rated to produce 123 dB SPL at peak—plenty of headroom when you need it for monitoring in moderate- to large-size studios. (For home studio and desktop use, check out Dynaudio's smaller monitors—the BM6 mkIII [\$899.99 each, street], which has a 7" woofer and provides 150W; the BM5 mkIII [\$729.99 each, street], which offers a 7" woofer and 100W; and the BM Compact mkIII [\$629.99 each, street] with its 5.7" woofer and 100W of power.)

Despite the higher price and excellent audio quality, the BM12 mkIII's rear panel is surprisingly austere: an input level switch (+4, 0, -10); a highpass filter (Flat, 60 dB and 80 dB); and a 3-band filter section—HF (+1, 0, -1), MF (0, -2, -4), and LF (+2, 0, -2)—to compensate for acoustic anomalies caused by nearby boundaries. The input is a single XLR jack.

With each BM mkIII Series monitor, Dynaudio includes an appropriately sized IsoAcoustic stand (in this case, the ISO-L8R200), which not only decouples the speaker from any surface but provides horizontal positioning (up or down a few degrees).

Although the BM12 mkIIIs ended up

being the benchmarks for my roundup due to the level of resolution and clarity they exhibit on their own, I also used them in a 2.1 system with the BM14S II (\$1,849.99 street) subwoofer. Providing 300W and using a 12" woofer to extend the frequency range to 18 Hz ( $\pm 3$  dB), the BM14S II easily coordinates with other Dynaudio monitors, giving you an opportunity to hear what's going on in the lowest registers of a mix or to fill the LFE role in a surround system.

Setting up and tuning the sub were quick and painless. The BM14S II provides a gain control, highpass and lowpass filtering, and a phase switch. For critical listening with a subwoofer, moderation is the key: You don't need to crank this up to reap the benefits.

Once you achieve the optimum volume and frequency balance between the three speakers, you'll have the opportunity to hear your recordings at a level of resolution that will likely cause you to re-evaluate the transducers at the other end of the signal chain—your microphones. ■

*Gino Robair is Electronic Musician's technical editor.*





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## iConnectivity iConnectMIDI4+ Multi-host MIDI Interface

Is this the problem-solver iOS musicians hoped for?

BY GEARY YELTON

FINDING A MIDI interface for your Apple iOS device isn't hard. Any class-compliant interface (one that doesn't require a specific driver) should work if you have the proper connector. Numerous mono or stereo audio interfaces are also available, and a few products combine audio and MIDI functionality. Some work quite well for live performance, but I have been searching for something affordable that could make two iPads an integral part of my music production setup. None of the products I'd tried worked as seamlessly as I'd hoped. That's why I've been looking forward to reviewing the iConnectMIDI4+ (iCM4+).

The iCM4+ links Mac and Windows computers with iOS and MIDI devices to form an interconnected system for playing

and recording music. It routes audio and MIDI data between the computers and iOS devices, allowing you to play all your hardware and software instruments from any MIDI controller, even if your controller is an onscreen keyboard in an app running on your iPhone. And that's only the beginning.

**Connect the Dots** The ICM4+ is a sturdy metal box, approximately the size and weight of a hardbound novel. The front panel has a power button, eight indicator LEDs, two USB B-type jacks, and MIDI In and Out ports (see Figure 1). The back features an Ethernet port, two USB jacks (A and B types), three pairs of MIDI ports, and a connection for the included wall-wart power supply.

My review unit came with two cables—one to connect the iCM4+ to a computer's USB jack, and another to connect it to an iOS device. The latter is a specialized cable with the 30-pin dock connector used by older iOS devices, but a Lightning cable may come standard by the time you read this. (Additional

### SUMMARY

**STRENGTHS** Comprehensive MIDI connectivity. Unprecedented versatility for routing and filtering MIDI data. Streams multichannel audio between computers and iOS devices. A real bargain.

**LIMITATIONS** Requires a specialized cable for iOS connections. Extra cables cost \$40.

**\$249.99 MSRP**  
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**Fig. 1.** The powerful iConnectMIDI4+ ties together your computers, iOS devices, and MIDI devices into a single network for music production. It can stream eight channels of audio between three connected devices and handle more than a thousand MIDI channels.

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cables are \$40.) In the meantime, if you have a newer device, Apple's Lightning-to-30-pin adapter works.

The three USB B-type connectors (called Device jacks) are for connecting the iCM4+ to computers or iOS devices, and the A-type connector is a Host jack for connecting a USB hub. Two of the Device jacks provide power for iOS devices.

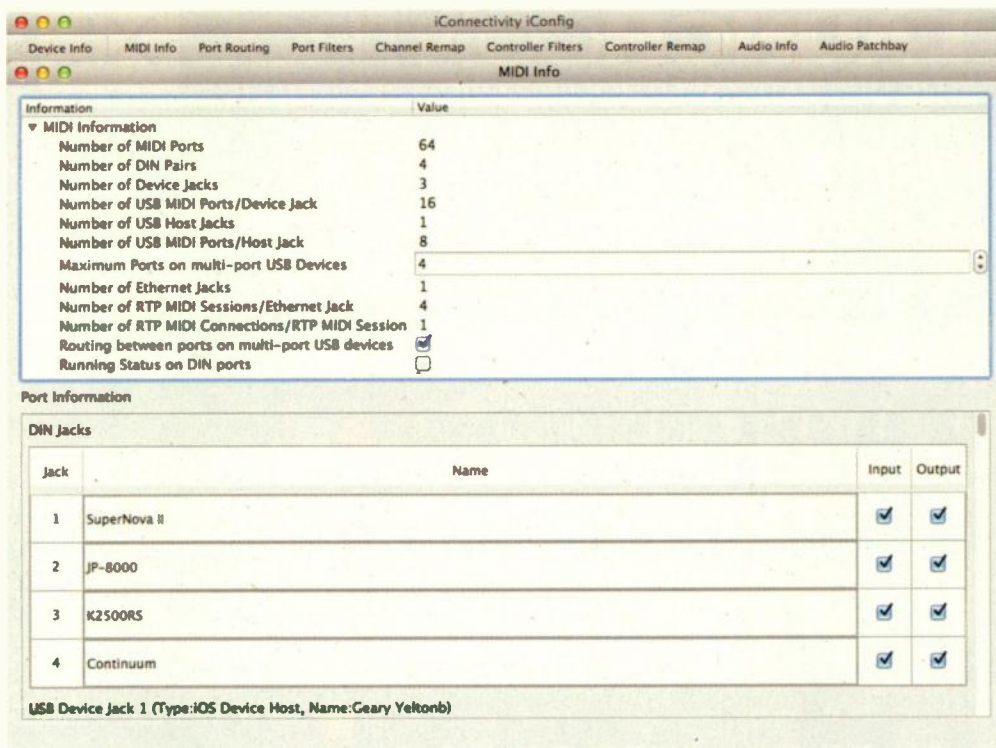
In total, you can connect as many as 19 separate devices if you use a USB hub and network four additional computers via Ethernet. By combining physical jacks and virtual ports, the iCM4+ supplies 64 addressable ports for MIDI data, with 16 channels for each port. The USB jacks supply most of the ports—16 on each Device jack and 8 on the Host jack—for a previously unheard of 1,024 MIDI channels on one interface.

In addition to handling copious amounts of MIDI data, the three devices connected to the Device jacks can exchange as many as eight channels of audio data using iConnectivity's proprietary Audio passThru technology. Audio channels can be either inputs or outputs, as long as the total number doesn't exceed the maximum. For example, when streaming eight audio channels, you could have six inputs and two outputs.

Strictly as audio interfaces, iConnectivity devices are unique. Although the iCM4+ has no audio input or output jacks, my computer recognized it as a class-compliant audio interface. Because the only audio paths are from one connected device to another, you'll need a separate interface if you want to monitor sound over speakers or headphones. I could, however, monitor iPad audio through my Mac's built-in speakers.

Using iConnectivity's free iConfig application (Mac/Windows/iOS), you can specify the iCM4+'s sampling rate and bit depth, which determines the maximum number of audio channels (see Figure 2). In addition, iConfig lets you specify the audio clock source, rename ports to reflect what's connected to them, reroute MIDI and audio signals among the ports, remap MIDI controllers, filter MIDI events for every port and every channel, and quite a bit more.

Each time you change something in iConfig, you must click its Commit & Reset button to save changes to the iCM4+'s flash memory. You can save setups (called Snapshots) to your computer and then load one at a time into



**Fig. 2.** iConfig gives you complete control of the iConnectMIDI4+, allowing you to route and filter MIDI data from any connected device to any other. It also provides an audio patchbay.

the iCM4+. Although the computer and iOS versions of iConfig look different, they perform all the same functions.

**Well Connected** With an extra iOS inline cable from iConnectivity, I connected two iPads and a Mac Pro to the Device jacks and a 7-port USB hub to the Host jack. On the Mac, I created an aggregate audio device in Audio MIDI Setup to use the iCM4+ in combination with a PreSonus digital mixing console. (If you're using Windows OS, you'll need ASIO4ALL.) I then connected two keyboard synths, a Haken Continuum Fingerboard, and a synth module to the iCM4+'s MIDI jacks, as well as various control devices and effects processors to the USB hub.

With my iPads and Mac connected to the iCM4+, I could do things that would have been difficult or impossible without it: I used my Continuum to control all my instruments, no matter whether they were MIDI devices or soft synths running on my Mac or iPads; I used an iPad-based step sequencer to control several hardware and software instruments simultaneously; I layered soft synths on the iPads with hardware synths; I transferred audio recordings from my Mac to a sampler app on my iPad; I even processed audio from a keyboard synth using an effects app on an iPad

and recorded it to a track in the computer's DAW. Sometimes it took awhile to figure out how I needed to reroute signals in iConfig, but everything that was connected to the iCM4+ functioned beautifully as a cohesive system.

The iCM4+ accomplishes everything I hoped it would and more, and it will probably take months for me to explore all its capabilities. I do wish the user's manual went into a bit more detail, especially in describing possible applications and setup scenarios. Fortunately, iConnectivity has posted a series of very helpful YouTube videos that explore all the ways you can connect devices and route signals between them.

Nonetheless, I've barely scratched the surface of what the iConnectMIDI4+ can do. It is one of the most useful and versatile additions to my studio since the iPad itself. It multiplies the iPad's usefulness by making it an equal partner with my computer and hardware instruments, and it's well worth the price. If you want to use your iPhone, iPad, or iPod touch to make music with your computer, you should get one. ■

*Former Electronic Musician senior editor Geary Yelton lives in beautiful Asheville, North Carolina, home to a surprising number of breweries, bears, and electronic musicians.*

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# Sample Logic Arpology 1.2

A virtual instrument that offers a shrewd combination of sequencers, arpeggiators, and a whole lot more

BY MARTY CUTLER

AS A bluegrass banjo player, I've always loved arpeggiators; the rolling, rhythmic patterns strike a responsive chord (no pun intended). Likewise, step sequencers open up a different creative window from real-time playing and sequencing, enabling musicians to spin out lines and chords that might be beyond their (or anyone's) physical abilities. Such patterns and motifs can often serve as kick-starters for songs.

However, the functionality of these devices has gone beyond providing simple lines and chords. For example, MIDI Control Change messages (CC) are grist for the mill, providing various ways to create sweeping animation. With the merger of arpeggiators and step sequencers, sounds can take on melodic and rhythmic dimensions at the same time.

Anyone familiar with Sample Logic's work

## SUMMARY

**STRENGTHS:** Immensely programmable and flexible. Plenty of real-time control provides seemingly infinite pattern variations. Drag and drop patterns as MIDI data.

**LIMITATIONS:** Drag and drop of arpeggiator patterns do not always translate accurately to other instruments.

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**Fig. 1.** In Arpology's Step Animator window, the grey section on top provides momentary real-time controls that interact with the step-sequence editor in the lower area.

will know its predilection for intricate rhythms merged with cinematic sound design. The company's Arpology greatly expands the art and science of rhythmic pattern generation, and its unique toolset holds plenty of creative surprises.

As with other Sample Logic products, Arpology is hosted in Native Instruments Kontakt 5 (or the free Kontakt Player), but it differs in significant ways. It's not trivial to consider that the accompanying library of sounds was built for the arpeggiator, not the other way around, as is often the case. As you go through Arpology's patches, it's clear that the sounds are carefully mated to the patterns and moods suggested by their titles. It stands to reason, then, that the patterns do not directly address your other plug-ins or external instruments.

With the release of Arpology Version 1.2, you can simply drag the last pattern you played into your host program's MIDI track, and route it wherever you please (with the caveat that delays and other rhythmic components may be difficult to reproduce). More importantly, Arpology features have more programming depth and real-time functions than any other arpeggiator I've seen.

As with most Kontakt layouts, the top level of Arpology breaks down into Instruments (single patches) and Multis. Three instrument subfolders—Cinematic/Organic, Electronic,

and Percussive-Impacts—collectively provide hundreds of presets. Hit the Multi tab for a folder of Instrument Stacks and One-Note Glory. The manual suggests auditioning the Multis folder first, but either way, you'll be impressed, and the instruments may give you a clearer idea of the depth of Arpology's capabilities.

Each patch can draw from four additional preset folders: Chordal-Gated, Glitch-Experimental, Melodic, and Non-Chordal. Each folder has 18 presets, multiplying the versatility of each instrument patch. The difference between Chordal and Non-Chordal folders is that the latter always breaks the notes held into an arpeggiation, whereas the former—sometimes in addition to arpeggiation—adds a chordal pattern based on the notes held. In general, the patches are a varied lot, and there is plenty of musical overlap between folders: Given the instrument's depth of programmability, distinctions between folders are mostly nominal and easily transcended. For example, a patch in the Glitch-Experimental folder can easily be transmuted into a Melodic performance, and vice versa.

**Arpologia** Arpology's main screen presents two important areas, both aimed at real-time pattern transformation. The Step Animator section comprises two sections, with the step-

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editing section occupying the lower half of the window (see Figure 1). Based on the number of steps per pattern (you can use up to 64 steps), Arpology presents a horizontal row for each of the eight parameters.

From the Step Type row, select an overall template to fill a pattern, such as all notes, or introduce several types of gate patterns or stutters, or fill the pattern with rests. In addition, you can edit any individual step, choosing a single note, a rest, a glide for swooping pitches, different types of stutters, and free play mode for individual notes.

Use the slider to set the velocity for each step, select a preset map, or engage the randomizer with scalable percentages. The latter proved to be a great way to introduce unexpected syncopations. A switch toggles the pattern's response to keyboard dynamics or its own velocity settings.

You can set the arpeggiator type to Up, Down, As Played, Random, or to one of several chords based on your MIDI input. Many of the patches punctuate arpeggios with chords, to great effect.

The heart of Arpology's step sequencer is the Transpose row, which sets individual note pitches relative to MIDI input. In this way, melodic motifs can be transposed using MIDI notes, allowing you to create elements like ostinato bass lines.

You can also set the duration of each note. If your note lengths fall outside or under the chosen pattern length, Arpology tells you what you need to fill out the bars. This section is context-sensitive and displays edit values.

For steps in which you have enabled the stutter effect, the Stutter row repeats a note at a selected rate, from 1/16 to 1/192, creating an effect ranging from tremolo to a granular buzz.

Last but not least, Pan provides knobs that place a step within the stereo field. Pan, Duration, and Velocity each have a pencil tool, and clicking it displays a grid to draw in modulation. At the top, real-time buttons let you latch notes while keeping the pattern in play so you can add parts, freeing your hands up for other controls: Dial in some swing, or run out for a sandwich; momentarily add stuttering; or freeze and restrict playback to a portion of the pattern. The Random button will act on any of the parameters in the Step Animator whose R button is activated.

Several of the editable rows have a button that enables Mod Wheel control (CC1) over



**Fig. 2.** The Effects section provides a second synthesizer, in addition to a mixer, programmable trigger effects, and LFOs.



**Fig. 3.** Arpology's Multis let you add control knobs, each of which has its own step sequencer.

the parameter values, but this is generally hard to control. Scaling the mod wheel would be a valuable addition to Arpology's feature set.

**Do the Wave** At this point, you would presume that Arpology is merely a very cool arpeggiator, but it's significantly deeper. Click on the Effects tab to reveal a row of level controls for Filter, LoFi, Dist, Pitch, Wave, Delay, and Reverb, each with a button to toggle the effects on and off (see Figure 2). Click on the name of the effect to open up additional editing parameters. For example, under Reverb the parameters include the reverb type (digital or convolution), as well as Size, Color,

Predelay, and Damping.

The biggest surprise of the lot is when you click on Wave. This reveals Arpology's wavetable synthesizer, which can run independently of the sampled sounds. The editing for the Wave synth is skeletal, but it's enough to create some basic timbre and envelope changes. The Wave follows the global arpeggiator patterns, but you can step sequence the volume parameter, for instance, and create additional textures and syncopations.

Samples and the master output can also use this secondary sequencer. The mixer section provides a slider for the sample levels and overall output. It is flanked by knobs for volume envelope, compression, EQ, and high- and lowcut filters.

Next to the mixer button is a section for setting up trigger effects at the bottom range of your controller keys. Here, choose from an assortment of presets for filters, delays, and so on. You can also engage the triggers by clicking onscreen pads.

Arpology lets you program as many as eight LFOs with hard-wired destinations, such as low and high frequencies, sample rate, drive, volume, and of course, pitch, volume, and pan. Thankfully, this section lets you scale modulation by percentage.

**Arpology Accepted** I'd be remiss if I did not mention the excellent single-instrument patches and multis. Virtually every one that I went through was a keeper and a potential song starter, and even those that might not have rung my chimes were often only a couple of tweaks away from inspiration. The Multi section harbors huge, supremely musical, cinematic-sounding monsters, with knobs for real-time control—and another sequencer for each knob. You can add more controls if your CPU can handle it (see Figure 3).

If you have an iPad, do yourself a favor and purchase the TouchOSC app, which, along with Sample Logic's included Arpology patch, gives you remote touchscreen control over Arpology's most important features.

Arpology is a marvelous instrument, traveling well beyond arpeggiation and sequencing and into sound design and musical inspiration. Any one of the hundreds of patches can easily seed new and surprising variations. I look forward to many musical hours with it. You should, too. ■

*Bluegrass banjoist and former Electronic Musician editor Marty Cutler recently acquired a choice Mastertone five-string acoustic arpeggiator.*



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**Fig. 1.** Everything you need to modify a sound is immediately available on the front panel. When you twist the Scatter dial to vary the arpeggio, the System-1's green LED backlights blink to show you which, if any, parameters have changed.

## Roland Aira System-1

### The dawn of the plug-out synth

BY MARKKUS ROVITO

#### SUMMARY

**STRENGTHS:** Essentially two synths in one—both of them great-sounding—with System-1 and Plug-Out modes. Excellent control layout for crafting sounds quickly. Giant lead sounds in Unison mode. Included SH-101 software captures and embellishes on the original. Ten types of Scatter modes give new life to the arpeggiator.

**LIMITATIONS:** Only eight presets available from the hardware in System-1 or Plug-Out modes. Keyboard only sends full velocity level and no Aftertouch. SH-101 V1.0.0 still had some problems loading in certain DAWs.

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WHEN ROLAND introduced its Aira line of ACB (Analog Circuit Behavior) models a few months ago, it was pretty clear that, while they are compelling modern options, the TR-8 drum machine and TB-3 bassline synth were not meant to be the same phenomena as their precursors, the TR-808, TR-909, and TB-303.

However, the hotly anticipated System-1 Plug-Out Synthesizer is truly a new breed of synth. As a 4-voice polyphonic hardware synth, the System-1 uses the same ACB technology as the other Airas to produce a dizzying array of beautiful synth timbres, all quickly programmable from its 73 physical controls.

Yet to make it twice as nice, the System-1 can load a compatible softsynth plug-in, which Roland refers to as a Plug-Out, from your computer. That allows you to take the entire softsynth with you and play it on the System-1 with no computer connected. The first in a reputed series of Plug-Outs is bundled with the System-1—the SH-101 soft synth, a faithful re-creation of the classic SH-101 analog monosynth from the '80s.

**The Hard Facts** As a standalone hardware synth, the System-1 more than holds its own. Its emulation of analog synthesis is easy to grasp for anyone with a modicum of synth

experience, yet with physical controls for every editable trait, you can quickly achieve enormous varieties of sounds (see Figure 1).

Two oscillators with sub-oscillator, noise, and mixer join with sections for a single LFO, lowpass and highpass filters, amp, and effects (reverb, delay, bit-crusher). The addition of a pitch envelope, portamento, and monophonic Unison mode make the System-1 incredibly effective for crafting distinctive synth leads for up-to-the-minute dance music genres. The flexible oscillator sections give you six waveforms with Color control, six tunings, ring mod, and oscillator sync. It also lets you modulate the oscillators using the LFO, sub-oscillator, or any of the envelopes.

System-1 excels at the gamut of analog synth sounds—smooth or crunchy basses, pads, screaming filter leads, bell/chime tones, and all manner of noisy and belchy sound effects. The problem is that it's so fun and fast to program new sounds, but there are only eight onboard preset slots to save to. You can backup and restore patches over USB, but that can really staunch the creative flow. In addition, the keyboard only sends full velocity level and does not offer Aftertouch.

Just as important to the System-1 is its arpeggiator, which offers six arpeggio patterns (Type) and six arpeggio note values (Step).



**Fig 3.** The System-1 provides stereo audio outputs and the headphone output on 1/4" jacks. The MIDI Out port can be set to MIDI Thru when you're using the System-1 with the Roland Aira TB-3.

Then, for the combinations of arpeggio Type and Step, the Scatter dial plays 10 different phrase variations, each with ten levels of depth. Now you have a synthesizer that you can get lost in performing live riffs. Engage the Key Hold and Arpeggio buttons, tap in a chord, and then go sick varying the arpeggio and Scatter settings, effects, filters, LFO, and oscillators.

**The Soft Sell** Roland's Plug-Out SH-101 soft synth (AU, VST3) works just like a normal plug-in in host software, with the added twist that the System-1 syncs to it as a MIDI controller (see Figure 2). (I had trouble using SH-101 V.1.0.0 in Ableton Live and Cubase Elements; it didn't show up in the plug-in list. However, Roland said it was an isolated problem that it is working on. The plug-in worked perfectly for me in Native Instruments Maschine 2 and Reaper.) When connected to the SH-101, System-1's green lighting shows you the available controls for the software. That gives you the advantages of a plug-in with the immediate control of hardware.

Not only that, but the SH-101 sounds impeccable. Roland nailed the emulation here. It remains a monosynth in software form with much the same functionality as the original, except for a few additions, such as effects. I own a vintage SH-101, and the software version captures all the hallmarks of its signature sound—the slow, buttery-smooth portamento; the shrieking filter; the exquisite flange of its pulse-width modulation; mechanical whirring sounds; ghostly overtones; and one of the most convincing re-creations of that elusive analog warmth that I've heard.

The soft synth has two banks of patches—100 pre-programmed presets and 28 empty slots. Banks of 64 patches can be exported as a file and then imported again. The first eight patches in a bank are the ones that output to the System-1 hardware when you "Plug-Out." Just click the Plug-Out button on the software, and it loads into the System-1. You can now disconnect the System-1 and effectively play the SH-101 as a hardware synth. Patches you edit can be loaded back into

the software. When Roland comes out with other Plug-Outs, the System-1 will still only be able to host one Plug-Out synth at a time. Fortunately, this first one is a good one.

**A Kiss and Hug to XOX** While the concept, technology, and styling of the System-1 match the other Roland Aira units, there isn't much interaction between the units to exploit, other than syncing them up for live performance. Connecting the TR-8 MIDI Out to the System-1 MIDI In will sync the two together. You can then set the System-1's MIDI Out to act as a

MIDI Thru and then connect and sync the TB-3 to approximate an old-school Roland "XOX" dream rig for live performance (see Figure 3).

In my book, the System-1 tops the Aira line so far. It can mimic sounds of the past but still feels every bit a modern synth. Moreover, the Plug-Out concept means that Roland can make the System-1 as expandable as it chooses by releasing additional Plug-Out soft synths. ■

*Markkus Rovito drums, DJs, and contributes frequently to DJ Tech Tools and Charged Electric Vehicles.*



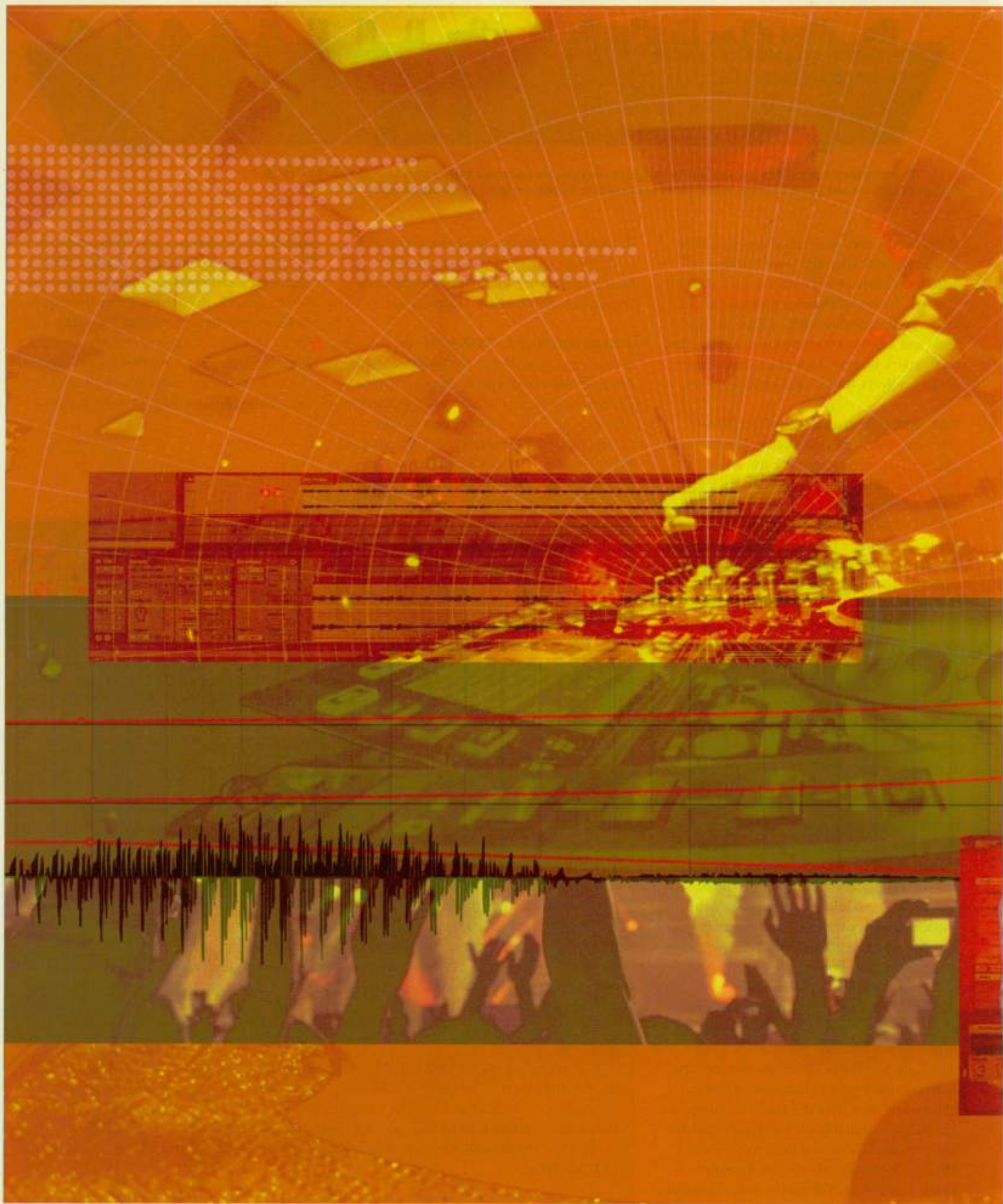
**Figs. 2a and 2b.** The SH-101 Plug-Out synth shown with the SH-101 control layout (in blue) and with the System-1 control layout (in gray).

## Make Mine Modern: Tips for Tweaking the System-1

The System-1 may have taken some of its look, feel, and inspiration from analog monosynths of old, but it has some new tricks up its sleeve that can produce devastatingly thick basses and lead synth sounds. Start by engaging Unison mode with the Mono button so that all four voices stack up onto one note. Then set both oscillators to one of the Sawtooth wave 2, Square wave 2, or Triangle wave 2 settings—which seem to have some kind of secret-sauce, wave-coupling going on—but don't put both oscillators on the same wave type. Now fiddle with the Cross Mod knob under Osc 1 for some added crunchy complexity. If it starts to get too thick—and it might—hit the Sync button under Osc 2 to tighten up the sound into a sharper buzzsaw.

For sounds that are a little more disorienting but reminiscent of The Knife, Air, or any number of EDM celebri-DJs, keep Unison on and turn the Portamento up a quarter or a third of the way. Then also experiment with the Pitch envelope by turning its knob some amount to the right and set a shortish attack and a longer decay.

To save your patch, hold a numbered preset button down until all the preset buttons flash.



# HOW TO

## Master Class

# Creating EDM Build-Ups

Tensions rise and fall as you move from one section of a track to the next

BY MARKKUS ROVITO

“SSSHHHWIISSSHHH...” “OOOOHHHWOOOHHHM...” “Ticka-ticka-ticka-ticka-tick-tick-tick-tick-t-t-t-t-t-t-t-t...” If you know what we’re talking about already, you might be a club kid, past or present. Dance music has long relied on tension-mounting build-ups followed by ecstatic breakdowns to mark the passing of one part of a track to another. Using repeating drums and samples along with slowly sweeping synths and noise effects, a good build-up is like the setup to a good joke: Even if you know the punch line—or the song’s beat drop—is coming, when it’s done well, it works every time.

Although there are some conventions to making such build-ups, there’s no right or wrong way to do them. The purpose is just to create tension and release between sections of a track, in order to keep people listening, energized, and anticipating the big breakdown that’s coming.

Sure, you could find some samples on the Internet that serve the purpose, but like Felix Buxton of Basement Jaxx says in this issue (see page 20), there’s something about doing the process yourself that imprints your own personality into it. We’ll use a little bit of both methods here. So keep in mind throughout the following instructions and suggestions that the only requirement is that they sound good to your ear. Listen to our advice and then make your own build-ups blast off!

**Pitch-Build Effect** Build-ups usually vary between 1, 2, 4, 8, or 16 bars, but of course can be any length you please. For this article, we’re going with an 8-bar build-up before the final breakdown of a remixed song.

The centerpiece of the build-up will be a repeated, delayed, and pitched sample that’s a distinctive element from the song. In this case, and often with vocal tracks,

it will be a bit of the vocal that carries over from the song before the build-up. However, you can use any sample—or multiple samples on multiple tracks—from your song, but it should be different and recognizable from what has come before. Follow these steps:

- Start with a 2-beat sample and duplicate (Command-D) it four times. Take the last instance of it, cut it in half, and duplicate that one four more times. Cut the last instance in half again, and this time, duplicate it seven times. You should then have 4 bars of repeating samples in 16 pieces.
- Select all those pieces and consolidate them into one clip by right-clicking and selecting Consolidate (Figure 1) or hitting Command-J.
- Create a Return track in Ableton Live by going to Create > Insert Return Track or hitting Option-Command-T.
- Add a Simple Delay from the Audio Effects folder in the Browser to that Return track with the settings turned all the way up for Feedback (95%) and Wet/Dry (100%).
- Engage the Link button so that the left-channel delay settings apply to both the left and right channels.
- Select a delay time for the left channel (L).

The numbers represent the amount of delay time in 16th notes, so I find that a setting of 2 (eighth note), 3 (dotted eighth) or 4 (quarter note) works best, although the timing of the particular tracks you're effecting will help determine the best setting.

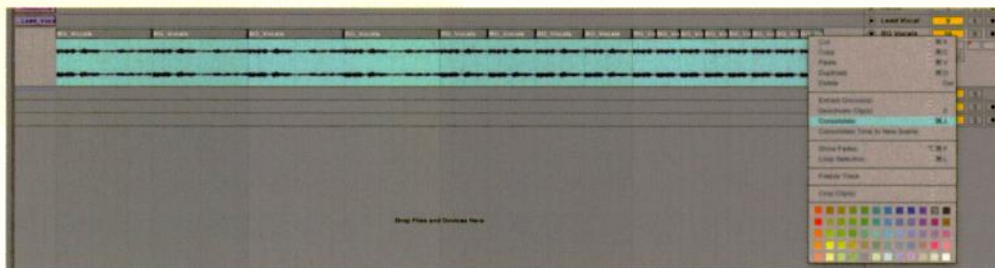
• In the mixer section of any track you want to effect, right-click on the Send amount that corresponds to the Simple Delay Return track, and select Show Automation.

• In the timeline, draw in automation to send the full amount of signal to the Simple Delay.

Now you have a nice, long delay of the repeated vocal or other sample. Let's also pitch up the vocal over time to build more tension. There are two ways to do that, so you can choose which method you like best.

• First, double-click on the audio clip to open the Clip View editor. Make sure to click the E button to show the Envelope Box, and there, in the Clip menu, choose Show All Envelopes. Then in the second menu, choose the Transposition Modulation envelope, which gives you an automation curve over the waveform.

• Play around with automation to pitch up or down a certain amount of semitones. One effective way to do is to let the audio play unpitched for a bit, and then pitch it up 12 semitones (one octave) over the remainder of



the clip. (See Figure 2.)

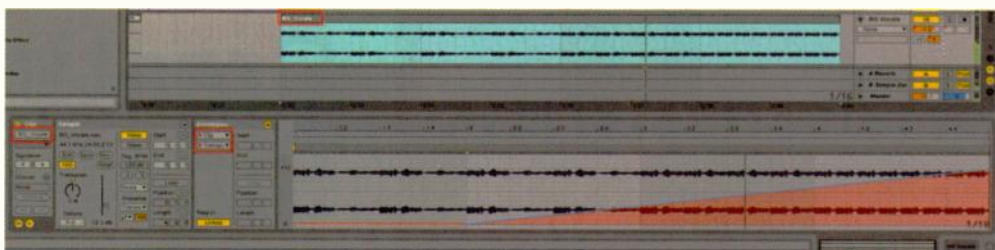
You can also pitch the audio up or down using the Simple Delay in the Return track.

- Right-click on the title bar of the Simple Delay and choose Repitch. Then right-click on the Beat Offset Percentage field of the effect and choose Show Automation in New Lane. Now in the timeline Return track, you can draw an automation curve for the Beat Offset Percentage, and Simple Delay will repitch the audio as it plays. Try a curve going from 0 to

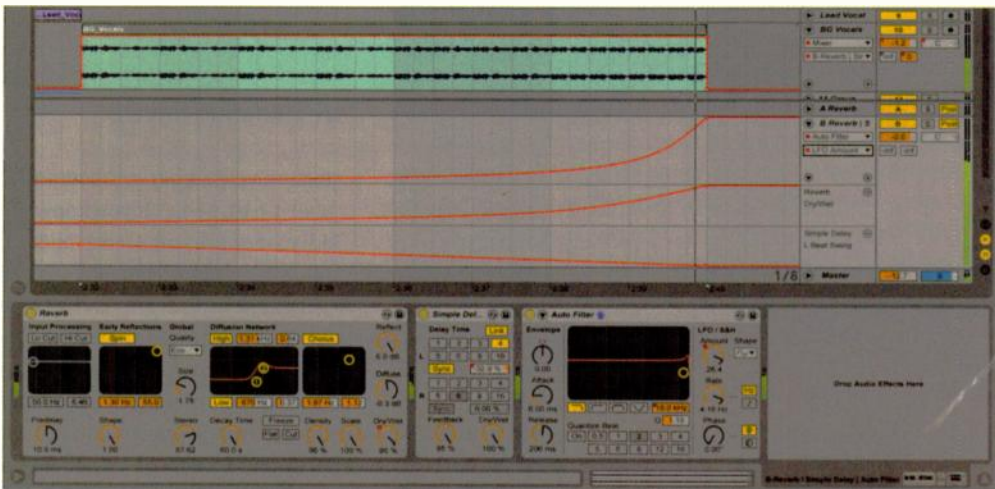
**Fig. 1. Cut up your vocal or other sample(s) like shown, and then consolidate them into one clip.**

it's worth giving it a go to see how you like it.

With the vocal sample repeated, delayed and pitched, you may feel like it's finished, but let's add a little more flavor to the end of the sample as well before it cuts off. A little reverb and a little filtering would be nice. You could add these effects in separate Return tracks or



**Fig. 2. The consolidated vocal clip with 12 semitones of Transposition Modulation in it**



**Fig. 3. The vocal clip and its automation curves for Reverb Dry/Wet, Simple Delay Beat Offset, and Auto Filter LFO Amount, including two Bezier curves**

±33.3% for extreme pitching up or down.

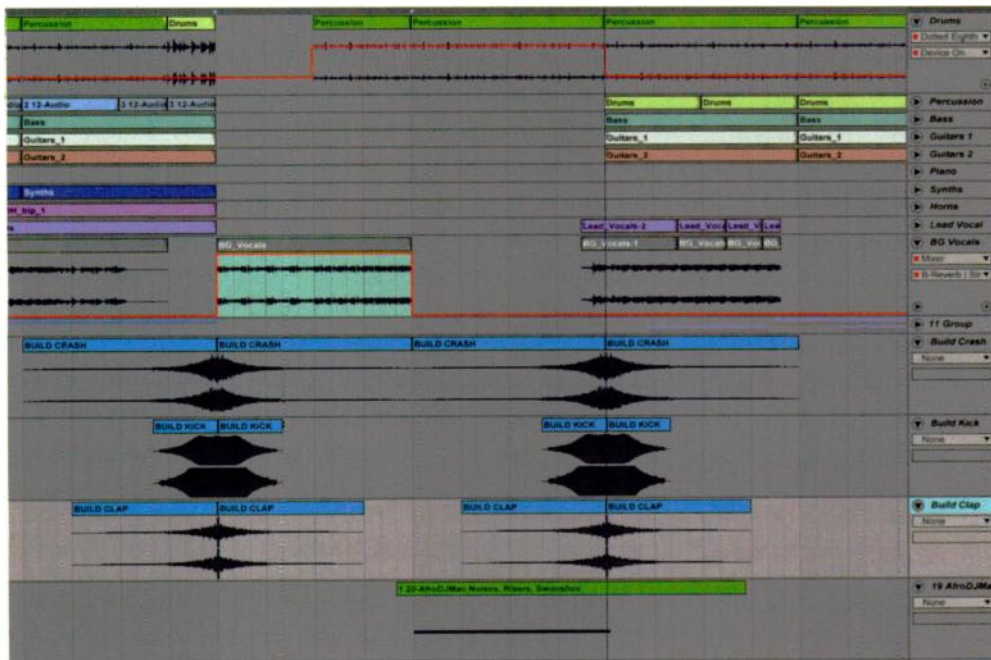
You can certainly use both methods of pitching the audio at the same time. It can be pretty trippy to use one method to pitch the audio up and the other method to pitch it down, so the delayed signal goes up while the original signal goes down, or vice versa. "Trippy" isn't always the effect you want with a build-up, but

on the individual audio tracks, but because we already have the vocal sample automated to send to the Simple Delay Return track, let's drop them in the same Return track.

• Put a Reverb ahead of the delay and an Auto Filter behind the delay. In the timeline, add an automation curve for Reverb Dry/Wet, and set it to increase as the sample nears the end.



**Fig. 4.** Three effects grouped into an Effect Rack with the three key parameters mapped to the Macro 1 knob



**Fig. 5.** The build-up with the long-tail elements in place, both at the beginning and the end

- The Auto Filter is largely up to you, but try using a lowpass filter that's almost completely open and with a high LFO rate. (You can quantize to the beat or not.) Then add an automation curve for LFO Amount in the timeline and also set it to increase toward the end of the sample.

- To make automation curve into a Bezier curve for more drastic sweeps, click and drag them while holding Option. (See Figure 3.)

Using individual automation curves as above helps easily translate this concept to other DAWs, but in Ableton Live, you may want to simplify this process for future use by creating an Effect Rack with one or more Macro controls out of the devices on this Return track.

- Shift-click on each device to select them,

and then right-click and select Group (or use Command-G). This creates an Effect Rack.

- Click the Effect Rack's Show/Hide Macro Controls button. You can now right-click on each of the parameters used and assign them to Macro 1. Click on Macro 1 and rename (Command-R) it something like "Build-up."

- Click on the disk icon button (located above the Macros) to save the Effect Rack. It will appear in your User Library of the Browser, and you can rename it and use it again later. (See Figure 4.)

**Long-Tail Elements** The looped sample we have so far could almost be enough for some transitions, but let's add some "long-tail" sounds to the beginning and ending of the build-up for

impact. For this example, we'll use three: a deep sub-bass kick, a long crash, and a clap. For each sound, we want a powerful, instant attack, and as long of a release as possible. If you don't already have good examples of these in your sample library, you can find them online. (See "Sample Resources," page 64.) However, it's relatively straightforward (and satisfying) to make them yourself.

- Start with a clap sound you like; a standard 808 clap is always good. Drag it into a new or unused audio track at the beginning of your breakdown. We want a big, long reverb tail on the clap, so add the Reverb effect to the track and either find a good preset (I used Live's Large Space Chorus) or build one yourself.

- To add a little extra power, place a compressor after the reverb. I used Live's Glue Compressor with the Mastering—Add Sustain preset and turned the Makeup gain up to 10 dB.

- If you wish, Group this effect chain and save it in your library as an Effect Rack, because you may use it again.

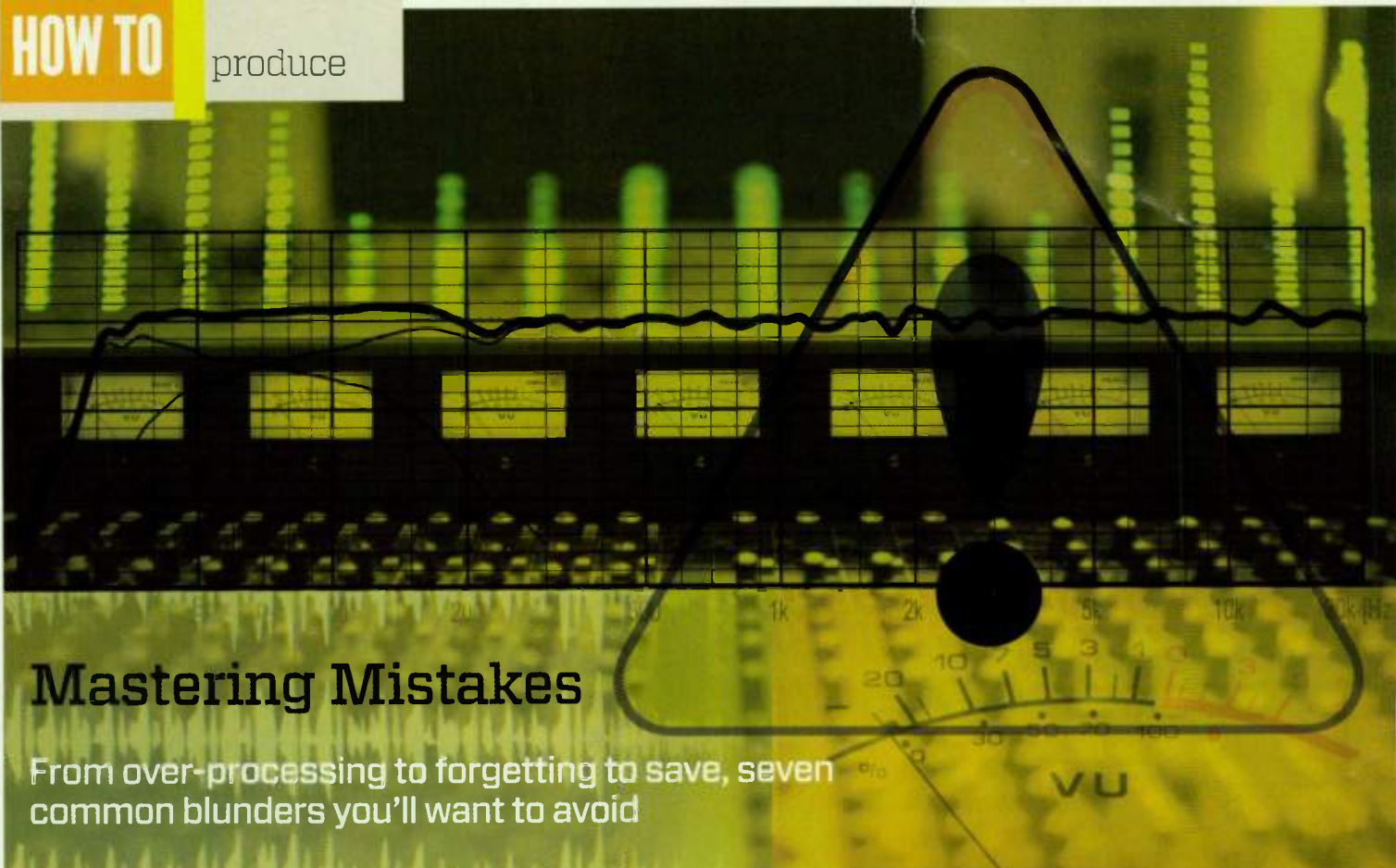
- When you're happy with the way it sounds, solo the clap track. Now create new audio track, record-arm it, and set its input as the output of the clap track. Start recording, and stop when the tail of the clap is finished. You should now have an audio file of the clap that you can rename and drag into your User Library, under Samples, to reuse as you like.

- Duplicate the clap and drag it to just before the beginning of the build up. In Live, double-click the copied clap to bring up the Clip View, and then in the Sample box, click on "Rev" to reverse the sample. You now should have the reversed reverb tail leading into the build-up, with the normal clap sounding at the beginning of the build-up. (See Figure 5.)

- Place a copy of this reverse/forward clap at the end of the build-up, as well.

- Repeat that whole process for the longest cymbal crash you can get and for a deep sub-bass kick, like an 808 kick. However, on the kick, consider using less (or no) reverb and a compressor like the Glue Compressor, Bass—Low Extender preset.

The raw kick and crash samples may work without additional processing, but I recommend going big and making new samples out of them with reverb and compression added as with the clap. When you're finishing placing all three long-tail elements, you might want to apply some kind of rhythmic gate to them, or sidechain them to the kick drum so that their audio is ducked when the kick plays.



## Mastering Mistakes

From over-processing to forgetting to save, seven common blunders you'll want to avoid

BY MICHAEL COOPER

THE LAST step in production, mastering is supposed to make a project sound better. But if you're not careful, it can actually make it sound worse. In this article, I'll point out seven *faux pas* you'll want to steer clear of. For simplicity's sake, I'll focus on mastering in the box.

**1. Presuming What's Best** If you're mastering for clients, your first order of business is to ask them for direction. How big of a bottom end do they want their project to have? Do they want their release to be stupid loud, very dynamic, or something in between? Is there anything else they want you to be aware of before you dive in?

If you don't ask these questions, you're just guessing. You can deliver a terrific-sounding master yet still leave your client dissatisfied. Find out what they want so you can deliver the goods.

**2. Missing the Big Picture** Don't start work on the first track before you give the entire project a listen. In order to impart to the master a cohesive sound throughout, first

get the big picture.

As you listen, make written notes of the relative loudness of each track, crest factors, any problems you hear in specific frequency bands (and your ideas for fixes), and so on. If the entire project was mixed in the same studio, a pattern will probably emerge, most often regarding spectral balance in the low end. Recognizing that pattern is key to precluding your reinventing the wheel when processing each track in turn.

**3. Using Only One Reference** No matter how accurate your mastering-quality monitors are, you should also listen on a good proxy for consumer playback systems in order to make sure the master will translate well outside your studio. After all, no consumer is going to be listening on your A1 monitors. Just beware that very few consumer speakers will do—make sure it's a good reference, and know why. I always check how the low-midrange band sounds on Yamaha NS10M Studio monitors; if it sounds boomy or muddy on those puppies, I know I've got to correct that band—no matter how good it sounds on my super-flat mains.

As you listen, make written notes for each track...if the entire project was mixed in the same studio, a pattern will probably emerge, most often regarding spectral balance in the low end.



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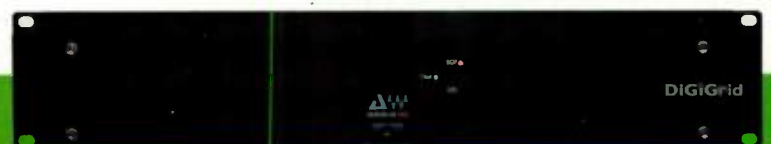
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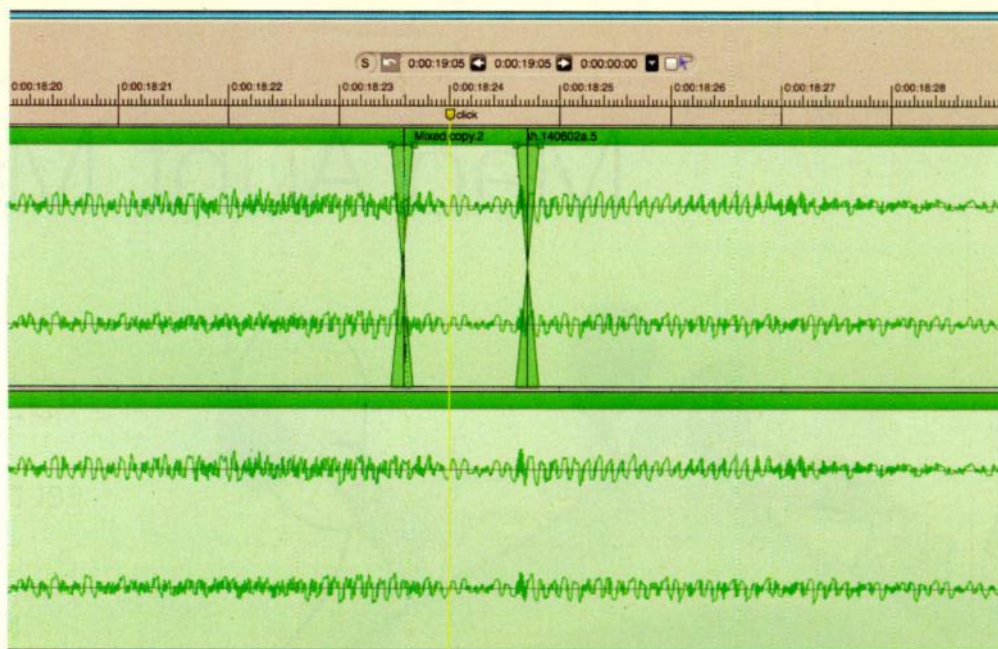
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**4. Fooling Yourself** We're all vulnerable to expectation bias: You instantiate a plug-in on an insert to fix a subtle sonic flaw, and you hear an improvement—whether it's real or not!

To negate expectation bias, I use a primitive but effective routine: I park my mouse over the plug-in's bypass button and, my eyes averted, rapidly toggle the button several times until I am not sure which state—active or bypassed—the plug-in is in. Then while listening to the track with eyes still averted from my screen, I very slowly and deliberately toggle the bypass button several times until I decide which state, A or B, sounds better. Once I've decided, I look to see if the plug-in was active when I liked the sound best. If the plug-in was bypassed, I remove it.

**It's not enough to save your project file when mastering. Make sure you also save the complete processing chain (the order of plug-ins used and all their control settings) for each track. If your client requests a revision, the last thing you want to do is start the mastering process from scratch!**

**5. Getting Needlessly Complex** This tip is related to the previous tip. You should always strive to master using the fewest processors or plug-ins possible. By all means,



**Fig. 1.** A mix (the top track shown here) is duplicated (bottom track), and heavy de-clicking is applied to a very short region in the duplicate. The de-clicked region is then pasted back into the original mix, where it is trimmed further in size to span only the one frame of the mix that needed de-clicking.

if the task at hand requires you to chain together half a dozen plug-ins, then go for it. But if you can do it just as effectively using only one or two, the master will have greater depth and nuance—and will more likely stay true to the vision for the unmastered mixes.

Even when mastering in the box, plug-ins are not always the best solution for a given problem. For example, if the song has an intro or breakdown that was mixed too low, you may not want to use upward compression to fix the problem. Try automating the fader for the mix instead; that will likely sound better.

**6. Inflicting Collateral Damage** One of the biggest mistakes you can make in mastering is applying processing for the entire track when it is only needed in a particular section. If, for example, the ride cymbals on the bridge need de-essing, you should automate the de-esser's bypass everywhere else in the song to preclude unnecessary processing where it's not needed.

Where a problem requires an especially heavy hand to fix, master the track in sections. For example, I recently mastered an otherwise great mix for a single that was marred by a loud, isolated click (probably caused by a word-clock dropout). I knew I would need to apply so much processing to fix the click that it would tarnish the surrounding audio.

No problem. I made a copy of the track—

synched perfectly to the original—and applied iZotope Declicker to the copy only where it was tarnished by the click (see Figure 1). I pasted the de-clicked region back into the original file (of which I had an unaltered backup copy, of course) and trimmed it further so that it spanned only about one frame. The final step was to tweak the edit seams before and after the tamed click, to make the transitions sound totally transparent. The result? The click was fixed without smudging the rest of the mix.

**7. Failing to Save Everything** It's not enough to save your project file when mastering. Make sure you also save the complete processing chain (the order of plug-ins used and all their control settings) for each track. Name the processing chain after the song and mastering pass it was used on. Place the plug-in chains for all songs in the same folder—named after the album title—for easy recall in case you need them later. If your client requests a revision, the last thing you want to do is start the mastering process from scratch! ■

*Michael Cooper is a recording, mix, mastering, and post-production engineer, a contributing editor for Mix magazine, and the owner of Michael Cooper Recording ([www.myspace.com/michaelcooperrecording](http://www.myspace.com/michaelcooperrecording)) in Sisters, Ore.*

- A Native Instruments Maschine Studio Groove
- B sE Munro Egg 150 Studio Monitors
- C Behringer X32 40-Channel, Digital Mixer
- D Neumann TLM 102 Large-Diaphragm
- E Moog Minimoog Voyager Monophonic Synthesizer
- F Neumann TLM 107 Multi-Pattern Large Diaphragm
- G Universal Audio Apollo Quad Core
- H Apple 15.4" MacBook Pro Notebook



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# Sequencing Crowdfunding

How doing the right things in the right order can get you more backers and funding

BY RANDY CHERTKOW AND JASON FEEHAN

IN OUR August “Get Funded” Master Class, we described various options for funding your project, from sponsorships to patronage to grants. This month, we’ll dig into crowdfunding, which has become a popular way for musicians to raise money for recording, touring, or producing major projects. Crowdfunding engages your fans beyond simply asking for donations or getting them to buy your merchandise: a successful campaign makes them feel like active participants, captures their enthusiasm, and helps you spread the word.

The key to success is organizing your crowdfunding project to maximize fundraising. Musicians who dive straight in without following the simple steps below miss out on providing the “social proof” people need in order to decide to back a project. Campaigns that use these techniques capture the momentum of successes to move past the initial goal into higher, “stretch” goals that bring in more money. To launch your own successful campaign, all you need to do is follow our recommended sequence.

**1. Prepare Your Campaign** Preparation can mean the difference between failure and success, so perform these critical steps at the outset. (We can only cover these in brief in this article, but will go into more detail in future articles.)

**Choose the project:** Choose a compelling project that your fans will want to be a part of. The more concrete you can make it, the better. Typical projects include albums and tours, but if you can be unique and concrete, and give fans something that they would want to see or hear, you will stand out and possibly gain backers just for the novelty.

**Choose a crowdfunding platform:** While Kickstarter (kickstarter.com) is the most popular crowdfunding platform, others like

IndieGogo (indiegogo.com) have different rules, such as the ability to keep the proceeds raised from a partially funded campaign. Each platform charges different percentages and fees, so do the research before you choose.

**Choose the funding goal and at least one “stretch” goal:** The first goal should be the lowest amount necessary to fund your goal. Don’t forget to add in the platform’s cut, or you’ll find yourself short. Announce your stretch goal on day one, because it might encourage people to pledge beyond the minimum.

**Shoot a video:** Video goes viral in a way that no other media can, so it’s the most critical component of your project. Spend the time to do this right.

**Make a list of promoters:** List bloggers, friends, other musicians, and anyone with an audience who can help you get the initial word out.

**Plan rewards:** The right rewards are critical: see some great examples on page 72.

**2. Get initial backers.** Make a list of initial backers—people who you know will donate on day one. Get their promise to contribute before the project even starts. These initial backers will help you “seed the tip jar” and provide social proof that your project has supporters and momentum, and is achievable. People like to join in on projects that they think are going to be successful. Your goal is to trigger this psychological reaction by using your initial backers effectively in the first days of your campaign.

If you can, try to get celebrity or high-profile backers. This can also help provide additional proof that your project deserves support. If you are not well known yet, their names will help you establish credibility with potential backers.

**3. Choose the start and end date.** Studies show two things: 1) Most funding occurs at the

beginning and end of a campaign and 2) Four-week campaigns tend to do best. The start date should be on a Monday or Tuesday. This allows a “soft launch,” and provides a few days for your initial backers to pledge before you publicly announce the campaign. Also, plan your end date so it doesn’t fall on a holiday or a time when people would be less likely to contribute.

**4. Do a soft launch on a Monday or Tuesday.** On your launch day, ask your initial backers to contribute but hold off announcing your launch until Wednesday afternoon. (See the next step below.) This initial backing provides social proof that you already have people who are willing to contribute money to your project. This is no different from dropping a \$20 bill into your tip jar before playing at a venue. People are more willing to tip when they see someone has already done it. And if they see a bigger bill, they are more likely to tip with a bigger bill themselves.

**5. Kickoff the official launch on Wednesday at 3PM.** Why launch on Wednesday at 3PM (in the timezone of most of your backers)? Research shows that this is the day and time when the people reshare the most on social media. On Wednesday mid-afternoon they are most likely to take a break from work or school and get on the Internet. Use this research to help get the word out about your campaign. Your video is at the center of this, and should be as sharable and viral as you can make it.

To achieve this, share the video and announce it on all your media channels. Ask promoters, initial backers, and any media you know that has a significant audience to share it on that same Wednesday.

**6. Make announcements at appropriate points.** As the campaign progresses, you will want to keep your backers informed. These announcements can reach new backers, but are also aimed at convincing existing backers to contribute more (for example, to help you make a stretch goal you are close to reaching). Make announcements:

- At the beginning, middle, and end of your campaign. Also, perform weekly updates.
- When you are close to your main goal, or any of your stretch goals, to encourage new

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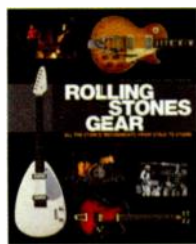
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backers or more contributions from existing backers.

- When achieving a goal (in which case, announce the next stretch goal).
- If you have gained a high-profile backer or notable media coverage.
- During the last few days, to encourage final contributions. (Remember, you'll get the most contributions at the beginning and end points.)
- When the campaign has ended.

If you are getting a lot of activity, keep the announcements to no more than once every few days unless you have noteworthy news to share.

**Musicians who dive straight in without following these simple steps miss out on providing the “social proof” people need in order to decide to back a project.**

**7. Close out the campaign.** Make the final announcements, and then, if you've achieved your funding goal, make sure to follow through! Each person who has backed you now feels like a part owner of your project, and will want to hear your progress and see the final result. Also, make sure to talk to your accountant. Crowdfunding campaigns are taxable income, and are reported to the government.

Crowdfunding is a great way to make money for your music projects. It will get your fans excited about the project in a way that no other technique does. If you run your campaign with the right sequence, you'll get the most out of your backers and build a deeper relationship with your fanbase. ■

*Randy Chertkow and Jason Feehan are authors of The Indie Band Survival Guide (St. Martin's Griffin), now in its second edition.*



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### Pledge \$300 or more

1 backer

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Estimated delivery: Jan 2013  
Ships within the US only

### Pledge \$500 or more

2 backers

DATE WITH THE BAND MEMBER OF YOUR CHOICE! (note: if you pick Jamison, his wife will also be joining you.) PLUS a pre-release hard copy (CD) of the album before anyone else can buy it + a limited edition poster +

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**Fig. 1.** Typical settings in Slate Digital Virtual Tape Machines for mastering.

## The Reel Deal

Understanding how to use tape-emulation plug-ins

BY MICHAEL COOPER

JUST LIKE their analog counterpart, tape-emulation plug-ins can greatly enhance a recording—or irreparably mar it, if misused. This article will show you how to get the most out of your reel-to-reel impersonator.

I'll use the Slate Digital Virtual Tape Machines plug-in (VTM)—to my ears, the most accurate tape emulator currently available in Audio Units format—to illustrate my points (see Figure 1). But first, a little background on how tape machines work will help you understand what the plug-in's controls do.

**Are You Biased?** When calibrating a professional open-reel tape recorder, a specific amount of AC bias—an audible high-frequency signal typically between 40 and 150 kHz—is added to the audio signal to correct for magnetic

tape's nonlinear response at low signal levels. The bias moves the audio signal into the tape's linear-response region, reducing distortion.

Unfortunately, there's no free lunch. As you increase the bias, the tape recorder's high-frequency response begins to decrease at progressively lower signal amplitudes for the audio signal as a whole. Reducing the bias allows high frequencies greater headroom, but it also increases nonlinearity for the wideband audio signal; the net effect is greater total distortion and saturation, and reduced dynamics and transparency overall.

To complicate things further, the optimal bias setting—a compromise between rendering the least amount of distortion and preserving the most highs—depends on the tape formulation and tape speed used. The best tape emulators—including VTM—not only offer a virtual control for changing the bias but



also provide a different bias control range for each type of virtual tape formulation and tape speed you select in the plug-in.

So why would you want to change the bias from its optimal setting? Depends on your application. For example, to warm up a bite-y electric guitar track, try using a high bias setting to soften the pick strike's highs. If, on the other hand, the electric bass guitar track sounds thin and clinical, using a low bias setting will help produce the saturation and distortion you need to make it sound bigger and more lush. When mastering, you'll probably want to use the normal bias setting—unless you need to take off some edge, in which case high bias might be the ticket.

**Tips for IPS** A tape recorder's tape speed specifies how fast its tape moves along on the machine's transport in inches per second (ips). As tape speed increases, the high-frequency response becomes progressively extended, the bass-frequency response becomes *less* extended, dynamic range increases, noise decreases, wow and flutter diminish slightly and the inherent *head bump* moves to a higher center frequency in the bass band. Head bump is an inherent boost in bass-frequency response—typically 1 to 4 dB in amplitude and 1 to 1.5 octaves wide—that occurs in a tape machine's playback mode. For most but not all tape recorders, head bump is most accentuated

at 15 ips tape speed. Doubling the tape speed (for example, from 15 to 30 ips) moves the head bump an octave higher.

Despite the higher roll-off in bass frequency response at 30 ips compared to 15 ips, professional 2-track machines nevertheless generally have great response down to at least 40 Hz—which is about as low as most masters need to go before tailing off. Couple this fact with 30 ips' extended highs, greater dynamic range, lower noise, and typically milder head bump, and it's easy to see why this higher tape speed is usually your tape-emulator plug-in's best setting for mix-bus and mastering applications.

On the other hand, if you want to beef up your bass guitar or kick drum track's sub-bass punch, select the 15 ips setting to move the bass bump an octave lower. If the head bump is in the best-sounding frequency range for your purpose but sounds too overwhelming, click on VTM's Settings button and lower the Bass Alignment slider (see Fig. 2). On bass guitar, take advantage of the slower tape speed's lower dynamic range—crank the plug-in's input to saturate the signal and add girth and luster.

**Just Your Type** VTM offers models of two different types of tape: Ampex 456 (dubbed FG456 in VTM's GUI) and Quantegy GP9 (VTM's FG9). FG9 offers greater dynamic range, making it the logical choice for

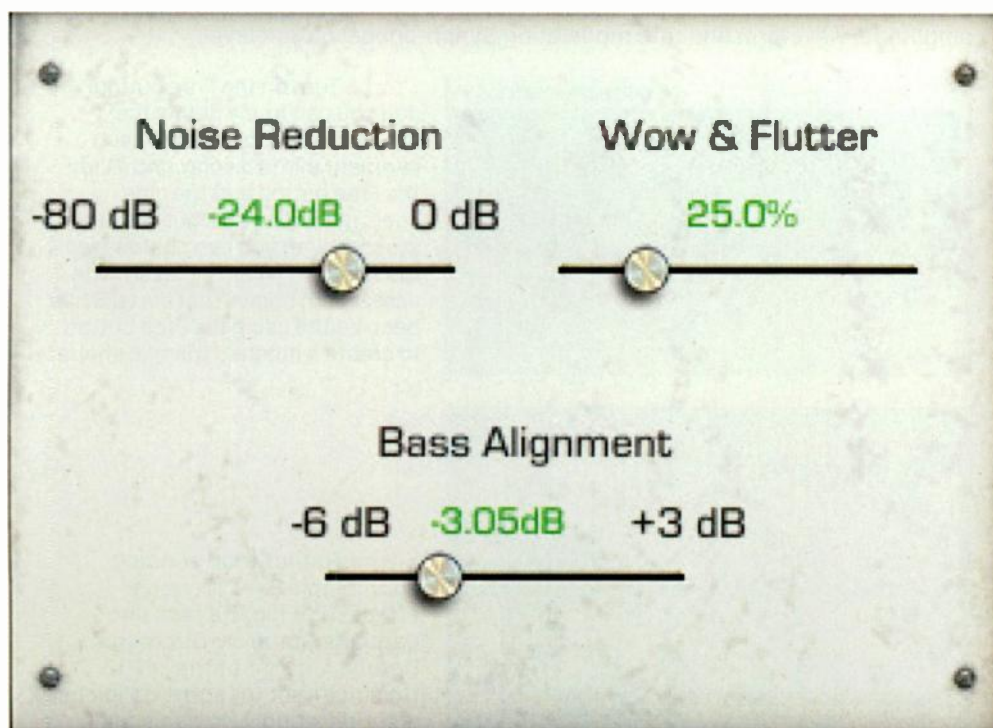
**When calibrating a professional open-reel tape recorder, AC bias is added to the audio signal to correct for magnetic tape's nonlinear response at low signal levels. The bias moves the audio signal into the tape's linear-response region, reducing distortion. Unfortunately, there's no free lunch.**

mastering. FG456 saturates at lower signal levels, so use it to add lustrous harmonic coloration and girth to electric guitar, bass, and drum tracks.

**Putting It All Together** Different applications suggest combining different settings in your tape-emulator plug-in. For example, to give a bass track the greatest saturation and biggest bottom, you'd likely want to select low bias, FG456 tape, and 15 ips tape speed in VTM. For mastering, normal bias, FG9 tape, and 30 ips should lend the most open, dynamic, detailed, and cleanest sound (while still imparting subtle analog-like smoothness and enhanced midrange girth).

But there are no hard and fast rules. Maybe your bass track already sounds saturated enough and needs its dynamic range preserved, like a higher bias setting would do. Perhaps your client wants his or her master to have more of a vintage sound, like FG456 would lend. Armed with a deep understanding of how tape machines and VTM work, you can get there. ■

*Michael Cooper is a recording, mix, mastering, and post-production engineer; a contributing editor for Mix magazine; and the owner of Michael Cooper Recording ([soundcloud.com/michael-cooper-recording](https://soundcloud.com/michael-cooper-recording)) in Sisters, Ore.*



**Fig. 2.** The Bass Alignment slider is lowered in VTM's Settings window to moderate the head bump.

# Propellerhead Synchronous Reason 7.1 Rack Extension

Craft intricate modulation curves for effect vocals, drums and instruments

BY MARKKUS ROVITO

### OBJECTIVE

Explore an infinite world of time-based effects using customized modulation curves.

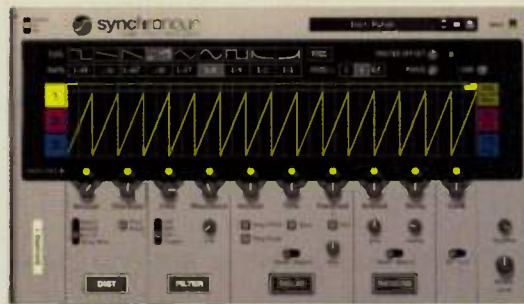
### BACKGROUND

The new Rack Extension Synchronous came free for Reason users updating to 7.1, and is now available in the Propellerhead Shop. It includes distortion, filter, delay, and reverb effects, and an easily mastered, yet infinite, workspace for drawing tempo-synced modulation curves for its effects' parameters. You can also route those curves to other Reason devices. More than 100 presets include patches and Combinator devices using Synchronous for wacky sound mangling, practical mixing tricks like ducking and sidechaining, and adding flair to any instrument part. However, it's quick and fun to program Synchronous from scratch.

### TIPS

- Step 2: Clicking the FRZ button for each curve freezes the curve at its current modulation value, and the Kill button mutes the modulation curve (but not the sound or the effects).

- Step 3: By default, modulation curves are 2 bars, but doubling the "Speed x" field makes it 1 bar, and halving the speed makes it 4 bars. You can also drag the triangular loop locator to adjust loop length for each curve.



**Step 1** Feed some kind of loop into Synchronous with an Initialized Patch (blank) loaded. We recommend continuously sounding loops like drums, lead and bass synth lines, strummed guitar or synth pads. Reason's sequencer must be playing for Synchronous to take effect. With the Free button deselected,

choose a waveform (Tool) and a Rate, and then click and drag across the display to draw a curve. Before we apply modulation, turn on the effects you want to apply this modulation curve and dial in their settings to taste.



**Step 2** You assign the curve to modulate effect parameters with the "Mod Ctrl" knobs above each effect parameter. You dial in a  $\pm$  range on the parameter for the curve to modulate, and it shows the range with the color of the curve assigned to it, in this case, yellow. Now repeat Steps 1 and 2 for Synchronous' curves 2 (magenta) and 3 (blue) as you see fit. All three curves can effect

any parameter at the same time, so you have a massive amount of flexibility.

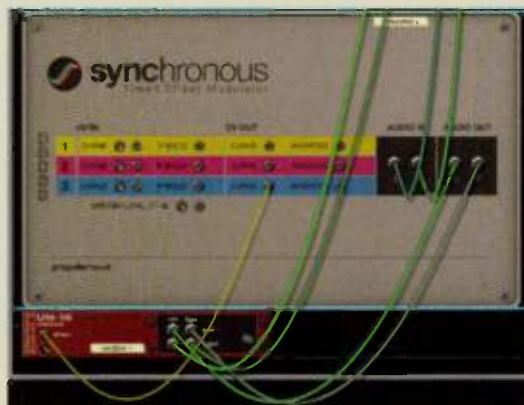


**Step 3** You can fine-tune your modulation curves in several ways. While dragging a curve across the display, move up or down to adjust the wave's amplitude. Any curve can also contain any number of waveform and rates within it. Simply

choose a different waveform and rate and then click and drag across the portion of the display you want to edit. The screenshot shows curve 2 with adjusted amplitude, waveform and rate modulating Synchronous' output level.



**Step 4** Turn on the Free button, and you can freely define the waveform's amplitude for each segment of the display grid. With the Free button and the nine Tools (including straight line and stepped line) you can customize modulation waves endlessly. The screenshot shows that curve 3 has been edited using the Free button to create a notched triangle shape.



**Step 5** Rather than sending curve 3 to a Synchronous effect, let's flip the rack and patch its Curve CV Out to the Detune amount of the UN-16 Unison effect for some delicious disorientation. Use can send Synchronous' three curves' CV Outs to any patchable function in Reason.

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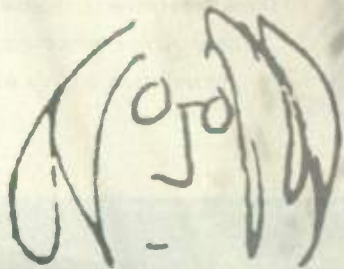
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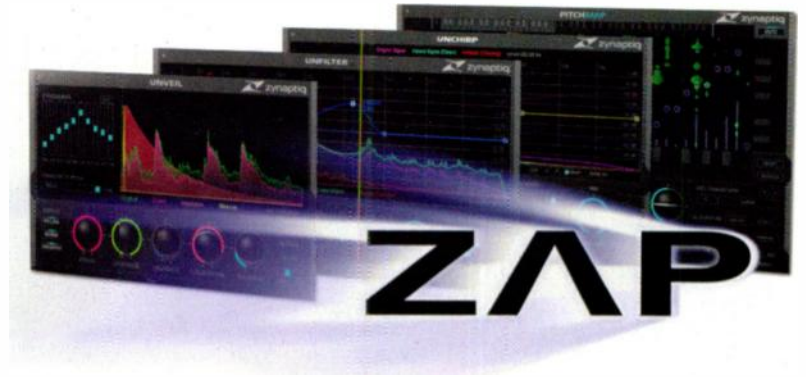
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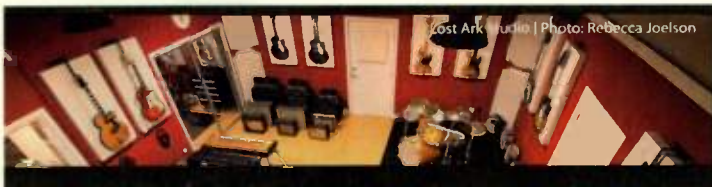
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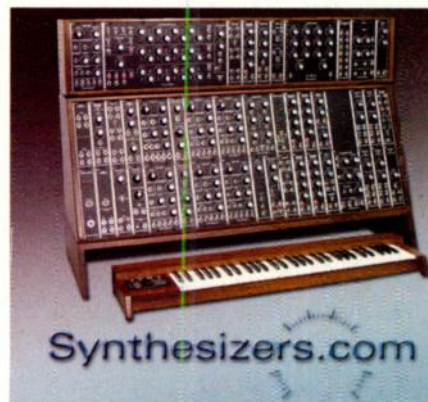
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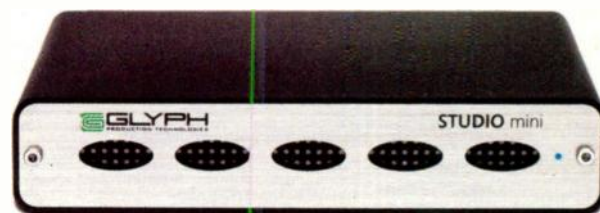
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# Epic FX Battles of History:

## Analog Stompboxes vs. Digital Multieffects

Stomp hard on that footswitch—then get ready to rock ‘n’ rumble!

BY CRAIG ANDERTON



# 1

**Which has better hissy fits?** Consider the most popular environmental sounds—ocean waves and rain. And what do dentists squirt into your ears to reduce pain? Yup, white noise. Case closed: Unlike grainy, pompous digital noise, analog circuits soothe you with sweet, tranquilizing hiss that can put you to sleep *even faster* than watching a *Transformers* movie!

# 2

**State-of-the-art name absurdity.** Let's face it, an effect named "Dynamite Blurch Injector\*" is vastly superior to "ZX-27S"—and only in the bizarre world of analog boutique stompboxes would products be christened "Mold Spore," "Atomic Dump," "Way Huge Swollen Pickle," or "Attack Goat." (I swear I didn't make those up.) As to stompbox companies, "Dwarfcraft" sets the definitive standard for names inspired by excessive inhalation of solder fumes.

# 3

**Knobs are infinitely cooler than keypads.** Knobs can have little pointy arrows, shiny metal inserts, be different colors, exhibit retro qualities, and best of all, they're round and at least to geeks, vaguely erotic. Keypads belong on deadeningly dull devices like ATMs, TV remotes, microwave ovens, and other appliances that have nothing to do with music. Well, except for the little victory "ding" microwave ovens do when they've finished mugging your food... and the affinity they have for CDs\*\*.

# 4

**Sick artwork silkscreened on metal vs. dark gray plastic.** Do we even need to stage this fight? Freakishly sick artwork wins by a knockout, because dark gray plastic was invented by malevolent aliens plotting to demoralize earth's population prior to a full-scale invasion. Why do you think they're called "grays"?

# 5

**Analog effects use batteries.** An alkaline battery is its own mini power plant, fueled by a titanic struggle among manganese dioxide, zinc powder, and potassium hydroxide electrolytes as they give birth to armies of electrons coursing relentlessly through the circuit board pathways that form your effect's arteries. Plugging something derisively called a "wall wart" into an AC outlet doesn't have anywhere near the same panache. Unless, of course, you plug a 115V adapter into 230V... *then* it gets interesting.

\* Actually that was the name of a sound Frank Zappa stored on a 5" reel of tape at Apostolic Studios in New York... but it would be a great name for a boutique analog effect.

\*\* Warning: CD cooking should be attempted only by licensed professionals using RIAA-certified microwave ovens.



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