

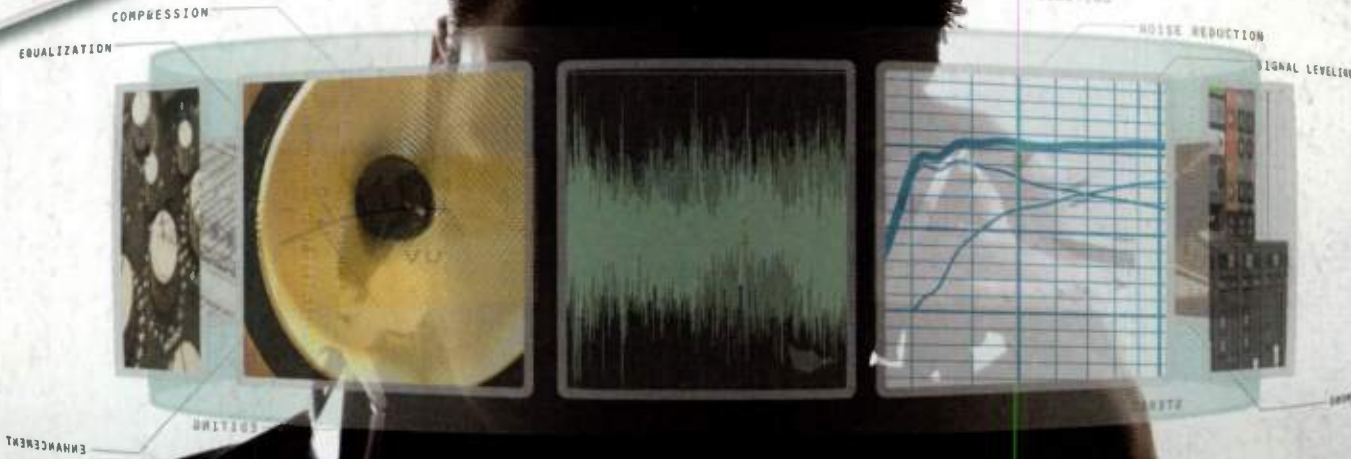
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CONNECT



## MASTERING

HOW TO PREP YOUR MIXES FOR THE PROS



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**ZYNAPTIQ  
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NATIVE INSTRUMENTS  
MASCHINE STUDIO**

**ZOOM  
H6**

**SAMPLE MAGIC  
MAGIC AB**



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Mario from Indianapolis, IN

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# electronic MUSICIAN

## COVER FEATURE

- 58 **Get the Most out of Mastering** Sterling Sound's senior mastering engineer Greg Calbi works on 200 albums each year. Although he's still finessing big-budget projects from the likes of MGMT, Bob Dylan, and Norah Jones, these days the majority of his clients are indie and DIY. Here, he helps artists and engineers understand what mastering engineers need from them to get the best from each project.



## FEATURES

- 20 **Neil Davidge** The unofficial third member of Massive Attack co-wrote and produced the landmark albums *Mezzanine*, *100<sup>th</sup> Window*, and *Heligoland*. Between recording projects, he's become a seasoned film composer, and in 2012 scored the blockbuster *Halo 4* game. Here, he talks about his debut solo record, *Slo Light*.
- 28 **Cibo Matto** Yuka Honda, Miho Hatori, and crew are back with *Hotel Valentine*, their first album in 15 years. It's a concept record about a fictional space and its spectral inhabitants, realized through a hybrid hardware/software-based production.
- 34 **Sleeper Agent** The Bowling Green rockers find their power-pop groove at producer Jay Joyce's new St. Charles studio in Nashville, recording through an extremely rare, '70s-era Sphere Eclipse C console.

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04.2014



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## Clean up your room!

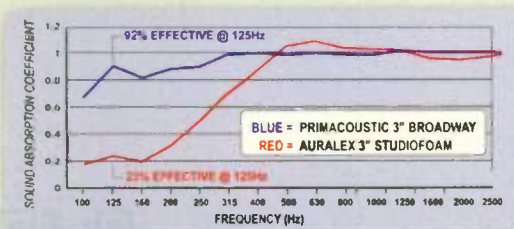
The single most important thing you can do to improve the sound of your recordings is to address the acoustics in your room... and Primacoustic makes it easy.

Start with your choice of Broadway™ panels or one of our easy-to-install London room kits. Then add MaxTrap corner traps and Stratus ceiling clouds to suit. Primacoustic has all the tools you need to get your recording space up and working quickly and affordably — with uncompromising quality. Compared to foam, Primacoustic delivers nearly 500% greater absorption in the critical bass region. This delivers a balanced mix that translates properly when you play your recordings on other systems.



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- E** Broadway™ Control Columns
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Tests performed by Riverbank Labs on 3" Primacoustic Broadway panels and common acoustic foam. Both absorb high frequencies, but as sound shifts to bass, the foam stops working.

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~ Rob Wells  
(Backstreet Boys, Cyndi Lauper, Mika, Justin Bieber, Selena Gomez)



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insight

## The Mastering Mystery

EVERY SONG tells a story, not just through melody and lyrics, but through sonic context. And everyone in the production chain—from tracking to mixing to mastering—contributes to that story.

To many musicians and engineers, however, that final step seems like a black art. What happens once you hand your mix off to a mastering studio? How is mastering different from mixing? Do you even need a mastering engineer?

The answer is yes: Mastering engineers, with their highly specialized listening skills, big-picture-meets-minute-detail approach, and dedicated tools, bring a crucial new perspective to your mix. Their goal isn't to fix your project as much as *finish* it, finessing dynamic range and spectral continuity, optimizing the mix so it sounds great everywhere. It's a subtle process; in some ways, their goal is to seem like they were never even there.

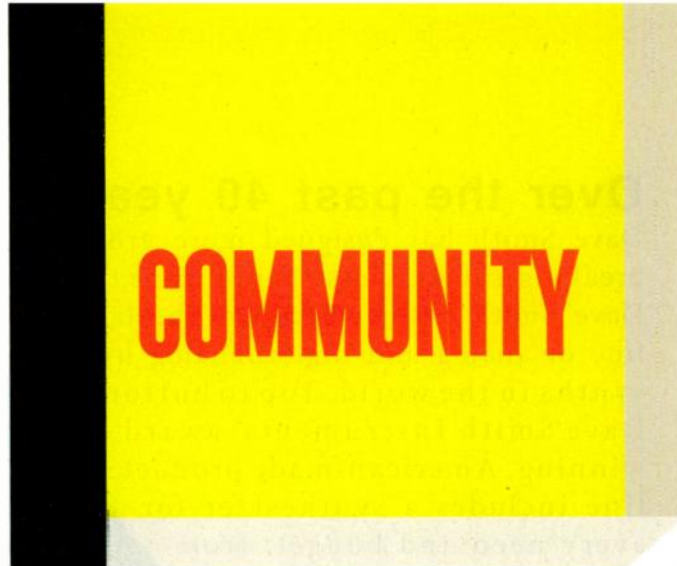
If you're preparing for mastering, there are many steps you can take to get the most out of the process, as we learn from legendary mastering engineer Greg Calbi, who shares advice based on his 40 years of experience mastering thousands of projects by artists such as Bruce Springsteen, David Bowie, Brian Eno, Lenny Kravitz, and John Mayer. (Dig in on page 58.)

If you do decide to tackle mastering on your own, we're here to help. Check out some great specialty mastering tools on page

66. And visit [emusician.com](http://emusician.com) for more engineers' perspectives on the art of mastering.



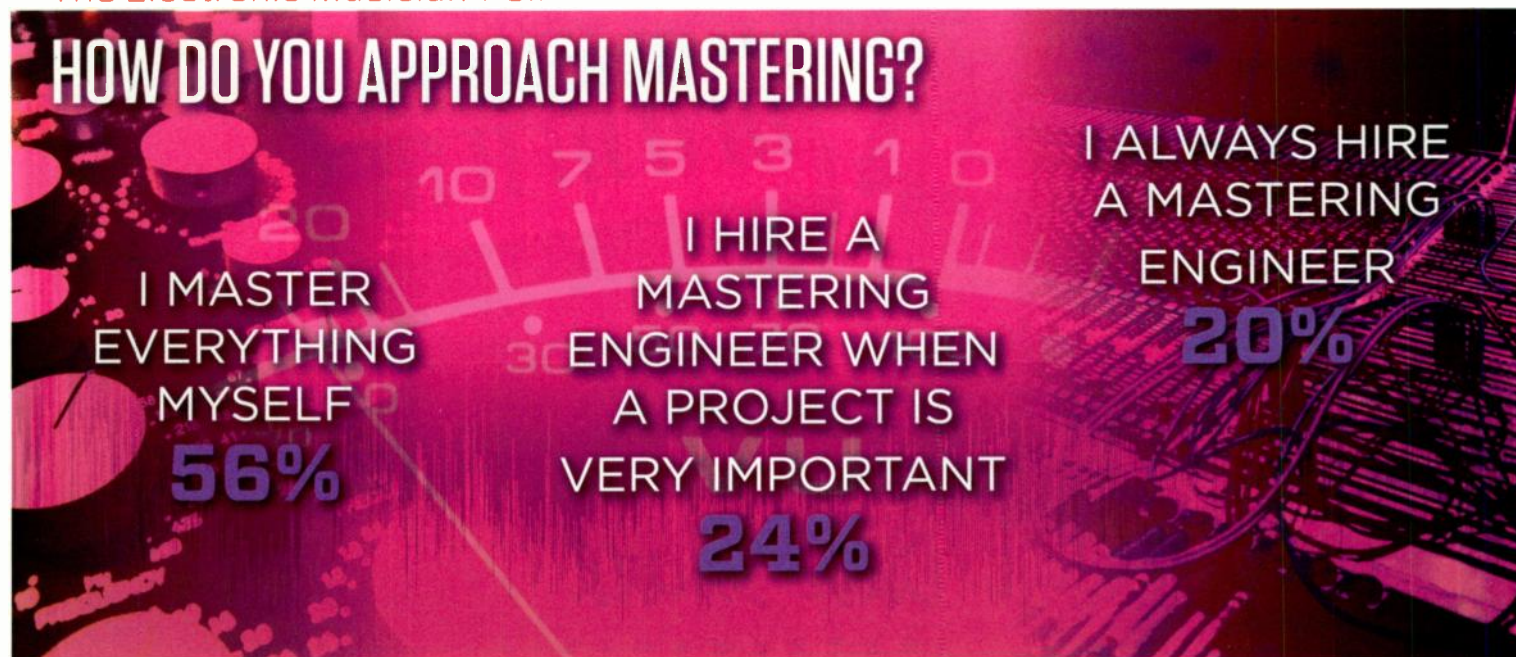
**SARAH JONES**  
EDITOR  
[sjones@musicplayer.com](mailto:sjones@musicplayer.com)



**"I THINK IT'S IMPORTANT TO HAVE AT LEAST ONE INSTRUMENT THAT'S NOT PROGRAMMABLE."**

Spectrasonics' Eric Persing, during the Winter NAMM "State of 21<sup>st</sup> Century Synthesis" panel, January 23, 2014

### The Electronic Musician Poll



# IN THE STUDIO

## >> Kishi Bashi with Drew Vandenberg



BY BARBARA SCHULTZ

SINGER/VIOLINIST/COMPOSER KISHI BASHI (ALSO KNOWN AS K ISHIBASHI) recently moved to Athens, GA, where he called on engineer/producer Drew Vandenberg to help record his latest album at home. Vandenberg

set up recording gear and built modular baffles that could be arranged to adjust acoustics in the front room or living room of the house.

"The baffles let us create an isolated, dead environment or place a smaller room within the room for doing vocals and getting a tighter acoustic violin sound," Vandenberg says. "Or we would use his more reverberant living room—which is a big, open space with glass windows. It made sense to create flexible panels that he could rearrange, because he also does a lot of recording by himself."

Kishi Bashi's recordings include a lot of looped violin music and vocalizations. Melodies and songs are formed from smaller parts, captured to Logic and re-formed into inventive arrangements. Vandenberg says the approach requires loads of creativity, but a relatively small collection of gear. Most vocals were tracked through an RCA 77 ribbon mic through a Tube-Tech CL-1B compressor. Acoustic violin parts went to a Royer 122V ribbon and the Tube-Tech compressor. Mic pre's used on the session included classic API VP26s, and a Vintech x73.

"Sometimes K already had melody ideas or fully written vocal ideas—a traditional song—but other things just came from a loose idea based off of a snippet from a loop he made. He'd have a melody idea in his head and build these really incredible loops from that, and we would take those pieces and chop them up and put them in a song. Sometimes it was challenging, as a producer and engineer, to guess where it was going—how what we were recording was going to become a fully fledged song."

*Kishi Bashi's record, which he mixed with Vandenberg via the Neve 8038 console and selected outboard gear in Sweet Tea Recording in Oxford, MS, [sweettea.net] comes out in April on Joyful Noise.*

## ask!

I'D LIKE TO CREATE MY OWN SAMPLED INSTRUMENTS, BUT I DON'T NEED THE SOPHISTICATION OF INSTRUMENTS LIKE NI KONTAKT AND MOTU MACHFIVE—I JUST WANT TO MAP SOME WAV FILES AND GO. ARE THERE ANY SIMPLE, PREFERABLY FREE, SAMPLERS THAT MAKE IT EASY TO CREATE YOUR OWN SOUNDS?

WILLIAM LOGAN  
PARAMUS, NJ  
VIA EMAIL

Free SFZ file-compatible sample players are ideal. Creating an instrument requires the samples themselves, and an SFZ text file that defines the sample mapping along with characteristics like attack, decay, LFO, etc. Plogue's cross-platform Sforzando player (standalone, VST, AU, RTAS, AAX, 32/64-bit; plogue.com) is based on the ARIA engine used in Garritan's software; Cakewalk's SFZ sample

player for Windows VST is multitimbral, has built-in effects, and is based on the engine used in Dimension Pro and Rapture (at cakewalk.com, where you can also download the SFZ spec). Camel Audio's Alchemy Player (camelaudio.com) is basic, but makes it easy to layer a group of samples across a keyboard. Their site lists several useful SFZ resources.

Although originally developed by Cakewalk,

SFZ is an open standard that continues to gain support. There are loads of free SFZ files on the web, as well as commercially available sounds. It takes a little effort to specify an instrument with a text file, but the code is simple and relatively unforgiving. In many cases you can just open an existing instrument's SFZ file, make a few tweaks, and you're done.

THE EDITORS



Plogue's cross-platform Sforzando is one of several free SFZ file format-compatible players.



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

NEW GEAR

# Hits From Winter NAMM 2014



**1.**  
MOTU  
**828x**  
Thunderbolt audio/MIDI interface  
**\$849 street**  
**HIGHLIGHTS** 24-bit/192kHz resolution • two front-panel mic/instrument inputs with pre-converter sends • 8 channels of balanced line-level analog I/O on 1/4" jacks • XLR main outputs • MIDI, Word Clock, and S/PDIF I/O • built-in digital mixer and effects  
**TARGET MARKET** Professional and project studios  
**ANALYSIS** An industry standard in audio quality and stability is now available for current or future Thunderbolt users, while offering Hi-Speed USB connectivity for engineers transitioning between the formats.  
**motu.com**

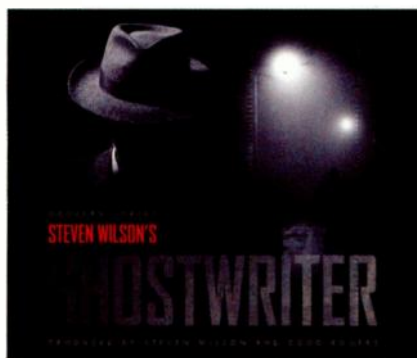
**2.**  
iZotope  
**BreakTweaker**  
Beat sequencer and synth engine  
**\$249**  
**HIGHLIGHTS** Designed in collaboration with BT • MicroEdit Engine, Sequencer, and Generator allow you to create extraordinarily complex rhythm parts quickly • wavetable synthesis and sample player • glitch and granular capabilities • 32-step sequencer and 24 patterns • 4 LFOs and envelope generators • 2GB of royalty-free samples  
**TARGET MARKET** Musicians looking for the most powerful beat-creation software available  
**ANALYSIS** A production tool that moves you off the grid with easy-to-use, yet sophisticated tools for creating elaborately crafted grooves.  
**izotope.com**

**3.**  
QSC  
**TouchMix**  
Compact digital mixers  
**\$899; \$1,299 street**  
**HIGHLIGHTS** Available as TouchMix-8 and TouchMix-16, with either 12 or 20 input channels, and 4 or 10 aux output channels, respectively • Simple and Advanced user modes • 4-band parametric EQ and dynamics processing on each channel • includes USB WiFi adapter for use with iOS remote control app  
**TARGET MARKET** Musicians and sound reinforcement engineers  
**ANALYSIS** Powerful and lightweight digital mixers that can also record WAV files directly to an external USB drive—no computer necessary.  
**qsc.com**

**4.**  
Roland  
**FA-08**  
Keyboard workstation  
**\$1,799 street**  
**HIGHLIGHTS** Features Integra-7 SuperNatural synth and XV-5080 sounds • weighted-action, 88-key, Ivory Feel-G keyboard • sampler and effects • guitar/mic and line inputs • 16-track sequencer • bounce song tracks as stereo files to SDHC card • control your DAW via MIDI over USB • high-resolution color LCD  
**TARGET MARKET** Composers and performers  
**ANALYSIS** The FA-08's workflow is designed to make it easier than ever to take projects from beginning to end, while providing top-notch sounds and pro features.  
**roland.com**



6



**5.**  
EastWest  
**Stephen Wilson's  
Ghostwriter**  
Sample library  
**\$395**

**HIGHLIGHTS** 60GB of drums, basses, guitar, keyboards, vocals, and more played by Wilson, Marco Minnemann, and Laurence Juber • effects include SSL EQ and Dynamics Channel Strip, Transient Shaper, and Stereo Bus Compressor, as well as Echoplex EP-1 • Play 4 32- and 64-bit software included

**TARGET MARKET** Composers, particularly in the film, game, and TV industries

**ANALYSIS** A full-featured sample library with serious personality and attitude featuring three of today's most compelling performers.

**soundsonline.com**

**6.**  
Korg  
**Triton Taktile 49**  
USB keyboard controller and synthesizer  
**\$499**

**HIGHLIGHTS** Features 512 programs from Triton workstation • 49-note, semi-weighted keyboard • 16 drum-trigger pads • x/y touch pad • DAW transport controls • Touch Trigger and Chord Scale functionality • 8 assignable sliders, knobs, and switches • available in a 25-key version for \$349

**TARGET MARKET** Keyboardists who want to record and gig with the same instrument

**ANALYSIS** A reasonably priced, yet versatile USB controller that includes a wealth of high-quality sounds from one of the company's high-end workstations.

**korg.com**

**7.**  
Waves  
**Abbey Road Reel ADT**  
Artificial double-tracking plug-in (Native only)  
**\$200**

**HIGHLIGHTS** Digital re-creation of the layered vocal effect, developed at Abbey Road Studios for use on the Beatles' vocals, using two tape machines to create a variable delayed sound • the plug-in can advance or delay the doubled signal • drive can be added separately to each of the signals for tape-saturation effects

**TARGET MARKET** Musicians and engineers

**ANALYSIS** A classic effect that provides all the modern conveniences we enjoy from a DAW plug-in.

**waves.com**

**8.**  
Universal Audio  
**Apollo Twin**  
2-channel Thunderbolt audio interface/DSP accelerator  
**\$699 Solo; \$899 Duo**

**HIGHLIGHTS** 2-in/6-out, 24-bit/96kHz audio interface capable of real-time UAD effects processing • 2 mic preamps and a front-panel instrument jack • Unison technology models tube and transformer-based mic preamps • 2 digitally controlled analog monitor outputs • 8 channels of digital input via Optical port

**TARGET MARKET** Personal studio users

**ANALYSIS** The excellent sound quality and flexibility of the Apollo now fits on your desktop and is available with one (Solo) or two (Duo) SHARC DSP chips.

**uaudio.com**

*Continued*



10



12



9



11

**9.**  
Arturia  
**BeatStep**  
MIDI USB controller and sequencer  
\$129

**HIGHLIGHTS** MIDI USB connectivity that is iOS compatible • CV and gate outputs for use with analog synthesizers • 16 backlit pads and rotary controls • built-in 16-step sequencer stores 16 sequences • transport controls and data wheel  
**TARGET MARKET** DJs, beat producers, and musicians in the studio or onstage  
**ANALYSIS** This lightweight, desktop controller can be used with just about any instrument you own, whether it's software- or hardware-based, using MIDI and CV/gate signals.  
[arturia.com](http://arturia.com)

**10.**  
Audio-Technica  
**ATW-1501 System 10 Stompbox**  
Digital wireless guitar system  
\$614

**HIGHLIGHTS** Includes one UniPak body-pack transmitter and one receiver • 3 levels of diversity • works in the 2.4GHz range • 24-bit resolution • each receiver can be paired with 8 transmitters • two TRS outputs that can be used for amp switching or muting one output • receiver encased in metal housing • LED and battery display  
**TARGET MARKET** Performing guitarists and bassists  
**ANALYSIS** A state-of-the-art wireless system using a rugged receiver that you can mount on your pedalboard.  
[audio-technica.com](http://audio-technica.com)

**11.**  
Zildjian  
**Gen16 Buff Bronze Series**  
Reduced-volume cymbals  
\$189-\$449

**HIGHLIGHTS** Real metal cymbals designed for use with Gen16 Direct Source sensors • different bell profile than the original series • lack of nickel plating results in a warmer tone • additional lathing to lower the fundamental pitch  
**TARGET MARKET** Drummers wanting real cymbals in their acoustic-electric kit  
**ANALYSIS** This product line provides the feel of real cymbals, which can then be electronically processed to fit any playing situation, whether onstage or in the studio.  
[zildjian.com](http://zildjian.com)

**12.**  
Nord  
**Lead A1**  
Analog modeling synthesizer  
\$1,799 street

**HIGHLIGHTS** 4-part multitimbral • 24-voice polyphony • 8 oscillator configurations • independent effects and arpeggiator for each of the four slots • redesigned user interface makes programming simpler • morph several parameters in real time using the mod wheel or Velocity • MIDI over USB • synth engine offers 96kHz, 32-bit floating point processing  
**TARGET MARKET** Keyboardists who gig or record  
**ANALYSIS** A remarkably powerful synth that extends the concept of analog modeling while simplifying the task of programming.  
[nordkeyboards.com](http://nordkeyboards.com)



**13.**  
Apogee  
**Mic 96k**  
USB microphone  
**\$229 street**

**HIGHLIGHTS** Provides digital resolution up to 24-bit, 96kHz • works with iOS devices and Mac computers • onboard input level control with multicolor LED for level monitoring • includes USB cable, and Lightning and 30-pin iOS cables • preamp offers 40dB of gain • metal construction • made in the U.S.A.

**TARGET MARKET** Podcasters, musicians, and personal studio owners

**ANALYSIS** Designed to provide a quick and convenient way to record using an Apogee-designed mic preamp and converter.  
**apogeedigital.com**

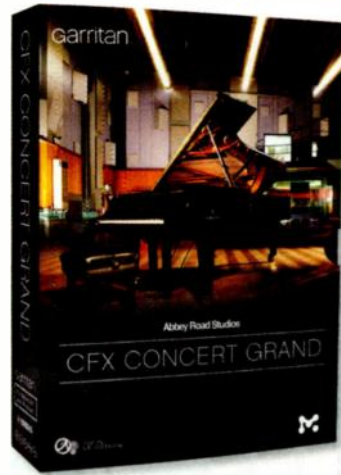


**14.**  
Samson  
**Synth 7**  
Wireless system  
**\$349**

**HIGHLIGHTS** Transmitters available as handheld microphone, lavalier mic, headset mic, or guitar belt pack • all-metal rack-mountable receiver with color LCD • 300-foot range • Scan Mode • auto mutes when transmitter is turned off • more than 90 available channels • transmitters run on two AA batteries and provide 15 hours of continuous use • belt pack and handheld mic feature an LCD

**TARGET MARKET** Musicians, schools, houses of worship

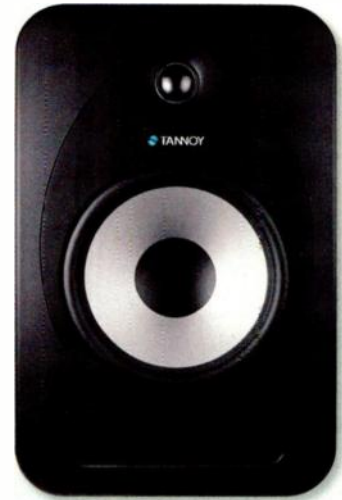
**ANALYSIS** A low-cost solution for a variety of wireless applications.  
**samsontech.com**



**15.**  
Garritan  
**Abbey Road Studio CFX Concert Grand**  
Piano sample library  
**\$259 download; \$299 boxed version with USB stick**

**HIGHLIGHTS** A Yamaha CFX concert grand piano recorded in Studio One • 3 discrete miking perspectives: Classic, Contemporary, Player, with independently controllable Close and Ambient levels • recording mics used include those from Schoeps, Neumann, AKG, and DPA • uses the Aria software player • supports AU, VST, RTAS, and AAX

**TARGET MARKET** Composers and performers  
**ANALYSIS** This library was designed for professional users but is priced affordably for personal studio and onstage use.  
**garritan.com**



**16.**  
Tannoy  
**Reveal 802**  
Active studio monitors  
**\$279**

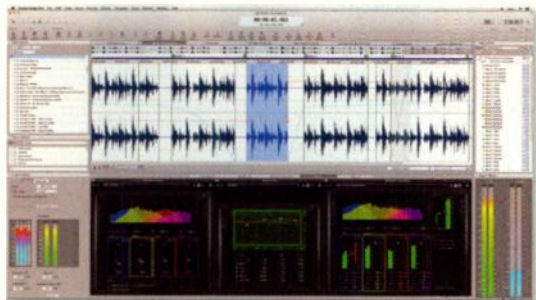
**HIGHLIGHTS** Powered close-field monitors with 8" woofer • 100W amplifier • tuned front-firing bass port • XLR, 1/4" TS, and 3.5mm minijack inputs • volume and EQ controls • Aux Link cable connects monitors together • Reveal 402 (\$139) with 4" woofer and 50W amp, and 502 (\$179) with 5" woofer and 75W amp also available

**TARGET MARKET** Personal studios, editing suites, educational facilities

**ANALYSIS** Priced lower than its other models, the Reveal series makes Tannoy speakers available to more people.  
**tannoystudio.com**

*Continued*

NEW GEAR



**17.**  
**Sony Creative Software**  
**Sound Forge Pro Mac 2**  
Stereo waveform editor  
**\$299**

**HIGHLIGHTS** Supports 24-bit, 96kHz audio • customizable toolbar • FLAC file support • CALM-targeted metering • automated batch processing • automatic trim and crop tool • includes iZotope Mastering and Repair Suite and Nectar Elements vocal processor • SpectraLayers 2 interoperability • available bundled with SpectraLayers Pro 2.1 in the Audio Master Suite Mac for \$499  
**TARGET MARKET** Music and broadcast engineers  
**ANALYSIS** A professional-level stereo editor that has been upgraded to offer the production tools required for modern studio and broadcast work.  
**sonycreativesoftware.com**

**18.**  
**PSP**  
**X-Dither**  
Dither and noise-shaping plug-in  
**\$89**

**HIGHLIGHTS** Designed for mastering use • 6 noise shapes to choose from, including 3 new algorithms • dither shape and level controls • 5 bit-depth levels • Truncation and Rounding modes available for audio quality comparison • output clip indicator • supports VST, AU, RTAS, and AAX for Mac and PC DAWs  
**TARGET MARKET** Mastering and recording engineers  
**ANALYSIS** X-Dither has a wide range of functionality that you didn't even know you needed.  
**pspaudioware.com**

**19.**  
**Elektron**  
**Analog Rytm**  
8-voice analog drum machine  
**\$1,549**

**HIGHLIGHTS** Each of the 8 voices has its own sound generator, analog multimode filter, sample player, analog distortion effect, and discrete output • 12 pressure- and velocity-sensitive pads • onboard step-sequencer • effects send offers delay and reverb • 3 modes: Performance, Chromatic, and Scene • audio inputs • main outputs • USB and MIDI I/O  
**TARGET MARKET** Beat producers, DJs, and musicians  
**ANALYSIS** A full-featured drum machine with an interface that is specifically designed for performance.  
**elektron.se**

**20.**  
**Electro-Voice**  
**ETX-series**  
Powered loudspeakers  
**Price varies**

**HIGHLIGHTS** The series includes three 2-way models (10", 12", and 15"), a 15" 3-way model (with a 6.5" MF driver), and two subwoofers (15" and 18" drivers) • integrated FIR-Drive and DSP with LCD screen • Class D amplifiers • Signal Synchronized Transducers waveguide design  
**TARGET MARKET** Professional musicians and DJs, entertainment venues  
**ANALYSIS** EV's top-of-the-line loudspeakers, which are designed to provide optimum power and allow users to assemble a system that matches their needs.  
**electrovoice.com**



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# Jomox ModBase 09 and Mod.Brane 11

Drum modules that will  
make you punchy

BY GINO ROBAIR

ANALOG PERCUSSION synthesizers are an important part of the beat producer's kit. Enduring favorites among the pros are the Jomox MBass 11 and M.Brane 11. These desktop drum synths produce juicy tones, are MIDI-controllable and, best of all, store more than a hundred presets.

Recently, Jomox reconfigured both products into Eurorack modules—the ModBase 09 Bass Drum Module (\$539 street) and the Mod.Brane 11 Percussion Module (\$579 street). The result gives you extensive voltage control over parameters while retaining the sound and feature set that made these instruments so popular.

**Shared Features** Both modules share interface characteristics such as eight knobs to control parameters and a value wheel and buttons for selecting presets. Just as you could with the desktop synths, you can control and store all of the analog parameters with MIDI—in this case, up to 100 presets. On the back of the modules you'll find a MIDI port, allowing you to control several modules at once by cascading connections inside your synth case between the modules.

Each module has a trigger input for use with drum pads, as well as four CV inputs that can be freely assigned. A dedicated linear FM input is also provided. The gate inputs can



Jomox has expanded its line of percussion synths into the Eurorack scene with the ModBase 09 Bass Drum Module and the Mod.Brane 11 Percussion Module.

handle up to 15V and can be inverted or set to respond to an S-trigger. A pair of internal LFOs, each offering eight waveforms to choose from, is available in each instrument.

Eventually, you will also be able to take advantage of an internal analog bus that can be used to interconnect Jomox modules via a digital link. This is intended to make things easier if you're using the modules as part of a system with drum triggers. The digital linking will also allow for a submix and an effects-send mix from each of the modules on the bus to the other products that are in development.

**All Your ModBase** Instant kick-drum gratification is yours, thanks to the dedicated knobs for tuning, pitch, attack, decay, harmonics, pulse, noise, and EQ. Three of these can also be used to select the waveform, speed, and intensity of the LFO.

Scrolling through factory patches, I came across kicks that were low and punchy like a real bass drum, as well as tight and modern like a drum machine. Modifying them to taste from the front panel was easy. But you can get some really crazy sounds when you modulate the parameters. You will definitely want to use a subwoofer to hear the full frequency range that the ModBase 09 is capable of.

**Insane in the M.Brane** Intended as a generalized percussion module for creating snares, toms, and cymbals, the original M.Brane 11 modeled the behavior of two vibrating membranes, hence the product name. Jomox did this by using a pair of coupled oscillators that were similar to resonant bandpass filters—they call them T-bridge oscillators—followed with bipolar dampening to create its palette of sounds.

The Mod.Brane 11 module uses a pair of 2-pole filters (referred to as F-oscillators), with individual tuning and dampening controls that limit the resonance range, as well as individual knobs for coupling the oscillators in different ways. Additional controls add noise and shape its decay. You can add white noise or “multitone metallic” noise, or blend the two types. As with the ModBase 09, three of the knobs can be used to control the internal LFOs. Together, these features help you create drums, hats, and other percussive sounds that span from vintage to contemporary, natural-sounding to synthetic.

Both modules are inspiring to use, in part because they're so easy to program from the front panel. Dig a little deeper, and things get more exciting. The only drawback is that you'll want to add more Mod.Brane 11s to fill out your drum kit. Modules like this should come with a label: Warning! Highly addictive! ■

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# Autodidactic for the People

BY MARKKUS ROVITO

Self-taught musician and producer **NEIL DAVIDGE** invaded Massive Attack, scored on *Halo 4*, and now breaks out with his enchanting solo debut, *Slo Light*

LIKE THE musical equivalent of finely aged, artisanally crafted wine, Neil Davidge's work transcends the proclivities of generations, genres, and trends; it's gourmet music. His own creative processes and abilities grew out of decades of self-teaching and refinement by experience. Even if the product is not your thing, to not appreciate it could betray your own ignorance.

After a dalliance with the British dance production team DNA in the early '90s, Davidge was in his mid-30s by the time he hooked up with Massive Attack in the mid-'90s. Initial collaborations went so well that Davidge became like the unofficial third member of the trip-hop progenitors, and served as the co-producer and co-writer for the bulk of what we'll call Massive Attack's timeless period, the albums *Mezzanine* (1998), *100th Window* (2003), and *Heligoland* (2010).



Between the latter two albums, Davidge capitalized on opportunities to become a seasoned film composer, first on scores with his Massive Attack cohort Robert Del Naja (2005's *In Prison My Whole Life*, 2008's *Trouble the Water*), and later as a solo composer. His knack for capturing urgency and energy in music helped him score the blockbuster 2012 interplanetary war game *Halo 4*, using instrumentation—mostly—available to Mozart.

Now returning to the comfort of the pop song format, Davidge has released his debut solo album, *Slo Light*. For one hour and 11 mesmerizing tracks, *Slo Light* dazzles your auditory perception. From song to song, you won't be sure if you're hearing the best '90s electronica outtake ever, anachronistic cabaret music from a Baz Luhrmann period piece, or simply the next great chill room cocktail-swilling classic.

Although seven female singers appear on the 10 vocal tracks on *Slo Light*, the songs all emanate from a common emotional dramatism; those that aren't as driving and danceable sound like they could be Bond themes from the year 2100. Remove the vocals, and *Slo Light* easily could be the raw material for the score of a sci-fi noir thriller or a sweeping, picturesque documentary. We caught up with Davidge in his Bristol, England, studio on the run up to the album's release.

#### **You're already working on your next project after *Slo Light*?**

I've been working on a film score for a few months for a movie called *Good People*. It's got James Franco and Kate Hudson in it. It's definitely not a rom com. It's pretty gory at times. I've had a lot of fun; we've got maybe another week to go before it's all done and dusted. We've been pretty hard-core as well, working seven days a week, 17-plus hours a day. That's kind of the norm. That's something people don't realize when they want to get into film scoring or even the album-making game; it's just the amount of hours to get something done.

#### **What about film scoring requires so much extra time? Are you collaborating with more people, watching dailies, etc.?**

It's not so much that it takes longer to make than an album; it doesn't. If you squeeze the amount of time I've had in the past to make albums down into a few months, you have to probably make twice as much music as you would for an album to score a film, and sometimes three times as much. It's intense. You have to write, record, and program very

quickly to get everything down. Sometimes things don't go quite the way you'd hoped. Maybe the director or producers have a different view on what the music should be doing. You've got a bunch of creative people who all have an opinion. Ultimately, you try to get to a place where the score first of all satisfies me, but also satisfies them. It can keep you up at night.

I can only speak from personal experience, but it takes me quite a bit of time to get my head back into it when I've had some time off. Once a project gets to that serious stage where we have maybe a rough edit of the movie, and we've got to map out the score, I choose to work on it seven days a week, because if I've had two days off, it's three days by the time I actually get my head back into that world, that story.

#### **Do you compose the score in your studio and then record musicians elsewhere?**

It depends on the project and the budget. For a smaller-scale movie, there isn't an orchestra budget; it will be more of an electronic-based album, so we probably do 99 percent of the work in this studio. I work with Andrew Morgan, and we've got another younger guy who does a lot of sound design, beat stuff, and extra bits of programming. We pass tracks between us and try to get it to where it feels like it's a live band or orchestra playing it, but it's all been programmed—quite a painstaking process. When the budget allows, we'll sketch out orchestral parts and go to a studio—possibly to London to Abbey Road or Air Studios, or nip over to Peter Gabriel's studio [Real World], which is about 40 minutes from Bristol.

If the score is on a small budget, but it wants to be an organic score, we have to be creative about the way we give it an orchestral sound, while keeping the sessions down to a minimum. Maybe just tracking a solo cellist and either processing what they've done or adding various synth or sampled stuff. Still, ultimately you gotta touch those places that only music can touch. Electronics—that's my instrument, that's my tool—but I'm still trying to touch those same places that an orchestral score would in your gut, in your heart. It's easier if you can afford an orchestra, because we can sketch things out we know will sound great. If we can get that past the client, then we can record it with the orchestra and get that extra thing that we human beings can do [laughs].

#### **The song "Slo Light" went up on SoundCloud in May 2013. How long did the whole album take to make?**

That was the first song I had for the album about

three years ago. I started working on a possible solo album, and then I got to do the *Halo 4* score, which took two years to make. Then we got back onto the album and probably finished the core of the album around April last year. It has been sitting for a little while whilst putting together the press/PR, videos, and the like. I did another small film score last year: *Citizen Koch*, which was made by the same guys who did *Trouble the Water*. So I've been doing other things, and I'm not very good at juggling things, much to the frustration of my management and record company. I tend to focus on one thing and give it my full attention. But sometimes a project comes along and you go, "I have to do this. It's too good to turn down."

#### **Was *Halo 4* one of those projects?**

Yeah. I've been playing the game since it first came out. I was a huge fan. I turned my daughter onto it, and when I was working with Massive Attack, we'd play the game on down time. When the opportunity came along, it definitely was one of those projects I couldn't turn down. It was a big thrill.

#### **Was scoring a game significantly different from scoring a movie?**

Yeah, very different. I struggled at first, because I was expecting to tap into experiences I'd had scoring movies. When I watch a movie, there might be a lot of fear in the beginning, but eventually something comes. I get into what's happening, and I experiment until something hits. You get a lot of interaction even just from the film itself, let alone the director, the producers, the editor, and the musical director.

With a video game, you don't really get that interaction. When I sat in the studio on my own with a few slides of the scene and maybe a paragraph of description, I found it a real struggle, because I was expecting more input. In the end, I had to go into myself, and—it sounds really cheesy—but create the movie of the game inside my head, so I could score to something. That was tough. It was probably a month or more before I started thinking, "Okay, I can do this."

#### **Did you have to learn any new skills, like for the music to adapt to the gameplay?**

I did try to consider that as I was writing. I had to imagine how this piece could be organized so it could run indefinitely without getting boring and without people wanting to turn it off. But I've always tried to not let the technicalities bog me down. Initially I would start by following my gut instinct to create the best piece of music I could. I sent that



over to the guys at 343 Industries [the *Halo* developer], and they'd come back with some thoughts and possibly even re-edit the piece to give me an idea of the structure. Then I would go back into the piece and rewrite it so that it fulfilled me whilst also hitting all the points they needed. I still don't properly understand that concept, but that's where you have to work with good people—people you trust. They had a great music supervisor who's also a composer. He gave me very good instructions and took some of the weight off my shoulders about how this was going to implement into the game.

**The *Halo 4* remix album was also great and featured people who have also remixed *Massive Attack*. Do you help choose those remixers?**

I was trying my best to maintain my vision of the game itself, so I could actually complete it. When people were talking about who could remix the pieces from the game, I had to trust all those people involved. The only recommendation I had was to get *Apocalyptica*. Throughout working on the game, I was thinking that those guys would

**Electronics—that's my instrument, that's my tool—but I'm still trying to touch those same places that an orchestral score would in your gut, in your heart.**



be great; they'd really kill it on this cue. You have traditional remixes, but I've always been interested in getting someone to do a remix who doesn't do remixes. We did that a bit with *Massive Attack*. We got people like Damon Albarn and Primal Scream to do remixes. That excites me. But you have to have your head in that universe. When you spend 17 hours a day, seven days a week making music, you don't get a lot of time to listen to it [*laughs*].

**How did you pick the guest vocalists for *Slo Light*?**

Stephonik Youth and I met in Brooklyn a number of years ago. The singer from TV on the Radio sang on the last *Massive Attack* album, and we were just messing around with those guys in their studio. One day Stephonik, a friend of the band's guitarist Dave Sitek, popped in, and we got on really well. We stayed in contact via email, and I tried to get her involved in the last *Massive Attack* album in Bristol for a week, but none of that worked out. But I played her an idea that I had, and it was the basis for "Slo Light."

I've worked with some great people: Liz Fraser, David Bowie, Snoop Dogg—people who have very strong characters. It's always been a struggle for me to find people who frankly I can be bothered to get out of bed to work with in the morning. I listened to countless demos of singers pushed to me via publishers and managers, and [Welsh solo artist] Cate Le Bon was the only one I actually liked. My old publisher sent me a copy of her first album [*Me Oh My*], which I loved. But that was just before the *Halo* thing, which hit like a sledgehammer.



I completely forgot about her until I bumped into a guy who has a studio in Bristol. I said, “have you worked with anyone interesting? I’m desperate to find someone who’s doing something different.” He mentioned Cate Le Bon, and I said yeah, of course, yes! [Laughs.] So we got her to come over one day, and we got on really well.

We had [’60s and ’70s British pop singer] Sandi Shaw, someone who I’ve loved since I was a kid. She was one of the first people on my list of singers I would like to work with, and coincidentally her management company inquired if I’d work on something with her. So that was a no-brainer. Claire Tchaikowski was a friend of Andrew Morgan. Everyone apart from Cate was someone I’d bumped into or requested.

**The album as a whole has an incredibly refined, nondigital sound, especially the**

**keyboards and synths. Can you describe how you capture some of those sounds?**

There’s no really convoluted miking techniques; no particular mic preamp or mic I use. Often I’m actually using sample library material. Some of that material I’ve created myself. I’ve got an old Arp 2600. I’ve got Wurlitzer and Rhodes keyboards. I’ve got an old Finnish stringed instrument called a kantele, which I play with EBows. I make sounds with guitars and turn them into keyboard noises. A lot of the time it’s just a process of experimentation—shoving sounds through various plug-ins, distortion pedals, sometimes through amps, but actually these days I don’t feel such a need to do that because the plug-in technology is so good. I’ve been using a lot of the [Universal Audio] UAD stuff. That’s great sound; so incredible. I’ll always try to push plug-ins to do things they

don’t normally do or try to find new chains of processing. I’m always trying to find something unpredictable, where I hit the keyboard, and it doesn’t sound like it’s supposed to. It’s not so much about the instrument or plug-in itself; it’s about the feeling I want to get. I’ll use whatever I have at my disposal to achieve that.

**Do you separate a lot of the sound experimentation from the composition process?**

It works best for me when those two processes are deeply entwined. I’ve been mixing a track, and I’ll come up with a crazy sound, so I’ll rewrite or rearrange the track because I’ve discovered something new that’s even more inspiring. If I hit a keyboard and get that kind of noise, that inspires me to add a certain note, or give it a certain groove. Arranging, writing, mixing, processing—it’s all part of the same process. That’s when I work my best. Sometimes I sit down with a guitar and actually write a song in the traditional sense. The track “Riot Pictures” that Sandi Shaw sings—I sat down with some lyrics and actually played the guitar and sang it through. But tracks like “Slo Light” were very much about a sound that began the process. That sound made me play those notes on the guitar, and that made me write that string arrangement, come up with that groove, and ultimately informed the vocal. To keep moving forward musically, you have to find new ways to inspire yourself. If I just sat behind the piano every day writing songs, I would get really bored.

**On *Slo Light*, your pop music and cinematic sounds bleed into each other. How does your time in one area affect the other?**

They really do bleed. The Massive Attack album *Mezzanine* got used on a lot of films. It was one of the most licensed albums possibly ever and influenced a lot of film scores I think. I’ve watched many films and thought, God, that sounds like something we did!

Some of the music I’ve made in the past has influenced a progression in film music. The film music has taken a step forward from there, and I’ve brought that back into the album-making. I’m like a big sponge. Everything I see, hear, and experience goes into one pot, and I have to think, what is applicable to this project? I don’t think there’s any surprise that an album I make also has a very strong filmic sense, and when I’m writing stuff for a movie, maybe there’s an aspect to a piece that could almost be the track for an album.

When I see the first rough cut or some gameplay footage, I might have a week or two of completely free-form writing to come up



# AT GUITAR CENTER



## STEVE AOKI

### 5-FINGER DIM MAK FOR YOUR EARS

DJ extraordinaire Steve Aoki may have begun his career throwing parties at UC Santa Barbara, but gifted with both an artist's heart and true entrepreneurial spirit, he's built an empire based on having a good time listening to music. With his globe-trotting lifestyle, that means producing on the go. Like many other artists, the software revolution makes this possible for Aoki. The combination of powerful laptops, like the MacBook Pro he prefers, with a dizzying range of music software and the worldwide Internet connectivity that comes with modern mobile devices, means that wherever he is, he can be working. As he explains, "Sometimes, I just land off a plane and I'll come up with an idea and start humming voice memos in my phone—I've got a million of them. Most of them are just rubbish, but some of them have something that I could possibly use in a song."

For his last album, *Neon Future*, Aoki took some time away to find a new perspective. "I rented out a cabin in Mammoth Mountain for two weeks and also one in Big Bear," he explained. "I wanted to be completely isolated from every possible distraction. [It] was all just compiling all of these concepts and ideas that I've been diddling [with] and writing on the road. I was able to flesh all of them out in one go. So I recommend that idea that, if you can't get anything done, sometimes your own studio is your enemy. You need to do something in a new creative space and be away from the world, if you can."

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I'll always try to push plug-ins to do things they don't normally do or try to find new chains of processing. I'm always trying to find something unpredictable, where I hit the keyboard and it doesn't sound like it's supposed to.



with as much music as I can. Sometimes that music will be wrong for the project, but it will be great for another album, film, or interactive, installation piece.

I'll just write for the sake of writing and try to put those feelings onto the computer and get that coming out of the speakers. In my head it all molds into one thing. Where I actually have to start thinking is when I'm applying the music to that medium. For a movie, I can't have something that sounds like a song completely overpowering a scene. I have to best serve the project.

**You're self-taught as a musician and producer, correct?**

Absolutely. I remember at school trying to go into music lessons on my lunch breaks and got thrown out because I couldn't read music. Since then, I've wanted to make music, and I've been jamming in bands and learning how to record, sequence, engineer, write songs, sing, play—everything's been self-taught through first-hand experience.

**Maybe that's why you feel like you have to keep developing musically, because you've been doing it the whole time.**

Yeah, every corner that I turn around there's some new lesson. I've learned so much from working on this film now. It's been a nightmare at times, but the projects you learn the most from are the most difficult and challenging. You have to push yourself to reach places you've not reached before. That keeps you fresh. That keeps you from not getting too up your own ass. It just keeps you a normal human being, rather than someone who believes the rest of the world should be listening to what they do because only what they do is right. I don't feel that way at all—never have.

**Will you continue to work on solo albums?**

I like to change it up. Prior to the album I was working on the game. After I've spent a good deal working on songs, I want to work on instrumental music again. I just finished this film. I've got another film coming up fairly soon, but I'm very much up for putting out another album at some point. I don't think I'm going to dive straight in. But as I'm working on the film score, if I create pieces that would be pretty cool for an album, I'll put that to one side. So in some way, I am working on another album. At some point I'll listen to all the ideas and work out whether I have something or not. ■



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 kind-hearted,  
 giddily ethereal  
 engagements

# Cibo Matto

BY TONY WARE

*HOTEL VALENTINE*—the first album from the duo of Yuka C. Honda and Miho Hatori since 1999 (and their third album overall)—reverberates with the belief that motion-capture isn't solely a visual technique, and the joy in puzzles is as much about the unpacking as it is the solution. Combining the shifting personas and self-production of songwriting partners Honda and Hatori with musical collaborators and the hybrid/multibus mix rig of engineers Michael Brauer and Ryan Gilligan, *Hotel Valentine* transitions through 10 fleshy, phantasmagoric scenes that bring a ghost romance to life.

"We set out to have a sense of mystery in a lot of the songs, starting with chord choices or having suspended melodies and adding more through reverbs and delays," says Honda. "I'm really into optical illusions—I read *Scientific American* and stuff like that—and I learned that the brain often fills in the blanks for you. Your brain can only focus on a few instruments at once, so in the mix we would play with what was muted and what wasn't, what was louder and what wasn't, how effects could be used on different parts at different time. . . . It's like a pyramid; every step, every block was very important, and we always looked for the new idea that made the song stronger and gave the mix the right mood."

"We didn't come to this album with unused parts from solo albums and loops and melodies and lyrics already stuck in our heads; it was all about collaboration," says Hatori. "We're proud parents, because our chemistry made this creation. We tried a lot of stuff and took the time to do what we wanted to do."

**The Return of Crazy Food** *Hotel Valentine* took almost two years to complete, and the sessions were a long time coming. Honda and Hatori, who relocated independently from their homeland of Japan, met in New York City in the early '90s and first performed together in the punk/noisecore band Leitoth Lychee. They furthered their mutual appreciation for tasty naming conventions when they formed Cibo Matto (Italian for "crazy food"), and in 1996 released the debut album *Viva! La Woman*, featuring the songs "Birthday Cake," "Know Your Chicken," and "Sugar Water." It took till 1999 for the duo to record a follow-up,



Yuka Honda and Miho Hatori.

*Stereo Type A*, which saw a deeper integration of live instrumentation and analog saturation alongside a command of synths, samples, and rhythmic non-sequiturs.

In 2001—after extensively touring their funky, brassy, and breezy pan-genre dreamscape *Stereo Type A*—the two put Cibo Matto on hiatus and went on to pursue a wide variety of solo albums, recording collaborations, and production opportunities. In 2011, Honda and Hatori reunited in New York City for a benefit concert following the Fukushima Daiichi nuclear disaster, and not long thereafter set out to script an “invisible film,” as Hatori describes the loose construct of “old and odd spaces” that became *Hotel Valentine*.

Much of *Hotel Valentine* was tracked and arranged in Honda’s home studio (a.k.a. the living room/library) using Pro Tools. “In the ’90s I loved Cubase, because it was so intuitive in terms of MIDI programming, but Pro Tools HD has gotten better at that and it’s easier for exchanging files with engineers,” explains Honda, who by the end of the album’s creation had recorded musicians including guitarist Nels Cline, drummer Yuko Araki, keyboardist/bassist Jared Samuel, trumpeter Michael Leonhart, trombonist Aaron Johnson, and saxophonist Douglas Wieselman.

**Remote Control** Additional contributors, including drummer Glenn Kotche, percussionist Mauro Refosco and vocalist Reggie Watts, sent in contributions after receiving rough melodies or rhythms that needed more expression, more controlled chaos to help parts escape the tyranny of the grid. While Honda and Hatori generated initial sessions and concepts, acoustic contrasts, and sample components sprouted from a lot of widespread interaction.

These remote collaborations carried over the openness to eclectic design the duo had explored on *Stereo Type A*. Outside influences also encouraged Cibo Matto to construct their series of interlaced spectral vignettes, including an appreciation for the arrangements of tUnE-yArDs, the VST sequencing of Cornelius, the synth work of Sean Lennon, and the mesmeric, take-from-it-what-you-will set pieces of 2012 French film *Holy Motors*.

“I like to start writing from a beat, then from there either go through my sampler and fiddle with loops or start with a VST,” says Honda, revealing some of the master keys to the album’s architecture. “I have an old sampler, the Roland DJ-70, and I still like to use it to meld samples and play them back on the keyboard. It only has 4MB [memory], so

we used to have to create a very short loop and play it back in three different octaves to create a very interesting beat.

“Now I use a lot of plug-in drum machines, especially [Native Instruments] Battery. I got into it when I saw Cornelius in the studio using it. I also like Reason’s Redrum [drum computer]. Another drum sound I really like is from the [Teenage Engineering] OP-1 [portable synthesizer/controller]. Sean [Lennon] used it a lot when I was working on Yoko’s project [2013’s Yoko Ono Plastic Ono Band album *Take Me to the Land of Hell*] and it inspired me to try that. I used it for this great sad bass sound on the song ‘Empty Pools.’ He also reminded me how fun it was to use toy sounds, and I started playing with a lot of iPhone apps like SampleWiz, recording [‘Empty Pools’] vocal parts through the microphone to get a lot of static.

“I want the vocals to always be the protagonist of the story, so I think about frequency, EQ, panning, and timing to make sure other parts sit behind Miho and loops don’t hit all at once directly on top of hers, so she doesn’t have to sing or rap too loudly to compete.”

—YUKA C. HONDA

“From Yoko’s sessions I also recorded with tUnE-yArDs, and I realized she goes much further with the ABABC form of writing, which influenced me on songs like ‘Déjà Vu,’ where we have one song sandwiched in another,” continues Honda. “Also, on ‘Check Out,’ the structure is ABCA and B and C never repeat. I didn’t try to mimic anything, but working with all these people reminded me how far I could push my creative muscles, do

whatever I wanted. And I like changing the format, because it makes me use my senses more instead of doing something I just know that I can fall back on. I have things I love, like the [Sequential Circuits] Prophet 5 [synth], but it was broken and that was a good thing because it forced more of these experiments.”

**Assembling the Puzzle** It wasn’t just the unpredictability of vintage gear that could change the entire pitch of a song. The Cibo Matto dynamic is a 50/50 partnership, meaning if Honda composes some music that doesn’t inspire Hatori to sing on it, something’s got to give. For example, the song “Housekeeping” was originally to be a different, far faster BPM, but Hatori didn’t feel a connection to the original construction. The compromise was a really fast hi-hat and shaker with a half-time main beat, allowing for more open territory on which to perform.

Conversely, Hatori might bring a beat or eerie synth melody that doesn’t quite fit with Honda’s vision of a song, and they might work to pull new sounds from Native Instruments Maschine or the Dave Smith Instruments Tempest analog drum machine, scrolling through presets till inspiration strikes. Or, Hatori says, she could use body language to get into a character that better matched a song, and the way she physically approached the session would affect her vocal attitude even if she sang directly in front of the mic. And various methods of wobbly, loosely timed processing assured that a melody could meet the right amount of astral resistance, like swimming through an empty pool full of echoes.

Outboard guitar gear—such as the Z.Vex Seek Wah tremolo-sequenced wah-wah, Electro-Harmonix Ring Thing and Deluxe Memory Man and Ekdahl Moisturizer spring reverb [with an external, playable spring]—came into play as Honda and Hatori would use jamming to develop melodies and play with the way loops would sound outside the vacuum of the box. A fan of “happy accidents,” Honda would sometimes print these effects on instruments, though Hatori prefers her final takes dry to evaluate what she’s singing (“Reverb can make everything too beautiful,” she says).

Once the two compiled their Reason sketches and established Pro Tools guide tracks, final lyrics would be written, vocals would be approached through various microphones (including iPhone Voice Memos, a Shure SM57, and a Neumann U87), organic parts would be incorporated, and heavier in-the-box processing would commence.

When tracking, Cibo Matto’s preamps of choice were a Neve 1073 and Avalon VT-

737—the first for warmth and texture, and the second for clarity on lead motifs. These components further reinforce the balance of nostalgic and contemporary tonality, of dreamy and striking consistencies coexisting. However, it was one thing for the parts to get in, and it was another for them to fit together.

To establish the desired effects to accompany the “narrative”—which required long hallways of resonant groove, haunted washes, and flashes of tightened activity—Honda applied a well-stocked signal chain, including Audio Ease Altiverb, Universal Audio 1176LN and LA-2A [classic leveling amplifier] hardware and emulations, Bomb Factory compressors, and more. “I want the vocals to always be the protagonist of the story, so I think about frequency, EQ, panning, and timing to make sure other parts sit behind Miho and loops don’t hit all at once directly on top of hers, so she doesn’t have to sing or rap too loudly to compete,” says Honda.

**Making it Strange** With their arrangements established, Honda and Hatori turned to New York-based Brauer and Gilligan for the final stage, which Gilligan summarizes as “... taking everything to the strangest place we could.” Honda first met Grammy Award-winning mix engineer Brauer while she was producing singer-songwriter Martha Wainwright’s 2012 album *Come Home to Mama*.

For *Hotel Valentine* Brauer acted as mix supervisor with Gilligan doing the hands-on engineering via a combination of Pro Tools automation/effects/Avid Artist Mix control surfaces, and multiple dedicated outboard stacks of specifically partnered and calibrated summing mixers, compressors, EQs, and dynamics shapers set up in a cost-efficient indie room. This parallel-compression approach to analog presence and punch is dubbed “Brauerize.” The setup, based on gear Brauer uses when he works behind commercial-grade consoles, reinforced the sense of depth and movement for Cibo Matto. “They had done a lot to get the rough mix in place—the template was 70 to 80 percent there—we just needed to boost the feel,” says Brauer.

This boost came from four stereo busses, each one optimized for a specific timbral quality. Stereo A (adjusted for keys, synths, horns, vocals) includes a Neve 8816, a Chandler LTD-2 pair, and a Retro 2A3 EQ. Stereo B (for drums, bass) features a Chandler Line Mixer and an Empirical Labs Distressor EL8-X pair. Stereo C (guitars) uses a Tonelux OTB16 (modified) and a Joe Meek Stereo Compressor. Stereo D (horns, strings, background vocals)

utilizes the TFPro Edward the Compressor, which also has adjustments for width. A fifth, unprocessed stereo bus is available, as well.

Mono/stereo sends from Pro Tools for stems that end up straight down the middle can hit a Schmidlin Fed+ Compressor, Retro Sta-Level compressor, Altec 436B compressor, Chandler Zener limiter, Cyclosonic FS-1 panner, Akai S612, Neve Portico stereo field editor and Behringer Edison EX1, all summed to a Burl B32. Finally, the four stereo bus outputs and the Burl B32 output go into a Folcrom RMS216 with Telefunken V72 makeup gain, then through a Dramastic Audio Obsidian 500 stereo compressor, Shadow Hills mastering compressor OR Chandler Germanium compressors (pair), Chandler Curve Bender EQ (modified), Kush Audio Clariphonic Parallel EQ, and Cranesong HEDD.

“They’d send us instructions; for example, for ‘Emerald Tuesday’ they said it should ‘sound like a cocktail they serve at the bar in the imaginary hotel’—and then give us leeway to work.”

—RYAN GILLIGAN

“The idea with all of this is to have freedom in the mix; if you want to jack up the guitars you can without it affecting the piano or drums and bass too much,” says Gilligan. “You can have more dynamics within the mix. And all of these aren’t doing a lot of compression, maybe a dB, and they’re all calibrated. We run tone through them and make sure they are returning the same amount of compression every day.”

The work put into the mix was designed to nail down the feeling of encountering what feels like a wandering ghost. The beginning of the track “Lobby” is treated so a vocal emerges from a bed of reverb to become increasingly dry/immediate. Big delays are thrown on a single word, then

hard cut off, panned, or distorted into reverb. Low background vocals are sent into a long plate reverb, squashed to hover persistently, then sidechained to the kick to create an ongoing pump with an indiscriminate origin. Instances of Universal Audio’s ATR-102 Mastering Tape Recorder, with the wow and flutter jacked up on reverb or delay, also assure things never stay static.

The final component that ensures the vision of each song was rendered through the mix was actually playing it back on a Sony ZS-6 boombox. While the studio monitoring set-up included a Shadow Hills Industries Oculus monitor controller, ProAc Studio 100, Barefoot Sound MM27, and Meridian DSP7200 loudspeakers, the harshest light was shown on the mix through that radio. One set of professional monitors was just right for tweaking brightness, and another for sub bass, but it was imperative to check the balance on a downstream consumer system.

With no more than a day or two on each mix, Gilligan quickly had to translate instructions that left plenty to interpretation, make a rough mix, get comments and directions from Brauer, implement those changes, then send it to Honda and Hatori for more instructions. This process repeated until something abstract like “make this song sound like you’re on the moon driving in a VW Beetle and the sun is setting” would coalesce into a mix signed off on by both Brauer and the band. However, Gilligan enjoyed every round—whether it resulted in trying to sound more like a cave full of shadowy reflecting pools or muting just one drum loop on each 32nd note.

“[Honda and Hatori] were two of the most positive people ever to work with,” says Gilligan. “They’d send us instructions; for example, for ‘Emerald Tuesday’ they said it should ‘sound like a cocktail they serve at the bar in the imaginary hotel’—and then give us leeway to work. And whether it met their vision or not in the first mix, they were always psyched to hear things, which made the whole process that much more fun.”

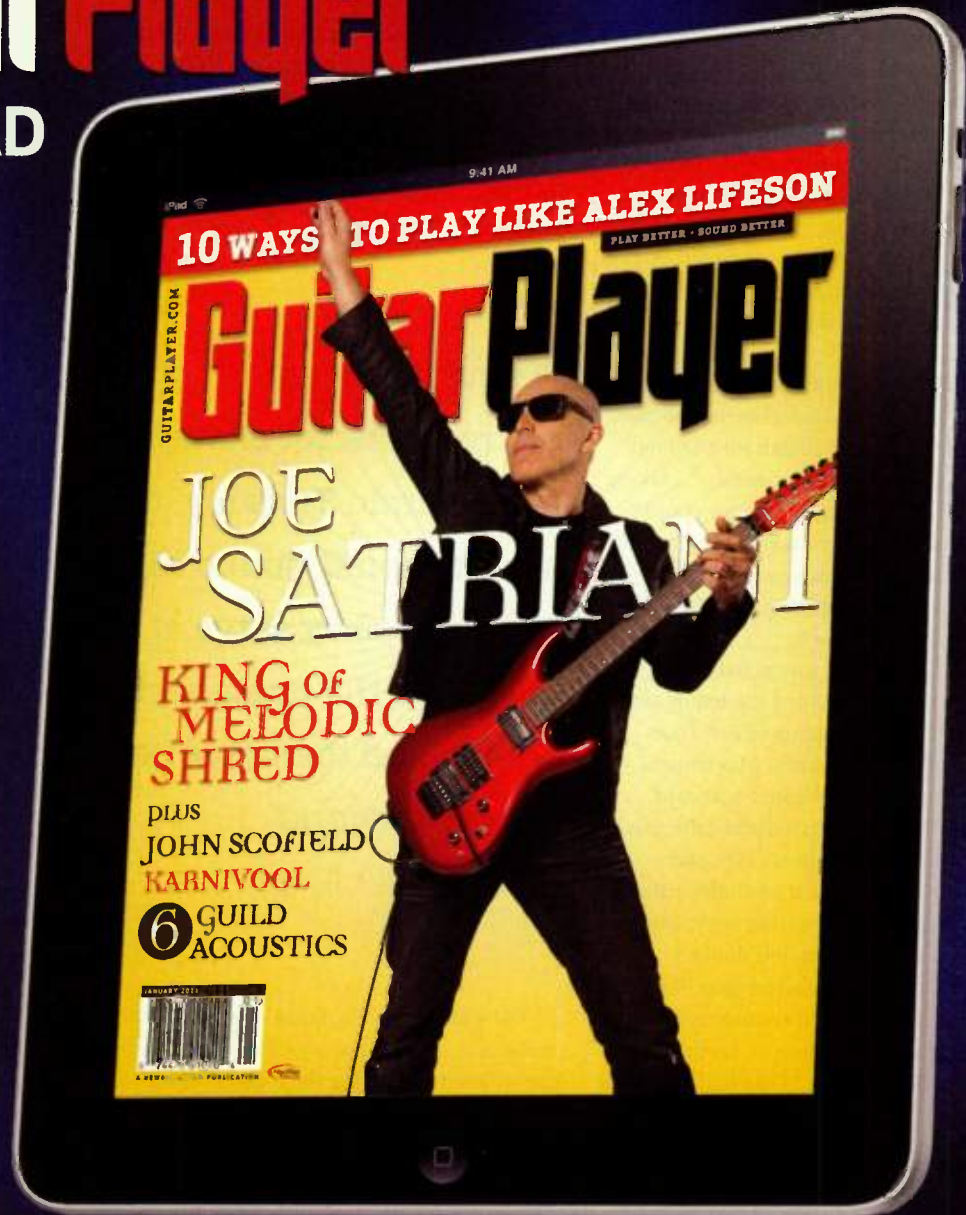
Sometimes a little bewilderment is a wonderful thing. “I wonder how many people know their life is like this, staying at the hotel, renting times, renting a body,” intones Hatori at the end of the song “Lobby.” Those who do find themselves unraveling the identities in *Hotel Valentine* will request late checkout. ■

*Washington, D.C.-based writer/editor Tony Ware has never encountered a ghost, but if he ever does he hopes it's friendly and just wants to order room service and listen to records.*

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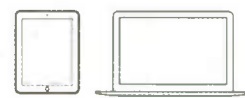
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# Sleeper Agent



BY KEN MICALLEF



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Sleeper Agent (L-R)—  
Justin Wilson, Josh  
Martin, Alex Kandel,  
Tony Smith, Lee Williams,  
and Scott Gardner.



For *About Last Night*, producer **JAY JOYCE** and engineer **JASON HALL** go back to basics, capturing the moment in the glorious open spaces of St. Charles, Joyce's church-turned-studio

VETERAN PRODUCER Jay Joyce has pushed the faders for The Wallflowers, Emmylou Harris, Patty Griffin, and Little Big Town. And he's played guitar with John Hiatt, Iggy Pop, Brendan Benson, and Radney Foster. Recently opening St. Charles Studio in Nashville, his first productions included Cage the Elephant's *Melophobia*, Eric Church, and baby-band Sleeper Agent's third album, *About Last Night* (RCA/Mom+Pop). Joyce doesn't pull punches as he shares insights on his production philosophy, and later, digs into the Sleeper Agent sessions.



Producer Jay Joyce at St. Charles in Nashville.

“How can I put this without putting people down?” Joyce muses. “I never think about sales, marketing, what people are listening to or not, whether something works or not. I never have. If the music’s good and you’re having fun and you are passionately moved by it, generally the musicians know more than the business people about what’s working and what isn’t.”

“The communication and the feelings are way more important than the sonics,” Joyce adds, denying 50 years of recording technology advances in a single sentence. “I don’t think somebody is going to say, ‘I don’t really believe that vocal, it’s not very good. But man, it’s really well recorded.’ Who cares?”

*About Last Night* was recorded by Joyce and engineer Jason Hall, assisted by Matt Wheeler, and mixed by Mark Needham at the Ballroom Studio in Los Angeles. Additional tracks were produced and engineered and mixed by Shinedown bassist Eric Bass at his Ocean Industries studio in Charleston, SC, and by Jeremy Ferguson at Battle Tapes Recording in Nashville. The album was mixed by Joyce at St. Charles and mastered by Chris Athens at Chris Athens Masters, Austin, TX.

Sleeper Agent strode into Jay Joyce’s new lair this past summer, hot off their reasonably successful sophomore record, *Celebrasion*. “[*Celebrasion*] was recorded innocently, just the band and me making music for ourselves,” Joyce says. “This time it involved more people in the mix: managers, record companies—people with opinions. The band’s music had a girl/guy thing; it was unique and really clever. This time, the process was different. Everything began with a live take, cut to click, then entire sections were moved around, like a collage process. I don’t do that often anymore; I am generally a live producer.”

Joyce’s subtle skills and shrewd approach pays dividends on Sleeper Agent’s *About Last Night*. Twenty-something vocalists Alex Kandel and Tony Smith maintain their defiant edge; Sleeper Agent’s performance is remarkably glossy, yet still in the pocket. It’s light years away from *Celebrasion*’s darker, alternative approach. *About Last Night* raises an insolent fist at the pop fodder marketplace, offering an album of stomping anthems in the infectious, Dr. Luke-worthy “Take It Off,” the Gary Glitter-infected shuffle of “Bad News,” Spanish romp “Sweetheart,” potential sleeper hit “Shut,” and cheerleading punch-out “Me On You.”

“You play whatever is getting you off at the time,” lead guitarist Josh Martin insists. “This was definitely an evolution. It’s more focused

on our lead singer Alex and her voice and writing to her.”

For Joyce and Hall, it meant starting each song anew, creating fresh sonic treatments, from adding samples to live drums to minutely adjusting in-studio configurations to starting songs from scratch. Joyce and Hall don’t set up mics and leave it at that—every song gets a fresh interpretation. “It’s a lot more work, and you have no idea if it will work until you’ve put 12 hours into the song,” Joyce says. “There were songs where I told the band, ‘You don’t want to hear this, but this song sucks. We have to do it again.’ It would have been easier to do one take. But in saying that, sonically and instrumentation wise, I didn’t feel that every song demanded a new palette. Our keyboard sound repertoire was fairly small. But this record was definitely a new sound for the band.”

**“We want it to sound like the finished record while we are tracking it. We will add effects to drums while recording, or treat vocals while recording to try and impart some kind of vibe while we are cutting it.”**

—JASON HALL

The band worked out song details in pre-St. Charles demos recorded at keyboard player Scott Gardener’s Bowling Green home. “We used Scott’s Logic system to record 30 to 40 songs while waiting to get into the bigger studio,” Martin explains. “We experimented a lot. On ‘Impressed,’ there’s a delay that sweeps through the song. It disrupts the texture of the tune but adds an emotional build before the chorus. We used two delays at once; the Line 6 DL4 and a Digitech Expression pedal. And ‘Be Brave’ has these almost robotic effects. It’s a couple synths and guitars running through a box that chops up sound like a distorted vocoder. We used some plug-in and an Electro Harmonix Voice Box.”

“I used Logic and a PreSonus FireStudio with FireWire,” Gardener says, “just enough inputs to mic vocals, bass, guitars, and drums, then direct with keyboards. I used SM57s on amps, just trying to capture that first impression of us playing together to decide whether we needed to try a different style. And mostly entry-level CAD microphones and some cheaper Beringer condenser mics. Blue Microphones sent us a Yeti, which we used on vocals. It’s real hot, but we liked it a lot.”

Working at a brand-new studio built within the skeleton of 1920s-era Baptist church, Hall saw *About Last Night*—St. Charles’ first record out of the gate—as a chance to experiment. “For the first week, Sleeper Agent came in and played a couple songs a day while we tuned everything in,” he recalls. “The church is a big, wide-open, single-room facility, including the control room and the tracking space. We experimented with drum placement and allowing certain elements to bleed into the room mics and the drum mics, trying to capture the spirit of the building. There’s something about that bleed; it makes the guitars sound better and the drums sound cooler. Getting that energy of the band playing together in the same room as opposed to everything being perfectly isolated or recording each instrument individually was important.”

St. Charles’ secret weapon is an extremely rare, late 1970s-era Sphere Eclipse C console. While Joyce and Hall selectively used Neve outboard mic pres, the bulk of the album went through the Sphere Eclipse console and internal mic preamps.

“We tracked everything we could through the Sphere to give that particular color to as many elements of the record as we could,” Hall says, “to help create a vibe and a sound that was unique. That’s the way records were done forever; it’s only a more recent trend that everybody uses these boutique preamps. But the Eclipse console sounds so beautiful.

“There were only 50 Eclipse C Series made; it was part of the Electrodyne/Quad-Eight lineage,” Hall continues. “These consoles are the end of that history. It’s got a similar sound to a Quad-Eight console but with these really amazing 900 Series EQs, which are graphic EQs on each channel. A lot of mastering engineers use them. We had 20 of those available for all the different instruments; they make beautiful-sounding EQs.

Hall and Joyce created their own echo chambers in the church’s large basement, filling its various small rooms with microphones and amps, “trying to capture acoustic spaces that were in different locations,” says Hall. In

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**Martin Buttrich**, Grammy-Nominated Music Producer and Recording Artist

Martin's credits include remix- and production-work for Madonna, Muse, Fatboy Slim, Placebo, Tom Jones, Depeche Mode, Kelis, Josh Wink and more. He received a Grammy nomination in 2003 for a Tori Amos remix and is co-founder of German label Desolat.



the main live room, they placed drums in the former vestibule and the control room—where else?—on the altar. But they said no to isolation booths, even for vocals.

“We don’t isolate every person in the band,” Hall continues. “We want the members to have an open dialog. So they’re playing together, and we’re right next to them. We motion at them and we are all part of a group dynamic and dialog.”

St. Charles has the sonic benefit of the church’s vaulted ceilings and the beauty of its stained glass amber windows. “It’s a very beautiful, musical-sounding room,” says Hall. “Very natural, not reverberant, all wood floors. Everything is on wheels, so we can move gear around at will, make it configurable depending on the client’s sonic goals. We move drums around, move guitar amps around, move baffles around, it’s completely configurable depending on the band’s instrumentation. Sleeper Agent was our first baby out of the new studio and we did a lot of experimenting to figure out this new space. I feel like the spirit of exploration is prevalent on that record.”

For drummer Justin Wilson, Hall ran everything through the Sphere console, using LA2As and 1176s for compression for drums and vocals, and other instruments as well. Drums were recorded both minimally and maximally, again, depending on the song. “For drums, we relied on SM57s and Royer 121 as overheads and maybe a Neumann SM69 as a stereo room mic,” he says. “You have to use close mics to get all the impact drum stuff, but generally we try to get a really cool room sound, and blend that in with the close mics. We also discovered you can’t always just place the drums anywhere in a wide-open room. You have to create barriers for the sound to stop at in order to really get a tight, energetic drum sound. We used band shell barriers like you might see at an auditorium for an orchestra. They have a slanted top; using those in the room really helped us define certain spaces where it was necessary.

“On some songs, we might do four mics or even fewer on the drums and blend them down to one track on an Altec mixer, all the way up to 12 mics on a drum kit in the main room, says Hall. “It changed depending on the song. Also, we don’t get drum sounds for a whole record, then move on to the next element. For each song, we discuss certain treatments then approach each element from that directive. Sometimes we’ll track drums very minimalist then build them up later, or we might get a huge drum sound while cutting the band live together.”

So Hall and Joyce followed the “studio as instrument” approach as practiced by everyone from Brian Wilson and Phil Spector to Amon Duul II and Teo Macero-era Miles Davis? “Absolutely! That is one of Jay’s staples,” says Hall. “And we are not just cutting a bunch of tracks then fixing them in the mix. We are going for things from the beginning. We want it to sound like the finished record while we are tracking it. We will add effects to drums while recording, or treat vocals while recording to try and impart some kind of vibe while we are cutting it.”

Hall and Joyce used UAD plug-ins, Waves compressors and SoundToys bundles. Keyboards and bass were recorded direct and also fed to amplifiers, using basement chambers to isolate amps. “Sometimes you can

**“I like the sound of a vocal in a live room. If I am going for a super dry vocal, I will isolate a singer, but I don’t do that as a given. That should be a desired effect, but that’s not how people sound.”**

—JAY JOYCE

have an amp that will be too loud for the room, so we put it in a room downstairs,” Hall says. “We even ran vocals through a separate P.A. upstairs to excite the room mics.”

EMT plates and Fender and AKG spring reverbs were used on everything; guitars also received the vintage treatment. The biggest recording challenge, beyond tracking a new band in a new studio, was chasing electrical circuits and signals: Where’s the damn hum coming from?

“Going to a new room where you don’t know what you’ll get, you have to think on your feet and make adjustments on the fly, says Hall. “And there’s the typical electronic explorations, sorting out hums and noises in the line, working with the power scheme of this old church.”

Another challenge for Joyce was tracking the dual lead vocals of Kandel and Smith. Where on their second album *Sleeper Agent* sounded like a typical male-fronted alt rock band, Alex’s sharp female attack added a new element to the band’s sound. Retaining the freshness of the male/female contrast while letting Kandel fully come into her own as a singer was key.

“Alex and Tony have been singing together a while, so they have a thing,” says Joyce. “Tony writes the lyrics with all these really clever layers. His vocal cadence and the rhythms of his vocals are pretty complex if you break them down. This is the only band Alex has ever sung with, straight out of high school. She learned how to sing by hearing Tony’s songs. Tony writes for her, but she doesn’t sing like him. His singing is sly and weird. I had to get clarity from them, particularly with the mandate to make it more commercial. So we wanted to make the vocals very big and in your face and important. We recorded them live together to make sure the parts were working. The songs are heavier on this record than the last. So we got Alex on her own a few times and separated them occasionally.”

Smith sang through an EV RE15, (“the old Beatles mic,” says Joyce) while Kandel tracked through a Shure SM7. “We wanted control over the best take,” Joyce explains. “If they are both singing, I might have to settle because they are bleeding into each other’s mics. I want them close together to get that energy. But separating them gave me more control over the vocals. If I can use take two from Alex and take three from Tony, you won’t hear the bleed.”

“I like the sound of a vocal in a live room,” Joyce says. “If I am going for a super dry vocal, I will isolate a singer, but I don’t do that as a given. That should be a desired effect, but that’s not how people sound. If they are singing and they’re comfortable, I put a mic in front of them and they sing it right where they are so they’re not rethinking it. The less they are thinking about singing the better—then they’re just singing the song. The best way to get somebody doing what they do best is just doing it and not having them thinking about it. And that works better in an open space.” ■

*Ken Micallef is based in New York City.*



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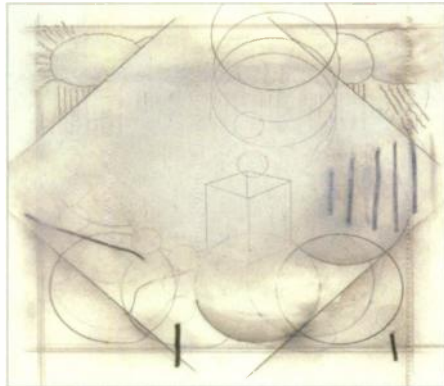


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*Ghettoville*

XLR8R

While Darren Cunningham's (aka Actress) previous releases expressed beat-riddled dubstep (*Hazyville*), experimental R&B (*Splazh*), and beat-less religious allegories (*R.I.P.*), *Ghettoville* retreats into skeletal beats and cryptic melodies. As if scrounging a graveyard to create his own private Frankenstein, *Ghettoville* is all chopped vocal samples, beats submerged in oil and dough, and children's melodies tossed off like candy wrappers. "Corner" seesaws over a squishy beat, while a vocal mumbles below. "Contagious" sounds like a contagion roaming the city, horror-show synth lines hovering above 808 drops and a beat so gelatinous it oozes. Just when you think it couldn't sink lower, "Image" prances fawn-like, its broken gurgles and Playdoh bass boings bringing the dance floor home.

KEN MICALLEF



**Tensnake**  
*Glow*

ASTRALWERKS

The debut full-length from Hamburg, Germany-based DJ/producer Marco Niemerski offers deep house that's equal parts late-'70s Italo-disco, EPROM-era drum machines, melody-washed prog-house, and of-the-moment melancholic funk-led groove. Panning reverb-flanked percussion, dilating cutoffs, splashing bitcrushed fragments around sultry chords and pitching down vocals, Tensnake seats collaborators Nile Rodgers, Jamie Lidell, Jacques Lu Cont, Jeremy Glenn and Fiora in a spacious, supple mix that's restless without feeling distracted.

TONY WARE



**Hardkiss**  
*1991*

HARDKISS MUSIC

Certain sounds can only be created due to their association with specific experiences. Hardkiss, the San Francisco label and "brotherhood" exemplify this with *1991*. The LP marks their re-launch, pays respect to deceased brother Scott, and introduces a new generation to Hardkiss' space disco. The saucy funk of "It's Right" sits well with the flirtatious "Don't Worry," while "I Am Yours Forever" shimmers like a mirrored ball, each a fine sketch of the landscape in which it was created.

LILY MOAYERI



**Johnny Cash**  
*Out Among the Stars*

COLUMBIA/LEGACY

John Carter-Cash discovered a whole album's worth of never-released material by his dad while assessing the Cash catalog in the Sony Music archives. These Billy Sherrill-produced tracks were recorded in Nashville in the early '80s, and showcase the man in black at the peak of his vocal powers, fronting an A-list band. Unfinished edges were massaged by Carter-Cash with the help of Marty Stuart, Buddy Miller, and Carlene Carter. This is a magnificent, unexpected gift from the country gods.

BARBARA SCHULTZ



**Illum Sphere**  
*Ghosts of Then and Now*

NINJA TUNE

Co-founder of Manchester's popular Hoya Hoya night, Ryan Hunn has remixed Radiohead (*King of Limbs*' "Codex") and planted his global DJ seed before delivering his debut as Illum Sphere. Hunn creates escapist music for wandering dreamers. Tying tracks together with static, the album flows from blissful to doomed, whether looping blips and sonar sounds ("The Earth is Blind"), inserting Afro Cuban hand drums between fragrant Rhodes improvisations ("Near the End"), or pairing children's cries with gaseous crunches ("It'll Be Over Soon"). A memorable debut.

KEN MICALLEF

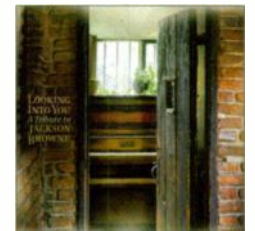


**Liars**  
*Mess*

MUTE

Following up 2012's *WIXIW*, Liars retreat to more provocative, flagellating recesses of the trio's oscillators. Diametric to the Day-Glo euphoria of EDM (electronic *dance* music), Liars feed upon the degrading coils and metabolic insistence of EBM (electronic *body* music)—a less art-shattered, more rhythm-prone, physical offshoot of industrial. Long gone is untreated organic instrumentation; in its place are stains of portamento synth, confrontational sub-bass, staggering keyboard riffs, blunt percussion, and chewed-up vocals.

TONY WARE



**Various Artists**  
*Looking Into You: A Tribute to Jackson Browne*

MUSIC ROAD

These 23 gems highlight Browne's impressive songwriting talents. His beautiful compositions are treated lovingly by great artists/interpreters, including Lucinda Williams, Bonnie Raitt, Ben Harper, and more. Outside of a couple of reggae- and Latin-flavored tunes, this isn't one of those tributes that turns classic arrangements upside-down; there's no punk "Pretender" or R&B "Doctor My Eyes," but this double-disc set displays the artists' sincere reverence for Browne's recordings.

BARBARA SCHULTZ



FROM THE AWARD-WINNING CREATORS  
OF AEON, DAMAGE, AND EVOLVE



# DM-307

MODERN GROOVE DESIGNER

**HEAVYOCITY**  
SAMPLE YOUR FUTURE

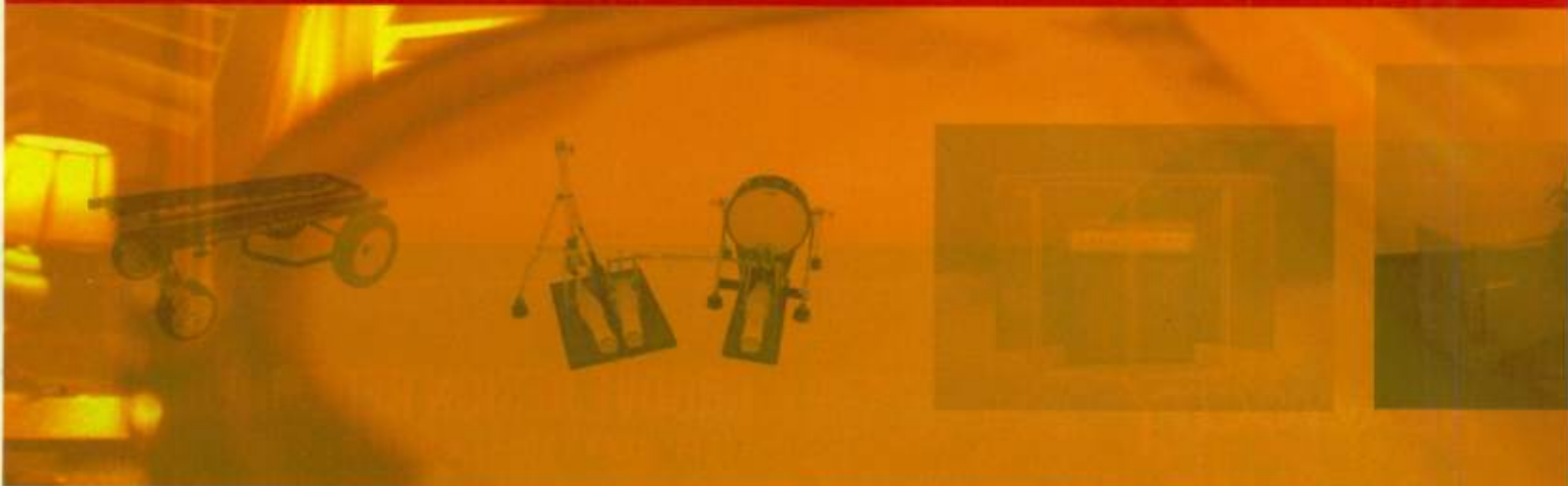
**GROOVE DESIGN REDEFINED**  
VISIT [HEAVYOCITY.COM](http://HEAVYOCITY.COM) FOR DETAILS





**Roundup**

# **Stage and Studio Accessories**





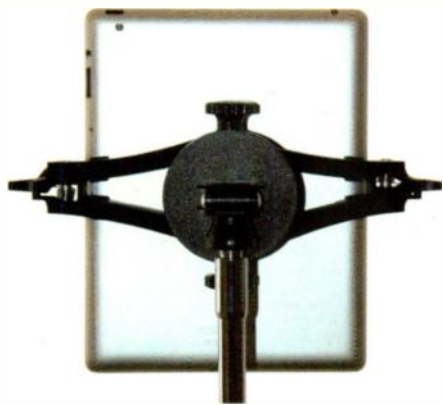
# GEAR

## Sometimes it's the little things in life that count

BY GINO ROBAIR

WHILE WE spend a lot of time and money maximizing the high-profile parts of our rig—amplifiers, microphones, monitors, preamps, compressors, interfaces—we don't always pay enough attention to all the stuff that goes in between. Stands, cables, and other accessories can easily be the weak link in your system if you're not paying close attention. Do you really want to connect your classic mic and vintage preamp using a \$10 cable?

This month, we focus on a range of accessories for studio and stage that are designed to improve sound quality and workflow without emptying your wallet—from smartphone and tablet stands to gadgets that make recording more convenient. (Prices given are MSRP unless otherwise noted.)



## AirTurn Manos Mount

**AIRTURN.COM**

**\$49 STREET**

AirTurn offers a variety of products aimed at musicians who use mobile devices. One of the newest is Manos Mount, a universal stand-mounting system that was designed to mimic the way your hand grips objects between the thumb and fingers. As a result, the Manos Mount can hold anything from a smartphone to a 13-inch tablet.

Manos Mount attaches to the top of a mic stand. The two arms have grips at either end that you open by squeezing their outer edges. Once you've clamped your device in place, tighten the side-screws on the arms to secure it. Your screen can be rotated 360 degrees, letting you use your screen in landscape or portrait view. In addition, the mount can be tilted back to make the screen easier to read whether you're sitting or standing.



## AirTurn Tap

**AIRTURN.COM**

**\$149 STREET**

AirTurn also offers Bluetooth-enabled wireless, digital page-turning devices so

that musicians can keep their hands on their instruments while reading scores. Because drummers also use their feet when playing, the company created AirTurn Tap, a special pad-based interface that reacts to being struck lightly by fingers or sticks.

The pads, which utilize piezo sensors, can be used to turn pages in either direction, start and stop a metronome, or trigger sound files, among other things. Tap's Bluetooth system is based around the company's BT-105 tranceiver, the same device used in its pedal-activated systems.



## Auralex ProGo-26

**AURALEX.COM**

**\$419 STREET**

Short for "professional gobo," the ProGo-26 is a lightweight and portable two-sided absorber panel that can be used to control reflections, alter room ambience, or increase isolation between instruments when recording. Measuring 2'x6'x8", the panel

has a fabric cover that is available in 12 colors and a base laminated with Melamine that can be fitted with casters.

If you need something that covers a greater horizontal area, Auralex offers the ProGo-44 (\$789), a 4'x4'x8" panel that can also be fitted with casters.



## Auralex ProMax

**AURALEX.COM**

**\$299 PER PAIR**

For even greater portability, the Auralex ProMax provides a pair of 2'x4'x3" panels made from the company's proprietary

Studiofoam material. Designed to be easily stand-mounted and placed anywhere, the ProMax panels have an absorptive side and a more reflective, cloth-wrapped side that provides another option when treating room ambience.



## Auralex ProPad

**AURALEX.COM**

**\$149/PAIR STREET**

If you want to improve low- and midrange definition, as well as the imaging you get from your close-field monitors, you need to decouple them from the surface on which they're placed. The ProPad is Auralex's top-of-the-line speaker isolation product for monitors with woofers up to 8".

Available in pairs, the ProPad's design incorporates three layers of material. The base is made from a 0.75" layer of Melamine-wrapped MDF, which is coated with a thick covering of IsoPuck, Auralex's proprietary isolation material created from recycled rubber. Next, an 0.38" ISO-Plate provides a slip-resistant area to place your speakers. The included foam wedges sit under the ProPad and allow you to position your monitors flat or at an angle.

Auralex also offers the ProPad XL (\$299/pair street), which is designed for larger, twin-woofer monitors, or when you want to lay your speakers horizontally.



## ClearSonic SKT3 Sorber Kick Tunnel

**CLEARSONIC.COM**

**\$302**

It's not uncommon for engineers to build a cave around a bass drum and its mic in order to reduce cymbal and tom bleed while attempting to capture the full low-end frequencies of the

kick. The Kick Tunnel provides an elegant and appropriately tuned solution that is designed to reduce upper and mid frequencies while reducing bleed from external sound sources.

The Kick Tunnel uses four ClearSonic Sorber panels, made with 1.5" compressed Fiberglas. You get three S3 panels (33"x22" each) and one S2 panel (24"x22"), which are connected with the included Velcro straps. The Sorber panels are available in light or dark gray. (The Kick Tunnel is semitransparent in the photo to show typical mic placement.)



## ClearSonic AmpPac 10

**CLEARSONIC.COM**

**\$243**

A number of amplifier enclosures for concert and studio work are available from ClearSonic. The AmpPac 10, for example, is designed for small combo amps and speaker cabs (such as a 1"x10" or 1"x12"). The pair of included S2 Sorber panels (24"x22") are intended to sit behind the amp cabinet, while an A2-4 amp shield is positioned in front of the speaker to provide a significant reduction in volume outside the enclosure.

For greater sound isolation, the AmpPac 11 (\$324) adds an S3 Sorber panel, which is intended to be placed on the top of the enclosure.



## Goby Tablet Frame Thingy Deluxe

**GOBYLABS.COM**

**\$54**

Goby has upgraded its Tablet Frame Thingy to the Deluxe level, providing new clips designed to hold

Apple iPads from the second-generation version on up to the iPad Mini. The device mounts to a mic stand using the closed-loop pole grip.

Tablet Frame Thingy Deluxe also comes with a base that allows you to place the tablet on any stable, flat surface.



## Hosa USB-300 SuperSpeed USB 3.0 cables

**HOSATECH.COM**

**\$11-\$27 STREET**

Hosa's SuperSpeed cables were developed specifically with USB 3.0 spec compliance in mind and are able to handle transfer rates up to 5 Gbps. Available in lengths of 3', 6', and 15', the nickel-plated plugs have an aluminum-mylar shield designed to reduce EMI and RFI, which is of particular importance when the cables are used for audio applications.

The SuperSpeed cables are available with Type B or Micro-B connections on one end, making them compatible with computers as well as portable and consumer devices.



## Hosa Edge Series Cables

**HOSATECH.COM**

**PRICES VARY**

Hosa's flagship line of guitar, mic, and speaker cables use oxygen-free copper (OFC)

conductors throughout and are finished off with high-quality Neutrik connectors. The Edge Series mic cables (\$45-\$145) feature Neutrik's XX-series connectors, which have corrosion-resistant gold-plated contacts and zinc die-cast housing. Similarly, the Edge Series guitar cables (\$46-\$81) have X-series plugs with 1-piece, gold-plated contacts and die-cast zinc housing. Both lines contain 20 AWG OFC conductors with a 95-percent OFC braided shield. The Edge Series speaker cables (\$37-\$232) feature 1-piece contacts and use 12 AWG OFC conductors.

All this attention to detail means that Edge Series cables are designed to provide minimal signal loss thanks to the reduced capacitance and resistance of the materials that Hosa chose for these designs.



## Planet Waves Modular Snake System

**PLANETWAVES.COM**

**\$34.99-\$143, STREET**

Cable snakes with a DB-25 connector on one end provide a great deal of efficiency in the studio. But with so many connector types used in audio gear, covering all of your cabling options on the other end of the snake can become very expensive.

The Planet Waves Modular Snake System was designed to provide cost-effective wiring options by letting you connect a Core Cable, which has a D-sub on both sides, to interchangeable breakout cables with different connector configurations on the other side. That means you can leave one end of the Core Cable plugged into the hardware unit, so you don't have to crawl behind racks of gear to reconfigure your studio.

The Core Cables are available in 5', 10', and 25' lengths. The breakout connectors have a D-Sub on one end and a pigtail of TRS, XLR (male, female, digital AES/EBU), or Bantam/TT on the other. If you want to configure your own pigtail with a custom set of jacks,

more condenser mics than phantom-powered inputs on your board? That's when you'll want this Power Bar to give you an extra boost. This simple little box provides two channels of +48VDC phantom power when you connect its external power supply to your AC power mains. And onboard LED lets you know when it's on.

The Power Bar can also be switched to provide +12VDC to products that require less power. The SB-48 is housed in 16-gauge steel and includes a 3-year transferable warranty.

required by Radial's tubeless Tonebone pedals when they're used with third-party pedalboard power supplies that only offer -9VDC outputs.

Tailbone accepts two -9VDC inputs and yields a +15VDC power source for the Tonebone. The unit is encased in lightweight aluminum, so it won't further weigh down your rig. And, yes, the 3-year transferable warranty is included.

Whether you are gigging or loading in and out of a studio, a sturdy cart is essential when it's time to schlepp heavy gear such as amps, keyboards, and drum cases from the back of your van. Although similar in looks to the popular R10, the R16 has a beefier frame, boasting a 25-percent increase in the diameter of the tubing in the parts of the frame where it's needed most for structural integrity. The frame bed has 1.25" tubing, while the foldable handles are 1" in diameter and extend to 52" in length. That allows this cart to carry up to 600 lbs. of vintage keyboards, amplifier stacks, or hard-shell drum cases.

The length of the cart is 34" when fully retracted, and it weighs 33 lbs. on its own. In addition, the company increased the size of the casters by 200 percent, which they say allows the R16 to cross a wider variety of surfaces, including gravel, sand, soft dirt, and grass—that's something to keep in mind when you're hitting the summer festival circuit.



**Radial SB15 Tailbone**  
**RADIALENG.COM**  
**\$69 STREET**  
 And while we're on the subject of power, the new Tailbone is designed to provide the power



**Rock-N-Roller Multi-Cart R16**  
**ROCKNROLLER.CART.COM**  
**\$359**

# Serious 500 Series PowerTools...



### PowerTube™ tube preamp

A single-slot tube pre with 100% discrete design and high performance Jensen™ input transformer. A premium 12AX7 tube drives an ultra low-noise class-A output circuit, delivering exceptional warmth and detail. Features easy to read 10 segment LED meter, a high pass filter to eliminate resonance and an 'air' switch to lift top end for added clarity.



### PowerPre™ mic preamp

The PowerPre is a 100% discrete mic preamp with an old-school Hammond™ broadcast transformer for ultra-warm tone. The Radial PowerPre features Accustate™ gain control for lowest noise at any setting, Vox Control for added breath or extra punch, a high-pass filter to eliminate resonance, a 10 segment LED meter display for easy read-out and plenty of gain to handle any situation.



### Q4™ state-variable parametric

The Radial Q4 is a 100% discrete state-variable class-A parametric equalizer. This unique design enables component level control over individual gain stages, which eliminates the need for excessive use of tone-robbing negative feedback, making the Q4 the most natural sounding EQ ever! Features include high and low shelving with parametric control over the low and high mid regions.



"The PowerPre is a must hear. I got great results, particularly in high transient situations where you can drive it hard for more transformer color. I bought one."  
 ~ Mix



"The PowerPre is a fine example of a well designed, low-noise mic preamp that can give a bit of 'meat' or 'air' when needed. It may well be your preamp of choice."  
 ~ Electronic Musician



"The EXTC is a must-have for any 500 Series owner. It gives you the ability to use low-cost guitar gear in a studio setting. It gives mixes a kick in the pants!"  
 ~ Mix

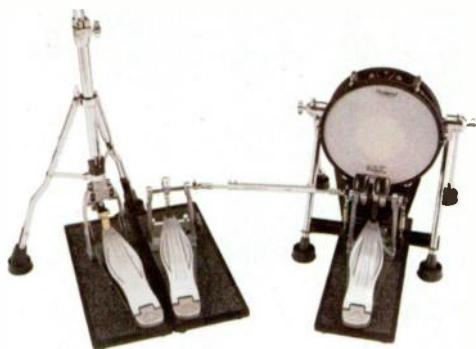


"The Q3 behaves like no EQ I have ever used... it can be a bit tricky at first, but it turns into a fun 'turn the knobs until something cool happens' type of box."  
 ~ Professional Sound



"It took me about 10 seconds to land on something that worked perfectly. The Q3 is a useful, refreshing and simple tool. And it's fun."  
 ~ TapeOp





## Roland NE-1 and NE-10 Noise Eaters for V-Drums

ROLAND.COM

\$29.99 AND \$139 STREET

One of the advantages of using electronic drums, and mesh-headed V-Drums in particular, is that they're not as loud as real

drums, making practice time less intrusive on the neighbors. But even with the most quiet pads, stand-borne vibration can still be transmitted through the floor and into other rooms.

To battle this problem, Roland has developed its Noise Eater line of products to acoustically isolate V-Drum pedals and stands from the floor. The NE-10 is a sound-isolation board, with dome-shaped rubber nubs underneath, designed to sit below a kick-drum pedal or hi-hat pedal. The NE-1 is a small disk that you place under the legs of the hi-hat stand.

Although these products raise the instruments slightly, they are designed to be transparent, both in sound transmission and feel for the player. The company claims that these isolators reduce noise transmission by a whopping 75 percent. Not bad, considering that the V-Drums are fairly quiet already. ■

*Technical editor Gino Robair just loves to accessorize.*

Stands, cables, and other accessories can easily be the weak link in your system if you're not paying close attention. Do you really want to connect your classic mic and vintage preamp using a \$10 cable?

# ...for Power Players!



### Q3™ inductor coil EQ

The Q3 is a 100% discrete passive coil EQ designed to push creativity to the max! It features three EQ bands with 12 low, 12 mid and 12 high frequency preset curves. These curves are combined together to create complex tonal structures without the phase anomalies associated with today's typical gyrator circuits. Miniature 'shift' switches on each band deliver a total of over 13,800 EQ combinations.



### EXTC™ guitar effects interface

The EXTC is a unique device that lets you interface high impedance guitar pedals with the world of professional balanced audio. It features easy access front panel 1/4" connectors for quick set-ups plus individual send, receive and wet-dry controls to optimize the signal path. The effects loop is transformer isolated to help eliminate buzz and hum caused by ground loops.



### Tossover™ frequency divider

Works double duty as filter or frequency divider! As a filter, you can set it to 12, 18 or 24dB per octave slopes to roll off unwanted frequencies or create a band-pass filter to accentuate the mid range. As a frequency divider you can pull apart the bass and highs and process them separately to apply effects to one register while leaving the other alone. Think outside the box.

**Radial**  
engineering  
...PowerTools for power players™



radialeng.com

1588 Kebet Way, Port Coquitlam BC V3C 5M5 tel:604-942-1001

\* Specifications and appearance subject to change without notice.

# Zynaptiq Pitchmap 1.5

Keep polyphonic pitch correction fully under control

BY MARKKUS ROVITO

THE TRANSFIXING, hypnotic, and downright most flexible pitch-correction plug-in is back for a significant update. In case you didn't already know, Zynaptiq Pitchmap 1.5 is pretty much a must-have plug-in for creative sound designers and remixer, as well as an impeccable tool for composers and producers of any ilk.

Polyphony is where Pitchmap 1.5 stands out. It can transpose and correct pitches within fully mixed, polyphonic audio signals in real time (and under MIDI control). The plug-in visually spreads the audio material coming from a host DAW track into separate notes, each note having a Pitch Mapping Slider, which you can manually drag to a new note using the keyboard on the right-hand side as a reference. It's important to point out that Pitchmap 1.5 cannot separate discrete instruments and voices that are playing the same note in the same octave at the same time. However, it is extremely effective at

## SUMMARY

**STRENGTHS** Realtime pitch correction of polyphonic, mixed audio material. Doesn't require drums to be separated from mix. Automatic and manual control. Accepts realtime MIDI input. New presets and preset manager.

**LIMITATIONS** Not compatible with 96kHz audio. Does not work on single monophonic tracks.

**\$399 MSRP, \$369 street**  
zynaptiq.com



Zynaptiq Pitchmap 1.5 is unique in that it offers realtime polyphonic pitch processing under MIDI control, even on full mixes.

the realtime manipulation of polyphonic (or monophonic) pitch material.

**Throwing the First Pitch** The update adds important improvements to Pitchmap's algorithms and automation system, but the most noticeable and important enhancement comes in the form of the preset manager and included factory presets. Click the arrow in the upper left-hand corner, and you can quickly name and save your current settings as a preset, or access one of the dozens of factory presets. Just want to perform basic pitch correction to a mix? There's a preset for that. Need to remove entire notes that were played incorrectly? There's a preset to get you started. Want to input notes through MIDI? There are several presets for you.

Of course, Pitchmap 1.5 is far from a set-it-and-forget-it tool. The aforementioned Pitch Mapping Sliders have several modes of behavior, such as whether they round up or down an octave to the target note. There are lots of options for varying the nuance of the pitch correction, like using algorithm modes with different sound-isolating characteristics, toggling Strict correction mode, or adjusting resolution sliders. You can set the pitch correction to any key/scale available, limit the range of notes you want to correct, and fully bypass or mute any unwanted notes.

Another helpful feature lets you take up to eight Snapshots of settings and then use automation to determine when they apply. That works well if you need different types of settings for certain segments of a song.

Five sound-shaping parameters make up the Process section. Threshold determines how off of the pitch a note has to be in order to be processed. Set the Feel control high to retain variations such as vibrato or Low for a more synthetic sound. Purify reduces or amplifies noisy components in the sound, while Glide adjusts the portamento between notes. And Electrify introduces a sort of synthesizer coloration to sounds. Combinations of the latter four controls can go a long way in determining whether Pitchmap 1.5's corrections retain a more authentic sound or introduce some surreal, other-worldly timbres.

**MIDI Map Mode** Because Pitchmap 1.5 is so good at isolating individual notes and parts of a mixed audio signal, it is a game-changer for mash-up artists or remixer working without a track's stems or multitrack DAW session. However, Pitchmap 1.5's MIDI input takes the plug-in to another level. Whether you use a pre-existing MIDI file or play live through a MIDI interface, you can re-play the input audio's melodies and harmonies in real time.

Take all the liberties you want with the source audio; create a new arrangement or simply use it as the sample oscillator for your own original compositions. This capability makes Pitchmap 1.5 not only a top-notch pitch corrector, but also a new type of virtual instrument. ■

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





Assignable volume knob and data slider

Pitch Bend and Modulation ribbons for enhanced control

32 key velocity-sensitive keyboard allows for two-handed parts

13 velocity-sensitive pads chromatically arranged for triggering loops and playing drums

Transport controls

6 assignable knobs

Crossfader for live and DJ performances

Pan knobs

Mute/Solo and Record enable buttons

5 assignable function buttons

8 channel control surface

Master volume encoder

8 assignable knobs and 4 velocity-sensitive pads (2 banks)

Control Change mode to allow further control

Transport controls

Pitch Bend and Modulation ribbons

25 key velocity-sensitive keyboard

**CHANGE HOW YOU CONTROL**  
Whether you're a producer, performer or a DJ, Samson's all-new line of Graphite Mini USB MIDI Controllers gives you all the music production control you need for home studio and mobile applications in four ultra-portable designs.

With options for every level of performance and production, these controllers are constructed to withstand the demands of the "mobile musician" and feature a variety of presets and programmable features that allow for dynamic, easy-to-use integration into your music software.

**Graphite** MINI USB MIDI CONTROLLERS

# Native Instruments Maschine Studio

More production, inside or outside the box

BY MARKKUS ROVITO

## SUMMARY

**STRENGTHS** Dual high-res, color displays. Dedicated and multifunction controls. Updated Maschine 2 software. Included instruments, effects, and 8GB sound library. Hosts AAX, AU, and VST plug-ins. Works as an AAX, AU, or VST plug-in. Onboard sampling. Easy step-sequencing mode.

**LIMITATIONS** Color customization is software-only. User must adjust to Maschine's own terminology and composition methods.

**\$1,099 MSRP, \$999 street**  
[native-instruments.com](http://native-instruments.com)



The Maschine Studio interface lets you step away from your computer and still get high-level work done quickly.

THE BEAUTIFUL thing about being a not-so-early adopter is that you often join the technological party when it's in full swing. With Maschine Studio, the flagship controller in Native Instruments' hardware/software groove workstation line, the Maschine party has shifted from a hip gathering to a certified rager.

The comprehensive reworking of the Maschine 2 software includes a new audio engine, interface, and Mix view; unlimited groups and effects; modulation for most parameters; improved sampling, macro controls and plug-in hosting (third-party AAX, AU, or VST plug-ins); new instruments and effects; and a comprehensive 8GB sound library including hundreds of drum kits and instruments for all the modern electronic and hip-hop styles.

As a result, Maschine comes even closer to being a full production environment. While it doesn't do multitrack recording or have all the features of a full DAW, Maschine supports a full-scale professional workflow by exporting high-res WAV audio and MIDI files as segments or full mixes, and by operating as an AAX, AU, or VST plug-in inside any compatible host software. Best of all, the deluxe Maschine Studio controller puts

all this power at your fingertips, greatly increasing productivity.

**The New Studio-in-a-Box** Maschine Studio places two beautiful, high-resolution color displays front and center. They show you mini-versions of almost everything from the software, making it possible to do almost everything Maschine can do while hunched over the controller, keeping hands off the mouse/keyboard and eyes off the computer screen. Maschine Studio's screens can also work as supplementary displays for the software showing, for example, mixer channels for the 16 sounds of a drum kit Group while your computer screen shows the Pattern and Scene arrangement.

Like the other Maschine controllers, Maschine Studio uses eight endless rotary encoders and eight buttons that adapt to the current status of the displays to provide quick hardware control over hundreds of functions. On top of that, Maschine Studio's expanded surface area goes to exclusive and very useful controls such as the multipurpose level control and meter in the top-right corner; dedicated editing buttons for Copy, Paste, Nudge, Clear, Quantize, unlimited Undo and Redo; and



**Fig. 1.** The Maschine 2 Mixer view showing the Drumsynths, the Plate Reverb effect, and Compressor with new sidechain input selection.

a multifunction jog wheel that can quickly set the playhead position or control tuning, volume, swing, and other settings.

Along with the displays, the 16 multicolored, velocity-sensitive and wonderfully responsive drum pads take center stage on Maschine Studio. In concert with their eight pad-function buttons and dedicated Group buttons that modify the utility of the pads, you can play, record, and arrange drum and instrument sounds and patterns at a rapid pace with a workflow style that's your own.

**Form Meets Function** Whether you work exclusively with the hardware, the software, or more likely a mixture of both, there are many ways to perform most tasks with Maschine Studio. For example, searching the Browser for user or factory instruments, effects (24 Maschine effects included), sounds, samples, or projects can be done in the software or by using the controller's Browser button, jog wheel, displays, and function controls.

Pressing the Sampling button lets you carry out the whole process of sampling from the hardware's displays, function controls, and pads. You can sample either from an external input or from any of Maschine's Group outputs

or Master output, edit the sample's end points, slice it, edit the slices, and assign them to pads. The rapid process lets you incorporate polished samples into your music in moments.

When modifying effects or sounds, Maschine Studio lays out the available parameters on the displays in groups of eight. You scroll through parameters with arrow buttons, and the encoders tweak them. For example, Maschine 2 has added the excellent Drumsynths—monophonic software instruments dedicated to Kick, Snare, High-hat, Tom, and Percussion drum sounds (see Figure 1). They work like plug-ins, and each one has several styles of drum sounds to choose from, as well as Tune, Decay, and other parameters. You can access Drumsynths in the software Mixer view, which toggles from the Arrange view from the Tab key, or you can find them from the controller, selecting a Group button, a pad for the individual sound, and then using the display and function controls to shape a Drumsynth sound.

Any individual sound or effect parameter can be modulated, with detailed modulation curves showing up in the software beneath the Pattern view. You can create, record, edit, and arrange Patterns into larger Scenes, which

you edit and arrange further to create larger compositions; all of it is possible exclusively on the hardware, which does a remarkable job of displaying up to 16 sound sequences in miniature form.

And although Maschine Studio was designed for use with its own software, it can be used as a MIDI controller for other hardware or software. Pressing Shift + Channel launches MIDI mode, which I used to easily control several other software programs. You can toggle back and forth from MIDI mode as you like.

**Dream Maschine** All in all, Maschine Studio has to be one of the most, if not *the* most, impressive examples of hardware/software synergy for a single product. Maschine 2 is a quantum leap of a software update, and Maschine Studio enhances it in every way, making it faster and more fun to use.

This is what I imagine Native Instruments intended for Maschine all along: the realization of a single-piece hardware workstation that leverages the computer's processing power while making the larger trappings of computer production available only if and when the user wants them. ■

# Zoom H6 Handy Recorder

Six tracks  
and a lot more

BY GEARY YELTON

ONCE AGAIN, Zoom has brought down the size and price of portable multitrack recording technology while greatly increasing features. Priced below \$500 and weighing just over a pound, the H6 can simultaneously capture six tracks of 16-bit/44.1kHz to 24-bit/96kHz WAV files, as well as MP3s, onto SD, SDHC, and SDXC cards (up to 128GB) while running on four AA batteries.

## SUMMARY

**STRENGTHS** Four balanced XLR/TRS inputs. Swappable mic capsules. Phantom power. Variable playback speed. Pitch transposition.

**LIMITATIONS** AC power supply is optional. Battery indicator has only three segments. Can't independently select jacks for phantom power.

**\$499 MSRP, \$399 street**  
zoom-na.com



The H6 comes with two microphone capsules that you can swap as if they were lenses on a DSLR camera. Four combo TRS/XLR jacks provide additional inputs for external mics or feeds from other audio

**The Zoom H6 redefines versatility with swappable microphone capsules and the ability to record six tracks simultaneously or individual tracks one at a time.**

sources. Each jack has a -20dB pad switch, and the H6 supplies variable-voltage phantom power to all four jacks simultaneously. (Zoom says the H6's inputs are hotter than those on previous models.) The stereo mic/line input on the XY capsule can also provide plug-in power. Audio output is through the headphone minijack, line-level jack, or rear-mounted speaker. A backlit color LCD provides a graphical user interface, and a mini USB jack provides a connection to your computer.

Front-panel buttons, labeled L and R, enable mic-capsule recording, and buttons for the four jacks are labeled 1 through 4. A knob on the capsule adjusts its input level, and four knobs below the capsule adjust levels for the four inputs. Except for the Record button, which is slightly recessed to prevent engaging it accidentally, all the buttons produce a satisfying click when pressed.

You could operate the H6 with one hand, but because the mic capsule makes it top-heavy, you'll want to use both hands. The H6's curved back and sloping lower section help to mitigate its physical imbalance and make it fit more comfortably against your palm.

Along with the two mic capsules, the H6 comes with a foam windscreen, a 2GB Micro SD card and adapter, a USB cable, four AA batteries, a printed manual, and a DVD containing Steinberg Cubase LE6. You also get a plastic carrying case for the entire kit. Options include two additional capsules (see below) and an

accessory kit (\$74 MSRP, \$59 street) containing an AC adapter, a wired remote, and a hairy windscreen for the two included mics.

**Mic Check** The H6's capsules quickly snap on and off as needed. One features an X/Y coincident pair—two crossing directional mics that you can rotate slightly to vary the angle from 90 to 120 degrees—suitable for recording relatively close sources such as individual instruments or small ensembles. The other is a mid-side mic that lets you adjust the width of the stereo field, making it better for recording wider stereo images such as concert performances. You can turn off the side mic for mono recording.

Zoom also offers the optional H6 shotgun mic capsule (\$162 MSRP, \$129 street). The H6 is certainly an odd sight with this 6-inch-long mic attached, especially with the included hairy windscreen, which looks just like an animal's tail. Fortunately, the combination isn't as unwieldy as it looks because the mic is so lightweight, and it's very effective at isolating signals at a distance.

Another option is the EXH-6 XLR/TRS expansion module (\$87 MSRP, \$69 street). In the place of a mic capsule, it offers an additional pair of XLR/TRS inputs with separate level knobs but no phantom power. The EXH-6 is indispensable when you want to record six tracks directly off a mixing board or use six line inputs or external mics, as long as no more than four of them require phantom power.

**Box of Tricks** Zoom really packed the H6 with useful features. Using only the mic capsule, backup recording captures a second pair of tracks at a lower input level in case the first pair overloads. Recording can begin two seconds before you press the Record button, or you can set a threshold to start and stop recording automatically. You can drop markers, loop playback between two points, change the playback speed, transpose pitch, instantly normalize the signal, and more. You can even tag audio files with a voice memo, which helps tremendously when you're organizing remote recordings back at the studio. You also get a built-in metronome, chromatic tuner, and compressor/limiter.

Like any good multitrack recorder, the H6 can overdub on separate tracks during subsequent passes, and you can adjust the level and panning of each track. When you record overdubs, the H6 creates a separate stereo or mono WAV or MP3 file to supplement the previous stereo or mono file. I was doubly impressed that my Mac recognized the recorder as a 6-in, stereo-out audio interface. (Windows requires a driver.)

Simply put, the H6 is a remarkable piece of machinery. If you've ever wished for a 6-track recorder you could slip into your coat pocket, especially one as versatile as the H6, technology has finally caught up with your desires. ■

*Former Electronic Musician senior editor Geary Yelton lives in Asheville, NC, once home to famous writers like Thomas Wolfe and O. Henry.*

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Goby LABS

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The advertisement is a colorful illustration with a light blue background and a black border. At the top, a white banner with black text reads 'The Thingy Series'. Below it, a black banner with white text says 'Holding Your Stuff Since 2012'. The central focus is a black, cross-shaped device with a silver microphone attached to its top arm. Below the device, the text 'Tablet Frame Thingy Deluxe' is written in a stylized font. Further down, it says 'Holds your iPad® or iPad mini on a desktop or mic stand'. In the bottom right corner, a yellow cartoon character with a red hat and a speech bubble that says 'I dig it!' is shown. The Goby LABS logo and website URL 'www.gobylabs.com' are at the bottom center. There are also small cartoon faces in the corners of the frame.

## Sample Magic Magic AB

Getting a mix reference has never been this easy

BY MIKE LEVINE

SHORT OF getting your studio acoustically treated, one of the best ways to compensate for sonic imperfections in your mixing space is by referencing, or A/B-ing, your mix with professionally mixed material of a similar style and instrumentation. Referencing won't substitute for good mixing skills, but it can help a great deal in areas such as judging the amount of bass in the mix, balancing the vocals against the instruments, and determining how much to EQ the top end.

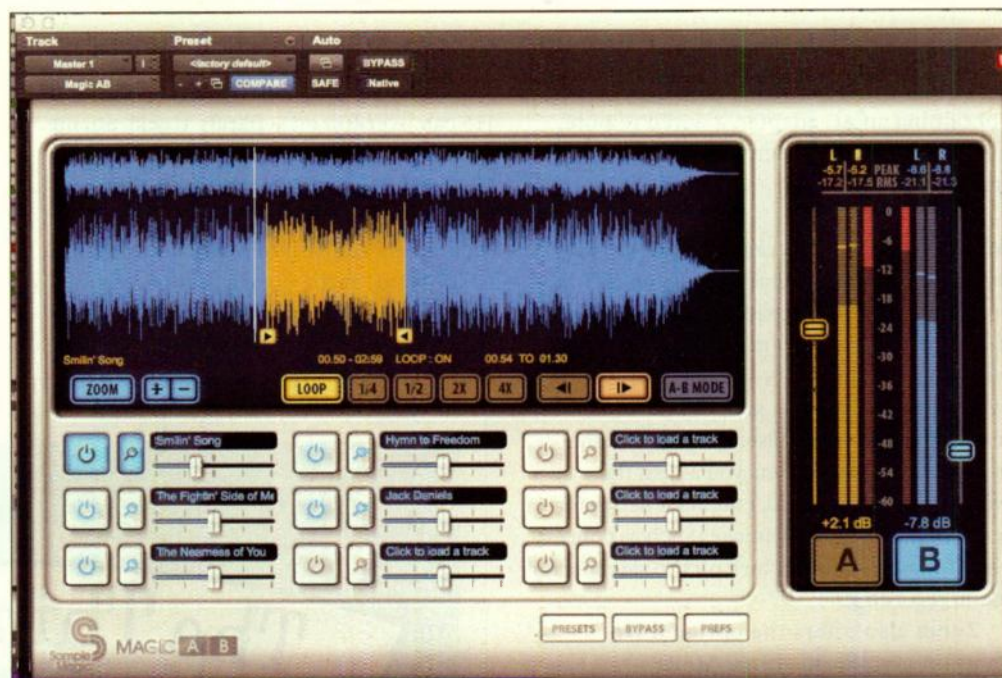
A key to successful referencing is being able to quickly switch back and forth between your mix and the reference, so that you hear one right after the other. If you have to go through several steps and there's a pause between A and B, which is often the case in the mixerless world of the home studio, the referencing won't be as effective.

### SUMMARY

**STRENGTHS** Allows for seamless A/B-ing of your mix. Up to nine reference tracks can be loaded at a time. Easy and flexible looping of reference tracks.

**LIMITATIONS** None.

**\$48.99 MSRP**  
samplemagic.com



Magic AB's user interface, set here to loop a section of the active reference track.

Sample Magic's Magic AB is a plug-in designed to make referencing fast and easy. After using it the first time, you will wonder why someone didn't think of this before. What's more, Magic AB can preload up to nine reference tracks at a time and switch among them as you A/B your mix.

Magic AB is compatible with all major plug-in formats, including 64-bit AAX in Pro Tools. Installation is simple, and authorization requires only your registered email address and serial number.

**One Screen, No Waiting** The interface is a single screen with a waveform display at the top, slots and controls for the reference tunes underneath, and a pair of level meters on the right. The manual recommends inserting the plug-in on your master track, after any other effects. The plug-in creates an audio stream entirely separate from your mix. When the A button is pressed you hear your mix, and when the B button is pressed you hear the selected reference track.

Magic AB supports most common audio file types for the reference tracks: 24-bit AIFF and WAV files, mp3, and AAC (m4a) on the Mac; 24-bit files and mp3 on Windows. The Mac AAC support is handy, because it lets you seamlessly import files from your iTunes library.

The A and B streams each have their own volume control, making it easy to set them to an equal level—that's crucial for successful

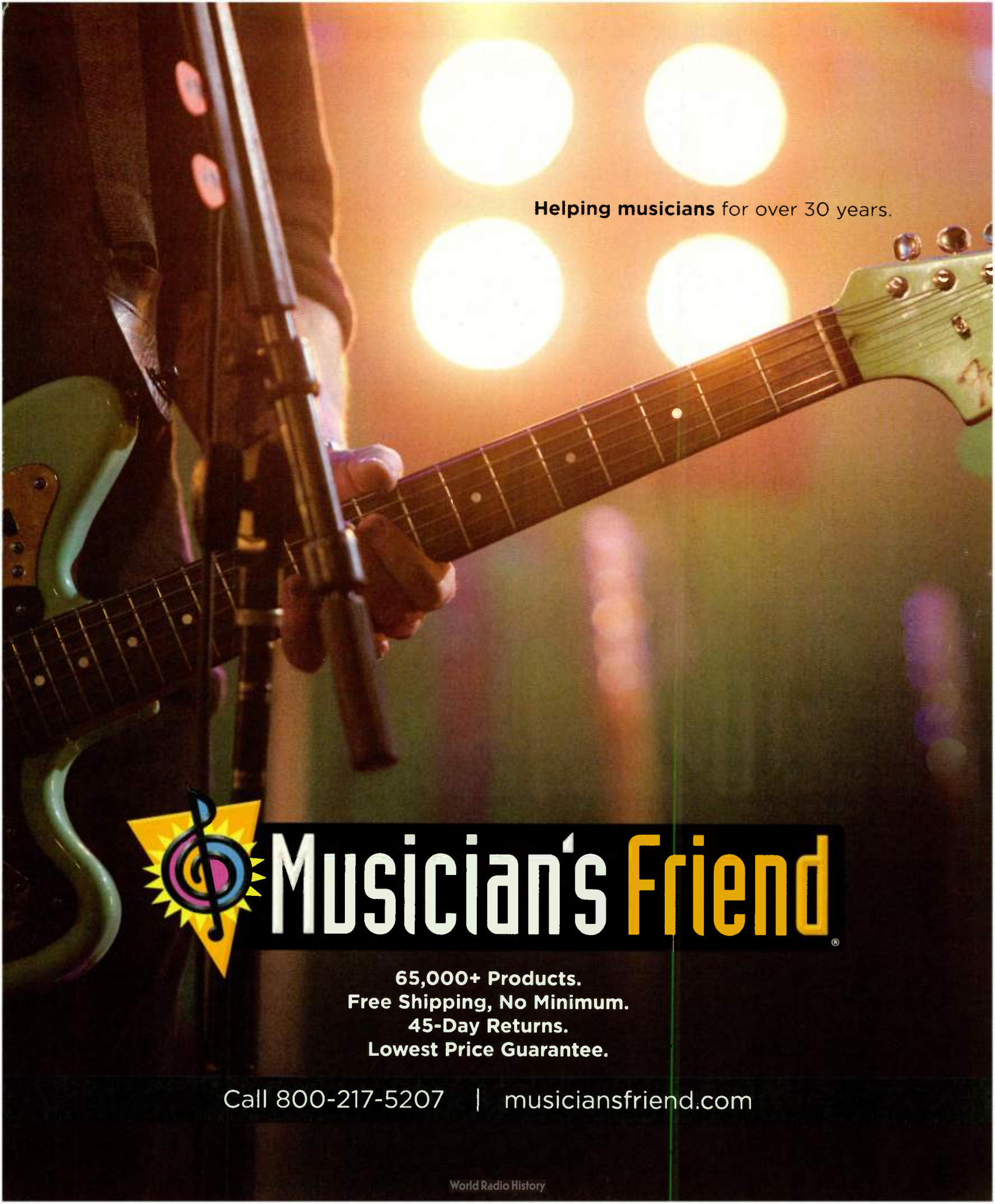
referencing. You get a detailed display featuring side-by-side level meters that show peak, RMS, and Crest value (derived from the peak amplitude of the waveform divided by the RMS value). You can also adjust the reference track levels from their individual slots.

Sections of the active reference track can be looped in the waveform display. Buttons let you instantly change your loop to 1/4, 1/2, 2x, or 4x its size. You can zoom in on the reference track's waveform and even adjust the crossfade time (from 0 to 1,200ms) when switching from A to B.

**A/B = Results** I've used Magic AB on all my mixes since I got it. Because it makes referencing so easy and convenient, it has allowed me to A/B a lot more, and that's helped me get my mixes done more quickly (and without having to run to the car to check the bass level or how the vocals sit against the instruments). In the past it was a hassle just to have one reference song easily available, and now I can have up to nine.

In addition to the increased efficiency that Sample Magic's plug-in has brought me, the ability to check my work against that of top pro engineers has helped me hone my mixing skills and get better results. I highly recommend Magic AB. ■

*Mike Levine is musician, composer, and music journalist in the New York area.*



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# HOW TO

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## Getting the Most out of Mastering

Greg Calbi helps DIY recordists prepare their mixes

BY BARBARA SCHULTZ

IN A recent interview, *Mix* magazine asked Sterling Sound managing partner and senior mastering engineer Greg Calbi to talk about the way his work has changed in the age of low-res streaming and high-res digital releases. But after 40 years of helping artists from Alabama Shakes to Ziggy Marley to elevate their music, Calbi is less interested in new formats than he is in the changing face of his mastering clients.

“I master up to 200 albums a year, and maybe ten of those will sell over half a million,” Calbi said. “But the other 190 or so records or so that come out that aren’t huge hits also really need our service. Our clients might be artists who are doing this entire thing on their own—they’re engineering, but they’re not necessarily engineers. It’s a totally different type of person that’s having to develop as a songwriter and creator in this environment, and it’s a very taxing and high-energy and low-paying situation that musicians come into now, and try to be successful.”



As a veteran who serves many novices, Calbi takes his responsibilities as an educator, as well as engineer, seriously. *Electronic Musician* asked him to help artists and engineers understand what mastering engineers need from them to get the best from each project. Here's his advice, in his own words.

#### Keep Everyone on the Same Page

Probably the primary thing to tell a person who's new to the mastering process is that the mixes they make do not, and should not, need to be level-maxed. They shouldn't be super loud and super compressed. That's something that is better left for the mastering person.

I had a guy here very recently who had a really nice-sounding project, but he'd used level-maxing software that was so out-of-control that it couldn't be accepted by any of the analog equipment that we usually use to process audio. I had him take that plug-in off and come back, and it sounded fantastic.

Ideally, if someone does mix using level-maxing software, they should provide the mastering engineer with that plus [a mix] with that bypassed. And no matter what, it's important for the mastering engineer to

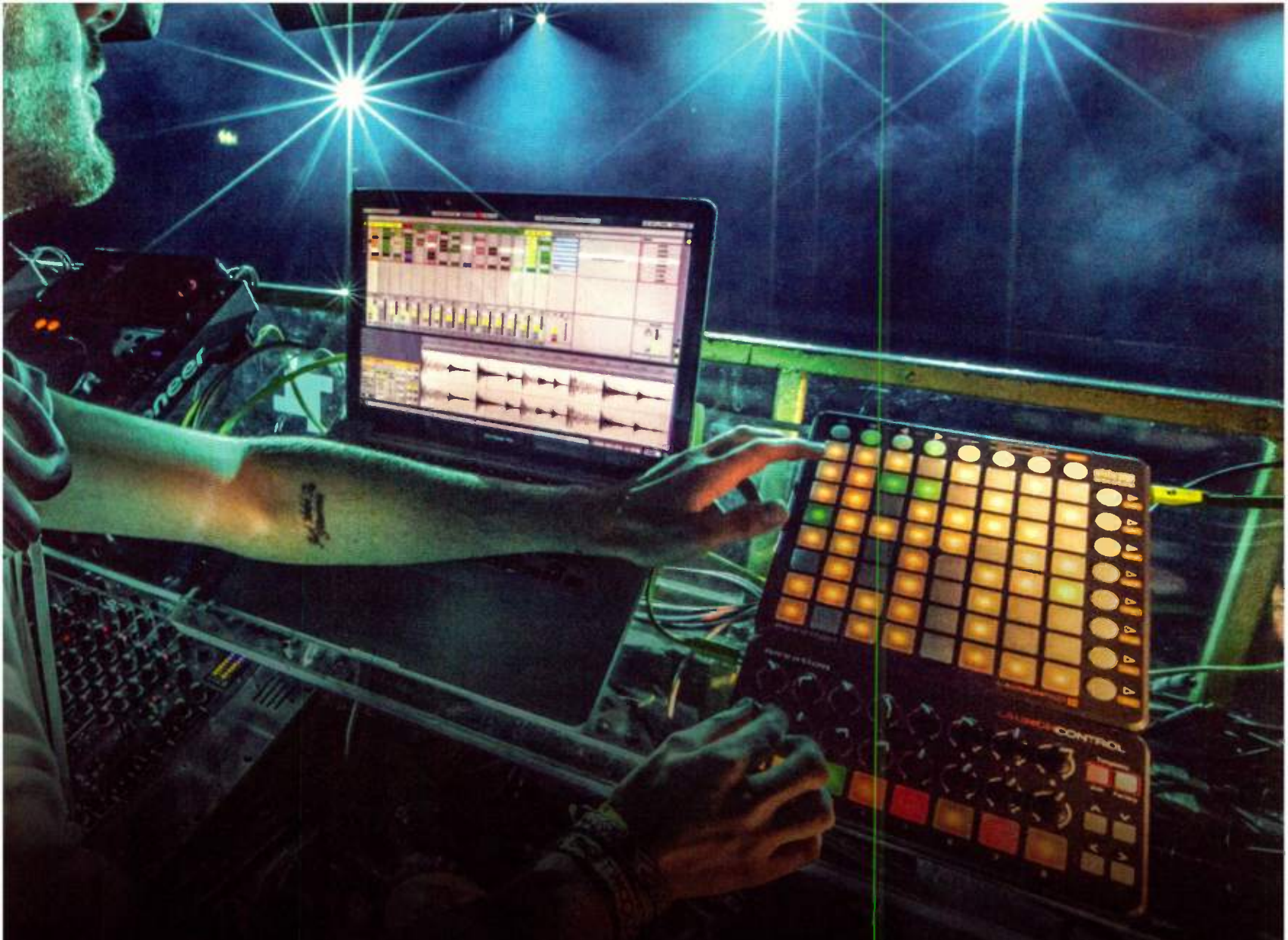
**“The primary thing to tell a person who's new to the mastering process is that the mixes they make do not, and should not, need to be level-maxed.”**

have whatever version everyone involved has been listening to. Whether there's a quieter version, or a louder version, or a version with vocals that are more prominent, the mastering engineer needs to know what everyone's received, so that the post-mastering level can be equal to what everyone has heard. It's almost impossible to get an approval on a master if somebody on the team has a mix in their possession that's louder.

This is something every engineer has to deal with: What is the vision, and what is the perception of mix as it's being heard by the people who are involved in sponsoring it, or buying it, or by the musicians who think of it as their own.

**Know Your Room** Frequently, the biggest challenge with people mixing in a home environment is their monitoring situation is less than ideal. In other words, what that person is hearing does not accurately reflect what is being recorded, and when the music that the person is recording is played back on accurate equipment, all of a sudden, anomalies appear. It can be difficult, particularly in the low end, to get an accurate representation of what is actually on that digital file. For example, the client could have a room that's very narrow and not deep enough to really reflect the low end, so the bass gets cut off, but meanwhile it's on the file.

Over the past five years, it's become an endemic problem where I'll get something that has a massive amount of low end, and then have to determine: Did the person mixing this really want to have this much low end, or did



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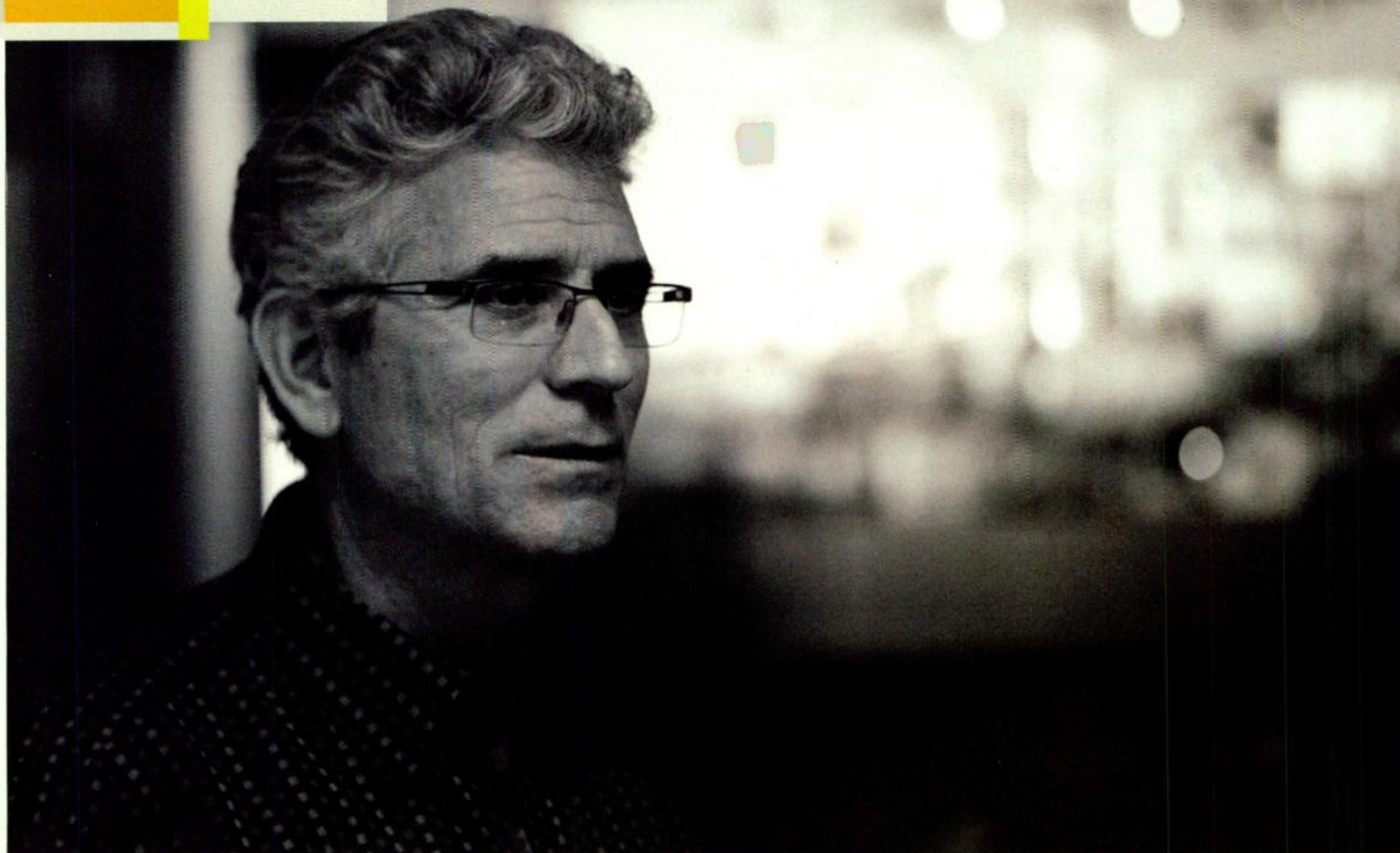
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they just not hear it? If somebody comes to a session with a mastering engineer and listens in a room that's properly balanced and tuned, they'll hear it right away and go, "I didn't know I had that much bass!"

But if the client is just sending a file to a mastering engineer, the engineer has to play a guessing game as to what the client's taste is. He doesn't know if the client just loves bass—some people just love low end, and you don't want to take that away if they love it—or if that's not what they really meant. It helps a lot if the mixer knows what to expect from their room sonically, so they know what maybe needs to be communicated to the mastering engineer.

**Communication Is Key** I recommend that anybody establishing a new relationship with a mastering engineer send a note of explanation, particularly if they have a specific sound in mind for the mix: "We're doing a reggae thing, so we really want the low end to be big and rich and round," for example. Communication is very important with anybody who's working on any part of your music project, whether it's somebody playing a bass part

**"Frequently, the biggest challenge with people mixing in a home environment is their monitoring situation is less than ideal."**

or somebody mastering it. You have to let them know what you're trying to do, because you're creating a work of art, and there's no obvious correct or incorrect; it's all about creating something that's going to be pleasing musically, and it pays for everybody to be on the same page.

I always encourage clients sit in on mastering sessions if they can, but unfortunately with the economics of the business being what

they are, only about 35 percent of my clients can sit in—and I have more attended sessions than anybody here at Sterling.

Short of that, I just encourage as much interaction as possible. It's a strange thing: Some people really don't want to be involved in mastering, even if they mixed the project. They really just want to pass it on to somebody else. I respect that. So, sometimes communication just means a one-sentence email: "Do what you think is best. We like what you do, and that's why we sent it to you." That's good to know, because then if I hear the bass as too loud, I can say, "I know they want me to use my best judgment, and I know what will make it something I like listening to and I feel proud of."

Other people will sit in and listen to a mix, and say, "This is one part where the keyboard is too low, or in this vocal line I can't understand one word." That's what I call inside-the-mix tweaking, which generally a mastering engineer will not take it upon himself to do unless the client asks for it.

**Ask for What You Want** Inside-the-mix tweaking means, working on the individual elements to get the mix to where everybody

wants it to be: all the vocal lines and solos are loud enough, the hooks at the end are loud enough. These are things that are mix-related, but a mastering engineer could help with. However, these would not necessarily be things that a mastering person would do without encouragement and without suggestion.

I wouldn't ever start to take apart a mix like that if I weren't told to do it. It would be disrespectful to the people who mixed it. A mastering engineer doesn't look at his work like a mix fix. Mastering is different from that. You don't go inside the mix unless there's an obvious problem, like all of a sudden a guitar solo is panned all the way to the left and it's clear there was a mistake in the automation or something where one channel got muted by mistake.

**Exercise Your Options** If you look at the mix as raw material, the mastering engineer has more flexibility if he has something that's closer to the source rather than ultra-processed at the end. On the creative side, on sound creation, I would say that in terms of the actual elements of the mix—the guitar sounds, the keyboard sounds, the bass sound, the vocals—it's not so much for the mastering engineer to determine what gets included. It's more about creating balance between everything.

But if a mix engineer wants a mastering engineer's input on those inside-the-mix type decisions, it helps to give the mastering person some choices. If you're not sure how much bass to have in a mix, you can print the mix with no bass and then print the bass track on a separate stem and then send both to me. This is not frequently done, but if the producer/engineer is also the artist, that person might benefit from a professional mastering engineer's perspective. So sometimes the client will say, "I printed a mix with the bass the way we think it should be, but I also gave you a mix without the bass in the instrumental and the bass on a separate track." You basically can do that with anything, but it's usually the bass or the vocals that are the most debatable and complicated, where you might want to offer more options.

**When to Compress** If clients use compression on individual tracks and then mult them, that kind of stemming will work, but if there's compression at the very end of the chain—so the bass is before the compressor, for example—that will change the mix drastically. Not only will the bass be different, but the mix compression will be different. In other words, if you bus-compress the whole mix and then change something prior to the mix, you need

to put the entire mix through that same compressor to get that same feel for the mix. If people do separate drum compression, vocal compression, bass compression, and they combine all the three at the end with no bus compression at the very end, then I can balance them here.

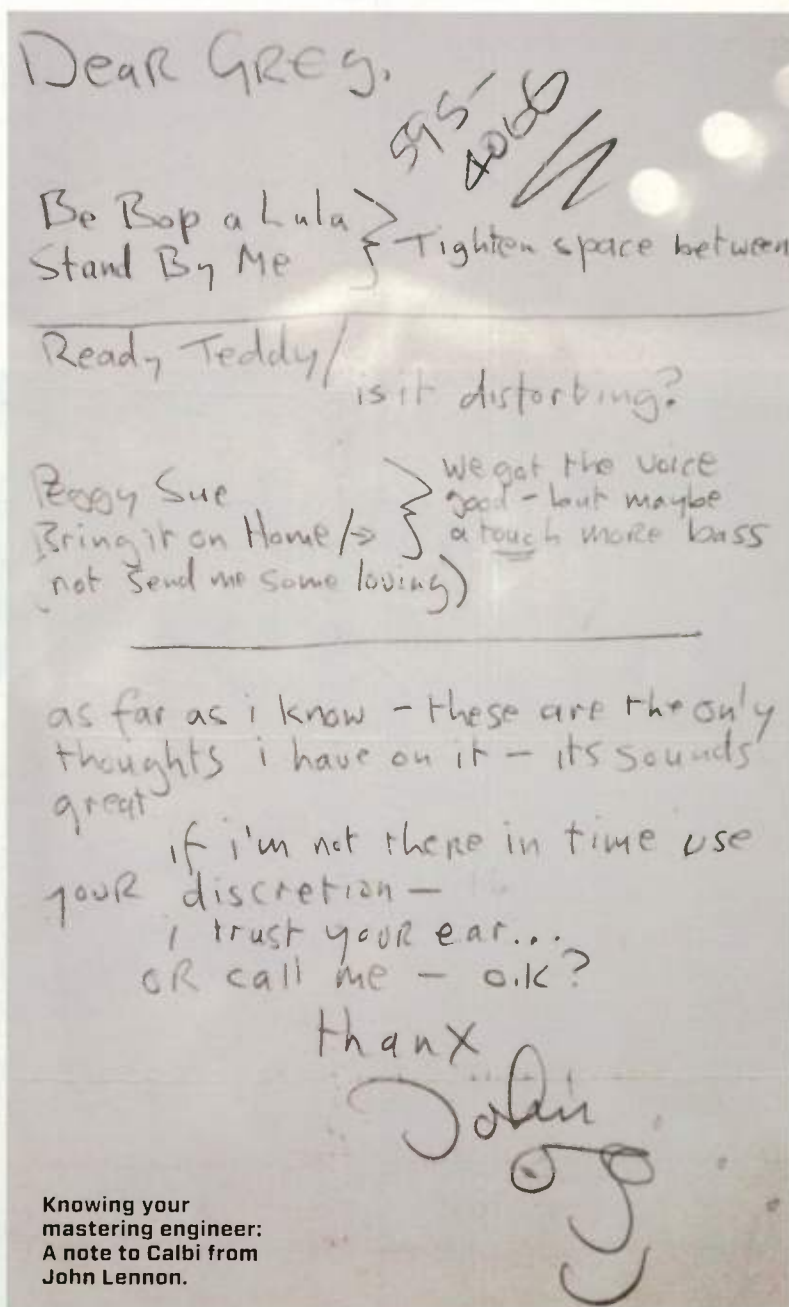
I keep coming back to this, but so much depends on how much interaction the client has with the mastering person. If you want to include the mastering person in the mix process, and let him know that, he can be very helpful, and if the client is an independent artist who's financing the project himself and working in his own studio, then the client has the flexibility to go back and create another mix, or break out a mix for the mastering engineer.

So if you're uncertain of the vocal level, print a couple of mixes and send them to your mastering engineer and say, "Which one do you think we should use?" Bass up or bass down? Vocal up or vocal down? Compressed or uncompressed? Give the mastering person a choice and then have some communication about it.

**Know Your Mastering Engineer** If my client is somebody I've been working with for a while, we can communicate back and forth, even during the mix, via an upload server that we use for works in progress. Longtime clients might send me a mix and ask, "Are we close? Are we

there?" But I would have to have a relationship with somebody to do that. It's not like people can just see my name on the internet and say, "Can I send you some mixes to listen to?" That's not the way it's done. But there is a lot of flexibility within the system here once you get to know somebody.

I encourage people to develop a relationship with a mastering engineer they trust because there are benefits to having that relationship. Let's say you just bought a new A-to-D converter and you wanted to do a mix with it and also mix with your old converter, and you want somebody who has good ears to say which one sounds better. It's the same as having a couple of bass players you often use; it's just good practice to build those kinds of relationships.



Knowing your mastering engineer: A note to Calbi from John Lennon.

## HOW TO

## master class

**A mastering engineer doesn't look at his work like a mix fix. You don't go inside the mix unless there's an obvious problem."**

**What Will It Cost?** If someone is not here attending the session, we bill by the track. But we have a limit. If people send us 15-minute tracks, and then we have to bill by the hour, because that can change a half-hour job into a full-hour job. The per-track rate will also include some consultation if someone wants to send a mix and ask us to check the mix and make sure it's in the ballpark. But if we get into a lot of back and forth, we would have to start billing by the hour, but we would let the client know that in advance.

**Is It Ever a Good Idea to Master Yourself?** The thing is, it's really important that someone involved in your project has an environment that is accurate, but somebody who's mixing *and* mastering would be mastering in the same room where they're mixing. They're not getting the perspective they need to understand the quality of what they have.

What I always say is, for the past 40 years I've worked with professional people from professional studios who have years of experience, and who still rely on a mastering engineer to listen and correct their mix if it needs correction, or enhance it if it needs enhancement. I'm talking about some of the most talented people on the planet: guys like Geoff Emerick and Al Schmitt.

They don't just use mastering engineers to create a master to be manufactured; they take the opportunity to check their mix and make sure the music is taken as far as it can get musically.

So, if that's the mentality of longtime professional engineer, why would somebody who has less experience think they've enhanced the mix as best they can, if there is enough money and enough time to plug somebody else into the process?

Obviously, I'm a mastering person, and I want to feel like my job means something. But when somebody says to me, "I never knew it could sound this good"—when somebody who's a musician and really deep inside their project says their recordings took on another dimension—I realize that the work we do here can make an album sound more dynamic and better. ■

*Barbara Schultz is a freelance writer and editor, and a regular contributor to Electronic Musician and Mix magazines.*



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**Fig. 1.** Brainworx bx\_control V2 offers a boatload of meters, monitoring facilities, and imaging controls essential to mastering.

## Must-Have Mastering Plug-ins

Essential metering and monitoring software

BY MICHAEL COOPER

THE QUALITY, precision, and feature sets of the best contemporary plug-ins now make it possible to achieve stellar results when mastering in the box. To be sure, there is no substitute for hiring a professional mastering engineer and facility. You shouldn't even consider mastering your own project unless you have a room and monitors that are virtually flat over an extended frequency response. But if you have the room, ears, monitoring path, and technical chops, here are some essential plug-ins you should have on your stereo output bus for mastering.

**Brainworx bx\_control V2** This brilliant plug-in provides you with meters that show RMS and peak levels for left, right, mid, and side channels (see Figure 1). Additional meters display dynamic range, L/R balance, and correlation; the last can help alert you that your masters potentially have too little or too much stereo information, which affects the width of the soundstage and mono compatibility.

Solo the left, right, mid, and side channels in turn to hunt down distortion and check that the bottom end is in-phase. (Hint: If you hear the kick drum

when soloing the side channel, no amount of EQ will give it the bottom end you seek on the recording.)

Not only can you adjust the L/R balance, you can pan the mid and side channels independently of each other. If, for example, the kick drum, bass, and vocals are not exactly centered, you can correct that using the Pan M control—without affecting the imaging for reverbs and other stereo information. Raising the Stereo-Width control increases the level of the side channel with respect to that for the mid channel; while this widens the stereo image, make sure it doesn't also adversely affect the balance of vocals and instruments (and keep an eye on the correlation meter!). To focus the bottom end, raise the Mono-Maker control to collapse the imaging of bass frequencies—below your specified cut-off frequency—to mono.

**Sample Magic Magic AB** Mastering requires having at least two monitoring paths so that you can compare masters that you've already rendered to those you're currently working on for the same project. It's important to compare loud sections of each program and the transition between the end of one track and the start of the next. In the past, that usually meant switching monitoring paths while navigating DAW markers—a hassle and a perception-warping distraction. Magic AB changes all that. (For more on Magic AB, see our review on page 56.)

Magic AB lets you switch playback among nine different masters and your current track—each starting at different timeline locations—in turn, using simple mouse clicks (see Figure 2). The plug-in's loop functions let you repeatedly compare, for example, the chorus of each track in turn. As you switch Magic AB's output to successively play each program, the plug-in shows you its crest factor (peak-to-average level) for comparison purposes; this helps you create masters free of unwanted jumps in levels between tracks. Early in the mastering process, you can use each track's dedicated fader to remove level bias when comparing spectral balances between mixes.



**Fig. 2.** Sample Magic's Magic AB plug-in facilitates easy A/B comparisons between your current program and nine other tracks in turn.





**Fig. 3.** Sonnox Fraunhofer Pro-Codec offers realtime auditioning of up to five codecs in turn. Here, readouts for the codecs' maximum bitstream levels indicate clipping will occur using the HE-AACv2 codec at the bottom of the list, unless corrected.

**Sonnox Fraunhofer Pro-Codec** When mastering for data-compressed release formats such as Apple AAC (Mastered for iTunes) and mp3, it's extremely helpful to be able to hear how each associated codec, encoding mode, and bit rate (in codecs where they may vary) will affect sound quality. Sonnox Fraunhofer Pro-Codec lets you audition each of the major codecs at different settings in real time *before* encoding the file (see Figure 3).

Pro-Codec also displays how much the original file's output needs to be trimmed to prevent clipping that would otherwise likely be caused by the encoding process. It provides simple means to execute the adjustment before recording the encoded file to your hard drive. However, you should ideally make any level adjustment before the plug-in's input in order to optimize gain staging, dithering, and so on. You'll sometimes find that lowering the master's output volume an additional half dB or so (below the level required to prevent clipping in the codec) creates a better-sounding data-compressed file.

Pro-Codec can set up blindfold-listening tests in which you can compare the output of two codecs to one another or the output of one codec to the plug-in's input signal. The plug-in can also display how often you correctly identified a source during multiple blindfold tests. Such ABX testing helps you tell whether differences you perceived in codec output were real or imagined and whether your settings will yield virtually transparent results.

Pro-Codec writes very limited metadata to encoded files. To write or edit comprehensive metadata to data-compressed files (for example, artist and publisher credits), use the state-of-the-art Codec Toolbox Manager included in the Sonnox Fraunhofer Codec Toolbox software bundle.

**Cover the Basics** Every engineer has a go-to equalizer and compressor. Whatever your preferences in that regard, you'll need

accurate and comprehensive metering and monitoring to master in the box. The plug-ins reported on here deliver in spades. ■

*Michael Cooper is a mastering engineer, a contributing editor for Mix magazine and the owner of Michael Cooper Recording in Sisters, Oregon (myspace.com/michaelcooperrecording).*

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## Jamming Online

How to collaborate with other musicians on the Internet

BY RANDY CHERTKOW AND JASON FEEHAN

WHEN THE Internet opened up the world to musicians, it didn't just create new ways to distribute, promote, and sell music. It brought entirely new ways to collaborate with musicians and *make* music. This has caused an explosion of new methods to create and remix music online. If you need a creative jump start for your music, or just want to try new ways to collaborate with musicians around the globe, consider these options.

**Virtual Jam Sessions** With just a computer, an Internet connection, and a microphone or instrument jacked in to your computer, you have a lot of options for jamming with others online, in real time. Perhaps the biggest challenge with this type of collaboration site is Internet delay. If



you have a solid broadband Internet connection, online jamming may be worth exploring. Try out eJamming ([ejamming.com](http://ejamming.com)) or the open-source software programs Ninjam ([ninjam.com](http://ninjam.com)) or Jamulus ([sourceforge.net/projects/llcon](http://sourceforge.net/projects/llcon)).

**Track Sharing Sites** If you have your own DAW, you can help build songs with musicians all over the Internet, one track at a time. Musicians who would never have set foot in the same studio can now meet online and create new music. Sites

to check out include Kompoz ([kompoz.com](http://kompoz.com)) and Indaba Music ([indabamusic.com](http://indabamusic.com)). Take a listen to the diversity of tracks on the front pages of any of these sites to hear the incredible things that can happen with this form of collaboration.

**Remixing Sites** Want to try your hand at remixing music? Remixing sites give you access to the source tracks for songs from musicians all over the world. Make your own remixes and share them with other musicians, or upload



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# HOW TO perform

your own tracks and see what other musicians can do with them. Some musicians' music is so popular to remix, there are entire albums of remixes of their work done by other musicians. Doing this can put your music in front of new fans and generate exposure, as well as give you new material to work with. Try out sites like ccmixer (ccmixer.org) which uses the Creative Commons license.

**Virtual Session Players** No matter what kind of instrument you need to add to your song, there's someone who's willing to record it for you. Whether it's a tabla, didgeridoo, koto, or samisen, it's out there and available for your music through a virtual session. Some sites will charge a fee, such as Sessionplayers (sessionplayers.com) or Studio Pros (studiopros.com). However, if you just want to find musicians to work with, try sites like Sound Collabs (soundcollabs.com), or even musician message boards like Just Plain Folks (jpfolks.com).

**Finding Local Musicians Online** The Internet doesn't just help you collaborate

virtually, it also lets you find musicians in your local area as well. Sites like BandMix (bandmix.com), JamConnect (jamconnect.com), and Musicians Wanted (musicianswanted.org) allow you to connect to musicians online so that you can find people within your town. And don't forget craigslist (craigslist.org), which is a surprisingly effective way to find musicians.

**Other Collaborations** You can collaborate online with more than just musicians. Possibly the most interesting interactions—and chances to collaborate—can be found on sites that are dedicated to other creative endeavors. Sites like Creative Cow (creativecow.net) help to match up all types of creative people—film, music, and more. And sites like GameDev (gamedev.net) help connect game developers with all the resources they need—including collaborating with musicians. And when it comes to music, don't forget that nearly every major music DAW, platform, and system has online forums where users trade ideas, tips, and music.

One thing to keep in mind is all of these sites have their own terms and conditions that you must agree to before using them. Many of these agreements give these collaboration sites and their users rights to use your music—without which, no one would be able to share and collaborate. Most of these rights are incompatible with exclusive licensing. Some of the rights they claim are also perpetual, and nonrevocable. Also note confusion can arise as to who might own the sound recording or composition rights to a song where each musician uploaded a track on their own. The key thing to do is to make sure you're comfortable with the rights you're granting these sites before you use them.

Given the explosion of new options to create and remix music online, it's amazing to think what one musician and a laptop can do to collaborate in entirely new ways with musicians all over the world. ■

*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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## Getting Your Music Into Video Games

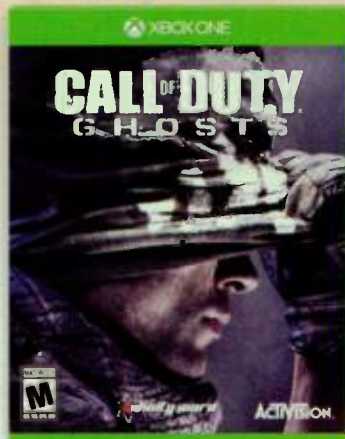
A Q&A with Brandon Young, Activision Blizzard Inc.'s Director of Music Affairs

BY LILY MOAYERI

AFTER THREE decades of creating gaming products, Activision Blizzard Inc. is a cornerstone in the video game world. The company's Director of Music Affairs, Brandon Young, has been responsible for the music aspect of those games for the past decade. Young is involved with every facet of the music, from working with the development studios on the titles to finding composers for scores, to executive producing those scores, to licensing songs and brokering deals, to partnerships with artists and musicians, and coordinating with marketing teams and advertising agencies for promotional trailers. With titles like *Call of Duty*, *World of Warcraft*, *Guitar Hero*, and *DJ Hero*, among many others on his résumé, Young has dealt with a wide range of musical duties. Here, Young shares some insights for composers looking to break into the game world.



Brandon Young is involved in every facet of the music.



**Which do you tend to do more: license music or hire composers?**

It's definitely game-by-game. We did 13 to 15 game titles for 2013. Seventy percent used hired composers and 30 percent were plugged in from different music houses and licensed music. For some of the smaller titles, like *Cabela's Hunting Game*, the music gets pulled from different library-type music houses like Killer Tracks. We had years of doing titles like *Guitar Hero*; obviously heavily licensed music. My preference would be to

hire a composer every time, but it depends on what we're trying to do.

**What is your process for choosing a composer?**

It starts internally. I talk with our studio about what that game's going to want and need, and we look at the budget. From that, I pull a short list of seven people. I share their reels with our internal producers, as well as the studio, and we narrow it down to three. Then we check on their availability, see if they're

interested, see if the budget meets with what they're into doing, and go from there.

### **How do you work with the composer to get the results you need for the game?**

For something like *Call of Duty*, our massive juggernaut title, I'm taking the composer to our studio in San Francisco to do a full two-day summit with the creative team, really immersing him with what our goal is. He's going to see levels that have already been developed, but there are still plenty of levels to go. We'll show him the script and the creative treatment for the game. We'll take him through the vision decided by the developer.

### **What does a composer need to understand about scoring for a game versus other mediums?**

Video games are nonlinear. We have audio engineers who do the implementations. They have to set up the music as stems that can be layered. For instance, if it's *Call of Duty* and your guy is standing in the corner and it's quiet, you need that to be low. When the action starts happening, you have to program it so it starts bringing in the different layers of stems to create that action feel behind it, which isn't done in any other medium. The composer has to understand that early on, before we get into our projects, that we're a nonlinear product; how to write and adapt for that.

### **How do you find composers? Or track down new music?**

I try and keep a list of people I meet, who friends represent, who are friends of friends of friends. I used to dig on my own, but that's not necessary anymore. I've been doing this job for so long, I stay ahead of it with what people send me. I'll discover something whether it's through Sirius Radio or someone mentioning it, and I'll search my inbox and 90 percent of the time, it's in there. I get inundated. There's only so much I can—or want to—download. If it's a stream or download then at least you have the option.

### **Are there particular musical styles that you tend to gravitate toward for games?**

Stuff that has more energy, from harder, aggressive rock to hip-hop to something electronic and a little darker with power to push. Everyone's into instrumentals these

days, so music is being sent out as “full album” and “instrumental,” which is helpful.

### **Can someone approach you without a reference?**

They can. If they email me a 20Mb file that jams my inbox, it discredits them and I'm going to delete the attachment. If they are unable to construct a normal sentence, they come across unprofessional and I don't know if they're going to hit my deliveries on time. If they email me a link and present themselves by corresponding in a professional manner, I will check them out.

### **Do you tend to respond?**

I try to get back to people if I feel it's a legitimate request. If I have projects going on that they can submit for, I'll let them know. If I don't have anything at the time, I'll let them know. I let them know if I have something starting around a certain month and to check back with me then. Sometimes I'll flag people who are checking on certain things to get back to them. I get a couple of hundred emails a day and can't go through all of them.

### **Do you ever use people who don't have a track record? What can they bring to you to show what they can do?**

Yes, I do. The best thing to do if they don't have any experience at all is to put together a reel. Pull images off YouTube, do your own spec score to it. Especially if it's things I want to be seeing, like a clip of *Call of Duty*: Mute it, do your own score to it, see how that comes across. If you're trying to convey a few different styles, a minute and a half, two minutes each. If someone feels like they have the right skill set for certain projects, they should approach companies that are doing things [that match] their skill set. Research different publishers and see what their annual titles are, to clue you in to what they're doing the next year. There are unannounced things, but you can figure it out. You can find out who to reach out to by Googling who was involved in a particular game. It's a small enough industry to figure out who the people are.

### **If a musician or a label has a back catalog of material, what's the best way to present that to you? And is there paperwork you'd like them to have prepared?**

When people send me a whole back catalog,

I'm not going to listen to it because I don't know where to start—unless you do a focus tracks list. If you do a top-line sampling of the favorites, people can take a listen and decide. Links to SoundCloud work great. You can skip through the songs easily and if they want, they can set it up to be downloadable.

They have to be able to confirm that they own it. They wrote the song, and if there were co-writers for the song, that those people are on board or they can put me in touch with the right people to make sure all the pieces of the puzzle are there. I've got paperwork I can put together, no problem.

### **What are some external entities you work with that provide you with music that artists can approach?**

Our advertising agency, as well as digital agencies that work with our digital department running things like our social media. We're always doing videos that go up on there. These agencies have their own audio people. It ends up funneling back through me, but we go through hundreds of promo trailers a year so I'm usually cool with it if they have it figured out before it gets to me and I just end up doing the deal.

### **What's the range for compensation?**

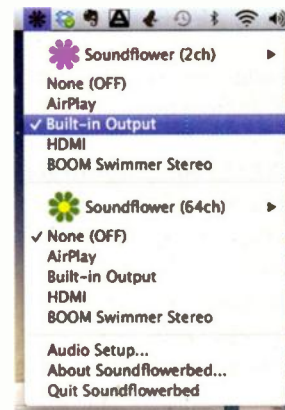
From a composer perspective, if you're going to score an entire game, you can think of that running the spectrum from real small-budget films to massive blockbuster film budgets. It depends on the size of our game, our expectations for it, the level of quality we're expecting, whether or not we want a big composer name value to it. There are a lot of different levels. There's a per-minute rate that's an industry standard that can run anywhere from \$500 up to several thousand dollars. We might need 60 to 90 minutes of score to work itself through the whole game. We usually work on a chunk of minutes at a time.

For license, if it's a game that's a music-based or a rhythm-based game, like *Guitar Hero*, then you're going to pay a penny-rate royalty. If it's a song license, it's subjective. It depends on the size of the artist, what they think it's worth, the scene in the game. I've paid anywhere from low four figures to high five figures. ■

*Lily Moayeri is based in Los Angeles. Visit her website at [pictures-of-lily.com](http://pictures-of-lily.com).*



**Fig. 1.** Use Soundflower to quickly sample audio from a Web browser.



**Fig. 2.** Soundflowerbed lets you route Soundflower channels to different monitoring options.

also a method to record three or more parties in Skype to discrete tracks in a DAW, but it is beyond the scope of this short article. You can find it at <http://bit.ly/1ajOYho>.

**Equalize a Mac's Output** You may use your computer's built-in audio output for several media programs: iTunes, Spotify, Quicktime, etc. If you like to have EQ applied to that output's speakers or headphones, rather than try to equalize every program separately, you can apply a 10- or 31-band EQ to the entire audio output.

Download and install Apple AU Lab, an Audio Unit host and mixer, from the Mastered for iTunes page (<http://bit.ly/LqkSgh>) and then restart the Mac. Go to System Preferences > Sound and choose Soundflower (2ch) as the Output. Now open AU Lab from Applications > Utilities; choose Soundflower (2ch) as its input and Built-in as its output; and click Create Document. AU Lab creates a mixer window with Soundflower as the Audio 1 track. Here you can apply any AU plug-in on your Mac to your system's audio. You may want to go with Apple's AUGraphicEQ (see Figure 3), a peak limiter or a compressor, depending on your needs. ■

## Fun with Soundflower

Use a free utility to hack your computer's output, capture Internet audio, and much more

BY MARKKUS ROVITO

CYCLING '74 first created the Mac OS X extension Soundflower for Max/MSP to send audio channels to other software, and the simple, open-source tool soon became a way to route audio from one Mac program to another. Its included sibling application Soundflowerbed resides in the Finder Menu Bar and lets you route up to 16 channels of Soundflower to an audio device for monitoring. This powerful, must-have freeware enables some universally useful capabilities.

**Sample from a Web Browser** The most basic use of Soundflower will open you up to immeasurable sample material from the streaming media available on the Internet. First, go to System Preferences > Sound and choose Soundflower (2ch) as the Output device. That then routes your Mac's audio to Soundflower, and you can then choose "Soundflower (2ch)" as the input (see Figure 1) for any recording software: a sampler, a DAW, Audacity, etc. Now you can record the audio from applications on your computer, a Web browser for example.

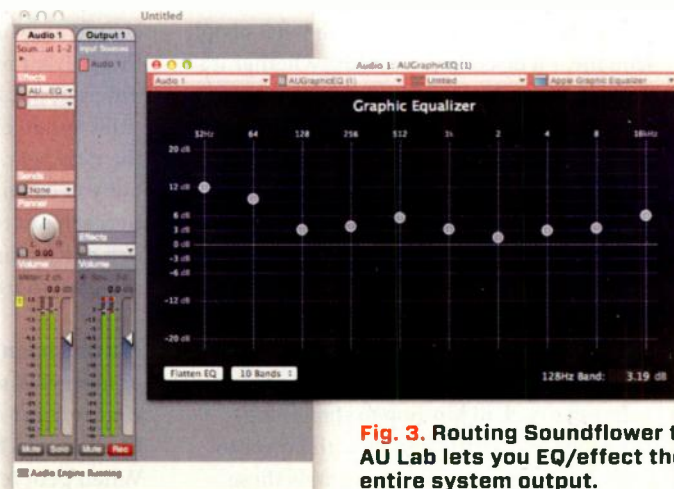
It gives you fast access to sampling from the innumerable videos and music on YouTube, or the public-domain trove of media at Archive.org and other sites.

If you can think of a sound bite you want—famous or obscure—chances are you can have it recorded and available for your production within minutes, something the crate-digging vinyl collectors of old couldn't have imagined.

**Record a Multitrack Skype Session** If you're using Skype to record a podcast or maybe even a recording or jam session, Soundflower can help you route your own voice and the Skype audio to separate tracks in a DAW for mixing. First choose Soundflower (2ch) as your Output in System Preferences. Make sure the Input is set to whatever mic you will use for the Skype session.

If you don't already have Soundflowerbed in your Menu Bar, open Soundflowerbed.app to place it there. Then click its icon and select Built-in Output under Soundflower (2ch) (see Figure 2), so that you can monitor the Skype call in your headphones.

Now you will be able to open your DAW and record two tracks; in one track, select Soundflower (2ch) as the input to capture the Skype audio. (This will also capture other system sounds, so try to close unnecessary programs and avoid other system sounds.) In the second track, choose the mic input that you're using for yourself. Now you can process and mix both sides of the call discretely. There is



**Fig. 3.** Routing Soundflower to AU Lab lets you EQ/effekt the entire system output.



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# iZotope RX3

## Remove finger squeaks from guitar or bass recordings

BY MIKE LEVINE

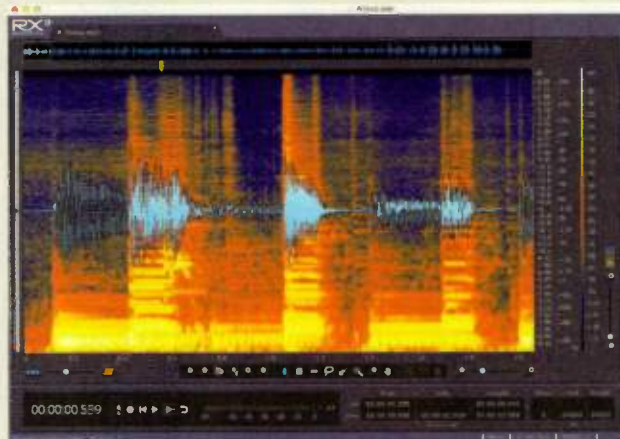
### OBJECTIVE

Remove finger squeaks in guitar and bass tracks.

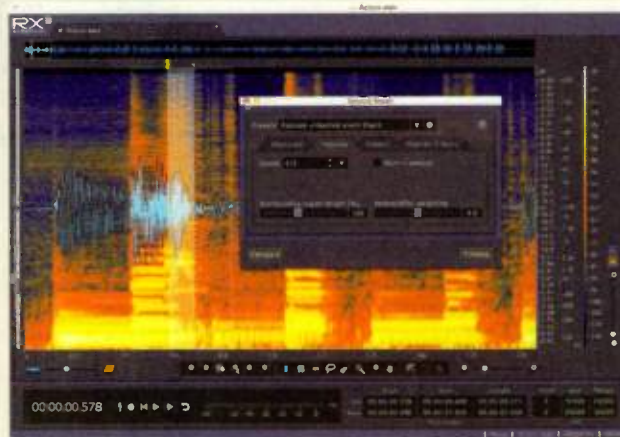
### BACKGROUND

Anyone who's recorded guitar or bass has had to contend with finger squeaks that are captured with the recording. Depending on how loud they are in relation to the guitar tone, squeaks can mar an otherwise good recording. Generally, you can't just cut them out using conventional DAW editing tools, because a squeak usually overlaps some of the tone so removing it would create an unnatural dropout.

The RX audio restoration suite (the current versions are RX3 and RX3 Advanced) from iZotope has a brilliant module called Spectral Repair, which removes squeaks by replacing them with interpolated material from the surrounding audio. In most cases (except where a squeak is really long), you should be able to remove them in a very natural-sounding way.



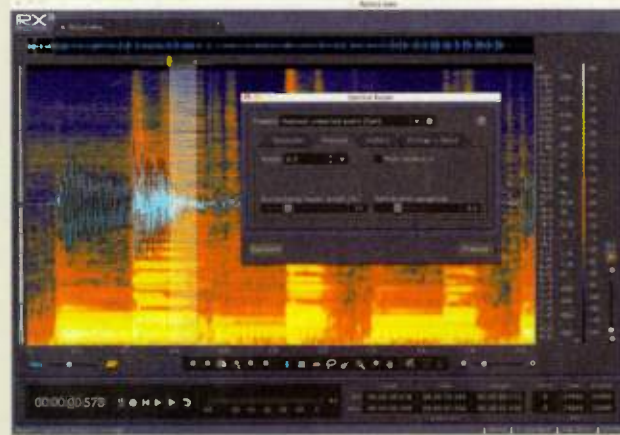
**Step 1** After loading the audio file into RX3 (either the regular or Advanced version), isolate the location of the squeak by listening to the playback and looking at the display—set for a combination of waveform and spectral data and zoomed way in—then select it with the Time Selection Tool. Using the Loop Playback feature, make sure you've selected all squeak and no tonal signal.



**Step 2** Open the Spectral Repair module, select Replace Unwanted Event (fast) from the preset menu, and hit Process.



**Step 3** Listen to the results. In most cases, the squeak will be gone but the tone will remain (notice how the waveform has changed in the screenshot), and you won't be able to hear any artifacts or unnatural-sounding notes at the edit point.



**Step 4** If the results aren't satisfactory, undo the processing and try adjusting the "before/after weighting" slider before re-processing; this changes the area of audio that RX uses as source material for its interpolation. You can also vary the length of the surrounding region used in order to improve your results. If the results are still unsatisfactory, try using the Attenuate function instead.

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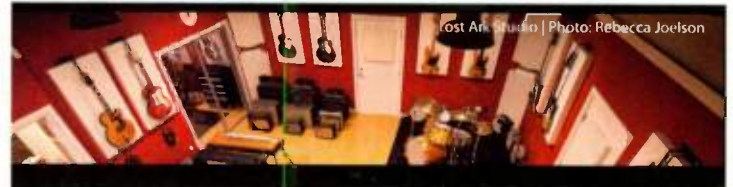
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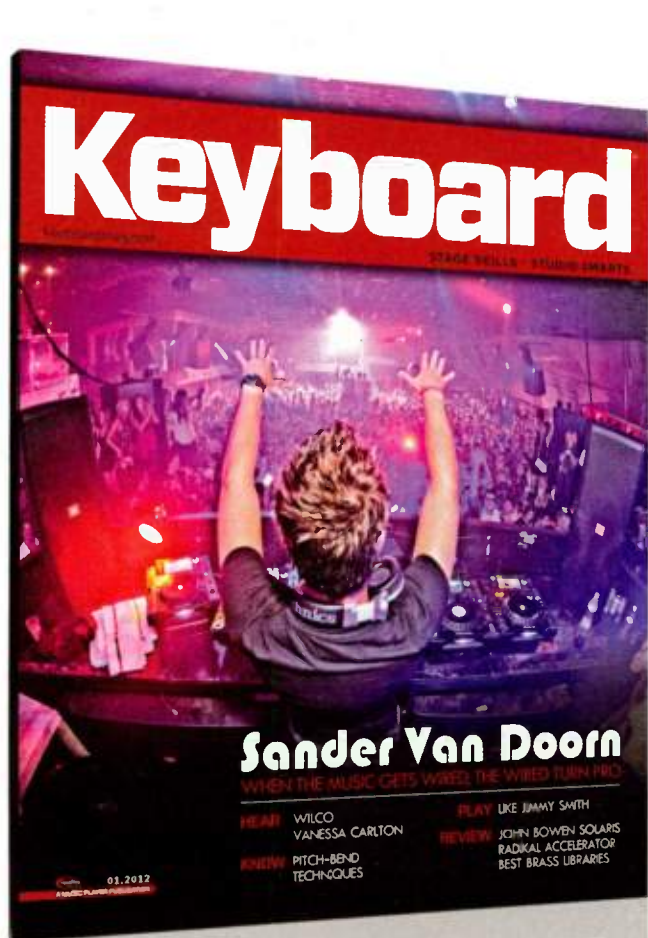
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## Five Ways Concerts are Not Like Hockey Games

Yes, this is an oft-debated subject. Do you think there are more similarities than differences between hockey games and concerts? It's a common misconception, but think again!



# 1

**Band members get into fights**—Charlie Watts punching Mick Jagger, the Lamb of God drunken brawl, the North Korea/South Korea-like dynamic of the Gallagher brothers from Oasis . . . even hair bands like Poison have come to blows. Hockey players get into fights too, but they're smarter—they fight people on the *other* teams!

# 2

**Hockey "critics" are called referees, who watch every player's moves and make a big fuss if someone's not following the rules.** So, be eternally thankful that you don't have some dimwit emo music blogger standing next to you onstage and blowing a *really loud* whistle every time you hit a wrong note.

# 3

**When hockey players do something bad, they have to spend time in a penalty box and pretend to look ashamed and dishonored.**

When rock groups do something bad, they get all kinds of free publicity in "entertainment" (I use the word loosely) TV shows that are so forgettable I can't remember their names. But to be fair, it *is* difficult to throw a television from the penalty box. Or entertain groupies.

# 4

**During half-time at hockey games, they play music.** But in an enduring riddle that no one has ever been able to figure out, during concert half-times, musicians don't play hockey. *Why?*

# 5

**Hockey teams embrace cutting-edge devices called "clocks."** These marvels of modern technology divide the daily rotation of the earth into numerical reference points that allow humans all over the world to synchronize their activities—including starting hockey games on time. Well, someday musicians will also discover "clocks," so *their* concerts will start *on time!* Just don't bet on it.





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