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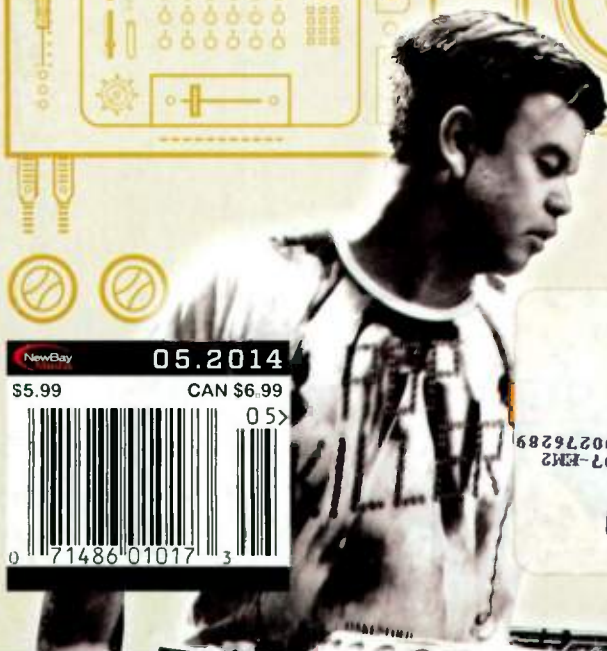
10

Essential Dance
Music Sounds

the **dj** *issue*

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"Are you sure it is legal to have this much fun?" "I'm looking for those **perfect band mates** and I just discovered they live in a box." "The soloist sounds amazingly like **real people** improvising!" "The program **sounds so much better** with **RealTracks**... A thousand times, Thank You!" "Band-in-a-Box is some of the **most fun** you can have with a computer." "I can load my **MP3** in and see the chords play on the screen." "My buddy and I sat around last Sunday night just jammin' away..." "As an old BE-BOPPER circa late 40s, most of the cats I played with are dead and gone." "Band-in-a-Box has made me a **much better player**." "Can't say enough good about your products. You obviously quickly build an arrangement for composing." "Thanks to BB I can still swing with the help of the **fabulous cats** living inside BB." "Band-in-a-Box was the solution to an old frustration: being a musician. Now I am a musician." "The ease and **RealTracks** is by far the easiest way to make **high-quality** background tracks." "Band-in-a-Box is the **holy grail** for accompaniment software." "This is so much fun." "I'm speechless." "Who says you can't buy happiness." "This is absolutely a must-have item." "Band-in-a-Box is now on a whole other level of sophistication." "A giant leap forward" "Keep the **RealTracks** coming!" "It blows my mind." "RealTracks add a whole new dimension of realism." "I was absolutely **blown away** at the quality of **Band-in-a-Box**." "Your **Band-in-a-Box** program is **extraordinary!**" "Your product is **AWESOME! THANKS!**" "A fantastic leap forward." "Un-Believable" "I can't believe how fast I can generate **RealTracks** and renders with the new version." "They've **outdone themselves** this time, and I'll be singing the praises of **Band-in-a-Box** every chance I get."

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"This new musical concept you have created is nothing short of evolutionary. If it were a living creature, it would be a whole new species." "I'm awestruck." "Just as **Brilliant!**" "All of the new instruments are just **smashing!**" "I must say, the pedal steel is perhaps the greatest accomplishment in the history of this brilliant program." "The **RealTracks** are fantastic and provide **great inspiration** for creativity." "This is a great gift to jazz musicians, educators, and singers." "This **changes everything!**" "Oh, wow. **stunning!**" "It's useful piece of software." "I tried with many audio files and the chord detection is **amazingly accurate!**" "This is absolutely a must-have item." "Wow, I'm learning tunes fast with help of your Audio Chord Wizard." "It finds the exact chord to the song... perfectly." "Wow!" "I am **blown away!** The jazz/swing **RealTracks** stuff is amazing." "Awesome." "Is this cool or what?" "I'm in seventh heaven" "You won't regret it (and if you do, there's the **30 day money back guarantee**)." "I never thought I'd see the day this was possible." "I know it's been said before, but you guys are **incredible!**" "This is **gonna set the world on fire!**" "I'm so stoked about how good everything sounds I can hardly stand it." "This is just killer." "Amazing, simply amazing." "[**RealDrums**] is really awesome sounding. Good work!" "Many kudos all around." "You never cease to **amaze** me. You got it." "**Wow and Double Wow!**" "The **RealTracks** and **RealDrums** sound awesome." "Long live PG Music!" "Mind bending." "I am frankly amazed at most of the styles." "I am absolutely **Kudos** to you and your team!" "First time I did a song with **Band-in-a-Box**. **I couldn't believe it!**" "I use it in the classroom and also in creating music in my studio. It is a fantastic piece of music software to own. I am greatly impressed." "I am very impressed with your fantastic **improvisational** program." "It's a great educational tool." "Awesome software at a fantastic price!"

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NEW!

Four Legendary Music-making Tools... Reborn!



Roland's AIRA series delivers old school simplicity and hands-on playability to a range of instruments designed to integrate into your high-tech live or studio rig. The AIRA series kicks off with four amazing instruments: the System-1 Plug-out synthesizer keyboard, the VT-3 Voice Transformer effects processor, the TB-3 Touch Bassline synth, and the TR-8 Rhythm Performer drum machine.

Roland's AIRA **System-1** is an old-school, analog-style synthesizer that's built for total integration into your live or studio rig. Sporting Roland's Analog Circuit Behavior technology, this synth delivers sound that's so tweakable and realistic, you won't believe it's digital.

AIRA's **VT-3 Voice Transformer** gives you access to a world of cool vocal effects from the classic sound of the Roland VP-330 vocoder to the glitchy randomness of its unique Scatter mode.

The AIRA **TB-3 Bassline** synth gives you a chance to experience iconic bass sounds in a whole new way. Not only does it faithfully reproduce the full range of the TB-303 sound, but it's also super-easy to program, play, and integrate into your rig.

Roland's AIRA **TR-8 Rhythm Performer** doesn't simply capture the sound and style of iconic beat machines (TR-808 and TR-909) in all their glory; it offers modern electronic musicians like you a whole new range of tones, textures, and performance possibilities.



System-1

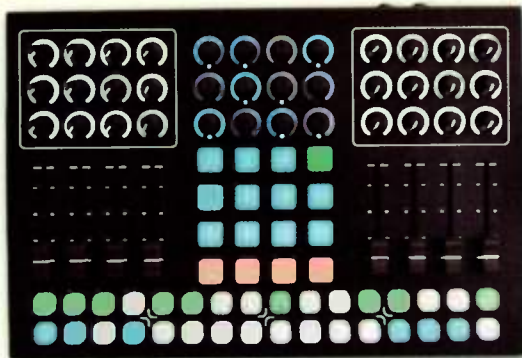
VT-3



TB-3



TR-8



From electronic music performance and studio creation to live video mixing and lighting management, the Livid CNTRL:R USB/MIDI controller is a powerful solution. You can easily use the included editor to create your own custom maps for soft synths, DAW software, and anything else you want hands-on control over.



SHURE SRH750DJ

Made for serious DJs and producers, these headphones give you world-class performance and comfort show after show. Circumaural earcups and extra-dense earcup pads provide you with the isolation you need to hear your mix in the loudest clubs.



Pioneer DJ CDJ-900NXS

This amazing digital CD turntable gives you a hit list of features from the CDJ-2000NXS model, providing you with an incredible variety of performance tools and connection options. In addition to the CD slot, the CDJ-900NXS lets you load tracks via USB or wirelessly over Wi-Fi from your computer, tablet, or smartphone.



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World Radio History

“Sweetwater’s Sales Engineers are the most knowledgeable and helpful in the industry.”

Mario from Indianapolis, IN

Knowledgeable Staff, Top Brands, and Competitive Prices – That’s the Sweetwater Difference!



moog

Sub 37 Tribute Edition

The Sub 37 paraphonic synth’s all analog sound is everything you love about Moog — fat bass, smooth leads, and undeniably rich and dimensional sound. With 40 knobs and 74 switches, you’ve got the hands-on control that you need to put some serious expression into your live keyboard performances.



Ableton

Push with Live 9 Suite

This hardware/software system gives you a powerful platform for music creation and performance! You get hands-on control plus all the instruments, effects, and processing tools you need — all from one great package.



Maschine Studio

Native Instruments’ Maschine Studio is the next evolution of a breakthrough hybrid music-production platform that makes creating music fast, intuitive, and totally natural. Maschine Studio provides you with the all-hands control you can only get from hardware, plus the phenomenal flexibility of a software environment.



BreakTweaker

Designed and created with the help of composer/audio-production pioneer BT, the BreakTweaker groove instrument plug-in gives you a stellar combination of sophisticated drum sequencing and cutting-edge synthesis.



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COVER FEATURE

- 46 **All-in-One DJ Controllers** Shopping for a new rig? We bring you the hottest units that combine MIDI, audio, and software together for a complete setup on any budget—just add laptop.



FEATURES

- 18 **Gareth Emery** Since the British DJ hit the big time in 2002 with the breakout club hit “Mistral,” he’s toured across five continents and headlined the biggest clubs in the world. We sat down with him last month, on the eve of the release of his second studio album, *Drive*, to learn his production secrets.
- 26 **Paul Oakenfold** He’s been an institution in the dance music scene for almost four decades. This spring, Oakenfold releases *Trance Mission*, featuring covers of ten favorite trance tracks. We get the inside story, plus his perspectives on songwriting, and the state of EDM.
- 36 **Neon Trees** Writing in hotel rooms and demoing in resort lofts, Tyler Glenn and producer Tim Pagnotto make a dance-pop record in tribute to Peter Gabriel’s *So* and Kayne West’s *Yeezus*.

GEAR

- NEW GEAR** 12 Production tools to help you make better music
- SPOTLIGHT** 15 **Roland Aira Series** Beyond drum machines
- MOD SQUAD** 16 **The Harvestman Piston Honda MkII** 3D waveform morphing
- REVIEWS** 54 **Cakewalk Sonar X3 Producer** DAW update
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- 62 **Mackie MR5mk3** Powered studio monitor
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05.2014



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TECHNIQUES	72	Production	Prep your audio for post
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POWER APP	76	Image Line Deckadance 2	Slice and dice audio with Gross Beat
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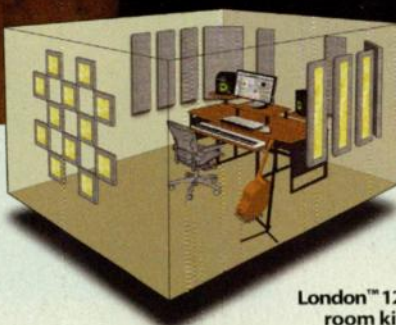
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Clean up your room!

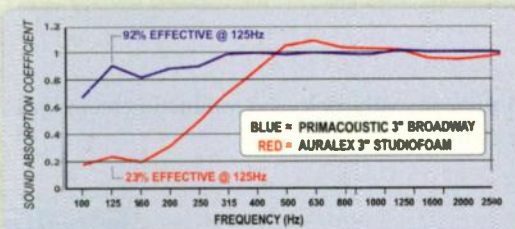
The single most important thing you can do to improve the sound of your recordings is to address the acoustics in your room... and Primacoustic makes it easy.

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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- A** Stratus™ ceiling clouds
- B** Broadway™ Broadband panels
- C** MaxTrap™ corner bass traps
- D** Easy-to-mount impaler system
- E** Broadway™ Control Columns
- F** Recoil™ Stabilizers



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.

Simple, modular and affordable – Primacoustic delivers spectacular performance for cleaner, more professional sounding results every time.

Clean up your room... with Primacoustic!



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

"I am not a handy guy, believe me when I tell you how easy it is to install. Now my room sounds great."

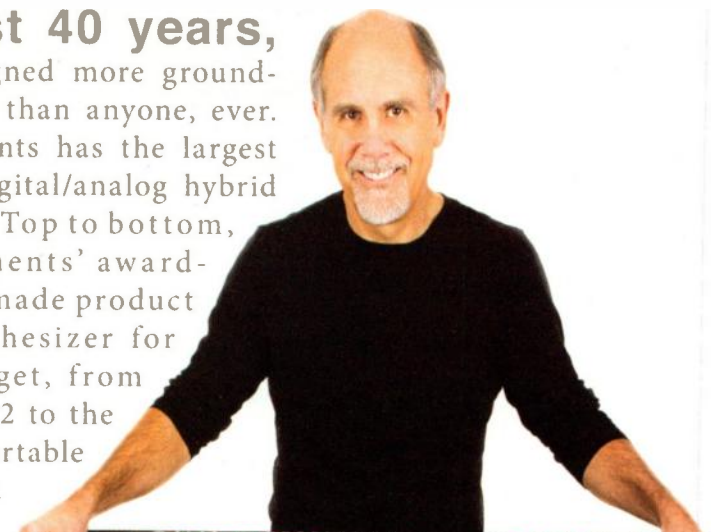


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insight

Beyond the Buttons

OWNING PAINTBRUSHES doesn't make you an artist. Those who call DJs "button pushers" might be right some of the time, but for the most creative DJs, like any successful musician or producer, the tools are merely the starting point.

If you're looking to get serious about DJ'ing, we'll help you push past that starting point this month.

Paul Oakenfold started DJ'ing decades before dance music became "EDM." In our interview starting on page 26, he shares insights on songwriting, recording two album projects at once, and how new touring and distribution models are shaping the business.

Superstar UK DJ Gareth Emery, who has been essentially touring the world nonstop since his 1998 breakout hit "Mistral," talks about producing his wildly successful podcast series, his

collaborative process, and his go-to gear in the studio. (The story begins on page 18.)

If you're looking to expand your own production palette, our "Ten Essential Dance Sounds" Master Class on page 66 will bring you up to speed on key tricks ranging from the white-noise whoosh to electro fifths to the 808 kick (whether or not you own the Roland classic).

And speaking of pushing buttons, get your gear fix with our Roundup of all-in-one controllers

(page 46) that provide all of the features that any creative DJ needs. The rest is up to you.



SARAH JONES
EDITOR
sjones@musicplayer.com

"IT'S NOT ABOUT SPOTIFY; IT'S ABOUT WHAT'S COMING IN FIVE YEARS IF WE DON'T HAVE A COLLECTIVE VOICE."

Cake's John McCrea on the genesis of Content Creators Coalition, a group founded to advocate for fair treatment of artists online, in the *New York Times*, February 24, 2014

The Electronic Musician Poll

HOW DO YOU USE YOUR DAW?

I WORK ON A
PC LAPTOP
14%

I WORK ON A
PC DESKTOP
30%

I WORK ON AN
APPLE DESKTOP
25%

I WORK ON AN
APPLE LAPTOP
26%

I DON'T USE A
DAW
3%

I WORK ON A
TABLET
2%

IN THE STUDIO

>> Chris Grainger with Future Unlimited BY BARBARA SCHULTZ

ENGINEER/PRODUCER/STUDIO OWNER CHRIS GRAINGER DESCRIBES ONE of the bands he's working with, Future Unlimited, as sounding like "Depeche Mode in Nashville," where he and the band are based. Grainger has worked with rock luminaries like Switchfoot and Wilco, but lately devotes considerable time to developing and recording newer artists in his studio, Undertow.

"The process with Future Unlimited is very collaborative," Grainger says. "They do a bit of programming and synthesis in their home studios, then sing scratch vocal takes to get melodic ideas down. From there we discuss what songs we all are feeling the strongest about."

Those early ideas usually begin in Ableton Live or Garageband; then keyboardist/programmer Sam D'Ameilo bounces guide tracks into Pro Tools to create a guide for the recording sessions.

"We rebuild the basic arrangement, and we track drums and bass live together," Grainger explains. "After that, it's guitars, maybe layers of synths which Sam will work on at his studio, then vocals with Dave Miller as the tracks are close to being complete. The synths are multilayered and come from a variety of regular synths, soft synths, and virtual instruments. They spend a lot of time combing through patches and tweaking to get custom settings that mimic the sounds they are after."



Future Unlimited

"In the small room [at Undertow], we use the Korg Polysix for nearly everything, from pads to leads to arpeggiated bass to faking a guitar," says D'Ameilo. "We can't get our hands on a real [Yamaha] CS-80, so we use a soft-synth VST for that; the leads and pads on it are incredible. For arpeggiated sequences, [we'll be] sitting with the Minimooog D for days."

Miller's vocals are recorded through a Peluso 251 mic, via a Vintech V73i pre, Empirical Labs Distressor, and a UA 1176. "After that, there's copious amounts of reverb and delay being used on the back end," Grainger says. "I tend to lean toward the UAD Lexicon 224 reverb and Sound Toys Echoboy to achieve the lush '80s vocal sound they're after."

ask!

I'M ALWAYS LOOKING FOR THAT ELUSIVE "MAGIC" QUALITY IN MY RECORDINGS, AND WONDER IF CONSOLE-EMULATOR PLUG-INS ARE PERHAPS ACTUALLY USEFUL OR JUST HYPE. WAS THERE SOME ASPECT OF OLDER CONSOLES THAT MADE FOR A "SPECIAL" SOUND, AND IF THERE REALLY IS, CAN SOFTWARE DUPLICATE IT?

NEAL HUTCHINSON
BRIGHTON, UK
VIA E-MAIL

Neal—There is indeed a technical basis for these plug-ins. Older consoles had slight nonlinearities and differences among channels, so with stereo, these differences between the left and right channels imparted a very subtle widening effect to the stereo image. Residual distortion added some "sparkle" due to the overtones that distortion creates. Many older consoles also had audio transformers in the signal path, which added a slight midrange ring and low-frequency

distortion that tended to "fatten" the sound.

Although these effects are almost imperceptible on individual channels, they add up when creating a multitrack mix. Most manufacturers recommend using these plug-ins to emulate the actual architecture of a console—insert the plug-ins on every channel prior to mixing, and mix with them active. If you mix without these plug-ins, adding them later will alter your mix and may require some re-adjustments to compensate.

Console emulators aren't a magic bullet, but they can add an element that audibly enhances a mix, however minimally.

Finally, note that like any processors, these can be abused to good effect. For example, bass overdriving a console emulator that models input transformers can fatten up the low end. Granted, this has nothing to do with emulating a console's sound accurately—but really, since when did reality matter to modern music production?

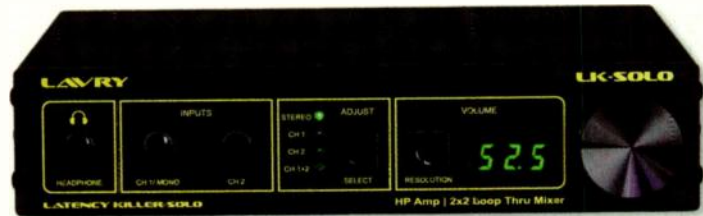
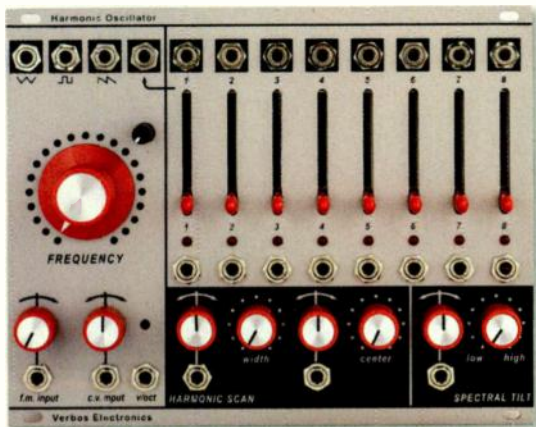
THE EDITORS



Three console-emulator plug-ins, from left to right: Slate Digital VCC, Waves NLS, Sonar ProChannel Console Emulator.



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



1
Verbos Electronics
Harmonic Oscillator
 Analog synthesizer module
\$649
HIGHLIGHTS All-analog, triangle-core, discrete-transistor oscillator with multiple waveform outputs, including a sine-wave mix output • 8 independent sine wave outputs—a fundamental and 7 harmonics—with individual VCAs • exponential and linear FM inputs • harmonic-scan and spectral-tilt controls with CV inputs • 32 HP
TARGET MARKET Eurorack modular synth owners
ANALYSIS Based on a vintage Buchla module, the Harmonic Oscillator gives you additive synth capabilities, with individually addressable harmonics.
verbselectronics.com

2
Apogee
Jam 96k
 USB and iOS guitar interface
\$129
HIGHLIGHTS Supports 24-bit, 96kHz analog-to-digital conversion on the Mac, iPad, iPhone, or iPod touch • discrete Class A input with gain control • comes with three cables—30-pin and Lightning for iOS and USB • input level control • multicolor LED shows input level and status • made in the U.S.A.
TARGET MARKET Guitarists, songwriters, hobbyists
ANALYSIS An inexpensive way to integrate your guitar with iOS and Mac recording and amp-modeling apps using Apogee's highly respected A/D converter.
apogeedigital.com

3
Lavry
LK-Solo
 Headphone amp/
 latency-free cue mix
\$975
HIGHLIGHTS Designed to be placed before your ADC to provide a no-latency cue mix for 2-channel digital recording and overdubbing (mono or stereo) • hard-wired signal path keeps signal from being degraded • stereo playback monitoring • adjustable volume steps: 3 and 0.5dB increments, 0-66dB • inputs accept +4 and -10 signal levels • maximum output level 18dBu (full scale)
TARGET MARKET Engineers and musicians
ANALYSIS A useful tool for both mitigating latency and providing high-quality headphone amplification while tracking.
lavryengineering.com

4
Samson
Resolv RXA6
 Active studio monitor
\$249 each
HIGHLIGHTS 2-way powered monitor with 6" woofer and 2.5" air-displacement ribbon tweeter • 100W • frequency range from 45Hz-27kHz • EQ controls for upper and lower frequencies • XLR, TRS, and RCA inputs • vinyl-wrapped MDF enclosure • also available with a 5" woofer; the RXA5 (\$199) handles 75W and has a frequency range of 50Hz-27kHz
TARGET MARKET Musicians, engineers with project studios, educational facilities
ANALYSIS An affordably priced reference monitor designed to cover recording, mixing, and multimedia work.
samsontech.com



6



8



5



7

5
Little Labs
Pepper
Instrument-to-line-level interface/DI
\$660
HIGHLIGHTS 1/4" TRS and TS I/O for combining pedals and pro-level effects • XLR for mic-level output • blend processed and dry signals • can be used for re-amping • impedance control • analog circuitry • send/return trim controls • external footswitch input • rackmountable • expansion output for other Little Labs products
TARGET MARKET Guitarists and bassists who record and gig
ANALYSIS Designed to solve a wide range of problems when using pro effects and a pedalboard onstage and in the studio.
littlelabs.com

6
Line 6
Amplifi
Guitar amp/Bluetooth speaker system
\$499 street 150W; \$399 street 75W
HIGHLIGHTS 5-speaker design: guitar speaker, 2 tweeters, 2 mid-bass drivers • supports Mac, Win, iOS, and Android • remote iOS app for parameter control • unlimited preset storage in the cloud with ability to share with others • includes Line 6 tone-matching technology
TARGET MARKET Guitarists who record, jam, and want to listen to their music library
ANALYSIS Amplifi serves a wide range of listening needs, while offering the ability to automatically match guitar tones.
Line6.com

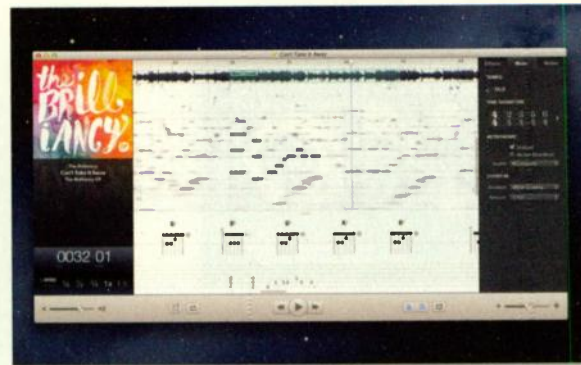
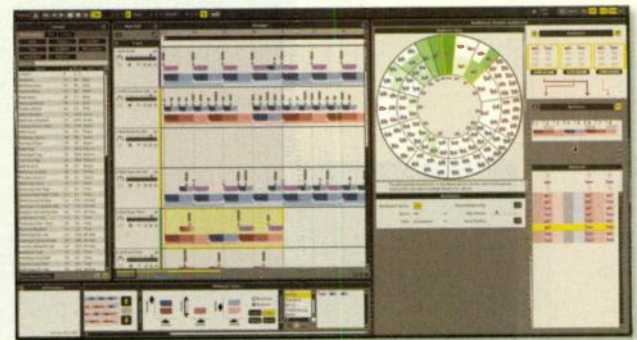
7
Bitwig
Bigwig Studio
Digital audio workstation
\$399 download; \$449 boxed
HIGHLIGHTS Includes 50 devices spanning instruments, effects, and more • use as traditional timeline sequencer or for non-linear clip launching • automatic sampling slicing • 3GB of content • open-controller API for custom MIDI integration • Mac, Win, and Linux • multiprocessor, multicore support
TARGET MARKET Studio production and recording, live performance
ANALYSIS Years in the making, this DAW was designed to make music creation easy and fun while offering a contemporary feature set that fits both studio and stage.
bitwig.com

8
Peavey
ReValver 4
Amp-modeling software
Free; additional content available via in-app purchases
HIGHLIGHTS Redesigned GUI with separate windows for amp/cabs, pedalboard, and effects • Audio Cloning Technology instrument modeling • Gig mode allows you to switch among 8 user presets • works on Windows tablets • supports AAX • hosts VST and AU plug-ins, even when used within Pro Tools
TARGET MARKET Songwriters, guitarists, and the engineers who record them
ANALYSIS A substantial update, thanks in part to the addition of instrument modeling and enhancements aimed at live performance.
peavey.com

Continued



12



9
Arturia
Spark 2
 Software drum machine
\$399

HIGHLIGHTS 50 new kits and 800 new instruments • 32 patterns • updated UI • greater programmability with the ability to choose modules (oscillators, filters, envelopes, etc.) and select patch routing • users can assign up to 6 macro controls • expanded pattern editor • new mixer window • improved library management

TARGET MARKET Musicians, DJs, producers

ANALYSIS A strong beat-production program has just gotten stronger, with added content and greater programmability of its modular sound engine.

arturia.com

10
Manley Labs
Core
 Channel strip
\$2,250

HIGHLIGHTS Combines a tube-based, Class A microphone preamp with a compressor, equalizer, and limiter • mic pre offers more than 70dB of gain • high-shelf, low-shelf, and sweepable-midrange EQ • analog meter shows gain reduction, preamp output, or main output levels • XLR I/O • TRS insert • DI input

TARGET MARKET Musicians who record at home

ANALYSIS Designed to provide high-quality audio with plenty of headroom and pro-level features that are easy to set up and use.

manley.com

11
supermegaultragroovy
Capo 3
 Audio-to-tablature transcription software
\$29.99

HIGHLIGHTS Automatically detects chords from songs in your iTunes library, then displays the chord shapes and tablature • transpose a song's key using the pitch slider • supports alternate tunings • effects include vocal reducer and a 10-band EQ • time-stretching algorithm slows music without changing pitch • looped playback • count-off and metronome

TARGET MARKET Guitarists, songwriters, performers

ANALYSIS Designed to make learning a song as easy as selecting the notes from the spectrogram view.

supermegaultragroovy.com

12
WaveDNA
Liquid Rhythm 1.3
 Beat production software
\$129; Liquid Rhythm
Intro \$49

HIGHLIGHTS Create patterns by painting note groups onto the arrange window • rhythm-displacement module • comes with large number of rhythm patterns and variations to get you started • pattern randomization • includes library of samples and loops • integrates into Ableton Live • VST, AU, and RTAS support • import and export audio and MIDI

TARGET MARKET Producers, DJs, musicians

ANALYSIS A highly sophisticated rhythm generator that was specifically designed to be simple and intuitive to use.

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Spotlight **Roland Aira Series**

BY GINO ROBAIR

AFTER MONTHS of teasing, Roland finally unveiled the first four items in its new Aira line—the System-1 keyboard synth (\$599 street), the TR-8 Rhythm Performer (\$499 street), the TB-3 Touch Bassline (\$299 street), and the VT-3 Voice Transformer (\$199 street). Using the company's proprietary Analog Circuit Behavior (ACB) technology, each instrument models the sound and response of Roland's classic analog designs while providing modern features and connectivity. For example, all of the instruments offer features called Scatter, which are performance-oriented, real-time effects that are instrument-specific.

The System-1 Plug-Out is a stand-alone hardware synthesizer that can be used as a USB controller as well as a host for Roland-related virtual instruments (hence the term "plug-out"; the SH-101 will be the first soft synth available.). Once a soft synth is loaded into the System-1, you can switch between the keyboard's internal sound engine and the virtual instrument, with or without your computer connected. The onboard synth itself has four oscillators, 2- and 4-pole lowpass filters, an independent highpass filter, and an arpeggiator offering Scatter effects.

The TR-8 is a hardware rhythm box that adds modern functionality to re-creations of the TR-808 and TR-909. In addition to 16 kits compiled from 11 types of instruments, the TR-8 includes a step sequencer, pattern randomization, mute buttons, reverb and delay, sidechaining, and the ability to create

four types of rolls in real time. Tuning and decay controls have been added to each instrument, as well as Attack, Snappy, and Comp parameters for the kick and snare. Here the Scatter function lets you add one of 10 effects (stutter, glitch, truncate, reverse, gate, etc.) to patterns or external input.

The TB-3 models the TB-303 bass synth while adding three banks of new sounds, randomized pattern generation and modification, Scatter effects, and a pressure-sensitive touch-pad that offers a number of new performance options. The VT-3 is a voice processor with 9 "voice characters" (including automatic pitch correction, a vocoder, and several lo-fi and synthesized tones) as well as immediate hands-on control over pitch, formant, and reverb. The mic input provides phantom power allowing you to use a condenser or dynamic mic, and the stereo outputs can be configured to provide discrete wet and dry signals.

As is clear by the types of instruments Roland chose to launch this product line—keyboard synth, drum machine, bass synth, vocal processor—the Aira instruments provide a complete music performance system when interconnected. The System-1, TB-3, and TR-8 can send and receive audio and MIDI from your computer over USB, but include standard MIDI ports and MIDI Clock synchronization. The VT-3's USB port can be used as an audio interface, as well as a power source.



System-1



TR-8



TB-3



VT-3

The Harvestman Piston Honda MKII

Patch your modular into another dimension of sound

BY GINO ROBAIR

AMONG THE companies creating Eurorack modules, The Harvestman is one of the few that doesn't strive for analog warmth. The brainchild of Seattle-based designer Scott Jaeger, the Harvestman puts digital circuits under CV control to create modules that urge you to explore timbral extremes, while retaining a measure of subtlety in the process.

Recently, Jaeger released a greatly expanded version of his digital wavetable oscillator, the Piston Honda MKII (\$495), which features a completely redesigned interface, expanded memory, and improved sound quality. The updated module provides 16 waveform ROMs, each of which holds 256 8-bit waveforms evenly divided into 16 banks. However, the new design cleverly configures these waveforms into a 3-dimensional space using three axes, where z is the ROM, y is the bank, and x is the specific waveform. Using faders for each axis (along with dedicated CV inputs and bipolar knobs), you can access any of the available 4,096 waveforms linearly or nonlinearly from anywhere within in the 16x16x16 space.

The ROMs include banks of noisy, additive, and chordal waveforms designed by Jaeger, as well as sounds from Wiard Synthesizer designer Grant Richter (creator of the Waveform City wavetable synth), David Hylander, Chris Novello, Michael Firman, Matthew Davidson, and Jordan Bartee. Overall, the waveforms range from simple, harmonic-based sounds to dense and gritty textures.

Six of the waveform ROMs (z-axis banks 2 through 7) are doubled in banks A through F,



The Piston Honda MKII is a digital wavetable synth with a unique interface that lets you go through its 4,096 waveforms as if they were laid out in a 3-dimensional space.

which are meant to be replaced: Users can add their own waveforms using the Piston Honda expander (available separately), which plugs into the module's rear panel. The Piston Honda MKII accepts 8-bit waveforms created with Wave256, a Windows-based program.

Sounds from Within The 1V/oct input accepts 0-8V, giving the Piston Honda MKII an 8-octave range. Course and Fine tuning controls and a hard-sync input are provided, as is a switch that drops the oscillator into the LFO range.

Individual inputs are available for through-zero frequency modulation and CV control (the latter using 0-5V DC signals) of the internal oscillator. The two inputs share an attenuverter, a center-detented knob that attenuates the signal from the CV input while simultaneously acting as a bipolar control for the FM input.

One of the highlights of having a wavetable synth is being able to use it as a waveshaper to process external signals. In addition to featuring an external audio input jack (with an associated gain knob and CV input), the Piston Honda MKII has an independent output for the external signal. That allows you to process external sources through the same wavetable that is being used by the internal oscillator, but with discrete outputs for each. You can further change the sound depending on the setting in the Morph Discontinuity section.

Morph Discontinuity

Another exciting feature on the Piston Honda MKII is the ability to smooth out the steps as you move between waveforms. This makes the waveforms sound as if they are morphing into one another. When the Morph Discontinuity's Mode

button is green, you can control the amount of smoothing between steps of the internal sound; when the button is red, morphing is applied to the external audio's processing (while, at the same time, the internal sounds are played back at a higher resolution).

The Axis Select button determines the combination of axes to which smoothing is applied. The slider for each axis has an LED on the end: When it is lit, you can adjust the morphing between steps of that axis. When the Morph Discontinuity knob is fully clockwise, you'll hear stepping. Turn it fully counter-clockwise to get a morphed-sound response between steps. The associated CV input (with attenuator) lets you continuously alter the degree between stepped and smooth behavior—nice!

Overall, the Piston Honda MKII provides an elegant way to extend your system beyond the traditional timbral reaches of analog subtractive synthesis. And with the ability to load banks of customized waveforms, this module provides an almost unlimited palette of colors, especially once you put the module's extensive modulation capabilities to work. ■



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PRODUCER/DJ GARETH EMERY'S

NEW ALBUM, *DRIVE*, SHOWS
WHAT 12 YEARS OF STUDYING
CROWD REACTION CAN DO

BY MARKKUS ROVITO

MAMMAS, DON'T let your babies go down to Ibiza. At least, not if you want them to continue their classical piano lessons. If you fancy them becoming globe-trotting, superstar DJs, then that's another story. In particular, that's the story of England's Gareth Emery, electronic dance music (aka, EDM) producer/DJ extraordinaire.

After a teenage Emery hit the notorious Spanish party island in 1998, he quickly immersed himself in dance music culture. With the breakout club hit "Mistral" in 2002, Emery turned pro for good, embarking on a near-constant touring schedule that has sent him DJ'ing across five continents inside the biggest clubs in the world.

In 2006, he became one of the first DJs to launch a regular DJ mix podcast, which helped

propel him into *DJ Mag's* Top 100 DJs list, where he's remained ever since. Eight years and thousands of gigs later, Emery has honed his production style of airy vocal anthems combined with floor-tested, synth arpeggios and pounding beats to be the sharpest they've ever been.

On April 1 of this year, the label Emery founded in 2009, Garuda, issued his second studio album, *Drive*. The hour-long ride sprung from his inspiring two-week road trip from New York to L.A. Lead single "U," featuring vocals from *The Voice UK* star Bo Bruce, punctuates the album with a beautiful combination of haunting vocals and atmospherics with high-energy buildups. If you're not careful, it may just put a lump in your throat, and it shows that Emery's songwriting skills just get better and better.



Tell us about your musical background, getting started on classical piano by the age of four.

My parents had a piano in the house. Neither of them really played; it just looked nice. I just found myself listening to tracks and then playing them back—obviously not professionally, but I guess they thought, “Maybe this kid has something with the piano; let’s get it tuned and get him some lessons.”

So I did my classical training up to the age of 15 or 16 and then went on a bit of a journey playing in various bands. It wasn’t until about 19 or 20 that I found my way into the sort of music that became my career.

Once you got into electronic music in the late '90s, did you start DJ'ing right away, or take up production first?

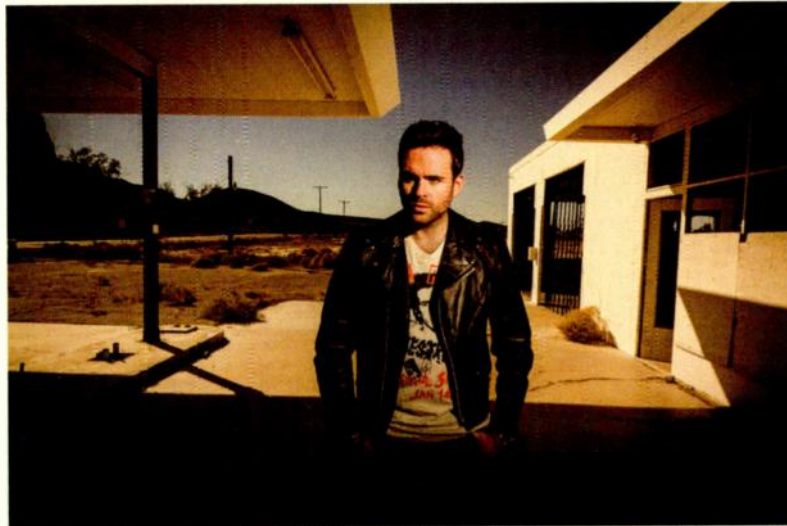
It was a bit of both. If I was into a sort of music, I would try to make it. When I was listening to rock music, I tried that. I taught myself guitar. As soon as I got into electronic music, I wanted to make it, but the barriers to entry at that time were a lot higher than now. You needed a serious budget to put together a decent studio.

I got a couple of cheap keyboards in the late '90s, but they were limited. Then I started DJ'ing pretty soon after. But really the breakout time where software music production accelerated quite dramatically was after 2000. In '97/'98 most people were pretty much using hardware for all their sounds. Four or five years later, it shifted to VSTs and soft synths. That technological change allowed me to do a hell of a lot more when I didn't have much money to spend.

When your first record came out in 2002, what were you using to make music?

It was all completely in-the-box. I wasn't using any external synths. The first bit of software I used was Acid. Most of my sounds came out of Propellerhead ReBirth, an emulator of a couple of 303s, 808, and 909. The sounds were extremely basic, but the sound design was really easy. I didn't have any background in sound design. Had I tried working with FM or even subtractive synths I would have struggled.

Now, there's so many tutorials on the Web. That wasn't the case back then, and the people who did have trade secrets were not very keen to share them.



It used to start with me sampling records, and then it went to sequencing a track, meaning an instrumental piece of music, and now it's really got to the traditional way of songwriting, which is a piano or guitar and building the song from that.

Sometimes I'd find a note that I couldn't get to the length I wanted, so I'd just f*ck around with the audio to fit it. Looking back at how I made music, it was extremely limited, but sometimes having limitations can focus your creativity. Now, sometimes I'll have too many options.

For *Drive*, you limited your focus to music inspired by your New York to L.A. road trip. Were you working on music during the trip?

Yeah, 100 percent. I'm always working on music. The creative process doesn't come at a convenient time. When you're in the studio at 9 a.m. ready for a day of writing tunes with your coffee, that generally is not when you write something good. That usually happens

when you're going to sleep or sitting on a plane—the most inconvenient times. I've trained myself to bottle that creative spark. Even if it's completely the wrong moment, I grab my laptop and jot down an idea in five minutes, or sing into my phone and go back to it later.

My music is all sequenced on my Mac, although I occasionally use some outboard gear and record real instruments. I had it with me throughout the trip, and I would get down the moments of inspiration whenever possible.

My wife and I had just got married, and we hadn't had a honeymoon. So we thought this would be more fun. We've always wanted to drive across the United States. We stopped off at places like Graceland, old Route 66, the Grand Canyon. Particularly from Oklahoma City to Los Angeles, the road has so much amazing history, it's like driving in a living, breathing museum.

It was an amazing trip with no set schedule. My life is so scheduled. I'm always on tour or in the studio. So I just love that we didn't even book any hotels.

Did you know right away you wanted to base an album on the trip?

I didn't know straight away. I think it's much more interesting if you can make an album an expression of not just where you're at musically, but where you're at personally. For my last album, *Northern Lights* [2010], I'd just moved from the south of the UK to Manchester, which is known as being a gritty, rainy, tough city to be in. But for me it was the most incredible career move. We were throwing a lot of parties; I started my new record label [Garuda]. It was a very inspirational time.

The artwork for that album tells the story of me moving to this rough f*cking place and having this insatiable hunger to succeed, whereas *Drive* is about moving over here. When I got back, I was like, “Sh*t, that's been the most inspirational period of my life. There must be a bigger story to tell.”

What's your collaborative process like with the various guest vocalists on the album?

Every track has its own process, depending on what comes naturally. Because my background is music, I always want to be involved in every part, whereas a lot of dance guys will just do



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a backing track, and then somebody else does the vocal. They really have no involvement at all in the vocal process. For me, it's such an integral part of the whole song.

Why do you seek out vocalists who haven't sung on dance tracks before?

Then you're not comparing it to what they've done previously. A lot of the dance music vocalists are amazing, but it's like an amazing actor who's typecast into playing the same role for 10 years. Essentially, you're watching Joey from *Friends*, who's always going to be Joey from *Friends*.

For me, it's more interesting to find new people. Somebody told me as a joke that the standard route is "dial a feature artist," like 1-800-DANCE-MUSIC-VOCALIST. You have this pool of people who all sing on everyone's tracks. What gets me excited are people who will bring something new to my music.

Do you have any favorite vocal mics?

I'm not a big techy guy, but I've always gotten on well with Neumann, especially renting old vintage ones with the valve preamp that comes in a suitcase along with the microphone.

Generally, we'll find a great studio to record vocals in. It always sounds better if the recording is done by someone who only does that. What I find frustrating is not so much the recording, but the comping of the numerous takes. It's a good way to murder the song for you; you have this song you're totally excited about, and then you have to pick through 50 different takes of a line sung 50 different ways. People who do that day in and day out are very practiced and good at it. I'd rather write the song, send the vocalist in with someone we trust, and then I'll get it back and ask for alternatives.

Do you have your own studio space too?

I'm literally building one right now. I've still got a great studio in Manchester, but I'm not there. We used a few studios in L.A. for the album: Enterprise Studios in Burbank, which is legendary. It's actually now a music school, but the guys who run it are friends, so they let me use that. Then we went to Henson Recording in Hollywood—the nicest studio I've ever worked in. I took a room there where Daft Punk recorded their last album. That was f*cking awesome. But these studios are mega expensive, so I'm converting my garage into a studio. I had one of the top guys in acoustic technology come out, measure my dimensions, and tell me exactly how the room should sound. We raised the ceiling 3.5 feet just to

make sure the space is as acoustically as good as it can be. I'm very excited about it.

What are the essential pieces to your studio you need to have?

The nice thing about doing it yourself is customizing exactly how I want it. I did not want direct access to the house, even though it's part of the house. For me, it's a good thing to go outside to get to the studio, because it makes it feel like a place of work. I don't want to be able to wander in there in my dressing gown in the morning.

I'm not recording singers in there, so it's going to be an incredibly precise-sounding mixing room based around the Focal SM9, which is the main monitor I use, and a subwoofer.

I record a podcast every week, and a radio show for Sirius XM, so I've got a little corner dedicated to that—a super-tight recording space where you can get that ultra-dry voice you need for radio.

When I've done studios in the past, I've built them myself—downloading formulas from the Internet, putting up foam wedge panels, and doing my best with limited resources. For the first time in 12 years, I've been able to hire superstars from the world of studio design.

Is it important to have a studio system that sounds as close to a big club sound as possible?

That's why I like the Focals; they are really accurate, but also fun to listen to. I've struggled with monitors that are too dry, because you need to get into the zone when you're writing music, and you need a little bit of punch and that live feel, otherwise it's difficult to get buzzed up. If you can turn the sub on and feel like you are in a club, it helps the creative process. I don't need to have exactly what I'd have in a club. If I were really obsessive, I'd use an amazing L-Acoustics monitor rack, which is so loud and sounds incredible. But I do enough shows and festivals that there's never a long time before I can try something in an actual club with a crowd reacting to it. After that I can tweak it. The SM9 is close enough for a studio.

You tested a lot of the album material in clubs before finishing it, as well.

It's so important to test stuff out. This is music for the dance floor for the most part, and we rely on other DJs to play our music. If another DJ plays your record, and it doesn't move the floor, they won't play it again.

You get these anomaly records you listen to at home and think, "It's all right," but then it's a f*cking beast at a club or a festival. Other records you love listening to at home, and for whatever reason they don't work on a dance floor. So if you're in a position to test stuff out, it's very fortunate. I only need stuff to be 75 to 80 percent done before I test it, and that extra 25 percent depends largely on crowd reaction.

What's your favorite sound system you've played on?

Beta in Denver is amazing, Marquee in Las Vegas, Pacha in New York. I'll usually test stuff at Marquee, because I have a residency there. I know the room and the crowd reactions extremely well. It's more difficult if you play a club for the first time.

You advocate Westone in-ear monitors. Is that what you use to DJ?

I don't use them onstage; I just use regular Westone earplugs onstage, which I'll pull out every now and again to hear the crowd. For me the [in-ear monitors] are truly invaluable while traveling. Bose noise-reduction headphones are super-comfortable and light, but in terms of noise reduction, the Westones' noise reduction is just unbelievable. Whether it's making music on planes or listening to demos, whenever I'm in transit, those things are in my ears.

How particular are you about the audio resolution when you DJ? Do you need to have lossless files?

If it's 320kbps MP3, I'm generally all right with that, as long as it's not been done on some shifty encoder. I've been there since the beginning of MP3, and things generally are encoded so much better now. If it's my own stuff, I play lossless files, but I feel that there's a lot of hot air when you hear people say, "I never play anything other than lossless." I've challenged people to test lossless WAVs of their tracks against 320k MP3—phase one into the other like five times, and we'll see if you can tell. Nobody's been up for that challenge. Sometimes people say you wouldn't tell the difference at home, but at a club you would. Well, no. In clubs the music goes through so many chains of amplifiers and limiters; the club is the last place you can tell the difference. Obviously the difference between 320k and 128k is big, but 320k is pretty solid.

Do you record your podcast on the same setup you use to DJ live?

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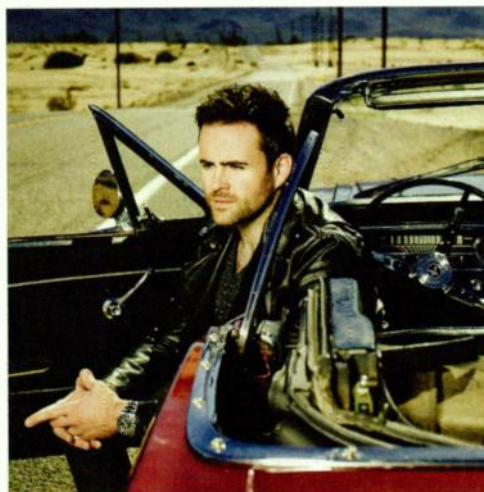
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not mixed live. When I'm playing, for years I used Pioneer CDJs. Now I use Traktor, because it's the best way of mixing live. I could mix the podcast in Traktor, but I've always done it in Ableton. You can lay it out nice and neatly. It just makes life easy, especially when you're integrating voiceover.

With almost 300 podcasts in eight years, do you have many problems with artists or labels not wanting their music in your podcast?

Not recently. In the early days, definitely. The first few years were a constant battle between people who couldn't get me to play their stuff enough, and people who said, "You're giving our music away for free." If someone didn't want their music on the show, I wouldn't play it. I don't think that's happened for the last five years. The world has really changed. Now it's a lot more chilled out.

My podcast is only available in 128kbps MP3, so it's way lower than what you'd buy, and we don't play the full track. Unless it's one of mine or on my label, I generally play about half of it. And we tag as many tracks as possible, as well as include iTunes and Beatport links within the track list. People



have said, "I've spent so much money on iTunes and Beatport because of your podcast every week." If there were a way to measure the impact of my show as far as sales lost or sales gained, I think we'd be on the sales gained side; there's just no way to prove that.

Your popular YouTube and SoundCloud pages have a lot of your music up for streaming. Do you look at that as a way to drive download and ticket sales, or is it just the reality of the business today?

I think it's part of reality. It's bad for selling music. It's just part of the world we live in now. The money from selling music is not all that much. A fan was joking with me that buying music is doing charity work, because it's so easy to get the same content for free. He buys it to support the artist. I think that's the case for a lot of people wanting to do the honorable thing.

For me, I'm successful as a live artist, so it's not that I particularly need the money from selling music. Yeah, it sucks in many ways, but it has helped get our music into countries where they probably couldn't have afforded to buy vinyl 10 years ago, and now guys there are throwing massive raves. However, it's really hit the guys who don't want to play live and tour. Unless you're making very commercial music, if you don't want to get on a stage and make money from selling tickets, electronic music is kind of a hobby; it's very difficult to make it a full-time job. That's probably the biggest negative to how the Internet has changed music, and I don't really have a solution. ■

Markkus Rovito is a frequent contributor to DJTechTools.com, drummer, electronic musician, and DJ.



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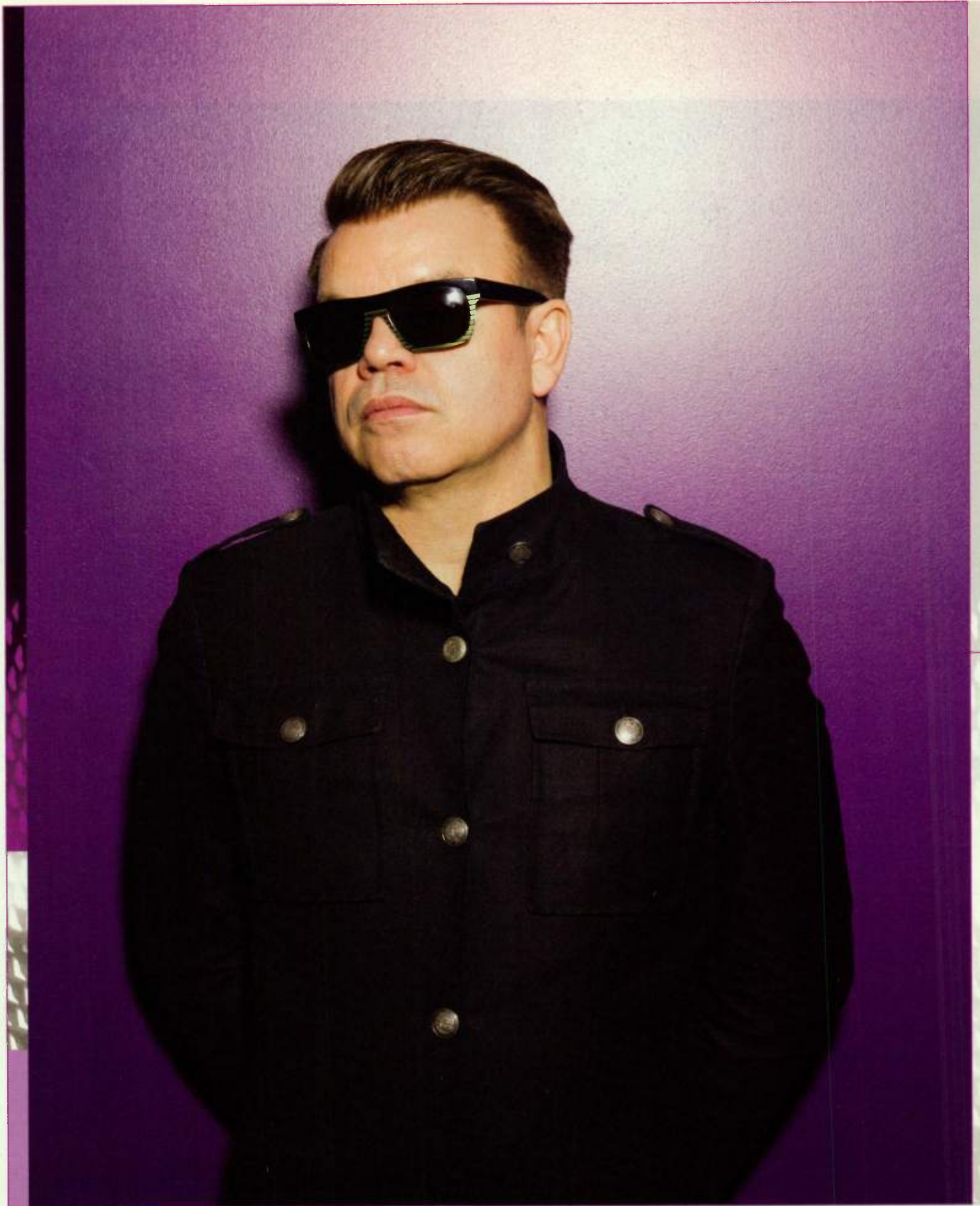
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The legendary DJ talks about

updating classic dance tracks, embracing a traditional songwriting process, and the state of EDM

Paul Oakenfold

BY TONY WARE



PAUL OAKENFOLD'S DJ/production CV is as thoroughly charged as his self-styled "full-on fluoro" sound, an energetic bombardment of big-room electronic dance music anthems, underground bangers, and filmic swatches. Whether bringing the Balearic sound of Ibiza to the UK clubs or bringing the sound of UK clubs worldwide while touring with *Achtung Baby*-era U2; whether A&R-ing '80s hip-hop, remixing new-millennium Madonna, holding a pioneering club residency in Las Vegas, performing with the Boston Pops, establishing his Perfecto label, or headlining the new breed of festival, Oakenfold has racked up the accolades as he racked up air miles.

In 1994 he compiled a two-hour *Essential Mix for BBC Radio 1*, commonly known as the "Goa Mix," a blend of synth melody-led dance music and film scores so legendary there have been offers to persuade him to re-create it live with an orchestra. Now, 20 years later, he is still revisiting ways to recontextualize "trance music" on an upcoming album, *Trance Mission*, which features covers of seminal tracks reworked for a contemporary audience who were introduced to dance music more through pop music than in clubs. At the same time he's working on his third artist album, *Pop Killer*, a record more grounded in traditional songwriting than past efforts.

In regards to *Pop Killer*, Oakenfold says, “I grew up on songs, I like the idea of collaboration with musicians, and I’ve been going more that route for a while. It’s not a traditional DJ route, so that’s probably why I’ve found it a bit more difficult. It’s a blank piece of canvas and you come up with an idea, and fingers crossed, it starts with a great idea and doesn’t end up a good idea or average idea.”

While all that sounds like it would keep a person infinitely busy, Oakenfold found some time to speak from his home in Los Angeles about personal milestones, industry shifts, and the evolution of dance culture infrastructure.

You’re currently developing two album concepts simultaneously while continually touring; do you ever feel distracted and find the need to look for new forms of inspiration?



There’s no bucket to go pull from that’s full of inspiration. Inspiration comes from everyday situations and it doesn’t come every day. It could come from reading an article, from hearing you talk about something ... you tell me: Where does inspiration come from? Have you got a bucket there I can borrow?

No, though I have some walls I like to bang my head against.

Well, can I borrow that wall? [laughs]

If we were discussing your output in the early- to mid-’90s, a lot of people would cite a direct influence from the the beach resorts of Goa [birthplace of a psychedelic, pulsating trance style, influenced by EBM and acid house]. Is there a modern equivalent, a specific place that sparks your creativity?

Not at the moment, but that’s a fair point. And a valued point, as at that period of time it was very inspiring to break down those frontiers that weren’t musical that became such a part of the music. Why the hell would a beach on the west coast of India become a

musical, inspiring place to a lot of people and a sound that still lives today? Maybe it was just a bunch of creative people coming together in one place and from that inspiration comes. And from that a lot more people travel there looking for it.

Some would say that Las Vegas is the new version of at least the clubbing destination side of that.

That’s a fact; there’s no disputing that. Over the last four years it’s become the hub of electronic music in America, is more popular than ever with the electronic community, one of the biggest electronic events is held there annually—God, the list goes on and on. It’s not replacing Ibiza, it’s just great that the scene has other options.

Happy Mondays’ album [1990’s *Pills ‘n’ Thrills and Bellyaches*] it was all based around samples and rhythms, and moving on to clubs, it was all mainly instrumentals and putting a top line on that, but now I feel you can’t beat the traditional way of writing songs. I haven’t found a way to better that, because it plays to the strength of the melody.

For me, I’m all about melody, and then the content of the lyric. I try to stay away from the obvious “let’s stay up all night, drink tequila, and party in the nightclub” content. I’m looking for something a bit more meaningful, and I suppose that comes with experience, knowledge. I grew up listening to songs. That’s the wonderful thing about growing up in England: You have a radio station that plays all kinds of music, with Radio 1. You don’t listen to one particular sound; you hear rock next to hip-hop next to drum ‘n’ bass next to pop.

It used to start with me sampling records, and then it went to sequencing a track, meaning an instrumental piece of music, and now it’s really got to the traditional way of songwriting, which is a piano or guitar and building the song from that.

Does it play the same part in influencing production? There are entire compilations that are Goa or Ibiza “classics”; can the same be said of Las Vegas?

I’ve put out two Las Vegas albums, and I picked tracks that fit with a sound that’s more commercial. Las Vegas is far more commercial than Ibiza.

Production-wise, where do you start in the physical process to achieve an “EDM” sound?

People getting in the room, that’s where it all starts. We get in the room, put a piano line down and see if we can build a song.

Are you establishing guide tracks through MIDI controllers, so you can concentrate on soft-synth sound design later, or are you sitting at actual hardware synths?

It used to start with me sampling records, and then it went to sequencing a track, meaning an instrumental piece of music, and now it’s really got to the traditional way of songwriting, which is a piano or guitar and building the song from that. I’ve tried all three. When I produced [along with then-studio partner Steve Osborne] the

Wanting to do something more than just tell folks to have a good time and drink a particular brand of liquor, do you compose with a narrative in mind?

Because my background is nightclubs, a meaningful lyric that may touch you might not be what you would expect from me, but that’s what I’m looking for. To get there, though, I’m finding that the fewer barriers you put up, the more you’re in the moment and allow it to flow with nothing more than the plan to make a great track, it generally works better than going in any one set direction. Also, what’s really key: If you’re collaborating, keep in mind the person or persons you collaborate with—plan to their strengths. I’m certainly not going to sit here and say I’m a great songwriter, but I will sit here and say I have learned from some great songwriters, so I’m going to encourage them and get the best from them and let that help get the best from me.

Who are some of those collaborators and inspirations right now?

I’m not sitting in one genre; I’ve been working



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with many songwriters across the board, from urban to pop to rock. My new artist album is nothing different than my last two, as those are also built on songs and collaborations pulled from different genres and brought together with melodies that come from my roots, which is electronic dance music. What's changed is that I used to be left of center, but now electronic is mainstream, so my album may not be perceived as more mainstream. But nothing has actually changed. You listen to pop music, and a lot of it is electronic-based now.

Up to a certain point, a lot of your electronic composition and sequencing was done with Cakewalk Sonar XI.

I did some of that, but I've moved around. I've had various different setups. I think when doing club music, it's completely different from where I'm trying to go now. It's a very interesting process, when you have a bunch of musicians in a room and all reach deep to find something that works with all of us but keeps the direction you're trying to go into.

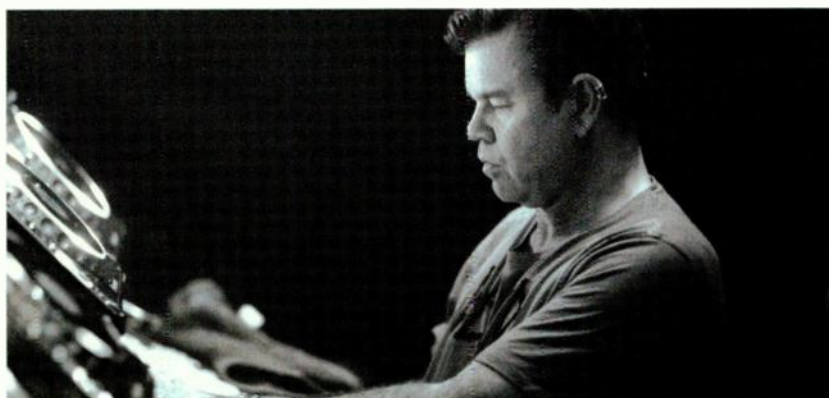
So do you have a preferred platform?

Not at the moment. Where I am with the album is the writing stage, and I'm putting a lot of pressure on myself in respect to songs. That's 100-percent songs. The next stage will be sounds. We all have a lot of access to the same sounds, and in my world once you come up with a sound that works tomorrow there are 500 copies of that sound. So, you have to dig a lot deeper to find a unique sound, and I haven't gotten to that point yet.

For the *Trance Mission* album, do you have a specific production chain, since that's a completely digital affair?

No, but that's a strange one, because that record came about when I went on the first leg of the *Trance Mission* tour and the older heads were coming out and asking me to play classic tracks, but I didn't want to play them. The tour is about new music presented in a different way, stripped down, no big production, just DJ, music, and crowd. And it was quite successful. But I was thinking, if the current generation isn't aware of these classic tracks, what about if I do a cover of them, not a remix—and we don't usually do

cover versions, just remixes, as you know. The idea behind it was to take 10 of those records from back in the day and do a 2014 take on them with a new sound, replay some of the lead lines, though honestly it's easier said than done. I realized I needed to make them drastically different, or else what's the point, but I also have to make them work. To top it all I have to come up with fresh sounds that are not being used. It's not been as easy as I thought it would be.



In my world, once you come up with a sound that works, tomorrow there are 500 copies of that sound. So, you have to dig a lot deeper to find a unique sound.

I'm sure stems exist for a lot of these songs; why go to the trouble of re-creating parts? Do you have specific timing or tonal tweaks in mind?

Both, and I'll tell you why. It was a good break away from trying to write songs and hitting a wall—I still need to borrow your inspiration wall—and I thought, I could just get the stems and remix it, but what's the point. I've made a lot of original club music, so I don't need to do this, but the challenge sparked me. It was the challenge of taking something from back in the day and doing the cover, which is not normal in our world, and then giving it a real current production sound. That appealed to me.

One of the covers, "Café del Mar" by Energy 52, came out in the early '90s during a wave of affordable digital polyphonic synths. When you say you wanted to update the production sound, do you go directly to contemporary synths, or are you playing to the classic by processing sounds drawn from gear or emulations of gear from the original track's era?

You keep the line, the integrity of the track, the hook, but then there's no formula, no set way. With a remix you get the stems, nine times out of 10 you change the drums and bassline and keep the musical line of the original and there's your remix with some bells and whistles, maybe a new top line that coexists. With a cover, you start from scratch. How do you make it different from the remix? Maybe you play the lead in a different sound, maybe you f*ck with it. You've got to pull it apart,

find what tempo it will be at, determine what arrangement you will do, find the build, the structure of the song, find if it needs something more than it originally had to drag it into this day and age. All these things have to go into it, how to make it different from the original, which is a classic.

So does any part of the original gear play a part?

None. It's absolutely nothing to do with old gear. That's exactly the point. You've got to find new sounds, work in a different way, push the envelope. I think across both albums—*Trance Mission* and *Pop Killer*—it gives you a balance so you don't do too much of one thing.

Do you ever use classic gear or emulations, or do you exclusively concentrate on the latest tools?

I'm not interested, never have been, in going back. It doesn't do anything for me, across the board, in everything in life. I don't see why. I think it's about now, in the moment, and the future.

In terms of both albums, is there a particular tool, a sound of the future, you like to use to update the classics and start off the original tracks?

I think the secret is to find it, because there's no one tool. It's about walking into a situation in the musical realm with no boundaries. It's not a situation of going to one place and saying this is what I'm going to be using; it's finding that moment. Look at the "Café del Mar" track: I've put a voice on it, deep pitched to make it sound really strange, because it sounded really good at the time. But the comments that have come back have sometimes been, "I don't know about that voice." Well, okay.



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How much live tracking do you do in the studio? Are you jamming, recording it, and editing it down, or just conceiving ideas then drawing in notes?

From a DJ's point of view, you have to have cutting-edge music. That's the fine line, because what's the point of recording it now and it comes out in March 2015? It's dated, over.

The way I usually work, I'll dive into the composition first and once there's the song and the idea of someone who will sing it is ... Now, everything is so disposable, the turnover is so fast that, from a DJ's point of view, you

have to have cutting-edge music. That's the fine line, because what's the point to record it now and it comes out in March 2015? It's dated, over. So until you get your song and singer, it's not even worth thinking about how. All you need is an outline, whether from keyboard or guitar, and then with a singer I leave it to the last minute to go in.

A DJ is a modern traditional artist, but it's a different ballgame. DJs have music out all the time. It's not a traditional way of three singles, album and tour; that's rock 'n' roll, pop. We're at the forefront, the cutting edge, out seeing what happens and changes every weekend, globally. We're not looking to traditionally do songs and have them sit there. That's the difficulty, what people don't understand in the record companies. The turnover is so fast for us.

Does that ever make you want to skip the album completely and do a series of digital-only EPs, or some other immediately distributable concept?

Well, our albums have primarily been compilations, track-driven, but every DJ wants an artist album because then we're taken seriously by maybe our peers, the community.

Do they sell? Well, some do, some don't. But traditionally our albums are compilations.

You have taken the traditional route before, such as when you promoted your debut artist album [2002's *Bunkka*] by touring band-style, complete with a bus and support. How are things different on the circuit today?

That was what was right at that time, but the way you stay current is to embrace change and move with the times. That was a successful tour, it worked, and from there I went out with all the production, two trucks full of equipment, went that route. Now it's not where it's at. The live side is hugely important, as important as the record, and I've always spent lots of money on production, changing shows up. But right now with the Trance Mission tour, it's been me as a silhouette [against a continuously cycling video backdrop] letting the music do the talking rather than taking people on the road. ■

Tony Ware is a writer, editor, and soccer mom based outside Washington, D.C. Twenty years ago, however, he was a devout clubber and may have briefly considered wearing JNCOs socially acceptable.

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NEON TREES

BY KEN MICALLEF

What would happen if a modern alt-rock band made a record inspired by Peter Gabriel's *So* and Kanye West's *Yeezus*?

larger-than-life sounds of Pop Psychology

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That would be Neon Trees' *Pop Psychology* (Island Def Jam). Documenting singer-songwriter Tyler Glenn's comeback from a nervous breakdown and the band's embrace of minimalist demos, '80s rock, dance, and hip-hop, *Pop Psychology* is a hook-laden bonanza.

"This is the biggest *sounding* record we have ever made—on purpose," Glenn says. "I was heavily into Peter Gabriel's *So*; it's such a meticulous record. I loved that he didn't feel like pop music was scary or dirty or lacked integrity. That is something we have always stood by, that we are a rock band but we're really inspired by great pop-rock artists. Peter Gabriel has always given me a lot of confidence as an artist. And this was an opportunity to use the studio as a fifth musician, almost."

Produced and mixed by Tim Pagnotta at his Rancho Pagzilla studio (Pasadena, California), *Pop Psychology* was engineered by Ryan Williams, Jarett Holmes, and Scott Wiley, with additional recording at June Audio (Provo, Utah), and mastered by Ted Jensen at Sterling Sound in New York City. The sound is slick, streamlined, and powerful, like '80s dance tracks treated with hip-hop drum sounds, candy-sweet melodies, and Glenn's passionate

"We wanted to get out of the studio environment... It's good to go back to basics. And sometimes limitations can be a virtue."

—TIM PAGNOTTA

vocals. Spandau Ballet's synths meet Phil Collins' gated drums, anyone?

Pop Psychology began with the demos.

Lung-Filled Demos "We demoed everything, and a lot of the final record is the demos," Glenn explains. "We used a lot of simple techniques, really saturating and doctoring the preset sounds in Pro Tools. The drums sound processed but they're live; we treated and chopped up Elaine [Bradley]'s drums and made loops. It goes back to using what we got on the demos and enhancing that.

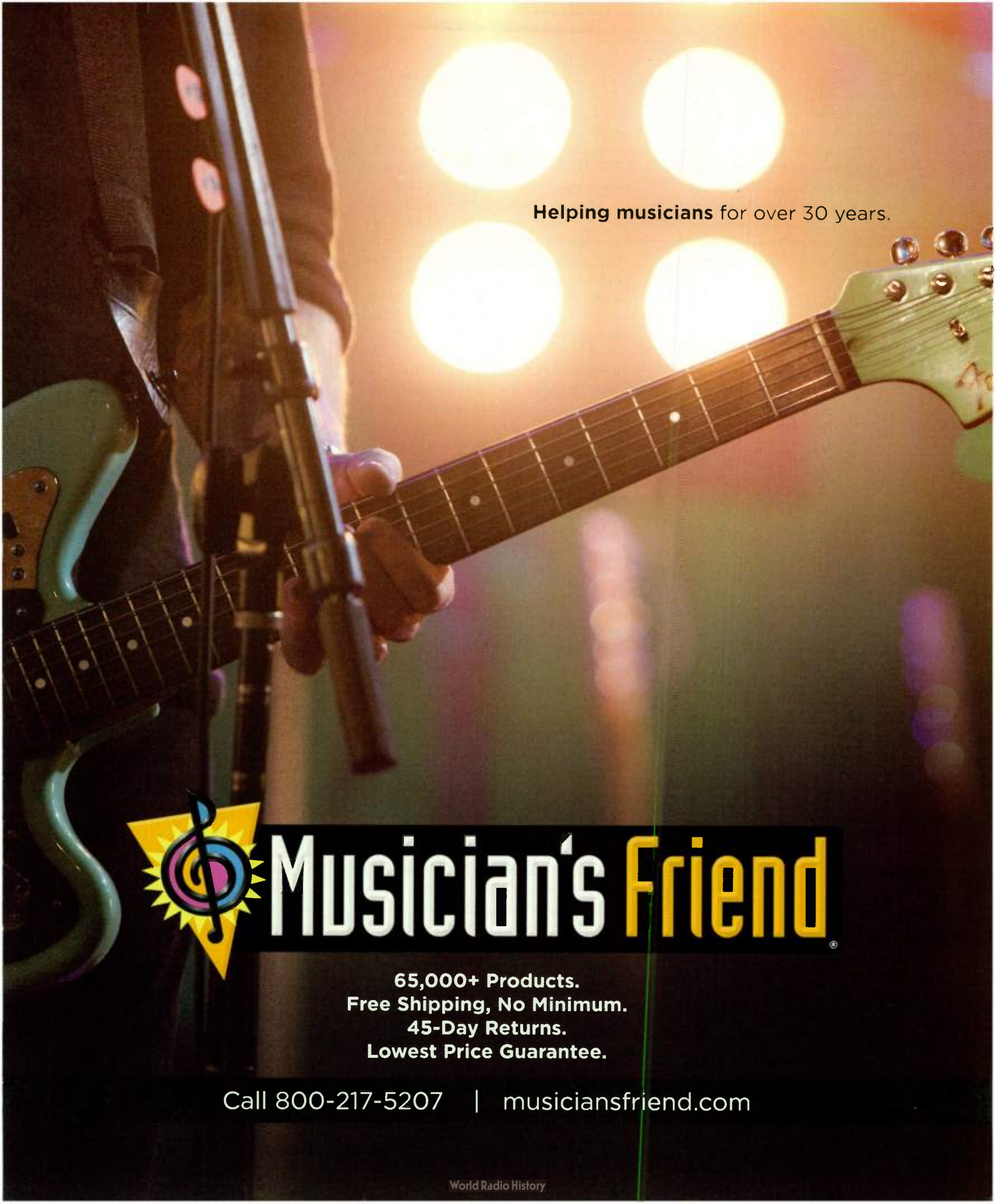
It really shines on the album."

Neon Trees' 2009 Top 20 hit "Animal" (from debut album *Habits*) was a first vocal take, Glenn living in the moment and conquering his fear-of-the-recording-studio angst.

"We wanted to return to that idea of making a song casually," Glenn says. "I sell it better when it's not all about concentrating on vocal takes. So Tim and I wrote batches of songs together in different motels. It was about finding a comfort level, taking those first or second takes and not pushing too hard for a perfect vocal. Nothing beats the first or second take from a demo."

Glenn and Pagnotta recorded songwriting demos at Niko's Nido (Big Bear, California), Pueblo Bonita (Cabo San Lucas, Mexico), and Sand Dollar (Montecito, California) before fellow Trees Chris Allen (guitars), Branden Campbell (bass), and Elaine Bradley (drums, vocals) got their hands on it.

"I had a mobile setup using a Shure SM7, [Avid] Mbox, iMac, and a pair of M-Audio DX5 speakers," Pagnotta recalls. "We wanted to get out of the studio environment. You want to spur creativity. There's something about working with an artist outside of what they're used to. It's good to go back to basics. And sometimes limitations can be a virtue."



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“Tim brought his gear,” Glenn adds, “and we recorded with guitars and synths to create a semblance of tone and mood that was almost like a master so that we were setting up the album’s vibe early on. I like that approach of determining a tone and a vibe first, and not making it up later. It helps the writing.”

Vocals were often tracked within minutes of a song’s completion. Tile bathrooms and large windows created reflections, but that didn’t stop the dynamic duo.

“We recorded with guitars and synths to create a semblance of tone and mood that was almost like a master so that we were setting up the album’s vibe early on.”

—TYLER GLENN

“I created a vocal booth to fight the noise,” Pagnotta says. “We cut 50 percent of the album’s vocals on a SM7 through an Mbox. I have tons of Neves and APIs and a U47, and as much I want to believe that you can buy the bullet-proof vocal chain, it really doesn’t matter. I can deal with bleed and a noisy room if it sounds exciting. So I built a vocal booth. I called housekeeping and they brought down a ton of towels. We took the bedspread and hung it in a walk-in closet and we were both singing at the top of our lungs.”

Yeezus, Black Celebration, and Yaz

Pop Psychology’s key songs, “Love in the 21st Century,” “Text Me in the Morning,” and “Sleeping With a Friend” were also inspired, oddly enough, by the classic sounds of Glenn’s parent’s record collection.

“About six years ago I started listening to the greats like Stevie Wonder, Tom Petty, and Nat King Cole,” Tyler says. “I was studying what made their songs so successful. It really helped me to simplify the arrangements so I was able to sell the point I was making in a

song versus filling it up with too many lyrics and thoughts. Tom Petty has always said, ‘Don’t bore us—get to the chorus.’ There were moments where we had a lot of vocal patterns and glitches that didn’t go on the record. I was listening to *Yeezus* and Depeche Mode and Yaz, too; it was almost turning into an homage.”

That hip-hop/dance obsession filtered its way into the recording sessions back at Rancho Pagzilla, Pagnotta and engineer Jarett Holmes creating loops and layers taken from Bradley’s massive big beat. “Tyler wanted it to sound big,” Pagnotta says. “Early on, he was referencing [Peter Gabriel’s] ‘Sledgehammer’; that’s when I started programming beats. Some records are about capturing a band’s performance, other records you have a sonic goal. We’ve all made studio records, but not using it as a creative tool. On this record the bigger picture was that there might be rhythms that are impossible to play so we layered sounds by combining two different drum kits to make it sound like one kit as on [the immense-sounding] ‘Sleeping With a Friend.’ There, the tighter-sounding kit is playing a really simple beat with a blasting drum setup on top of that. ‘Love in the 21st Century’ and ‘Unavoidable’ also have layered drum sounds.

“So often, you are programming more urban-derived beats,” Pagnotta adds, “taking samples from all kinds of environments: dry kick samples of different pitches, or room samples that might be a little sliver of a kick drum from a vinyl record. I wanted to do that with a rock band and they were up for it. If you record that way, you have to learn the songs differently. Pre-production was an exercise in learning and nailing the arrangements, then knowing that we’re going to change up parts on the fly if necessary.”

Pagnotta’s Rancho Pagzilla studio doesn’t have a conventional console, but his collection of EQs, pre’s, and compressors basically constitutes a standalone desk. Engineer Jarett Holmes details the setup. “A rack of ten BAE 312A mic pre’s feed four API 550B EQs and two API 560 EQs. In the rack next to the pres and EQs, there is a bank of compressors, namely the Silverface Universal Audio 1176, Teletronix LA-2A, a stereo pair of Empirical Labs Distressors, an Empirical Labs Fatso, and an Alan Smart C2. We used two Neve 1073s for snare drum, a pair of Dakings for the far-room drum mics, close drum room mics through TubeTech pre’s, and for the rest, the BAE 312As, which is the Brett Avril and Avedis redesign of the classic API preamp.” Reverb is mainly the stock Pro Tools D-Verb, and the delay is predominately the stock Pro

Tools delay. “Tim likes to work really quickly and super creatively using reverb and delay to develop his sound, and frankly, these plug-ins just sound good,” says Holmes. “We never felt anything was lacking.”

Tracking Pop at Pagzilla Glenn and Pagnotta presented the demos to the band, who set about learning the music and tracking individual parts. Drums went down first, occasionally abetted by vintage drum machines: Roland 707s, 808s, and 909s.

“Tim was directing two main drum sounds—a tight kit and a blown-out, roomy kit—and there is a lot of interplay between the two,” Holmes explains. “We mainly used Tim’s old Ludwig set for the tight kit, and his ’70s Slingerland kit for the bigger, smashier stuff. The size was determined by heavily compressing the room mics in order to get that bombastic feel.” To get a super-tight sound, Pagnotta had Bradley play the cymbals separately; the drums were deadened down and tuned low by drum tech Mauro Rubbi for a real ’70s thud. “As for the bigger room sound, we’d really crush the room mics through a pair of Empirical Labs Distressors and a Fatso,” says Holmes.

Drum processing was “super minimal,” according to Holmes: “If there’s a fill, like on ‘Sleeping With a Friend,’ there, Tim did some sort of classic ’80s trick, reversing the reverb and putting a phaser on it. Generally speaking, we relied heavily on the sound of the drum room at Rancho Pagzilla, which is a small room with high ceilings and can really produce a great explosive quality.”

Pagnotta and Holmes went with a Yamaha Subkick outside the bass drum and Audio-Technica ATM25s on the inside of the kick drum and on rack and floor toms. Engineer Ryan Williams (30 Seconds to Mars, Deftones, Kelly Clarkson) was brought into focus on drum sounds. “The ATM25s are Ryan Williams’ go-to choices for toms because they sound great with the same attack you’d expect from a 421, but a more developed low end,” Holmes explains.

Shure SM57s running into a pair of Neve 1073s covered top and bottom snare drum heads; the snare drum was compressed with a blackface Universal Audio 1176N reissue. A pair of Coles 4038 ribbon mics acting as close room mics were placed in an X/Y configuration, at thigh height, three feet out from the kit. Williams used the Coles for their “warm and rich character, in a configuration that provides a very even and centered image of the kick and snare,” says Holmes. Further

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“As much I want to believe that you can buy the bullet-proof vocal chain, it really doesn’t matter.”

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out, a spaced pair of AKG 414s were placed about eight feet off the kick drum, at least ten feet apart, acting as far mics.

“Those were the mics Tim crushed to get that really big room sound, and they are significantly brighter than the 4038s,” Homes explains. “To crush the mics, we’d run them into an Empirical Labs Fatso, another go-to, as well as a couple pairs of Distressors—heavy compression was used to bring out the room

sound and decay. You can do it through software compressors too, and it’s where a lot of excitement comes from. Tim likes a pair of Shure SM81s as overheads—they are great mics and only run around \$250 each. They don’t have the top end bump that you see with the Shure KM 84s or Neumann U87s; you’re not getting as much of that brash, ear-bleeding high-frequency content, which makes the SM81s an excellent choice for overheads. The SM81 was the go-to acoustic guitar mic as well.”

Bass was tracked at June Audio with engineer Scott Wiley. Multiple bass amps and guitars were used, including Fender P-Basses and Mustangs, Lakeland, and Gibson, through a Silvertone guitar head for crunchy bass tone and an Ampeg SVT for the deep, gut-rumbling tones. A Reddi bass DI was used as well, treated through an Avalon U5. “The Avalon has a tone knob that allows you to go through ten different EQ curves,” Holmes says. Bass cabinets were an Ampeg 6x12, Silvertone 4x12, Fender, Aguilar, and a vintage Marshall.

“We used an AKG d112 or a Blue Mouse for the super-low bass end,” says Holmes, “and a Chandler mic pre, Sta-Level Compressor, and a Beyerdynamic M88 (through APIs) for

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— TapeOp



a crunchier sound. We put them right up on the speaker, usually dead center. We tried it on each driver on every cabinet to see if one was superior.”

Along with Bradley’s massive beats, Chris Allen’s brash guitar lines and riveting riffs propel Neon Trees’ songs like a turbo-charged tsunami. The bulk of Allen’s Laney guitars went through a 50W Laney Lionheart head/Marshall 4x12 cabinet, miked with a Beyerdynamic M88 placed on-axis on the grill, about one inch off the speaker.

“A lot of the guitars have an audible room sound,” Holmes says. “There, we used an Oktava MK-012 or an AKG 414 placed as far as ten feet off the amp, just outside of the live room in the hallway. The intro riff in ‘Text Me in the Morning’ is a great example of that room sound. Tim also used his Silvertone head for guitars, another favorite. We also used Tim’s Danelectro, which has a unique character.”

In addition to the hotel demos, vocals were cut at Rancho Pagzilla using a Neumann U87 through a Neve 1073 into a UREI 1176 for compression. “For the hotel room vocals,” Holmes adds, “the FAB Filter Pro-Q turned into our desert island EQ, it’s a totally uncluttered graphic user interface. You create the bands

as you need them and solo the band as you’re EQing. Traditionally, you’d grab an EQ and boost it 10dB and try to find a problematic area to get out of the way. The FAB Filter lets you solo the band as you’re listening. The presence you hear is a combination of Tyler’s performance, a bit of EQ, and compression. Tim likes to put distortion from [SoundToys] Decapitator on the vocal sometimes. Then Waves H-Delay for slap on every song as well. And Elaine tracked her backing vocals at June Audio through a U67.”

Mixing, Melancholy, Celebration

After Neon Trees returned home to Provo, Utah, Pagnotta mixed *Pop Psychology* into the wee hours back at Rancho Pagzilla. “My only rule is to start with the kit, the vocal and bass early on,” he explains. “I spend two days per song mixing. Tracking this way allowed a lot of flexibility. More traditional approaches wouldn’t have [given us] this flexibility. I wanted to make loops of Elaine’s drum sounds so if I felt the urge to program a part, I wanted to use the elements from our own drums. The challenge in putting a record together is having it all feel consistent. There are drums with a full performance with overheads like ‘Text Me

in the Morning’ and ‘Another World.’ Other songs the drums and cymbals were tracked separately, but always a complete take top to bottom.”

While the bulk of *Pop Psychology* exudes a smack-down power pop-dance vibe with rock attitude, the lone ballad “In the Halls” is altogether different. Melancholic and reflective, riding over purring synth pads and twinkling arpeggios, the song expresses Glenn’s balancing act between flight, fright, and simply feeling alright.

“*Pop Psychology* is about my coming back from the ashes,” Glenn reflects. “I had to take time off to consider what was going on inside and achieve some kind of happiness beyond performing. This record is a celebration of turning 30, and a celebration of feeling confident and being happy.” ■

Ken Micallef is a New York-based writer covering all things gear, vinyl, tube oriented, jazz, rock, and electronic.



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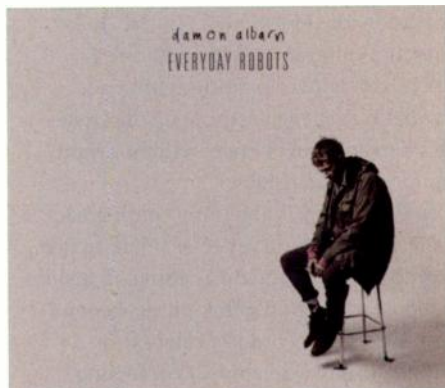
Works double duty as filter or frequency divider! As a filter, you can set it to 12, 18 or 24dB per octave slopes to roll off unwanted frequencies or create a band-pass filter to accentuate the mid range. As a frequency divider you can pull apart the bass and highs and process them separately to apply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

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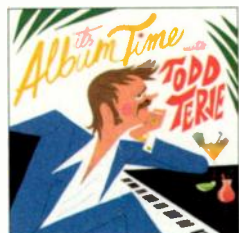
Damon Albarn

Everyday Robots

WARNER

Damon Albarn's first solo album, *Everyday Robots*, has nothing in common with his other ventures (Blur, Gorillaz, Mali Music, Africa Express). Quiet and spare, his unaffected voice is the central focus while the humming, percussion-centered instrumentation sounds like found objects more so than conventional ones. Albarn has never appeared as vulnerable as on "Lonely Press Play" or as secret-sharing as on "Hostiles." In fact, on most of *Everyday Robots*, Albarn seems like he's talking to himself, and perhaps that's best.

LILY MOAYERI



Todd Terje

It's Album Time

OLSEN

Norway's Todd Terje orchestrates hypnotic momentum. His cosmic nu disco piano-house correlates chunky, funky, squelchy ensembles with glissando chords and joyful, wheeling trills. Building off four semi-modular excursions composed entirely from ARP 2600, Terje filters vintage analog systems through eight additional tracks slathered with ARP Odyssey, Roland Jupiter-4, and Cwejman S1 MK II. Not digital-shy, Terje incorporates u-he DIVA, Elektron Machinedrum, multiband dynamics processing, and more. The synergistic oscillations deliver sparkly, ascendant boogie.

TONY WARE



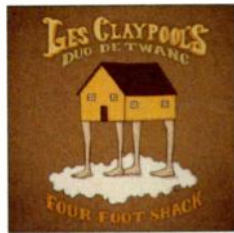
Bossacucanova

Our Kind of Bossa

SIX DEGREES

Brazilian music is one of the world's perennial treats, its geniuses from Jobim and Pascoal to Mendes and Cantuaria providing timeless music beyond boundaries. Brazilian trio Bossacucanova upholds and extends that tradition, exploring clever production, vibrant rhythms, and infectious compositions on its seventh album, *Our Kind of Bossa*. Featuring a cross section of DJs, vocalists, and samples, Bossacucanova's music is perpetually joyous, from the 007-worthy "Balanca" to samba-rific fun on "A Pedida e Samba."

KEN MICALLEF



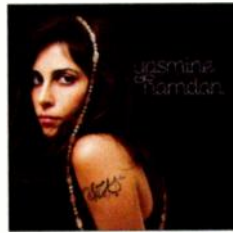
Les Claypool's Duo de Twang

Four-Foot Shack

ATO RECORDS

"Traditional" just isn't a word one associates with Les Claypool, but his latest project does pay homage to the roots and bluegrass music the Primus frontman says he listens to of late. Claypool's take is (not surprisingly) totally irreverent, twisted, aggressive, and occasionally rude, but he and collaborator Brian Kehoe couldn't pull this off if they didn't have deep understanding of the origins of this music, and excellent chops as well.

BARBARA SCHULTZ



Yasmine Hamdan

Ya Nass

KWAIDAN/CRAMMED

Lebanese singer/songwriter Yasmine Hamdan has collaborated with Mirwais, CocoRosie, and Marc Collin; her fifth album, *Ya Nass*, posits her as perhaps the boldest innovator to come from the Middle East since the late Ofra Haza. Drawing on influences as diverse as Massive Attack and Burt Bachrach, *Ya Nass* combines rich electronic and native folk sounds in service to Hamdan's rich, delicate, and ultimately powerful songs, gracing *Ya Nass* like an ancient soul in command of a modern aesthetic.

KEN MICALLEF



Tobias

A Series of Shocks

OSTGUT TON

A sense of gravity, or a lack thereof, pervades these 10 tracks of shuddering, shadowy techno by Berlin-based producer Tobias Freund. Arpeggiated synths, racked drum machines, and destabilized loops are interstellar mechanics personified, the sound of volatile docking procedures challenged by free-floating cosmic debris. Anxiety and accuracy eclipse and illuminate each other, flirting along decaying orbits manually navigated by the helmsman behind the adt-audio ToolMod console. You are suspended, irradiated, in a field of syncopated flux.

TONY WARE



Osipov State Russian Folk Orchestra

The Grand Budapest Hotel Original Soundtrack

ABKCO

Composer Alexandre Desplat's score for Wes Anderson's latest film is a gorgeous blend of folk and classical, often infused with a haunting creepiness that keeps the listener in suspense. The track "Mr. Moustafa," for example, has a reverberant, carnival-like melody with roots in both Middle Eastern folk and American horror films. Other tunes are purely beautiful Eastern European-influenced arrangements, produced with care by prolific film music supervisor Randall Poster.

BARBARA SCHULTZ

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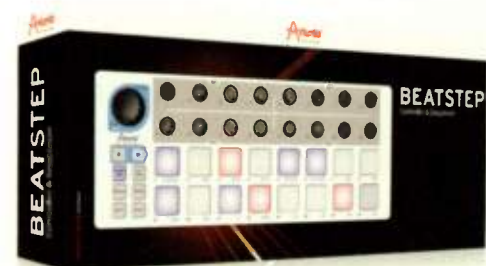
BEATSTEP

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Arturia's Beatstep offers a new degree of functionality and performance for a portable pad controller. BeatStep is highly versatile, capable of triggering clips in such applications as Ableton Live, playing drums in conjunction with such applications as BFD or EZDrummer.

But BeatStep is also a 16-step analog sequencer for creating all kinds of musical phrases. Its vast connectivity allows you to connect the BeatStep to a computer or iPad using USB, a drum module using MIDI or an analog synthesizer equipped with CV/GATE.

www.arturia.com





Roundup

Just Add Laptop





GEAR

For digital DJs, these tidy all-in-one controllers package MIDI, audio, and software together for a complete setup.

BY MARKKUS ROVITO

AS AN electronic musician, you may have heard something like this leveled at you and your ilk at least once: “All you’re doing is pressing buttons!” As enlightened sympathizers, we know like you do that playing piano or drums really just boils down to pressing buttons, as well. So for better or for worse, and whether you’re an experienced DJ or not, with a good “all-in-one” DJ controller, you can pull off professional (and hopefully, paying) DJ sets by doing nothing more than—you guessed it—pressing buttons!

Of course, there’s much more than just that to great DJ’ing. More elaborate equipment can certainly help, but even a basic controller can get you started mastering the fundamentals, which is still your most direct avenue toward successful DJ’ing.

When we talk about an all-in-one DJ controller, we’re referring to a USB MIDI controller for DJ use that includes an audio interface and has enough controls to suffice as the only controller you’d need to perform; in most cases, that entails a controller that condenses the layout of two turntables and a DJ mixer into one box, and modern units generally include extras for effects, looping, sample and/or cue point triggering, transport, browsing and loading tracks, and more. Of course, depending on your ambition, you could always add supplemental controllers to the setup.

Of concern when choosing a controller are, of course, price and then built-in software, and whether the unit has two or four mixer channels. Most DJ software these days supports 4-deck mixing, meaning you could have four tracks playing and being mixed at once; sometimes, like in Native Instruments Traktor, special

sample-launching decks can take the place of two of the 4-track decks. Even if you don't anticipate using four decks, you may still want a 4-channel controller to assign the extra channel controls to other MIDI functions.

We break down our chosen controllers by some of our favorite shipping options in three price ranges: less than \$500, \$500-\$999, and \$1,000 and up, using street prices as criteria. All of them except for the Casio XW-J1 come with some form of software—either a limited version or the full professional program, depending usually on the price range. Every software component has more than enough to get you started, and in the case of the Casio unit, complementary programs can be had for a pittance: 10-20 bucks.

The best way to get DJ gigs is to produce your own music—something you already do! And a great way to get your music some exposure is to play it out; successful DJing and music production naturally feed off of each other. Choose wisely, and above all, enjoy.

LESS THAN \$500

Gemini Slate & Slate 4

GEMINISOUND.COM
\$199 & \$249 STREET

Gemini saw the shrinking size of solid-state “ultrabook” laptops and smelled an



opportunity to create accompanying ultra-slim and ultra-lightweight DJ controllers, the 2-channel Slate and the 4-channel Slate 4. At only 25mm high, the controllers are made to slip into laptop bags, and when you pull them out, they can slide flush against a laptop on a table, because the cable connections—RCA audio out, 1/8" headphone out, and 1/4" mic

input—are on the left side rather than the back.

Though compact and low-cost, the Slates include a full complement of expected features, such as multifunction RGB backlit pads for triggering samples, loops, and cue points; dedicated effects sections per deck; dedicated filter knobs per channel; and full MIDI mapping capability. They come pre-mapped for Virtual DJ, of which a free version is available. All versions of VirtualDJ come with advanced features, such as 4-deck ability, effects, sampling, recording, video mixing and beat syncing, keylock, and much more; the deluxe VirtualDJ Pro Full goes for \$299.

Numark Mixtrack Pro II

NUMARK.COM
\$249 STREET

The most popular names in DJ software are Serato and Native Instruments Traktor. For



getting into Serato DJ, the version dedicated to MIDI controllers, the Numark Mixtrack Pro II lands on the right cross-section of affordability, portability, and a feature set that will meet the demands of many DJs' performances. Serato DJ only works with approved controllers, and out of the box, the Mixtrack Pro II comes with the somewhat limited version, Serato DJ Intro; upgrading to the pro-level Serato DJ costs another \$129.

The plug-and-play Mixtrack Pro II runs on USB power and works in lockstep with the software with no setup required. Scratch buttons toggle the touch-sensitive platters from jog mode to scratch; browsing controls let you load tracks without the mouse; eight backlit pads per deck work in Loop, Sample, and Hot Cue modes; and a basic soundcard provides the essentials: RCA outputs, mic input with gain, and two headphone outputs.

A Shift key doubles up the functionality of

many of the controls, such as the eight effects-section knobs and the Pitch Bend buttons, which also work the pitch bend range and toggle the keylock.

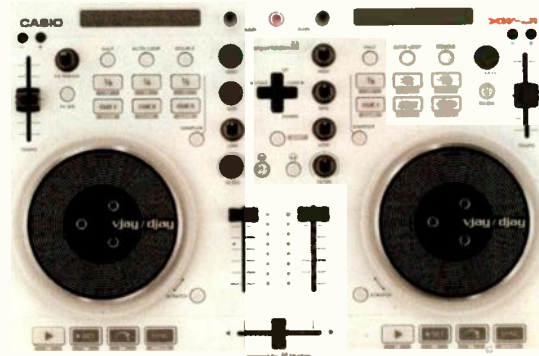
For another \$100, you could opt for the Mixtrack Quad, which has four channels for four-deck mixing and was upgraded with multicolor pads that give color feedback according to their current state. However, at press time, the Mixtrack Quad came with 4-deck VirtualDJ LE software rather than Serato DJ, although Serato consistently adds support for more controllers.

Casio XW-J1

CASIOMUSICGEAR.COM
\$349 STREET

Don't look now, but you don't need a high-end laptop and expensive software to start DJ'ing legit sets. Casio's first foray into DJ controllers, the XW-J1, works with Macs and PCs, but is also compatible with iPads and iPhones and comes with a built-in 30-pin iOS dock connector (Lightning adapter sold separately). It also works seamlessly out-of-the-box with Algoriddim's Djay app for iPad (\$9.99), iPhone (\$1.99), or Mac (\$19.99); Vjay video mixing app for iPad (\$9.99) or iPhone (\$1.99); and Image Line Deckadance 2 (\$79) for Mac or PC. (For more on Deckadance 2, see "Power App" on page 76.)

Casio partnered with Vestax on the XW-J1 hardware, and it features the same high-quality jog wheels, touch strips, and audio interface found in similarly priced



Vestax units. But it's the interaction with Algoriddim's iOS apps that really distinguishes the XW-J1. Djay 2 for iPad makes an excellent case for doing gigs without a laptop; it takes advantage of multiple views on the iPad touchscreen to offer a feature set surprisingly free of compromise. What's more, certain

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XW-J1 controls adapt to the current view of the Djay 2 app. For example, the grid of six performance buttons on each deck adapts to launch samples, effects, loops, etc. according to the screen view.

Within a well-constructed, compact footprint of 13.9"x9.8"x1.9" and 3.2 pounds, the XW-J1 supplies track-browsing/loading controls, 3-band EQ, and dedicated Filter knob per channel; an FX section, and requisite tempo and transport controls.

\$500-\$999

Reloop Terminal Mix 8

RELOOP.COM
\$699 STREET

Although it makes some of the most delicious-looking, tank-like, and feature-dense controllers around, Reloop is still building its reputation and distribution. It's worth tracking down the latest and greatest of its Terminal Mix series, the Terminal Mix 8, for its excellent shoehorning of comprehensive features into a mid-size and mid-price controller.

The Terminal Mix 8 comes with the full Serato DJ software out of the box, and it makes very efficient use of its 20.7"x14.3" surface area. Its many step-up features

and generous effects sections with extra Shift-level functions.

However, the cornerstones to this unit are the multicolor, velocity-sensitive pads with four performance modes—Loop, Sample, Cue, and Slice—and the ability to work in two of those modes at once. The Slice mode instantly chops up the playing track into eight parts that you can bounce around rhythmically on the pads for a little live remixing action.

With chunky and ergonomic controls, the Terminal Mix 8 was built for road wear, and its glorious rainbow-spectrum lights are sure to mesmerize you after losing too much sleep to late-night mixing.

Native Instruments Traktor Kontrol S4 MK2

NATIVE-INSTRUMENTS.COM
\$799 STREET

Although you can map any MIDI controller to work with Traktor Pro 2 software, you'll get the highest-quality, plug-and-play interaction

four channels to either effects deck, dedicated toggles over the Snap and Quantize buttons (which let you set and trigger loop and cue points either synced to the tempo grid or not), and generous connectivity, including MIDI I/O, footswitch in, two auxiliary line/phono inputs, and two stereo main outputs.

A dedicated Flux button on each side of the unit accesses Traktor Pro's Flux mode. This recent addition to the software lets you add live re-edits such as cue-point juggling and looping to the playing track, and then drop back into the track as if it had been playing continuously.

Besides brighter LEDs and an output level boost, another key addition to the S4 MK2 over the original is compatibility with NI's Traktor DJ iPad mixing software. Traktor DJ is the most professionally adopted iPad DJ'ing software, and one of the best outright. Even if you don't use Traktor DJ for shows, you can use it to prep a track's cue points, loops, and beat grid, and then sync those preparations to your track collection wirelessly and use them in Traktor Pro.

Pioneer DDJ-SX

PIONEERDJ.COM
\$999 STREET

After setting the standard for Serato DJ controllers when it came out, the competition was left to play catch-up to the DDJ-SX's enormous feature set, including eight performance pads per deck, which unlock four performance modes, including the awesome Loop Roll



with the program from NI's own all-in-one controllers. The full-featured, 4-channel Kontrol S4 MK2 sets the gold standard, although the scaled-down 2-channel Kontrol S2 MK2 also presents a solid option at \$499 street. Both controllers come with the full Traktor Pro 2 software, making them professional solutions straightaway.

No other all-in-one controller will give you the same comprehensive dominion over Traktor Pro 2's intricate, industry-best effects decks, detailed Remix Decks for live remixing, loop recorder, and auto-looping as the Kontrol S4 MK2. It has easy routing of the

include extra track-browsing controls, buttons for scrolling through Serato software control panels, gain and filter for all 4 channels, Serato sampler volume control, crossfader-curve adjust, gain and filter on each channel, separate DJ booth output with volume control, a phono/line aux input, two master outputs,

mode. Slip buttons on each side let you go crazy with the pad modes or scratching and then slip right back into the track's linear progress when you're finished.

The 4-channel controller lets you spin from four decks within the included Serato DJ software, and a unique Dual Deck mode will control both decks 1 and 3 or decks 2 and 4 in

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JAY RUSTON

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- Active crossover with multi-pole design for linear response
- Woven carbon fiber woofer
- 4-position high frequency lift control
- Balanced 1/4-inch inputs, unbalanced RCA inputs

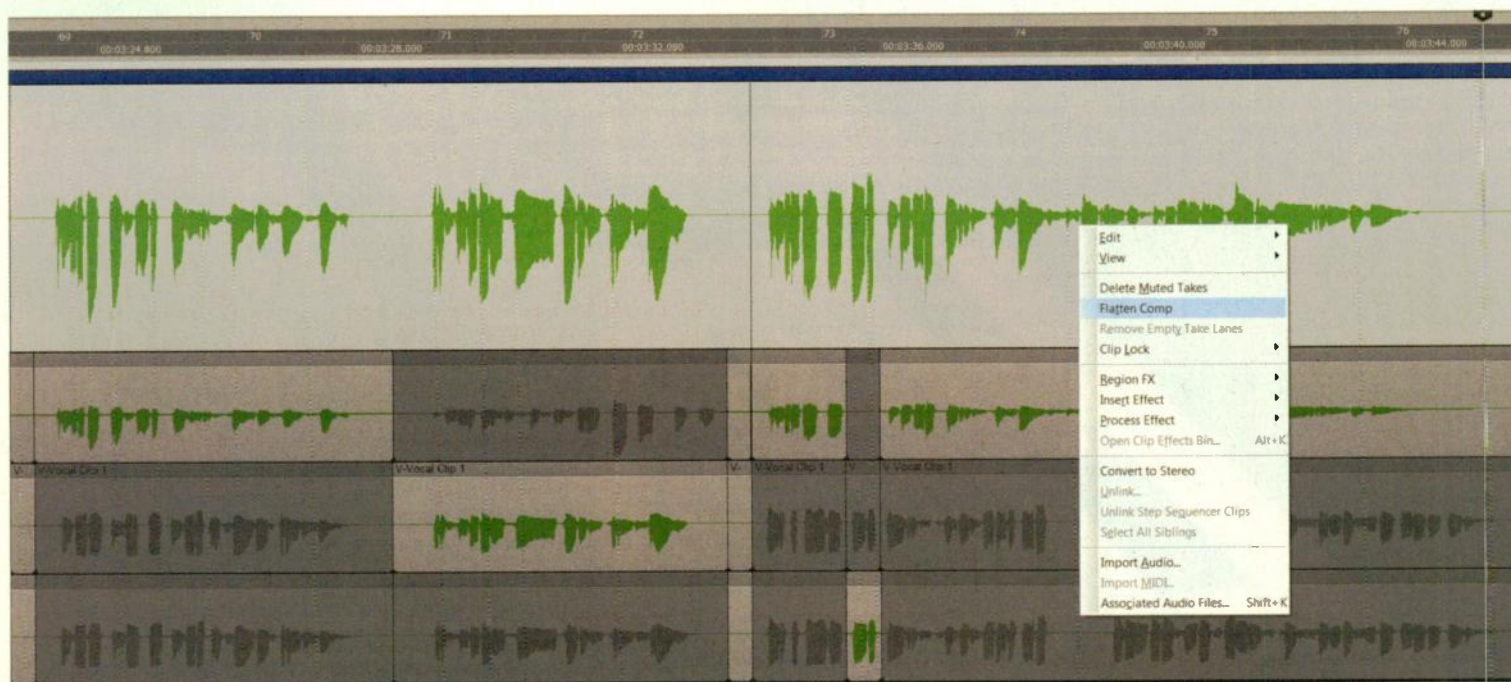


Fig. 1. Sonar X3's improved comping workflow makes it easier than ever to assemble the perfect performance. The new Flatten Comp command renders the selected phrases to a new master take.

Plug-ins Are Instrumental I've been a fan of Applied Acoustics Systems' Lounge Lizard since it was first released, so the inclusion of a "lite" version in Sonar X3 is a big plus in my book. Not only are its Rhodes and Wurlitzer emulations compelling and often dead-on convincing, its controls are inspiring. As a physical-modeling synth, it gives you control over the characteristics of the instrument's hammers, forks, tone bar, and pickups, giving the instrument tremendous timbral range and subtlety. The suitcase-style tremolo makes me just want to sit and play for hours. AAS also contributed a stripped but useful version of Strum Acoustic, which has been justifiably well-received in these pages. It's not as easy to get great results as with Lounge Lizard, but its ability to auto-voice and convincingly strum your keyboard chords is at a minimum a powerful songwriting tool.

Another welcome addition is a three-drum kit version of Addictive Drums from XLN Audio. Numerous presets, MIDI beats, and fills are included, if that's your cup of tea, but for me the real value is in the sound of the kits themselves. I would have no trouble including these in any finished production—they sound great.

A whole rack's worth of vintage-style audio processors from Nomad Factory expands Sonar's mixing palette admirably. The Blue Tubes package includes everything from

compressor, de-esser, and several equalizers to chorus, phaser, and more. To my ear, a little analog vibe goes a long way, and I had no trouble pushing these processors well past that point; that should be just right for many folks. At less aggressive settings, they do a great job of accomplishing their assigned tasks with a bit of personality. Also from Nomad Factory are the Analog TrackBox, a tube-emulation channel strip, and the BlueVerb DRV-2080, described as a vintage reverb in the spirit of digital reverbs from the 1980s.

Speaking of vintage sounds, the ProChannel now includes tape emulation. Developed by Overloud, the Tape Emulator module is switchable between 15 and 7 1/2 ips, and between normal and overbias. The record and playback levels can be linked to maintain unity gain, which is a great asset for A/B'ing the effect without level changes clouding the issue. And, of course, what would tape emulation be without the ability to dial in tape hiss? If you're looking to add some crunch to your drum kit, this new module will do it.

I'm also delighted to note that Sonar X3 now scans plug-ins in the background instead of making you wait at start-up. VST3 is now supported, allowing improvements such as sample-accurate automation and more efficient use of CPU resources, among other things.

So What Else Is New? Although Sonar X3 isn't perfect (it still can't import or export AAC files, and some of the plug-in windows steal transport shortcuts), numerous improvements in the update make life easier, including the ability to apply effects to a selected region of audio rather than to an entire clip. Track colors are more customizable, and the track EQ now features a large "fly-out" panel for graphic editing of the curve. When you export video and audio, you have the option to publish directly to YouTube, and the application integrates with Gobbler for back-up and collaboration.

The biggest usability improvement, though, is in track comping. New keyboard shortcuts speed things along; there is a new dedicated comping tool, automatic fades smooth edits; and a new Flatten Comp command bounces all isolated takes to a new take lane (see Figure 1). This is the sort of workflow enhancement that lets you focus on the project rather than the process.

Overall, Sonar X3 offers plenty of good reasons to upgrade. Download the 30-day free trial and see for yourself. ■

Brian Smithers is a musician, engineer, and educator in Orlando, Fla. He is chair of the Workstations Department at Full Sail University.

STUDIO ENHANCED.

"I finally found a speaker that isn't hyped on the top and bottom, or brittle in the mid range, the Resolv SE's are now my go-to monitor. Even at a very low volume, these speakers punch, which allow me to do very intricate vocal rides. If the mix is slamming on these speakers, then it will definitely sound great everywhere else."

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- 1.25-inch soft dome tweeter with neodymium magnet
- Active crossover with multi-pole design for linear response
- Woven carbon fiber woofer
- 4-position high frequency lift control
- Balanced 1/4-inch inputs, unbalanced RCA inputs

the software from a the same hardware deck, meaning you could scratch or hot-cue both tracks at once.

On top of near 1-to-1 control over Serato DJ functions, including full effects, tempo, and beat grid editing functions, there's a "Needle Search" touch strip for accessing any point in a track very fast, and Reverse and Vinyl modes for the jog wheels.

Designed as the centerpiece for comprehensive DJ setups, the DDJ-SX includes external audio inputs with input-selection switches for all four mixer channels, and three stereo outputs: XLR master, RCA master, and 1/4" booth output. The unit as a whole is quite large—but it wastes no space and only weighs 13 pounds despite feeling sturdy and robust.

\$1,000 & Up

Numark NS7II

NUMARK.COM

\$1,499 STREET

Traditionally, Serato has captured the side of the digital DJ market that comes from turntablism and demands a vinyl feel with its modern technology. So for vinyl purists who still want the convenience and slick

a professional DJ turntable, complete with motor torque adjustment, Start and Stop Time adjustment, and reverse play. The requisite hardware for such an apparatus already adds a lot of weight to the unit, so Numark goes all the way with it, building the whole chassis out of no-nonsense metal. The result is the heaviest controller on the market at 35.8 pounds, but it's built like a battleship's pilot-house console.

Besides its real vinyl feel, the NS7II improves upon the original in every way, and leaves nearly no stone unturned when it comes to Serato DJ control. It offers eight Akai MPC velocity-sensitive trigger pads, and there are five dedicated Hot Cue buttons on each deck, so you can jump to different cue point in the track with the buttons while reserving the MPC pads for sample triggering, the Slicer, etc.

In addition to the different Serato DJ performance pad modes we've discussed above, the NS7II also has touch-sensitive knobs, useful for example for flicking effects on and off and tweaking them with a single movement, and a Filter Roll button that engages a very cool Loop Roll with added filter sweep.

Pioneer DDJ-SZ

PIONEERDJ.COM

\$1,999 STREET

Whereas Numark's huge controller beast

for the included Serato DJ software and at a much lower price; the three separate units would cost \$4,857-\$5,457 street, depending on the mixer.

With the DDJ-SZ, you can use the same 8.1-inch jog wheels found on CDJ units, and the same high-end Magvel crossfader with adjustable curves as found in the DJM-900SRT mixer. The 4-channel controller's jog wheels illuminate blue for decks 1 and 2 and white for decks 3 and 4, making it easier to recall which deck in Serato DJ is active on the hardware decks.

The DDJ-SZ offers the same advanced performance features for Serato DJ that are found on its smaller sibling, the DDJ-SX, and then piles on high-end stuff rarely found on DJ controllers. The mixer section houses two hardware effects units: the Oscillator effects Noise, Cymbal, Siren, and Horn; and the Sound Color effects Echo, Jet, Pitch, and Filter.

With two USB ports and two separate 24-bit soundcards, two DJs can plug in their computers and use the DDJ-SZ at the same time, meaning they could tag-team DJ or just transition into the next set without stopping the music—a huge plus for installing the unit in a bar or club for permanent use. The unit has 10 audio I/Os, including CD/line and phono inputs that support DVS timecode functionality and two mic inputs. With two headphone outs and three stereo out pairs, including XLR master output, the DDJ-SZ is class all the way. ■



performance features of a controller with Serato DJ software, Numark pulls out all the stops for the NS7II, a gargantuan and uncompromising turntable-style DJ setup.

Like its predecessor, the NS7II eschews normal DJ controller jog wheels in favor of full direct-drive motorized platters with real control vinyl pieces on top. So manipulating tracks feels just like using a 7-inch record on

replicates the feel of dedicated turntables, the Pioneer's 34.3-by-16.5-by-3.9-inch, 22.9-pound heavyweight contender, the DDJ-SZ approximates another club-standard DJ setup. Pioneer's CDJ-2000 CD player/controllers and DJM mixers dominate the club and festival circuit. The DDJ-SZ gives you the size and feel of such a setup, but with performance features built

Contributing editor Markkus Rovito is a drummer, electronic musician, and DJ, and a frequent contributor to DJTechTools.com.



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World Radio History



Three of the many good reasons to love Sonar X3: Addictive Drums, Melodyne Essential, and Lounge Lizard.

Cakewalk Sonar X3 Producer

Faster, easier, more powerful than ever

BY BRIAN SMITHERS

SUMMARY

STRENGTHS Improved comping features. Single-track version of Celemony Melodyne. Usability improvements, such as larger track EQ window. Excellent plug-ins from Nomad Factory, XLN Audio, and AAS.

LIMITATIONS Audio-to-MIDI conversion falls short of expectations. No import/export of AAC files. Integrated CD burning is rudimentary. Some plug-in windows steal transport controls.

Sonar X3 Producer \$599 MSRP; \$499 MSRP upgrade

Sonar X3 Studio \$249 MSRP; \$199 MSRP upgrade

Sonar X3 \$149 MSRP; \$99 MSRP upgrade
cakewalk.com

HAVING USED Cakewalk products since the last century, I can attest to how much their flagship DAW has grown. The latest upgrade continues that trajectory; it's not as revolutionary as X1, but there's plenty to like. Sonar also continues to be impressively user-friendly. It's immediately accessible to those new to the program while providing all the features power users need.

The marquee feature of X3 is Celemony's Melodyne Essential, which supplants Roland's V-Vocal technology for pitch and time manipulation of audio tracks. Also included are usability improvements ranging from VST3 support to a more refined take-management and comping workflow. A number of new plug-ins have also been added; highlights include special versions of AAS Lounge Lizard and Strum Acoustic, XLN Audio Addictive Drums, and a suite of audio processors from Nomad Factory. This review will focus on the new features and improvements; readers are encouraged to read the reviews of Sonar X2 (December 2012) and X1 (March 2011) at emusician.com for a more comprehensive view. I will focus on the Producer version of Sonar X3, but it's worth noting that a number of formerly Producer-only features have been pushed down into the Studio (\$199 street) and standard (\$99 street) versions of X3. For example, the standard version offers unlimited audio and MIDI tracks.

Time for a Tune-up Sonar was one of the first DAWs to include graphic manipulation of audio pitch and time, in the form of V-Vocal. At the time, it was a terrific feature, but Cakewalk did not develop its feature set or underlying technology beyond the first iteration, so it fell behind other options. It is now gone, replaced by the far superior Melodyne Essential, offering the same algorithms as the pricier versions of Melodyne but with a scaled-down feature set. It is, nevertheless, a powerful creative and corrective tool and a welcome step forward for Sonar.

Sonar now supports the ARA (Audio Random Access) plug-in extension that shares file and session metadata between plug-in and host, smoothing the way for the sort of sophisticated processing Melodyne achieves. Without being able to switch ARA on and off, it's impossible to tell how much it helps, but I can say that Melodyne works very smoothly in X3.

Melodyne has also replaced Cakewalk's prior algorithm for audio-to-MIDI conversion, but I had mixed results with it. On the first tracks I attempted to convert, the phrase was offset by two beats and time-compressed by about 10 percent. When I tried to isolate the problem by importing the problem tracks into a blank session, I got significantly better results. However, much of the trumpet part was inexplicably transposed down an octave.

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-Keyboard Magazine



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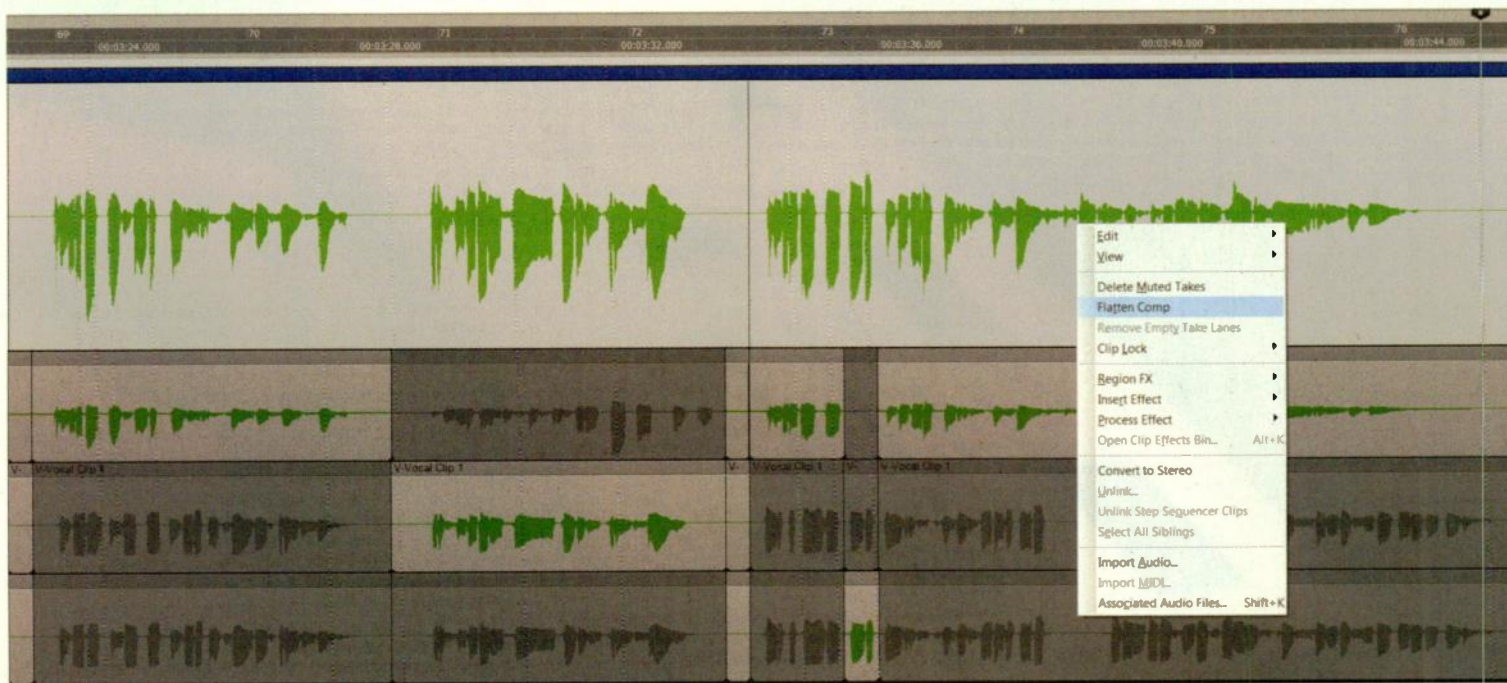


Fig. 1. Sonar X3's improved comping workflow makes it easier than ever to assemble the perfect performance. The new Flatten Comp command renders the selected phrases to a new master take.

Plug-ins Are Instrumental I've been a fan of Applied Acoustics Systems' Lounge Lizard since it was first released, so the inclusion of a "lite" version in Sonar X3 is a big plus in my book. Not only are its Rhodes and Wurlitzer emulations compelling and often dead-on convincing, its controls are inspiring. As a physical-modeling synth, it gives you control over the characteristics of the instrument's hammers, forks, tone bar, and pickups, giving the instrument tremendous timbral range and subtlety. The suitcase-style tremolo makes me just want to sit and play for hours. AAS also contributed a stripped but useful version of Strum Acoustic, which has been justifiably well-received in these pages. It's not as easy to get great results as with Lounge Lizard, but its ability to auto-voice and convincingly strum your keyboard chords is at a minimum a powerful songwriting tool.

Another welcome addition is a three-drum kit version of Addictive Drums from XLN Audio. Numerous presets, MIDI beats, and fills are included, if that's your cup of tea, but for me the real value is in the sound of the kits themselves. I would have no trouble including these in any finished production—they sound great.

A whole rack's worth of vintage-style audio processors from Nomad Factory expands Sonar's mixing palette admirably. The Blue Tubes package includes everything from

compressor, de-esser, and several equalizers to chorus, phaser, and more. To my ear, a little analog vibe goes a long way, and I had no trouble pushing these processors well past that point; that should be just right for many folks. At less aggressive settings, they do a great job of accomplishing their assigned tasks with a bit of personality. Also from Nomad Factory are the Analog TrackBox, a tube-emulation channel strip, and the BlueVerb DRV-2080, described as a vintage reverb in the spirit of digital reverbs from the 1980s.

Speaking of vintage sounds, the ProChannel now includes tape emulation. Developed by Overloud, the Tape Emulator module is switchable between 15 and 7 1/2 ips, and between normal and overbias. The record and playback levels can be linked to maintain unity gain, which is a great asset for A/B'ing the effect without level changes clouding the issue. And, of course, what would tape emulation be without the ability to dial in tape hiss? If you're looking to add some crunch to your drum kit, this new module will do it.

I'm also delighted to note that Sonar X3 now scans plug-ins in the background instead of making you wait at start-up. VST3 is now supported, allowing improvements such as sample-accurate automation and more efficient use of CPU resources, among other things.

So What Else Is New? Although Sonar X3 isn't perfect (it still can't import or export AAC files, and some of the plug-in windows steal transport shortcuts), numerous improvements in the update make life easier, including the ability to apply effects to a selected region of audio rather than to an entire clip. Track colors are more customizable, and the track EQ now features a large "fly-out" panel for graphic editing of the curve. When you export video and audio, you have the option to publish directly to YouTube, and the application integrates with Gobbler for back-up and collaboration.

The biggest usability improvement, though, is in track comping. New keyboard shortcuts speed things along; there is a new dedicated comping tool, automatic fades smooth edits; and a new Flatten Comp command bounces all isolated takes to a new take lane (see Figure 1). This is the sort of workflow enhancement that lets you focus on the project rather than the process.

Overall, Sonar X3 offers plenty of good reasons to upgrade. Download the 30-day free trial and see for yourself. ■

Brian Smithers is a musician, engineer, and educator in Orlando, Fla. He is chair of the Workstations Department at Full Sail University.

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iZotope BreakTweaker

Welcome to the new
beat generation

BY MARTY CUTLER

SUMMARY

STRENGTHS Incredibly powerful real-time editing and granular-synthesis engine. Intuitive user interface.

LIMITATIONS Sequencer is step entry only. No standalone mode

iZotope
BreakTweaker \$249 (Download)
BreakTweaker Expanded \$249
izotope.com

With its granular synthesis and MicroEdit capabilities, iZotope BreakTweaker provides a powerful set of rhythm-generation tools that is remarkably intuitive to use.

PROBABLY THE healthiest aspect of state-of-the-art music software is the way the lines blur between the tools we use to make music. The latest instruments borrow technologies from samplers, drum machines, sequencers, and audio processors. I recently checked out iZotope BreakTweaker, which is all of the above and more.

BreakTweaker originates from iZotope's collaborations with Brian Transeau (aka BT). It's available as a plug-in only, in AU, VST, RTAS, and AAX versions. The installation and authorization procedures are simple and, thankfully, you can choose a disk for storing sample content. I ran BreakTweaker with Digital Performer 8.0.5 as a VST, as an AU plug-in with Ableton Live 9.1 and PreSonus Studio One 2.6, and as an RTAS plug-in in Avid Pro Tools 10.

Under the Ice The user interface is sensibly laid out, and if you have any experience

at all with software groove engines, BreakTweaker should seem pretty intuitive. As with any drum-machine-style application, BreakTweaker furnishes a sequencer and an array of sounds. The basic operational concept is that a range of MIDI notes trigger patterns mapped chromatically to the keyboard, with individual sounds arrayed in the keys below the patterns—but that's the tip of the iceberg. But BreakTweaker is truly distinguished from your run-of-the-mill groove and drum machines by the depths to which you can arrange and alter rhythms and sounds. It is at heart, a granular synthesizer folded into a drum-machine user interface, and that has as much to do with its sound as its rhythmic genius has.

Just below the header where you choose a preset, an animated piano roll details the events as they go by. Below that, there are six tracks, vertically arranged, each of which holds a horizontal field for creating events, called



“How I Got My Music Licensed 1,205 Times”

Barry French – TAXI Member – BigBlueBarry.com

I took some time off from music, then my grandfather passed away and I re-evaluated what I was doing with my life. I felt the “call” of music, so I started writing again, decided to get serious about my music career, and joined TAXI in 2008.

Honestly, I Was Skeptical at First...

I did some research. I lurked on TAXI’s Forums, and found that TAXI’s successful members were real people just like me. Though I’d co-written with an Indie artist, and charted at #15 on the Radio & Records Christian Rock charts, I was clueless how to even *get* a film or TV placement— a complete newbie!

But TAXI’s Industry Listings gave me goals to shoot for and helped me stay on task. I became more productive and *motivated* to get things done because I didn’t want to feel like I “missed out” on an opportunity.

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If you want to create music for art’s sake, then by all means, go ahead and do that. But, if you want to have a music *career*, why not use TAXI to learn how build the *right* catalog full of music the industry actually *needs*?

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TAXI can help you learn to write for genres you never thought you could do. I used to do mostly Hard Rock and Metal. Because of TAXI, I branched out into other genres— first Pop/Punk, and then Tension and “Dramedy” cues. I used the feedback from TAXI’s A&R staff to improve my work. In many cases, my tracks improved to the point that they got signed *and* ultimately *placed* in TV shows!

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The first placement I ever had resulted from meeting a Music Library owner at the Road Rally— TAXI’s free convention. In a little more than 3 years, my music has been licensed more than 1000 times, with nearly 350 placements in the past year *alone*!

A “Lucky Duck?”

My 1,000th placement was a Southern Rock track on A&E’s hit show, *Duck Dynasty*. A TAXI connection resulted in me becoming a “go to” composer for a company that provides music directly to that series. How cool is that?!

TAXI’s Listings, community, convention, and networking opportunities have helped my career *immensely*. The *ONLY* regret I have about joining TAXI is that I didn’t sign up sooner! If you’re willing to invest in yourself, call TAXI and let them help you too.



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Steps. Steps are relatively pliable affairs, which you can create with the click of a mouse, and move or stretch just as easily. Stretching a Step changes the duration of the event, and you can edge-edit Steps for shorter durations and drag them up or down to change dynamics. All patterns are created in step time; the resolution of real-time granular synthesis is higher than that of MIDI data. If you need to play in your drum tracks, the entire kit appears an octave below the loop triggers.

MIDI notes trigger patterns mapped chromatically to the keyboard— but that's the tip of the iceberg.

Tweak of the Week Each slot holds a Generator, which, superficially, is the equivalent of a kit piece. Unlike with typical drum-machine maps, there are no hard-and-fast rules to a track's function or sound; click in the track's Name field, and call it what you like. Next to the track's name is the icon of a sine wave; clicking it grants access to more detailed editing of Generator source material. You start with two Generators and a choice of samples or digital wavetable synths for any of the Generator's three slots. Sample Generators have a decent set of tools for modifying playback, including sample start, looping, coarse- and fine-tuning, and more. When adjusting the pitch of the sample, you can view the values as notes or as frequencies. From there, you can deploy a generous complement of modulation tools: four AHDSR envelopes and four very flexible LFOs per generator. Of



Clicking on the sine-wave graphic next to a track reveals its sample-editing and synthesis parameters for each of its three generators. Each generator can be a sample or a two-oscillator wavetable synth engine.

course, you can sync LFO cycles to tempo.

BreakTweaker's wavetable oscillators offer the same modulation capabilities and top things off with highly configurable wavetables. As with samples, you can determine the point in the waveform's cycle to start playback, and wavetables can derive from analog-type periodic shapes or complex sounds created from formants, additive synthesis, and other sources.

Micro-Management The Microedit section is where BreakTweaker's formidable granular synthesis capabilities come into play. Each step that you place in a track, in essence, can be a discrete moment for the granular process, as opposed to invoking an engine that processes all tracks equally. This lets you endow each step with its own timbre and rhythm.

Click on a step and the Microedit window appears in a bottom panel, where you can drag across the field to create buzzy, granular timbral changes, or discrete rhythmic figures. If you need more specific controls, type in specific values or rotate a virtual encoder. Edit a step into arbitrary divisions, or granulate for time or pitch. Because each step is discrete, you can (for instance) micro-edit a series of notes into a bass line or a motif. Using the Slope parameter, you can even subdivide each step into its own melodic figure. Editing amenities abound; you can audition and tweak your changes in context or solo a single step while you work. Rhythmic micro-edits can

create dramatic fills and exceedingly funky polyrhythms. If that's not enough, head back to the sequencer, where each track can play back at its own relative speed.

More Is More BreakTweaker has a ton of features that I don't have room to cover in depth here, but I'll list a couple. One very musical feature is continuity between loops: With the retrigger button off, playing legato on another pattern key at any point of its playback will play the next pattern at the same relative juncture of playback, the net result being the ability to seed an uncountable number of pattern variations.

The factory library has plenty of contemporary-sounding samples, and iZotope has already bolstered its collection with three add-on sets: Vintage Machines, Cinematic Textures, and Kicks and Snare. If that doesn't satisfy you, adding your own AIFF or WAV files is extremely easy.

BreakTweaker can easily take its place beside Stutter Edit and Iris as another wildly successful entry into iZotope's roster of creative instruments. Check out the 10-day demo and have someone slide your meals under the door. ■

Marty Cutler worked as a sound designer on a couple of the world's first commercially available software synths and wrote one of the first books on MIDI guitar. He is also a well-known five-string banjo player. Go figure.

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Mackie MR5mk3 Powered Studio Monitor

Excellent performance
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BY MICHAEL COOPER

THE MACKIE MR5mk3 is the twice-updated version of the company's MR5 active monitor. The changes made since offering the preceding model, the MR5mk2, are substantial and include a new waveguide for the tweeter, redesigned front baffle, and differently configured bass reflex port.

What's Changed As with its antecedent, the MR5mk3 features a 5.25" polypropylene woofer and 1" silk-dome tweeter. However, the mk3's tweeter is ensconced in an all-new waveguide, the likes of which I've never seen before. The bottom lip of the waveguide protrudes slightly forward where it extends into the circularly

SUMMARY

STRENGTHS Laudable imaging and transient response. Good spectral balance. Small footprint. Excellent value.

LIMITATIONS Slightly flabby bass response. No bass-cut filter setting. Imprecise specs.

Mackie MR5mk3: \$199.99
mackie.com



The MR5mk3's redesign includes a novel front baffle and waveguide.

range?) The MR5mk3 produces a maximum 108dB SPL per pair (at an unspecified distance). The monitor is not magnetically shielded but provides thermal and over-excursion protection (preventing the woofer from clipping mechanically).

extruded bottom portion of the MDF cabinet's front baffle. The woofer sits inside the extrusion, presenting a moon-crater profile. The front baffle is also slightly bowed along its midline. And unlike the mk2, the mk3's front baffle has curved edges all the way around: sides, top, and bottom. Such a diffraction-trouncing design should improve imaging. The cabinet itself is also rounded laterally.

The drivers are powered by 50 watts RMS of Class A/B amplification (unspecified per driver); 55W drove the mk2. The same versatile set of input connections graces the rear panel: balanced XLR and 1/4" TRS-jack connectors, and an unbalanced 1/4" jack. Two filter sets are adjusted using three-position switches: The LF Level Adjust control produces 0, +2, or +4dB shelving boost below 100Hz, whereas the HF Level Adjust control provides -2, 0 or +2dB shelving equalization above the monitor's 3kHz crossover point. (The mk2's HF control had a 5kHz corner frequency.) The mk3's continuously variable level-control knob is beefier than the mk2's Lilliputian affair. But the biggest change on the cabinet's rear involves the bass reflex port, which is now a tube. (It was an oval slot in the mk2.) The six-foot AC cord is detachable.

The MR5mk3 measures an accommodating 11.3" x 7.8" x 10.9" (HxWxD) and weighs 12.1 pounds (a couple pounds lighter than its progenitor). Its frequency response is stated to be 57Hz to 20kHz, but that's a fairly useless spec as no tolerances are given. (Who knows how much the response deviates over the stated

How Does It Sound? I placed a pair of MR5mk3 monitors on Primacoustic Recoil Stabilizers situated on the shelves of my Omnirax MixStation (furniture for my mixing console). The Recoil Stabilizers decouple monitors from shelves, preventing sympathetic resonance that would otherwise boost upper-bass frequencies.

With the MR5mk3's filters nulled, the improvements wrought by the monitor's redesign were immediately audible. The mk2 had suffered from slightly exaggerated response in the upper-bass range, whereas the revamped mk3 sounded more even and clearer. The bottom end still sounded a tad flabby, probably due to the cabinet's ported design, but the detraction was subtle. I could readily identify the fundamental pitch of bass-guitar notes down to low G (49Hz).

Imaging was excellent and transient response crisp. I only wished the low-shelving filter could cut bass response. That would help correct the monitor's response with suboptimal placement near a wall and potentially help integrate it more seamlessly with a subwoofer (such as the new Mackie MR10Smk3). Bottom line: The MR5mk3 is the best-sounding monitor I've heard to date for less than \$200 and a remarkable performer for the money. ■

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

"The Audix D6

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Derek Lewis - VP Production for Centric TV - BET Network

"Sometimes I have up to 5 drummers on stage playing at the same time. With the D6, I can get the sonic character of each kick drum, giving me the control I need. With other mics, I normally have to use EQ, but with the Audix D6, this is not an issue. Simply put, the D6 is the one mic that every studio or live engineer needs to have."

**Chris Denogean - Chief Engineer,
The Drum Channel**

"The D6 works perfectly whether the kick has a full head, ported head, or no head with a pillow inside. The D6 gives me just the right amount of bass tone combined with just the right amount of attack, all without EQ."

**Gino Banks - Bollywood session drummer, music
arranger and studio owner**

"Forget EQ. You don't need it. Outside, six inches from the double-headed jazz drums, the sound was rounded, full, and woolly... Inside a 22-inch rock kick, the result was punchy and tight, with soul-shaking lows. The D6 was consistent nearly anywhere within the kick, with a solid, no-hassle sound....On stage or in session, the D6 rocks - literally!"

**George Petersen - Editor,
Front of House Magazine**

"With the D6 and the Randall May internal miking system, my kick drum sounds the way it should sound, with no weird dips or spikes. It sounds just right to me!"

Steve "The Mad Drummer" Moore

"The best kick drum mic I've ever used. Replaced my kick drum mic I'd been using for 15 years!"

**Paul Rogers - Front of House,
George Strait**

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Fig. 1. The Graphite M32 provides enough keys for melodic, chordal, and bass sequencing while remaining small enough to slip into a carry-on bag.

Samson Graphite M32, M25, MD13, and MF8

Portable USB MIDI
controllers for nearly
every occasion

BY GINO ROBAIR

SUMMARY

STRENGTHS Portable and lightweight. Convenient layout. Software editor. Stores user presets.

LIMITATIONS No footswitch inputs.

Graphite M32 \$69.99 street
Graphite M25 \$79.99 street
Graphite MD13 \$59.99 street
Graphite MF8 \$59.99 street
samsontech.com

SOMEONE ONCE said that controlling a DAW with your mouse is like painting a picture through a keyhole, and most of us would agree. A MIDI controller is one of the best workflow enhancements you can have. The more affordable and robust it is, the better.

The four products in Samson's Graphite M Series—M25, M32, MD13, and MF8—are suitable for use with desktop and laptop setups, as well as with the Apple iPad. In addition to being lightweight and housed in hard, sturdy plastic, all four controllers are USB bus powered and designed for a variety of settings—onstage, in the studio, and traveling.

Each controller includes a cable with standard USB connectors. (iPad users will need an Apple Camera Connection Kit.) Samson offers a free software editor that works with all four units. (You'll find it under the Download tab for the M25 and M32 product pages at Samsontech.com.) Simply launch the editor, select your controller from the pull-down menu, map the controls to your DAW, and then save the mapping as a preset to the controller itself. To recall the preset, use the pads on the M25 and MD13 or one of the F buttons on the MF8. The M32 stores only one preset at a time.

With Keys, Please As you would expect, the Graphite M32 and M25 have 32- and 25-note velocity-sensitive keyboards, respectively, yet each weighs a mere 2 lbs.;

they fit easily into the pocket of a carry-on bag or backpack. Both keyboards offer Aftersustain and include a Prog button that initiates Program mode, in which the upper 11 notes on the keyboard (labeled 0 through 9, and Enter) can be used to send Program Change data.

Besides having the most keys, the Graphite M32 (see Figure 1) has the fewest controllers—pitch bend and modulation strips, a programmable volume knob and data slider, and five buttons (Oct -, Oct +, Sustain, CC, and Prog). As you would expect, pressing Sustain holds the notes you're playing for as long as you press the button, and CC allows you to send Control Change data.

The Graphite M25, on the other hand, has a data wheel, Pad and Preset buttons, five transport controls, four velocity-sensitive pads, and eight rotary encoders (see Figure 2). Hold down the rewind and fast-forward buttons to engage Panic mode, which quickly resets channel and port connections if a MIDI note gets stuck.

The Pad button switches between two assignable pad banks. The pads also send Aftersustain and can transmit Control Change messages when you're in CC mode. Use the software editor to set the pads into momentary or latching behavior. You can access your MIDI presets by hitting the Preset button and selecting the pad that holds the configuration you want.

Fig. 2. Despite having fewer keys, the Graphite M25 has pads and rotary encoders that are perfect for real-time control.



Fig. 3. The velocity-sensitive pads on the Graphite MD13 offer Aftertouch and can be used melodically or as percussion and event triggers.



Fig. 4. The Graphite MF8 provides plenty of DAW control in a highly portable package.



Twistin' and Slidin' The MD13 offers 13 velocity-sensitive pads with Aftertouch, arranged chromatically in an octave (see Figure 3), six rotary encoders, a crossfader (useful in DJ-related apps or programmable as a generic continuous controller), a data wheel, and eight buttons. CC and Prog work as they

did on the keyboards; in this case, Program Change data is sent from pads P1 through P10.

The Shift button works in combination with the Play/Record button to send a secondary data message. To select one of the MD13's five presets, press Preset and hit pad P1 through P5. If you don't want pads or a keyboard

on your controller, the MF8 is the ticket. It provides eight tracks of controls, each with a separate knob and fader, as well as buttons for solo/mute and record-enable (see Figure 4). Using the Shift key allows you to send a secondary message from the solo/mute buttons; they light red or green depending on which message—primary or secondary—you send, making it easy to keep track of the function of each.

The MF8 gives you a full complement of transport controls (play, stop, record, fast forward, and rewind) and five function keys, in addition to Preset and channel-increment and -decrement buttons. A data wheel and crossfader complete the picture.

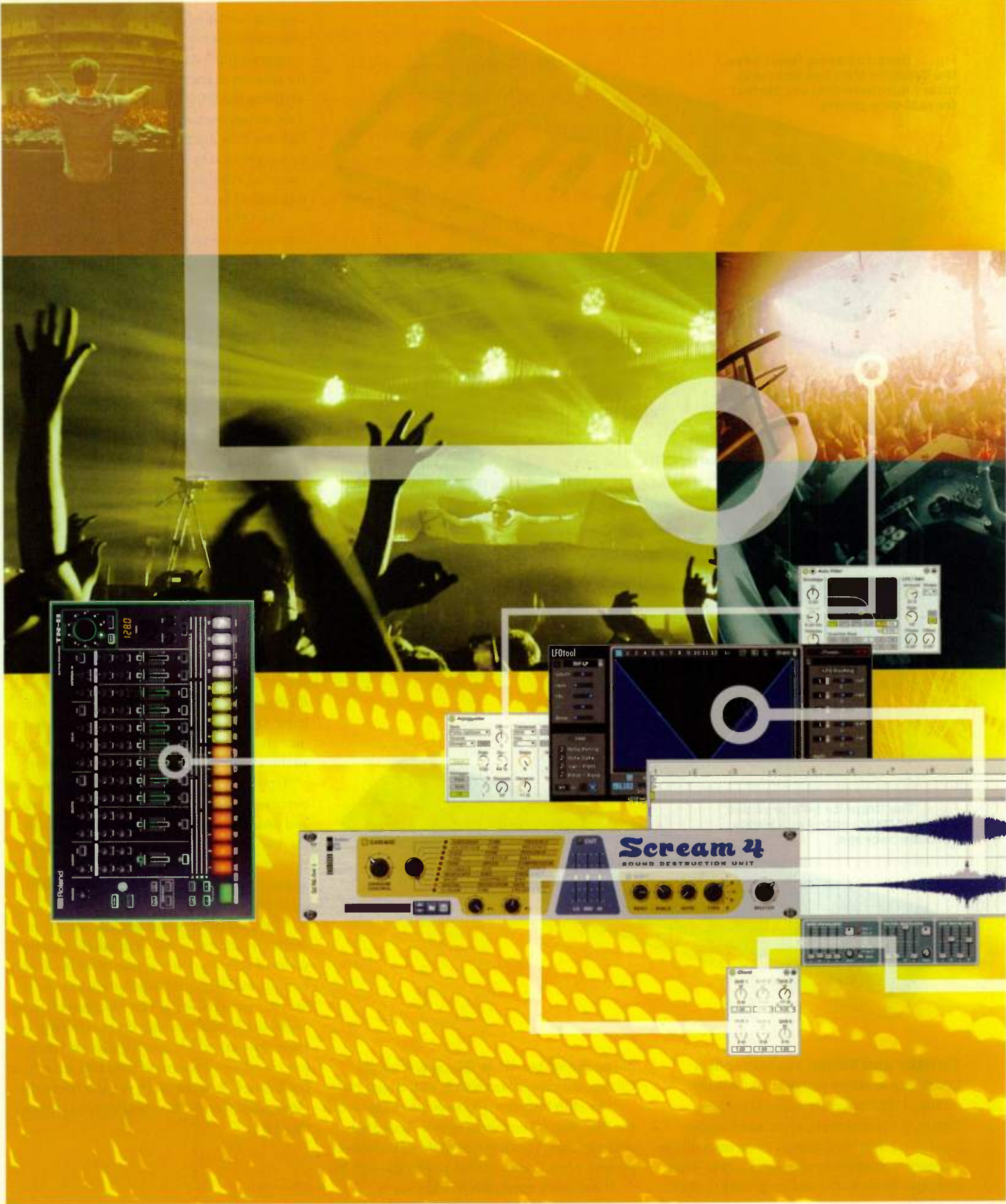
The MF8 also holds five presets, which you select by pressing Preset and the appropriate function button. On their own, the function buttons can be programmed to send control information or MIDI Note messages, with the option of setting them in momentary or latching mode.

The More the Merrier I used all four of the Samson controllers with Apple Logic Pro X and Ableton Live 9 Suite, and they are essentially plug and play, working easily without a hitch. The controller you use will depend on the style of music you make and where you are in the production cycle. For example, you might use the M25 for sequencing parts while mapping the knobs to important performance parameters such as filter cutoff or modulation rate. On the other hand, keyboard players might prefer having more notes over real-time parameter control, so the 2.5-octave MD32 is the place to start.

If you prefer a pad interface for sequencing percussion and bass parts, the MD13 is perfect and provides a data wheel, slider, and knobs for real-time tweaking. And when it comes time to mix, you could call the MF8 into action and use it to write automation on banks of eight tracks at a time.

The good news is that you can use several of the Graphite controllers in tandem, giving yourself access to the number of knobs, faders, buttons, and keys that makes the most sense for your personal style. The footprint of each controller is small enough that having two or more doesn't require much space, and their low cost doesn't take much of a bite out of your pocketbook. And the more you use them, the more you'll wonder how you worked without them. ■

Gino Robair is technical editor of Electronic Musician.



HOW TO

Master Class

Ten Essential Dance Sounds

What Every Producer Needs to Know

BY FRANCIS PRÉVE

IN THE same way that rock's sonic vocabulary includes Les Pauls, Stratocasters, Marshall stacks, and spring reverbs, dance music has evolved around essential synth sounds and production tricks that every producer should know—if only to use as starting points for developing a signature style.

Many of these sounds originated decades ago; others are more recent innovations that form the foundations of various subgenres. In this article, we dissect ten sounds that should be in every EDM producer's arsenal.

The 808 Kick

We'll start with a quintessential dance element, whether you make bass music, house, or techno: the 808 kick.

Analog purists will insist that the only way to have a real 808 kick is either to own amazing 24-bit samples, or to have an original (\$4,000) unit. Although you could certainly buy one of Roland's hyper-real TR-8s, you can also synthesize your own 808 kick sound from scratch. This way, you'll get 90 percent of the way toward the original character, plus the added ability to transpose it without changing its length.



Envelope settings for re-creating the 808 Kick in Reason's Subtractor.

Start with a soft synth and use only one oscillator, set to a sine wave. Propellerhead Reason's Subtractor works well, as does Ableton's Operator. Sine waves have no harmonics, so leave the filter off. Then set your amplifier envelope to an immediate attack, long decay, zero sustain, and a long-ish release. When you play the lowest notes on your keyboard, you should hear that trademark subsonic hum. Finally, to add some of the original's click, add a pitch envelope to your sine oscillator with all parameters set to zero except the decay, which should be set near its absolute minimum value. Increase the amount of envelope modulation until you hear a transient on the attack.

That Festival Sound

Ironically, the giant chord stab sound that dominates the current mainstage festival scene is a variation on the old chord stab sound that used to dominate the trance scene. The first synth to create this sound effectively, in 1996, was the Roland JP-8000. The JP-8000 introduced the SuperSaw waveform, which emulated seven sawtooth oscillators slightly detuned against each other for a massive effect. Most soft synths offer some form of this wave; Reason's Thor is one of the most widely available.

To make this sound in Thor, you just need one instance of its multi-oscillator, with the sawtooth wave selected and the detune knob set to around 30 percent. From there, open up (or turn off) the lowpass filter, then set the amp envelope attack to zero, sustain to maximum, and release to near minimum. Now sequence a series of big triads and seventh chords while simultaneously making heart hands for your invisible fans.

Chiptune Lead

Whether you call it "that Nintendo sound" or the more hipster-friendly "chiptune," the quintessential videogame bleep is just about the easiest sound in the world to make. Start by using a single square-wave oscillator, then open up (or turn off) your lowpass filter, set up your amp envelope like a gate with maximum sustain, and bingo, you're done.



Ableton's Arpeggiator tool makes zippy videogame effects.



Reason's Thor features an excellent multi-oscillator module for re-creating the SuperSaw.



To nail that deep house organ sound, pick up a copy of Korg's Legacy M1 soft synth.



Every two-oscillator synth can re-create the classic electro fifth. Just use sawtooths and tune one oscillator up seven semitones.

Now, if you want to explore the wider range of classic arcade sounds, add a second square-wave oscillator (or suboscillator) and experiment with different octave settings. Pretty much every permutation will evoke a different videogame. Finally, if you have an arpeggiator that allows you to dial in intervals smaller than an octave (Ableton Live's arpeggiator device is great for this), crank the rate up to 32nd notes and dial in a distance of +1 semitone and a range of 8 steps. Then fiddle from there.

House Organ and Piano

Thanks to artists like Disclosure, the classic '90s house sound is back in full force. In addition to the Roland TR-909 and 808 drum machines, two of the key ingredients for re-creating this vibe are organ and piano. Though many vintage digital synths offer viable piano and organ samples, if you want that sound—that is, the exact presets that defined the genre—look no further than the Korg M1.

For the deep house organ sound used for either chord comping or that unmistakable B3 bass, fire up your trusty M1 (Korg offers a fantastic plug-in version for \$50) and select preset 17, aka Organ 2. In the lower registers, it's the '90s bass sound used in classic tracks by CeCe Peniston and Crystal Waters. In the midrange, it's best known for comping and jazzy riffs. The secret is backing off on the reverb, because we all know that reverb on bass is a no-no, right?

As for piano, preset 01—the aptly named Piano 16—delivers that bright, tacky sound that really cuts through a mix and was the definitive house piano sound from around 1988 onward. As with the organ, you'll probably want to dial back on the hall reverb. If you want to go back to the beginning of house in the mid-'80s, the go-to synth for piano stabs was the Roland MKS-20 digital piano module.

Electro Fifths

One of the staples of electro is the sound of two oscillators tuned a fifth apart (seven semitones). For authenticity, set both waveforms to either a pulse (not square) or better, a sawtooth. The filter should be a standard lowpass—preferably 24dB/octave, but 2-pole will do nicely as well. The cutoff frequency is variable, with lower amounts giving a pad-like sound that can be opened up for dramatic effect in your breakdowns. Or if you're just going for a big-room vibe, leave it wide open.

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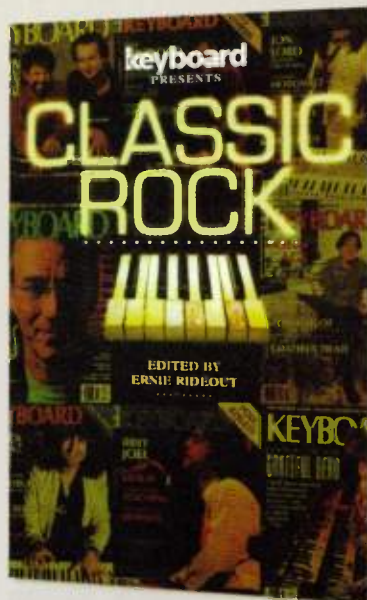
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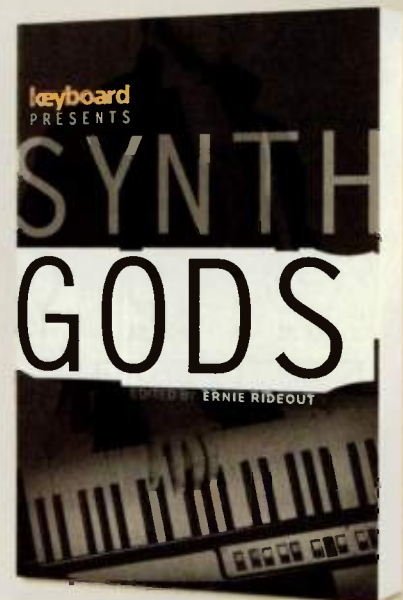
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SYNTH GODS

Culled from the pages of *Keyboard* magazine, this book spotlights artists who did much more than just play synthesizers: they changed the course of music history and inspired generations. Featuring in-depth profiles of Jan Hammer, Wendy Carlos, Rick Wakeman, Brian Eno, and others, this book delves into how these new, untested boxes of circuitry captured the imagination of so many legendary artists.

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The amp envelope settings are equally flexible; the only crucial setting is a fast attack. Once you've got this patch set up to your liking, add judicious amounts of time-based effects like reverb and synced delay. As with all effects, tread lightly, with modest wet amounts. You want this sound to be up-front and punchy, not an ambient mess.

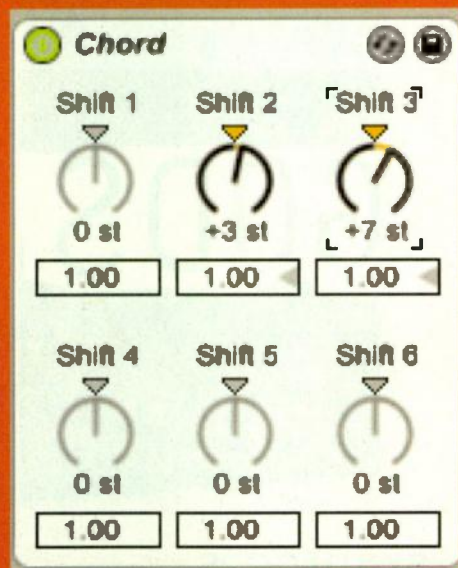
semitones, e.g. a fifth. Now play a simple one-note riff in whatever key you like, preferably with a four-on-the-floor TR-909 kick. (If you're lazy, just play the black keys; that technique does the Detroit thing flawlessly.)

Whoosh

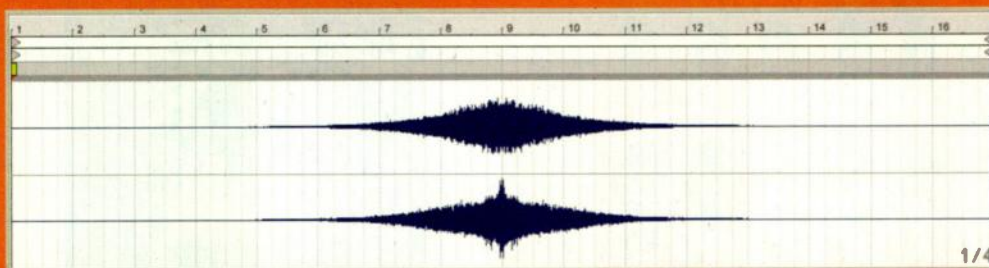
When it comes to transitional effects, there's always room for a 909 crash cymbal for a timeless vibe, but the real star of almost every dance genre is the white-noise whoosh. The concept is simple: Set your synth's waveform to white noise only

distortion can pull it off in "digital" mode, and Ableton Live's Redux device nails it, too.

The secret lies in knowing which type of sound to feed the bit crusher, and the answer is, a highly resonant lowpass filter sweep. To get started, create a single-oscillator sawtooth patch with a gate-style amp envelope like those I described in the festival and chiptune patches. From there, assign your filter cutoff to the mod wheel, so you can sweep it live (or with automation) and crank the resonance to around 75 percent. What you'll hear at this point is a squelchy, retro '70s filter sweep.



Ableton's Chord device makes light work of creating parallel minor-triad riffs.



Render your best designed whooshes as audio—and keep them handy for use in other tracks.



Reason's Scream distortion is great for bit crushing.

Detroit Minor Triad

Another timeless '90s sound comes from Detroit, in the form of the minor-triad techno stab. Though you can use pretty much any waveform as the basis for this sound, purists will prefer the character of a sawtooth. The secret sauce in this patch comes from medium-to-low cutoff settings on a lowpass filter with 50 percent or more envelope modulation on said cutoff. Then, adjust the filter envelope to have an instant attack and short decay. With these two items in place, the last detail is to create the triad.

The origins of this sound came from old-school analog synths (like the Korg Polysix) that had a "chord memory" function allowing you to play parallel chords with one finger. Nowadays, you can do it by programming a minor triad into Ableton's Chord device—or, if you have a three-oscillator synth, tune the first to the tonic, the second +3 semitones, and the third +7

and slowly open and close a lowpass or bandpass filter while you hold down a note with full sustain on the amp envelope. Adding resonance gives it a "windier" sound, while lower resonances have a more "ocean wave" character.

On its own, it's a bit boring, so slather on a ton of reverb and/or stereo multitap delays. For added animation, add a touch of flanging or phasing. If the whoosh gets too big for your mix, try adding a touch of highpass filtering at the end of the chain to tame any muddiness in the lower frequencies. From there, it's all about the automation of the cutoff in the context of your arrangement.

Robot Vowels

The "talking" synth sound that dominated dubstep and electro for the past few years was primarily done with Native Instruments' Massive soft synth, but an easy hack enables you to get this sound with almost any synth—as long as you have a bit crusher handy. Reason's Scream

Once you've got that set up so that you can play riffs while controlling the cutoff with the wheel, add the bit crusher. Ignore the bit-depth tools and experiment on the down-sampling parameter(s). At medium-to-high levels of down sampling, the combination of aliasing and filter modulation yields that trademark robot vowel sound.

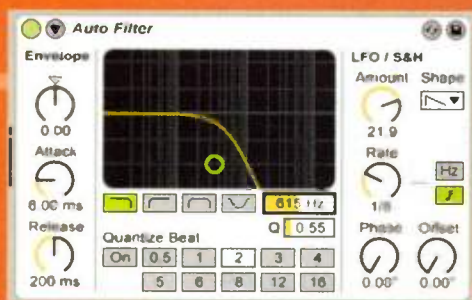
Eighth-Note Saw Comp

A certain famous producer (who wears a mouse helmet while performing) once created a pad sound that has become a staple for moody, progressive tracks. The patch has a distinct eighth-note comping feel that many producers have mistaken for playing repetitive chords, but that's not how his original sound was achieved. The trick is to use an LFO for the repetitions, while holding down sustained legato chords.

Start by creating a standard two-oscillator sawtooth patch, but detune each oscillator slightly in opposite directions (+/- 5 cents is a good place to start) to keep the overall result in tune. From there, lower the cutoff of your lowpass filter, with no resonance, until the sound has a soft, warm character—usually around 20 percent. Next, apply a tempo-synced downward sawtooth LFO, set to eighth-notes, to the filter cutoff and raise the modulation amount until you hear that trademark pulsing effect on your chords. Alternately, if you're working in Ableton, place the Auto-Filter

compressor sidechained to the kick drum to achieve this effect, since this configuration lets the kick control the dynamics of a given set of parts. But there's an alternative method that delivers more intuitive control, with the ability to add rhythmic finesse.

Set up an auto-pan effect so that it works in mono, functioning as a tempo-synced quarter-note tremolo. In Live, you can do this by setting the auto-pan's sine wave phase to 0 degrees and changing the offset to around 90 degrees. This will give you a perfect "bounce" on the eighth notes between the kicks. Tinkering slightly



The secret to perfecting the classic eighth-note pad comp is to use a sawtooth LFO on a lowpass filter.



The Xfer Records LFO Tool includes a brilliant array of filtering options.

device after your pad synth and use these settings to replicate this effect perfectly.

To add dramatic flair to this patch, raise the cutoff frequency as you play your chord progression. As the filter cutoff exceeds the amount of LFO modulation, the pulsing will give way to a massive bright character that's perfect for setting up a breakdown in your track.

Sidechaining Without a Compressor

The final trick in this collection isn't a synth patch; it's a technique that serves two very important purposes: keeping your kick drum prominent in four-on-the-floor tracks and/or adding a subtle throb to sustained synth and vocal elements. Most producers use a

with the offset value will allow you to shift the throb forward and backward against your track, letting you fine-tune the groove.

If you really want to dive into this alternative to sidechaining, pick up XferRecords' amazing LFO Tool (\$50). In addition to creating super-detailed volume modulation, this wonder plug-in offers a huge assortment of great sounding filter modes and the ability to apply a crossover that lets you process only highs or lows of a track. ■

Between his work as an artist/producer and sound designer for companies like Korg and Ableton, Francis Prève has been hanging out at the intersection of electronic music and production tech for nearly 20 years.



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Fig. 1. iZotope RX3 Advanced's Dialogue Denoiser incorporates an all-new adaptive algorithm for ridding tracks of noise. Auto mode is optimized for treating VO tracks.

Post-Production Tips

A primer for engineering audio for video

BY MICHAEL COOPER

POST-PRODUCTION sound involves the processing and mixing of the audio portion of a video or film project after the picture side of production—including all edits—has been finished. The work may include noise reduction, repair of clipped audio, ambience attenuation or enhancement, equalization, dynamics processing (including de-essing and de-booming), and level and pan adjustments.

In this article, I'll provide pointers for moving a post-production session along smoothly and getting great results. My tips will be focused on audio post for video productions.

Import and Organize Ask the producer—often the videographer—to confirm the sampling frequency (virtually always 48kHz) and bit depth of the audio files they'll be giving you, along with the video's frame rate,

so you can set up your DAW accordingly before you import any files.

Confirm with the producer that all the audio tracks you'll be working on start and end at the exact same time. Each file should preferably include some sort of discrete audio spike occurring at the same SMPTE time and before the actual program start, to allow you to visually confirm all the tracks are synchronized to one another and to picture.

For video documentaries and the like, you'll typically be given separate audio tracks for dialog, music, and B-roll footage. Request a separate dialog track for each speaker appearing in the film or, if that's not possible, divide the dialog into discrete tracks yourself. If all the dialog or voiceover (VO) tracks were assembled onto one track, it would force you to automate changes to your signal processing chain every time a new speaker enters the program. Separating the VOs allows you to program static settings for much of your signal processing—a critical factor when deadlines and budgets are tight. Be sure to also request a brief recording of room tone (a few seconds will do) for each speaker in the program. The isolated ambience will make it easier to create a noise profile for each dialog track with your noise-reduction software.

Clean Up Before you use equalization or

dynamics processing on dialog tracks, apply any necessary noise reduction. iZotope's new Dialogue Denoiser plug-in (part of the company's superb RX3 Advanced bundle of noise-reduction software; see Figure 1) hushes broadband hiss and HVAC noise in a heartbeat and is incredibly easy to use. (RX3 Advanced includes other outstanding tools for quelling clicks, crackling noises, electrical hum, clipping distortion, and more.) I like to bounce the cleaned-up dialog to a new track before applying any other signal processing, with one caveat: If the dialog track is noisy *and* muddy-sounding (often the case with dialog recorded with a shotgun or lapel mic), I'll temporarily apply some clarifying EQ downstream of Dialogue Denoiser so I can hear the track's embedded noise and any potential processing artifacts more clearly while I work. Once I've got transparent settings for Dialogue Denoiser dialed in, I remove the EQ and bounce the track.

Observe the Specs If you'll be delivering the final mix for a PSA or other project that's likely to be shown in movie theaters, be sure to adhere to specifications required by National CineMedia (NCM). NCM presents the advertising (including PSAs) you see in digital theaters owned by AMC Entertainment, Cinemark Holdings, and Regal Entertainment Group, among others.



Fig. 2. iZotope Insight's loudness meters indicate program level has exceeded a user-defined -24LUFS loudness target by 1.1 dB, as shown by the numerical readout in the top center of the GUI and the top LEDs in the meter immediately to its right lighting red.

NCM requires that any audio you submit be either 24- or 16-bit, and in .wav or .aif format. The media company prefers receiving 48kHz audio in discrete 5.1 and Lt/Rt formats but will accept true stereo files. (Lt/Rt is a stereo downmix from 5.1 surround sound that can be decoded with a Dolby Pro Logic decoder.) The voiceover track should not begin within the first second of program start, and it should end at least one second before the end of the spot. Make sure your peak levels don't exceed -10dBFS or -24 LUFS (Loudness Units relative to full scale). iZotope Insight (a comprehensive suite of metering tools included with RX3 Advanced) provides loudness meters that are extremely useful when mixing projects bound for theaters or broadcast (see Figure 2). It's yet another reason why RX3 Advanced should be in every post-production engineer's tool kit. ■

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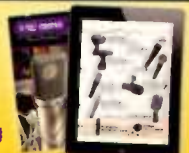
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(three in each category).

Session II - CLOSED
Open - June 16, 2014
Deadline - December 1, 2014
11:59PM PST
Winner Announcements
March 1, 2015
12 Grand Prize Winners (one
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(three in each category).

12 Lennon Awards
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May 1, 2015
Grand Prize Winners of Session I
and Session II will compete
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battle to become the Lennon
Award Winner in their respec
category.

Song of the Year
Winner Announcements
July 1, 2015
The 12 Lennon Award W
winners for the Song of the
Year will compete for the



Generating Exposure Through Songwriting

Three Ways to Spur Creativity and Build Interest in You and Your Music

BY RANDY CHERTKOW AND JASON FEEHAN

WRITING GREAT songs is not just for generating sales, commissions, and licensing deals—you can also use your songwriting skills to increase exposure and stimulate interest in your music. You can achieve these goals by getting involved in song and album challenges or contests with built-in communities, audiences, and media interest.

The three opportunities described in this article will not only help you promote your music to new listeners, but also give your songwriting skills a workout.

Challenge Accepted Songwriting competitions like Songfight! (songfight.org) or SongWriterWeekly (songwriterweekly.com) challenge musicians to write a song within a week based on a song title or lyric they post. Songfight, for example, collects all the song submissions for the week and posts them for visitors to vote for their favorite. The style, genre, and content of the song are up to the musicians; the only fixed part of the competition is the weekly song title or lyric. Plenty of visitors check

Songwriting competitions such as SongWriterWeekly challenge musicians to write a song within a week, based on a posted lyric or song title.

out the music each week, and that existing community votes on the entries they like the best. Songfight! in particular has quite a following because it's been around since June of 2000; SongWriterWeekly has existed since September 2010.

The winners of these challenges don't get anything beyond bragging rights. Participating in these challenges is free but also requires the songwriter to share an MP3 of the song for free, so others can download and listen to it. The songs you create and submit remain yours—to sell, license, or otherwise use as you see fit—but you won't make income directly from these types of websites. That said, these sites can generate exposure for you, as well as motivate you to write more music.

There are two more features of these challenges that are worth noting: Songfight! has a news section for participating artists. Just send them an email about album releases, shows, or other news, and your item may be posted on the site. There's also a community message board that includes music critiques for the submitted songs. Warning: Some of

the feedback can be very direct and blunt, but criticism can help refine your skills.

Finish Your Album Fiction writers engage in a yearly challenge called NaNoWriMo (nanowrimo.org), which entices participants to write a 50,000-word novel in the month of November. Authors "win" just by finishing. This has inspired similar challenges for music. Some of the best known include the Record Production Month (RPM) Challenge (rpmchallenge.com), February Album Writing Month (FAWM) (fawm.org), and National Solo Album Month (nasoalmo.org).

Each of these contests is free and has its own rules, but in general, all of them challenge musicians to record and produce an entire album (usually 10 to 12 songs, or 35 minutes of music) within one month. For RPM, this includes creating the album art and mailing an actual CD to RPM headquarters, postmarked no later than noon on March 1.

The finished music and album are yours after the challenge is over, and you can either refine your music over time or release it and



THE RPM CHALLENGE IS SIMPLE.

10 songs or 35 minutes of original music created during the month of February. Click here to read the challenge.

RPM lets you post music on the site's jukebox, where it will be heard by other musicians and fans.

the song "done" just because you entered it in a contest. Take the best songs from the challenges that you enter, and refine them into your next album. That way, the fans that you've generated by participating in the challenges will be the natural audience for your final release. ■

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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8 hours
16 minutes
30 seconds

RPM 2014 Latest 50 Uploads (updated hourly)



sell it via digital music stores. With RPM, there's also an option to post the entire album on the site's jukebox, where it will be heard by other musicians and fans alike. Even better, the contests often attract media attention. For example, NPR often features selected music from the RPM Challenge on their radio stations or via their All Songs Considered website.

By using these challenges and contests, you'll not only help generate exposure for you and your music, you'll also increase your creativity.

Competitive Songwriting Songwriting contests can generate a lot of exposure for the winner, and to a lesser extent, some attention for just participating. One of the best known is the John Lennon Songwriting Contest (jlsc.com). There's a list of available contests at Muse's Muse (musemuse.com/contests.html). These competitions often charge entry fees, so you should carefully consider which are worth your money and effort. Many promise awards for the winner, such as gear, cash, or even record label contracts. But also look for the ones that can bring you exposure for just participating, as there are so few winners.

By using these challenges and contests to spur your songwriting, you'll not only help generate exposure for you and your music, you'll also increase your creativity. Note that the challenges generally try to get you to write and record songs in a hurry, within a very tight time frame, but there's no reason for you to call

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Image Line Deckadance 2

Creatively slice, gate, repeat, and scratch audio with the Gross Beat effect in any DAW

BY MARKKUS ROVITO

OBJECTIVE

Add compelling rhythmic effects to full mixes or single stems as a finishing element.

BACKGROUND

Deckadance 2 works as standalone DJ software or as a VST instrument plug-in. You can use it to process audio through its effects engine, where you can chain up to three effects and choose to effect the three EQ bands individually. There's also a separate effect module called Gross Beat that's worth the \$79 price on its own; the highly editable Gross Beat applies a huge amount of real-time slicing, gating, repeating, and scratching effects to audio. You can record Deckadance 2's output like a regular virtual instrument in a DAW.

TIPS

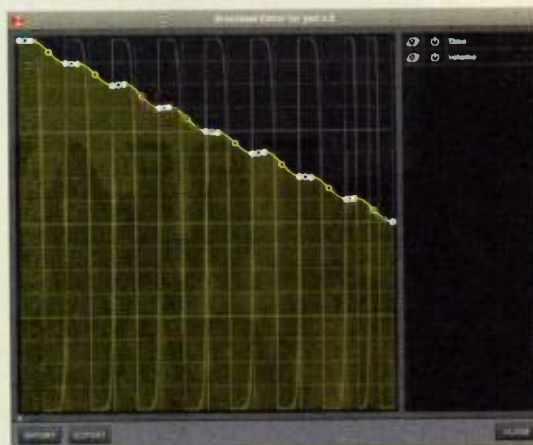
■ **Step 4:** While editing a Gross Beat pattern, loop the track playing in Deckadance, so you can hear the changes you make in a consistent way. In the Loop column of either of Deckadance 2's decks, choose a loop length from the drop-down menu (4, 8, or 16 beats recommended), and then click Loop to activate it.



for left deck and eight for the right deck. Click one of the presets to activate the effect. Each Gross Beat pattern is one bar in length.



■ **Step 2** Click the arrow at the bottom of one of the Gross Beat preset slots to open the menu and choose a new preset. More than 200 presets are available in categories such as Turntablist, Stutter, Gates, and DJ Patterns. Experiment with three playback modes for each preset: One Shot, where the effect pattern plays once and re-triggering the button stops the effect; Re-trigger, where the pattern plays once but allows you to re-trigger the pattern from the beginning while it's playing back; and Loop, which repeats the pattern until you re-trigger the button to stop it.



■ **Step 3** Check out the Gross Beat Editor by choosing Show Editor from the Gross Beat menu. The resulting grid represents 4 beats of time horizontally and 8 beats of time behind the current playback position on the vertical axis. Time and Volume envelopes show you the effect pattern for your preset.



■ **Step 4** Edit the Gross Beat pattern by adding, moving, or deleting control points, and changing segment types and curves. Editing options are available from a contextual menu or from the editor menu, where you can snap movements to the grid, flip the curves vertically, and more. When you are finished, you can name and save the preset.



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Five Music Deities of the Ancients

Ancient astronauts? That's so passé! Let's set the way-back machine to ancient Greece and Rome, and discover the real roots of electronic music.

BY CRAIG ANDERTON



1

Casio, the father of Casiopeia, displeased Zeus by crossing a calculator with a musical instrument—and was forced to cross the river Styx (“Come Sail Away”) and accept banishment to the underworld. But there he befriended the demigod Synthesus, who taught Casio the true meaning of keyboards. Disguising himself as a calculator/watch, Casio eluded the guards, escaped, and in tribute to his master, vowed never again to create a synthesizer that could be useful while shopping for groceries.

2

Maximus was the Roman god of tastelessness, B-movies, and excessive noise levels. But the gods, tired of his yelling, wagered that Maximus could not create a sound louder than Heavivus Metallus. If Maximus lost the wager, he would have to wed Minimus the Radio Shack loudspeaker—but the clever Maximus stole the secret of excessive multiband maximizing from Dynamicus. To this day, bad mastering on pop tunes reminds us that unfortunately, Maximus won the wager.

3

Chorus was the sister of Hydra but instead of having multiple heads, had a single head with multiple voices. She would have been but a footnote in mythology had the Sirens not tried to use the sweet sound of Chorus to ensnare Ulysses. Legend says Ulysses had himself tied to his ship's mast to avoid the sirens' lure, but according to contemporaneous accounts from Eudemus of Rhodes (not to be confused with Eudemus of Fender Rhodes), Chorus's battery died at an inopportune moment.

4

Modulus was the most powerful of the ancient gods because of his ability to incorporate all the powers of the other gods. But he became boastful and incurred the wrath of Zeus—who punished Modulus by letting him keep his powers, but allowed them to be manifested only by untangling an infinitely huge collection of tangled patch cords. However, Modulus extracted his vengeance by marrying Medusa—whose hair, contrary to myth, consisted not of snakes but 1/4" cables.

5

Little is known about Tremulus, the first of the effects gods, who controlled the cycles of loudness and softness. To make matters worse, he was often confused with his brother Vibratus, the god of the cycles of sharpness and flatness. Their constant bickering (along with getting Athena *seriously* plastered one night) caused the gods to curse them to forever being confused with each other. Even today, you still hear guitarists invoke the name of Tremulus when describing pitch-bending guitar tailpieces.

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