

BUILD A PERSONAL STUDIO ON ANY BUDGET: WE SPEC OUT 8 KILLER SETUPS

em

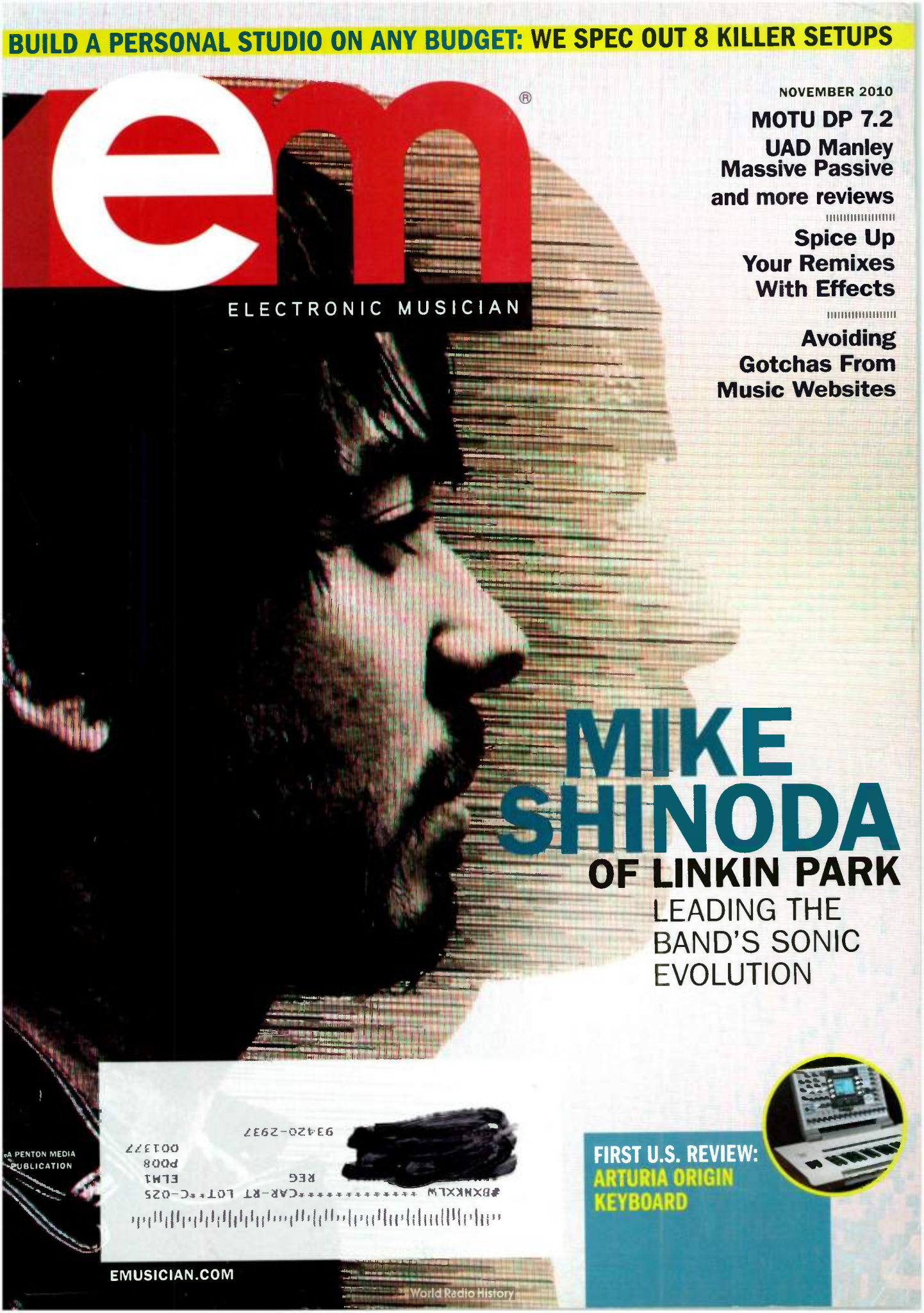
ELECTRONIC MUSICIAN

NOVEMBER 2010

MOTU DP 7.2
UAD Manley
Massive Passive
and more reviews

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Spice Up
Your Remixes
With Effects

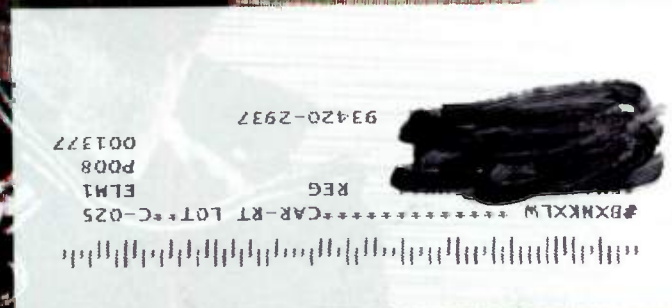
.....
Avoiding
Gotchas From
Music Websites



MIKE SHINODA

OF LINKIN PARK

LEADING THE
BAND'S SONIC
EVOLUTION



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P008
ELM1
REG
#BXKXLM *****CAR-RT 10T**C-025



FIRST U.S. REVIEW:
ARTURIA ORIGIN
KEYBOARD

EMUSICIAN.COM

World Radio History

A PENTON MEDIA
PUBLICATION



Privia

PX-3

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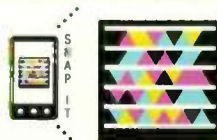
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World Radio History

FEATURES



Cover photo and this photo by Mark Flore; cover illustration by Josh Vanover

COVER STORY

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Just prior to the release of Linkin Park's latest, *A Thousand Suns*, co-producer and founding bandmember Mike Shinoda sat down with *EM* to talk about how the musically adventurous album was produced, the influence of co-producer Rick Rubin, the band's unusual workstyle in which they never play altogether in the studio, their "psychotic" data-security measures, and more.

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26 BUILD A PERSONAL STUDIO ON ANY BUDGET

We offer up specific gear and software recommendations for complete "budget" and "full-featured" studio setups in four categories: song production; film/TV scoring and video post-production; electronica, remixing, and sound design; and a fits-in-a-backpack studio.

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FIRST TAKE

Get Backup

I was pretty surprised recently when looking at the results from one of the *EM* polls at our website. The subject was if and how you back up your music data. Even bearing in mind that an online poll is far from a scientific sampling, I was still surprised to discover that almost a quarter of the respondents don't back up their data at all.

We've been recording to disk for a long time now, and there has been no shortage of information about the vulnerability of data stored on hard drives. I'm sure you've heard the saying, "It's not *if* your drive will fail, it's *when*." Basically, your hard drive is like a ticking time bomb that will go off at some random point in the future, taking your data down with it. So it makes absolutely no sense to store precious music on it



without some sort of backup. If someone from a bank offered you the opportunity to store your valuables in a safe-deposit box that you knew would randomly self-destruct, you would laugh in his face and walk away. But yet, a lot of people will accept a similarly precarious situation for their recording data.

These days, there's virtually no reason to not back up. Hard drives are inexpensive, backup software is cheap (and you can manually backup if you'd prefer), and there's no shortage of information on backup strategies. You can also help yourself with good file habits, like "Saving As" a lot to create multiple, incremental versions of your song files. That way, if your current file gets corrupted (which is a scary scenario because even if you are backing up, you would just be copying the bad file to the backup drive and writing over the previously backed-up good file), you can go back to the previous incremental save and get most of your data back.

Incremental saving is also quite beneficial regardless of any file issues. It gives you a way to go back creatively in case you go off in a direction that you later regret. Each time you make a significant change (recording a new track or cutting a section or whatever), create a newly renamed version. This technique is particularly useful for mixing, where it's easy to go too far and ruin something that had been sounding good. Incremental saving could be your salvation in such a scenario.

Let me change gears to draw your attention to a situation that probably won't affect most of you, but is something I'd like to make people aware of. This one comes out of the "don't-believe-everything-you-read" department. There's a website in the United Kingdom that sells an application for unlocking iPhones. I'm not going to mention its name because I don't want to give it any publicity. On its website, the company fraudulently states that its software has won an *EM* Editors' Choice award. To back up the false claim, it copied an Editors' Choice 2010 logo from somewhere online and posted it at the top of the site. We are currently working on legal solutions to make the company cease and desist, but in the meantime, if you see a website touting an *EM* Editors' Choice for iPhone unlocking software, it's a fraud. We don't even cover that kind of program.



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EDITOR/SENIOR MEDIA PRODUCER

Mike Levine, mlevine@emusician.com

EDITORIAL DIRECTOR Tom Kenny, Tom.Kenny@penton.com

GROUP MANAGING EDITOR Sarah Benzuly,
Sarah.Benzuly@penton.com

MANAGING EDITOR Lucy Sutton, Lucy.Sutton@penton.com

EXECUTIVE EDITOR George Petersen, George.Petersen@penton.com

TECHNICAL EDITOR Kevin Becka, emeditorial@emusician.com

CONTRIBUTING EDITORS Michael Cooper, Marty Cutler,
Len Sasso, Dennis Miller, Larry the O, Gino Robair,
Scott Wilkinson, Geary Yelton

ART DIRECTOR Isabelle Pantazis, Isabelle.Pantazis@penton.com

INFORMATIONAL GRAPHICS Chuck Dahmer,
chuckd@chuckdahmer.com

ONLINE AUDIENCE DEVELOPMENT MANAGER Brad Erpelding,
Brad.Erpelding@penton.com

SENIOR VICE PRESIDENT Kim Paulsen, Kim.Paulsen@penton.com

PUBLISHER Shahla Heberts, Shahla.Heberts@penton.com

ONLINE SALES DEVELOPMENT DIRECTOR Angie Gates,
Angie.Gates@penton.com

SENIOR ACCOUNT EXECUTIVE, WESTERN REGION Janis Crowley,
Janis.Crowley@penton.com

EASTERN SALES DIRECTOR Paul Leifer, pleifer@media-sales.net

EUROPEAN/INTERNATIONAL SALES Richard Woolley,
richardwoolley@btclick.com

LIST RENTAL Marie Briganti, (877) 796-6947,
mbriganti@meritdirect.com

MARKETING MANAGER Tyler Reed, Tyler.Reed@penton.com

CLASSIFIEDS SALES MANAGER Corey Shaffer,
Corey.Shaffer@penton.com

PRODUCTION MANAGER Liz Turner,
Liz.Turner@penton.com



CHIEF EXECUTIVE OFFICER Sharon Rowlands,
Sharon.Rowlands@penton.com

CHIEF FINANCIAL OFFICER/EXECUTIVE VICE PRESIDENT
Jean Clifton, Jean.Clifton@penton.com

EDITORIAL, ADVERTISING, AND BUSINESS OFFICES
6400 Hollis St., Suite 12, Emeryville, CA 94608, USA, (510) 653-3307

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Photo by Maria Cohen



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1 based on U.S. street prices as of Fall 2010.
2 Coming soon. Really soon.
3 Use the fast URLs above. Or search "StudioLive" on YouTube for seeds more vids.
4 Based on M-SalesTrak, a highly respected independent survey firm.

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FRONT PANEL

DOWNLOAD OF THE MONTH



ALPHAKANAL AUTOMAT 1.01 (MAC)

By Len Sasso

If you're looking for a versatile synth that you won't soon outgrow, you can't do better than Automat from German developer Stefan Kirsch (blog.alphakanal.de/category/automat). It's free, comes loaded with a plentiful supply of presets, and offers a lot of under-the-hood programming possibilities (see **Web Clip 1**). In addition to the release version—Automat 1.01—you can download the earlier Automat 0.4.2, which is similarly laid out but has fewer features and different presets. I'll describe Automat 1.01 here, but both are worth having.

Automat 1 does not have documentation, but it roughly follows a

subtractive-synth model and has two clearly labeled, if crowded, control panels that will keep you busy for hours. You use the Main panel to set up your sounds. The Mod panel offers 14 breakpoint envelope generators with a variety of looping, sync, and routing options. You can have as many breakpoints as you like and set the loop boundaries to any segment of the envelope. The first 10 envelopes can target any of the synth and filter parameters, whereas the last four target the effects.

The signal path starts with three multiwaveform oscillators with up

to five stackable voices each. In addition to a variety of waveforms, options include a build-in wavetable, sample playback, and external input. Each oscillator is followed by a filter and wave-shaping module. The filters feed global filter and amp sections, each with an AHDSR envelope. Three output effects cover chorus/phase, delay, and reverb. When you're not in the mood to tweak, click the Rand and Evo buttons to randomize or evolve the current settings. *



OPTION-CLICK



A \$2 video cable lets me record guitar and synth into my iPod Touch with the brilliant Everyday Looper app (mancingdolecules.com; \$5.99).

IPHONE LINE INPUT HACK

A tip (and two rings) for the iPhone

Following a tip on my favorite music-app site, the-palm-sound.blogspot.com, I grabbed a \$2.34 iPod video cable from monoprice.com to give my 2G iPod

Touch an audio input. The cable has a 4-conductor (TRS), 1/8-inch plug at one end and three RCA plugs at the other—red, white, and yellow. On some older iPods,

THIS MONTH'S SOUNDTRACK

By Mike Levine

Here are five of the more notable CDs that recently crossed my desk. I usually try to mix up the genres, but it just so happened that my favorites this month ended up mostly on the electronic side.



MEAT BEAT MANIFESTO: **ANSWERS COME IN DREAMS** (METROPOLIS RECORDS)

The 12th full-length MBM album is dark, foreboding, and more minimalist than recent efforts. Primary bandmember Jack Dangers offers up synth and sound-design explorations that could be the soundtrack for a desolate sci-fi movie that takes place on a deserted industrial planet.



THE OCTOPUS PROJECT: **HEXADECAGON** (PEEK-A-BOO RECORDS)

Pulsing, enveloping electronic instrumental textures and a cornucopia of synth sounds are featured on these eight instrumental tracks. It was recorded in the band's Austin, Texas, home studio.



¡MAYDAY!: **STUCK ON AN ISLAND** (¡MAYDAY! MUSIC)

Deft production and excellent songwriting highlight the second full-length album from this Miami hip-hop collective. There are myriad musical influences at work on this very accessible and prodigious 19-song collection.



EASY STAR ALL-STARS: **DUBBER SIDE OF THE MOON** (EASY STAR RECORDS)

Pink Floyd's *Dark Side of the Moon* has inspired many covers, including the Easy Star All-Stars' 2003 reggae version, *Dub Side of the Moon*. The Easy Star All-Stars released a live version in 2006, and now they've put out a remix version.

BEATS ANTIQUE: **BLIND THRESHOLD** (ANTIQUA RECORDS)

Electronic and world-music styles are fused on this self-produced record. Mixing acoustic and electric instruments, the songs sound both authentic and modern. Check out the guest appearance by John Popper on harmonica on "There Ya Go."

THIS MONTH ON EMUSICIAN.COM

ACOUSTICS 101



ALL NEW//MIX AND EMBOOKS

The all-new *Mix*- and *EMBooks* give you in-depth tutorial tips and techniques for any recording project. Now available: *Signal Processing Secrets* and *Market Your Music Online* at mixbooks.com.



EM CAST// MEAT BEAT MANIFESTO

Talking production with Jack Dangers, the mastermind behind Meat Beat Manifesto.

Photo by Jeremy Cowart

VIDEO// LINKIN PARK

Tour Mike Shinoda's home studio and watch additional interview segments.



LISTEN//UAD MANLEY MASSIVE PASSIVE EQ

Check out audio examples from *EM's* review of this new emulative EQ plug-in.

the yellow RCA outputs video. On the iPhone and iPod Touch, it connects to the mic input. The white and red plugs output left and right audio channels, respectively.

This hack reportedly works on other smartphones, but it's not perfect. The iPhone/Touch mic input has issues (bit.ly/

MicSpec), and because it doubles as a remote-control input, my iPod started playing unexpectedly. I got much better results with the Peavey AmpKit LiNK (peavey.com/ampkitlink; \$39.99), which uses active circuitry to set tone and levels. —DAVID BATTINO, BATMOSPHERE.COM

WHAT'S NEW

By George Petersen



AVID

PRO TOOLS HD NATIVE

HD FOR LESS

If you've yearned for the power of Pro Tools HD but have found the price of entry too high, you'll be heartened to hear about Avid's (avid.com) new Pro Tools HD Native system (Mac/Win). Based on a PCIe card and using a native driver instead of out-board DSP, HD Native gives you the same feature set as Pro Tools HD, with the exception of TDM support (all plug-ins on HD Native systems are RTAS), for a considerably lower price. Available starting Nov. 5, 2010, HD Native offers 192 tracks, 128 buses, delay compensation, an integrated low-latency mixer, and up to 64 channels of I/O. Pricing starts at \$3,495 for the card and software, but you'll also need a Pro Tools HD audio interface. HD Native supports the new Avid interfaces such as the HD Omni and HD I/O, as well as legacy Blue models like the 192. Avid is also offering bundle pricing if you buy HD Native and an interface together.

—Mike Levine



MUSE RESEARCH

MUSEBOX

ON-THE-GO PLUG-IN PLAYER

Shipping this month, MuseBox (\$899) from Muse Research (museresearch.com) lets musicians and engineers take software-based synths, sounds, and effects with them wherever they go. MuseBox's compact half-rack design is portable and built for the road, and is made specifically to run software plug-ins at pro-quality 24-bit/48kHz. A CF card slot provides instant access to new software synths and effects. MuseBox comes with 1GB of RAM (expandable to 2GB) and has a fast-loading 4GB solid-state system disc module (expandable to 8GB). An optional 250GB laptop hard drive offers added storage.

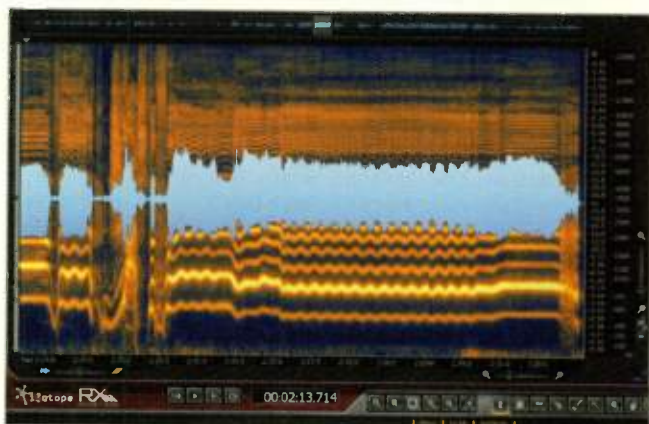


OVERLOUD

SPRINGAGE

SPRING HAS SPRUNG

Overloud's (overloud.com) SpringAge (\$108, direct download) uses convolution and algorithmic technology to create emulations of modern and classic spring reverb effects. Three presets are provided, plus the user has control over Drive (to saturate a tube stage), Spring Tone, Spring Boing (response to sharp transients), 2-band parametric EQ, and a stereo wet/dry control. The plug-in is available in VST, RTAS, and AU format for Mac OS X (10.5 or higher) and Windows (XP or higher) in both 32-bit and 64-bit.



IZOTOPE

RX 2/RX 2 ADVANCED

SOFTWARE AUDIO REPAIR SUITE

Offered in standalone form for Windows (XP/x64/Vista/7) or Mac (Universal Binary OS X 10.5 or later), or as plug-ins for Pro Tools 7-plus (RTAS/AudioSuite), VST, MAS, AU, or DirectX, iZotope's (izotope.com) RX 2 (\$349) and RX 2 Advanced (\$1,199) are designed to repair common and uncommon audio problems. These include tonal and broadband noise, hiss, buzz, hum, clicks/crackle, and clipping distortion, as well as interfering sounds like cell phone rings, dog barks, string squeaks, and dropped drumsticks. RX 2 includes Denoise, Spectral Repair, Declick, Decrackle, Declip, and Remove Hum modules. RX 2 Advanced adds an adaptive Denoiser, Deconstruct, third-party plug-in hosting, iZotope 64-bit SRC resampling, MBIT+ dither, iZotope Radius time/pitch control, multi-resolution Spectral Repair, and automatic azimuth correction. Introductory pricing is offered before Oct. 31.



KORG

WAVEDRUM BLACK

DYNAMIC PERCUSSION SYNTHESIZER

Combining an organic interface with an arsenal of onboard synth and percussion sounds, Korg's (korg.com) Wavedrum is now offered in a limited black color edition (\$699) with a Remo Black Suede drumhead. The unit can be used as a standalone percussion instrument or with an existing drum kit/percussion rig. Its drumhead playing surface and rim triggering let performers use sticks, brushes, mallets, and/or hand-drum techniques (mute, slap, bend, etc.) to play its 36 advanced DSP synthesis algorithms with 200 PCM samples (100 for the head; 100 for the rim) with onboard reverb/delay effects. Options include a floor stand and custom case.



UNIVERSAL AUDIO

EP-34 TAPE ECHO

ECHOPLEX-ECHOPLEX, SOUNDS-SOUNDS

Based on meticulous modeling of the classic Echoplex EP-3 and EP-4 mechanical tape echo units is the EP-34 plug-in (\$199) for Universal Audio's (uaudio.com) UAD-2 platform for Mac and PC. Controls include a movable record head design that creates a warm, rich sound with full user control over echo delay time, repeats, treble and bass, volume, panning, and more. The EP-34 Tape Echo plug-in is part of UAD's new software version 5.7.0 package and is also available separately.

PRIMACOUSTIC

TELEPAD 4

IPHONE RIGHT WHERE YOU NEED IT

With so many apps and storage uses for iPhones, more musicians have incorporated these into their performance routines. Designed for Apple's newest iPhone 4, the TelePad (\$35) from Primacoustic (primacoustic.com) lets players mount their unit on a mic stand, music stand, or hi-hat for easy viewing of chord charts, backing tracks, guitar tuner, lyrics, remote control, or recording apps. TelePad 4 has an adjustable clamp with a ball joint for 360-degree rotation for easy display at any angle, in either portrait or landscape modes.





SONICCOUTURE ARRAY MBIRA

The Array Mbira, built by Bill Wesley and Patrick Hadley of Array Instruments (thearraymbira.com), is a highly evolved and much larger offshoot of the ancient African instrument also commonly known as a Kalimba, Sanza, or Thumb Piano. The largest model is a 5-octave instrument and comes in a variety of proprietary layouts that map harmonically related notes to adjacent tines to accommodate strumming and doubling. Array Mbiras have been used by artists as diverse as Imogen Heap, Ry Cooder, and Pharaoh Sanders.

True to form, the folks at Soniccouture (soniccouture.com) have meticulously sampled one of the instruments, both with mics and with the instrument's 2-channel pickup. Array Mbira (\$89, 4GB download) is cleverly laid-out and scripted for Native Instruments Kontakt 4 and Kontakt 4 Player. The notes are mapped chromatically to your MIDI keyboard, but a Strummer script, which you can assign to any MIDI controller, will strum the currently held notes (see **Web Clip 1**). Three control panels let you manage performance parameters such as strumming; the mix setup including mic/pickup balance, filtering, and amp and filter envelopes; and effects, which include tape saturation, phaser, delay, and reverb. The result is a versatile but very playable instrument with 40 presets divided between Natural and Sound Design categories.

PRODUCER LOOPS

SUPALIFE DUBSTEP: SMOOTH EDITION

Producer Eddy Beneteau continues his Supalife collection of construction kits with



Supalife Dubstep: Smooth Edition. Versions of the download library, available from Producer Loops (producerloops.com), range in cost from approximately \$10 for a single kit's WAV and MIDI clips to \$40 for all five kits in your choice of WAV, MIDI, and REX2; Apple Loops, MIDI, and REX2; or Propellerhead Reason ReFill formats.

The kits combine the characteristic dubstep elements of wobble and reese basses, half-time drums, and chaotic tops with vocal hooks, synth arpeggios, pads, and effects. All the kits and files are named and tagged by key and tempo, and the included MIDI files are a real plus in transcending the kits' sounds (see **Web Clip 2**). The kits also include unlooped release versions of many of the clips (useful for endings) and dry versions more suitable for applying your own effects processing. Everything is royalty-free for private and commercial use.



BITWORD FUSE

Bitword Sound Design and Synthesis (bitword.com) augments its series of ReFills for Propellerhead Reason with Fuse (\$69, download). Fuse starts with a 2GB library of sampled synth sounds representing diverse techniques. These are available as AIF files, as well as

assembled in roughly 150 NNXT sampler patches categorized by their attack (slow or fast). That provides maximum flexibility, but to get you up and running quickly, you'll find three collections of Combinator patches (Slow

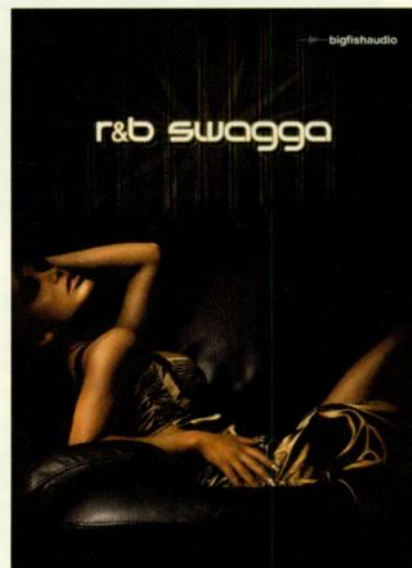
Attack, Fast Attack, and Multi) that wrap the NNXTs with effects (see **Web Clip 3**). The Combinators in the Multi collection host two NNXT patches with effects. Swapping out the NNXT patches in those Combinators is a quick way to expand on this collection. Fuse delivers a substantial library of synthy pads, leads, basses, and effects to augment your collection of beats and loops.

BIG FISH AUDIO R&B SWAGGA

Either you've got it or you don't, and Big Fish Audio (bigfishaudio.com) wants to make sure you do. R&B Swagga (\$99.95, download or DVD) is a collection of 38 R&B- and hip-hop-oriented construction kits with lots of attitude. Tempos range from 54bpm to 105bpm with the emphasis on minor keys. Its 2.4GB of 24-bit, 44.1kHz loops come in ACIDized WAV, Apple Loops AIF, and REX formats, and in addition to drum loops,

you'll find an assortment of single hits with which to augment their loops or create your own. Parts include drums, bass, guitars, synths, strings, flutes, harp,

and, of course, a good helping of Rhodes, organ, and piano (see **Web Clip 4**). Each kit includes a substantial demo to point the way, and the material will weave easily into your tracks. *





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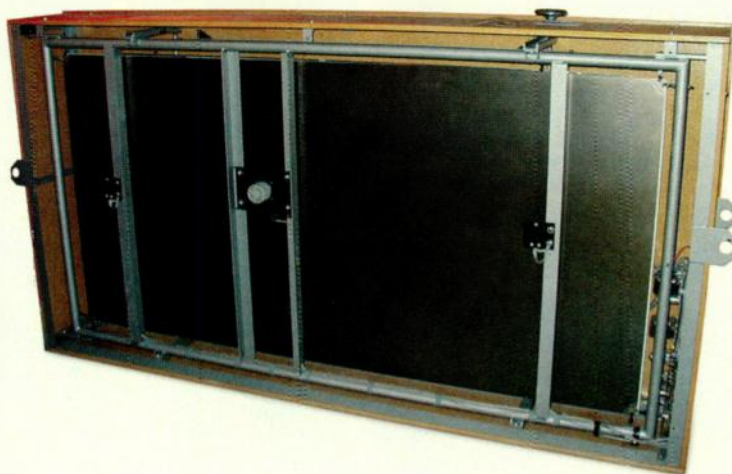


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Housed in a soundproof wood-and-steel box, the EMT 140's plate was a metal sheet only half a millimeter thick.

EMT 140 Plate Reverb

Some studio effects come in big, heavy packages

With the advent of convolution reverb, some would say that nobody needs a real plate reverb anymore. Not surprisingly, many purists disagree. EMT's 140 was the first, indisputably changing the sound of recorded music the moment it appeared in 1957. The 140's smooth, complex reverberation is still very much in demand, but you no longer need a wood-and-steel box weighing hundreds of pounds and measuring 8 x 4 x 1 feet to get it. Arguably, convolution reverb duplicates plate reverb quite precisely and makes it possible to tailor the effect in ways you never could with the real thing.

Before Walter Kuhl designed the 140 for Elektromesstechnik (EMT), authentic-sounding reverb required a lot more space. Typically, a studio's so-called reverb chamber was an acoustically reflective room with a speaker at one end and a microphone at the other. The walls were often layered with plaster to increase reflectivity and reduce standing waves. Sound from the speaker bounced off the walls and was picked up by the mic, then mixed with the original signal. If a studio couldn't

afford the space to dedicate a room for reverb, an empty stairwell or tiled bathroom often sufficed.

WHAT IS PLATE REVERB?

Putting reverb in a soundproof box like the 140 not only saved space, but it also gave recording engineers greater control over its sound. Inside the box was a big metal sheet—the *plate* in *plate reverb*—only half a millimeter thick, suspended by clips attached to a rigid frame. In the original 140, a tube-amplified driver resembling a loudspeaker coil vibrated the plate, and a piezoelectric pickup captured the vibrations from the plate's edge.

Compared with traditional reverb chambers, the 140 offered better low-frequency response and used very little electric power. It also let you attenuate high frequencies separately from low frequencies for a wider range of natural-sounding effects. The 140 used a pad made of porous materials to damp the plate by absorbing its reflections. Just as a piano's soft pedal activates a felt strip to damp the strings and thus shorten

decay time, the 140's damping pad governed its decay via a remote-controlled servomotor, which changed the pad's proximity to the plate.

The first 140s were mono, which makes perfect sense when you consider that stereo records weren't available until 1958 and stereo radio didn't exist until three years later. EMT later manufactured stereo versions and eventually replaced the tube amp with a quieter, more dependable solid-state circuit.

Today, you have many virtual alternatives to owning a real EMT 140. Sampled 140s are available for practically every convolution platform. Audio Ease Altverb users can download free impulse responses from units used by Elvis Presley and Wendy Carlos. Perhaps the best emulation yet is for Universal Audio's DSP platform; the UAD EMT 140 plug-in delivers superior control and versatility while preserving the sound of the original. *

Former EM senior editor Geary Yelton lives in Asheville, N.C., surrounded by beautiful mountains and wonderful toys.

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The Ableton logo, consisting of a stylized 'A' shape made of vertical bars of varying heights, with the word 'ableton' in a lowercase, sans-serif font below it.

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Home base: Brooklyn, N.Y.

Key software: Ableton Live 8, Apple Logic Pro 9

Main gear: Korg Polysix, Electro-Harmonix Memory

Man with Hazarai looping pedal, Eventide H8000

Website: matthewdear.com



Urban Fusion

Matthew Dear's *Black City* bridges gaps between techno, ambient, funk, and pop

Is loop-based music a dying art? Not when you consistently redefine its limits, as Matthew Dear has done for about a decade now—first as a Texas-bred transplant to Detroit's second wave of techno (represented in the early '90s by the likes of Carl Craig and Richie Hawtin) and later as a producer whose work under the names Audion, False, and Jabberjaw has migrated smoothly between aggro-glitch, minimalist hypno-house, and other dark, experimental beat fusions.

"I think people do get confused about what my direction is," Dear says, citing his quirky tech-pop-soul sound and hyper-processed vocal style. *Black City* (Ghostly International) is his latest release. "A lot of these songs were just weird experiments until I went back and started rethinking them. I've always done it that way. Before I had any house or techno records out, I was making cassette tapes with acoustic guitars, drum machines, and me singing. I'm not a great singer by any stretch, so I had to work with effects and layering to create my own vocal personality."

"I Can't Feel" (see **Web Clip 1**) started out in Dear's home studio in Brooklyn with a crisp, vintage-sounding drum pattern and a stripped-down funky bass line, all of it built up and looped in Ableton Live. Dear uses Live as a complete production suite, bouncing out to Logic only when he's ready to master. "I've finally started side-chaining with Live," he adds. "It definitely helps me add some depth and dimension to the bass frequencies."

Dear usually records his vocals in three parts: a falsetto ad lib on the first pass, followed by his normal voice, and then a pitched-down low voice once he has solidified the lyrics to the song. Then he processes vocals with an Eventide H8000; using a tuned delay on the left and right channels, he'll subtly pitch one side up and the other one down, emulating the warble-y sound of an old AMS digital delay. "I want the vocals to sound dense and broad whenever I can," he says.

The fusion jazz-inflected "Honey" (see **Web Clip 2**) lurches ahead on a dryly tracked hi-hat rhythm. Dear brings

in his Electro-Harmonix Memory Man toward the tail end of the song, cycling the vocals and synth pads through varying degrees of modulating delay. "You Put a Smell on Me" opens with an arpeggiated loop from a Korg Polysix, which Dear sampled in Live, gradually introducing several more loops and creating the sensation of relentless, constant movement. By contrast, the dreamy synth washes and dry electric bass of "Shortwave" recall *Warm Jets*-era Eno in his majestic ambience.

"This album could have been all over the place," Dear says, "but when [Ghostly label founder] Sam Valenti and I went through it, we just started pulling the tracks that seemed to fit. There's definitely a groove mentality that unites it—that's because I'm so loop-based, but I also use a certain amount of compression [with a Gates Sta-Level compressor clone and UAD Neve 1073 EQ plug-ins] to tie things together. I'm not making these albums to be played in dance clubs. I love making 12-inch house and techno, but this music is meant to fulfill another listening experience." *



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Finland's Finest

Petri Alanko brings remix groove to videogame scores

Sometimes, it's not a bad thing when you get a song stuck in your head. For composers—and any artist, really—the project starts with a few notes strung together that form inside your brain until a more cohesive structure appears. At age 12, Finnish composer Petri Alanko began such noodlings, letting the tenets of his music flow from brain to fingers on a piano. “I had a great piano teacher back then,” he says. “I guess he sort of realized I was more into creating than interpreting others' stuff.” One thing led to another, and soon Alanko was filling table drawers with score sheets and, later, 3.5-inch diskettes and hard disks. “I've got this habit of not writing everything down at first sight or hearing; I like to wait a week or two, and if I still remember the basic motif of a melody, I'll start considering whether there's something to it.”

Alanko's attack to composing is also mirrored in another interest: club and dance music.

Does remixing mold how you attack composing projects?

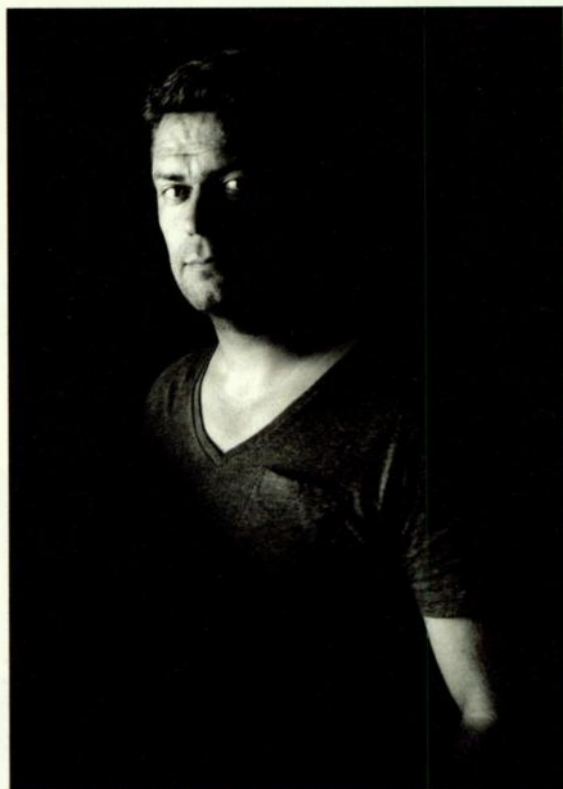
I can easily put an existing song into a new dress, so to speak. Sometimes the origin of a song is so clear and dependent

on certain tracks only that they transform into new pieces. It's not just adding beats to a melody or changing instruments. Sometimes, it's a question of revamping the harmonic structure and taking down everything that was keeping the original track together.

What are you mixing on?

I haven't used a mixing console since 2000; I sold my three Yamaha 02Rs and two 03Ds and acquired an [Avid] Pro Tools HD3 setup. I love mixing in the box. The idea of connecting everything to your interfaces appealed to me. Shortly afterward, I sold the [Pro Tools] system and bought the MOTU 2408mk3 x2 + 24 I/O system. I've just upgraded the PCI connection card when I upgraded from Power Macintosh to Intel-based Macs.

I've been a Logic user since days of Notator Logic on an Atari. I do have licenses for [Steinberg] Cubase and [MOTU] Digital Performer somewhere, but haven't updated them since I don't know when. I'm also a fan of Ableton; their latest 8.1.4 [version] has been rock-solid and virtually indestructible. For cer-



Petri Alanko: “If one could have been inside my head, it would've been a very busy Michael Stearns-ish time-lapse moment from the *Chronos* IMAX film.”

tain types of tracks, it's the only tool that can be used. The idea of separating time from pitch and vice versa was revolutionary back when it came out, and they still don't have competition.

What is it about mixing in the box that helps you do your work?

It has to be configurable, fast, and transparent to use, and shouldn't bother your workflow. Unfortunately, the updating process is sometimes very time-consuming and even uncomfortable. Bugs restrict your creative flow, which is unforgivable. More important than the software or tool is how your skills are honed and what you keep on your hard drives and how the data is cataloged. One can have every sound library imaginable, but if you don't have a clue what's where and how the libraries sound, there's no point in using them.

Are you using any outboard?

I've got plenty of plug-ins, but slightly less



Alanko recently finished the original score to the highly anticipated *Alan Wake* videogame.

reflection convolutions in my then studio corridor and backyard and processed some white-noise samples with stereo filters of my analog modular, then truncated and enveloped these filtered noise samples and loaded them in [the Apple Logic plug-in] Space Designer in several buses, throw-

ing things through the buses. Turned out the busing and convoluting sped up the ambient track process a great deal, and it sped up even more when I created a special tool for tuned ambiances for Kyma using several methods. Also, putting UAD-2's LA-2A plug-ins after the Space Designer helped the molding process somewhat.

outboard: a [Focusrite] Liquid Channel and some hardware synths. I think it's pretty basic except for my [Symbolic Sound] Pacarana/Kyma system and the analog modular synth in a Eurorack monster frame. Moog Voyager; Oberheim Matrix-12; Oberheim Xpander; Sequential Pro One; Roland SH-101, JD-990, V-Synth XT, JP-8000; Open Labs MiKo LX; Nord Modular G2X; Access Virus TI; Korg DSS-1; several stomp boxes.

NI Reaktor is an incredible product. I'm also using Audio Damage plug-ins. I have a Universal Audio UAD-2 with lots of plug-ins: Their SSL and Neve stuff is just incredibly good-sounding.

I've got about 20 sample libraries from Tonehammer. ProjectSam Symphobia is a nice wakeup-call library when you need one. Fabfilter, Arturia, PianoTeq3, as well as [Synthogy] Ivory. Hollow Sun's Novachord library—I wish I'd gotten my hands on it a bit earlier. It was simply an amazing time-travel to the '30s and '40s, an instant eerie halo all over the strings. My string library nowadays is Audiobro's LA Scoring Strings. Their update to 1.5 with real-time division sections is way beyond my words.

You recently finished up the score for the *Alan Wake* videogame (Xbox 360).

If one could have been inside my head,

it would've been a very busy Michael Stearns-ish time-lapse moment from the *Chronos* IMAX film. I focus on what's happening onscreen: the surroundings, the weather, time of day (or night), people involved, movement, gestures. I try to inject myself into the space and moment, and understand why the character is doing what he or she is doing.

The first video clip I saw just had a landscape and a flying camera all over it—an autumn afternoon. The camera flew over until it settled right next to Mr. Wake standing next to his SUV, facing Bright Falls. "An SUV in a back-forest town like this? Wake has clothes like that? Why is he looking at the town? Why hasn't he driven into town?" I saw the clip several times, and every time a suspicious melody based on my astonishment grew stronger and stronger—and every time the camera settled next to Wake, I heard a conclusion for a flying theme in my mind: the eight notes, later known as *Alan Wake Notes*, something strange will happen and will leave everything uncompleted. It had to start low, with an elastic yet realistic instrument: a cello. The camera takes off. Hmm, a leap upward. A minor sixth? Yes.

The key to *Alan Wake's* ambient musical environment was layers and coloration. I created a lot of short, early

ing things through the buses. Turned out the busing and convoluting sped up the ambient track process a great deal, and it sped up even more when I created a special tool for tuned ambiances for Kyma using several methods. Also, putting UAD-2's LA-2A plug-ins after the Space Designer helped the molding process somewhat.

After the initial idea is put in there, I allow myself to play. I usually grab some Reaktor granular or grain cloud patches I've done or play a little with my Kyma or Nord G2X. I'm modeling the orchestration with some simple patches, either made in Kontakt 4 or Spectrasonics Omnisphere. Sometimes these base layers stay there to the very end.

What are you working on now?

Slusnik Luna's *The Sun 2010* is finished and coming out on a major trance label. There was also a remix for which I played some additional keys and mixed; it was a collaboration with one of my favorite co-dudes, Orkidea. He made a remix of Solarstone's "Touchstone" track and asked me whether I wanted to add a few noises. I've got a sound library in the making. I've got heaps of very odd stuff recorded at 192/24 and I've been pre-processing some of it into a more accessible form. *



Feehan



Chertkow

Avoiding Gotchas When Putting Your Music on the Web

Such sites as MySpace, ReverbNation, Last.fm, Bandcamp, and Facebook offer more ways than ever to make your music available on the Web. Though they make it easy to share your music, you should be aware of hidden gotchas as you use them. Here we'll discuss three areas that you should look into: their user agreements, their functionalities, and their known problems.

Out of the three, user agreements are probably the least noticed but perhaps the most important. Don't skip reading them. If you have long-term plans for your music, such as licensing it commercially later, you'll want to know exactly what rights you're giving up in exchange for the site's (usually free) hosting and sharing services. While many agreements are seemingly innocuous, the truth is, some licenses are written overly broadly so that the sites' owners can protect themselves. Be wary of terms and conditions stating that the site gets exclusive rights or asking you to grant the site irrevocable

or perpetual licenses to your music that you upload. Granting these rights can cripple your ability to license your music to others. Some licenses require you to waive any performance right fees you may be entitled to from performance rights organizations. Because these sites allow you to upload art and text describing the music, their licenses also require rights to your "trademarks, trade names, image, or likeness."

Even if you are comfortable with the rights you're granting, keep in mind that these agreements usually have clauses that allow their terms to change at any time. If you're ever in doubt, hold off using their service or consult an attorney.

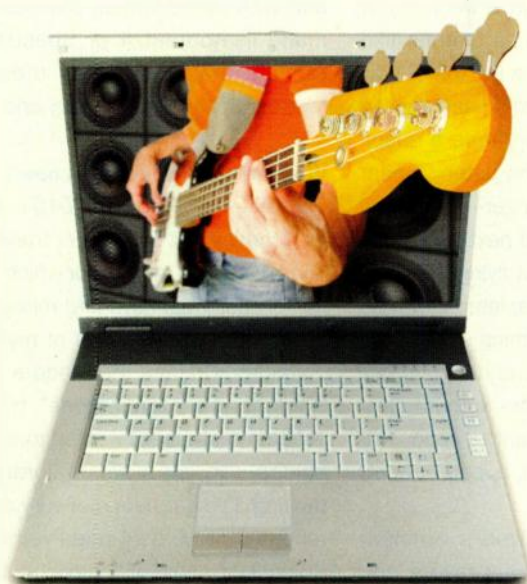
Assuming you're comfortable with the terms, the next step is to understand what you want out of these sites. Don't just use these sites to host and share your music. Use them to grow your fanbase. Make sure you provide your website in your profile. Another idea, as we covered in the July 2010 issue (available online at emusician.com), is to syndicate your website's blog feed to these sites. That way you keep these web presences up-to-date and bring readers back to your site. Some hosting sites allow you to include tools like Eventful's Demand Widget to help you learn who and where your audience is and the mailing list widgets from ReverbNation to grow your mailing list.

Once you decide to use a music hosting site, explore all of its features because functionalities can vary. Some, like ReverbNation, have widgets that allow you to embed music they host to go outside of the site—even back to your website. And sites like ReverbNation and Last.fm will pay you through an ad-share arrangement when your music is played or you generate a page view.

And finally, many sites have flaws that you should be aware of. For example, MySpace automatically converts your music to the bit rate of its music player. In many cases, this can negatively affect sound quality. And other sites have been known to take MP3 uploads and overwrite the ID3 tags—the identifying information that MP3 players use—and replace it with their own info. Some even replace the copyright fields, confusing fans when they listen to these songs.

Although there's a lot to consider before uploading your music to a site, each one is a new place for fans to discover your music. If you go into it with your eyes open and a clear idea of what you want, it can be an effective way to grow your fanbase. *

Randy Chertkow and Jason Feehan are the authors of The Indie Band Survival Guide (IndieGuide.com).



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Ryuichi Sakamoto, who has recorded numerous solo albums and scored many films, came to prominence as a member of the Yellow Magic Orchestra.



Photo by Karzunali Tajima

Electronic Eclecticism

Ryuichi Sakamoto on his compositional tools and techniques

Now an iconic presence in electronic and experimental music, composer and keyboardist Ryuichi Sakamoto first made his reputation in the Japanese synth-pop group Yellow Magic Orchestra. He has gone on to record numerous solo albums, as well as collaborative projects with such artists as David Sylvian, Christopher Willits, and many others. Sakamoto is also a prolific film composer, whose credits include *Merry Christmas Mr. Lawrence* and *The Last Emperor*. He is currently based in New York City, where he works from his home studio.

Has music technology changed the way you compose?

We started using the very simple computer since the late '70s, early '80s, and it was very limited, of course. But the basic method had been there through the '90s, maybe, until the end of the '90s. Then Apple's Macintosh got better and better—we could use it in the studios and on stage. So that was a big change to me.

The big change being the advent of digital audio?

Yes—Pro Tools and everything. Before that, of course, I was using the Macintosh

since the '80s, but just [for] very basic composing, not really performing with it yet. But probably since 2000, I've been using the Macintosh fully for working on music—any occasions except recording with the orchestra.

What DAW do you like to work in?

I've been using Pro Tools and [MOTU] Digital Performer. Since the very first Macintosh I got, in '86 or '87, I was always using Performer. Nowadays, I use Digital Performer—the MIDI part of the program. Obviously, I can [also] manipulate audio files as objects, just changing the timbres and pitches and everything. It's almost like drawing or painting, or it's kind of getting close to that. I like that.

What's your workflow like, typically, when you're writing a piece of music? Do you start with the piano and go from there?

Maybe 50 percent I use the piano. I just improvise on the piano and record everything I do. Then I go back to the computer and find nice moments and assemble those.

I've noticed you've done a lot of collaborative albums. Does working with

someone tap into a different side of you compositionally?

Certainly when I collaborate with someone who has a different talent and skill than I do, that stimulates me and makes me better. So I'm kind of always hungry for finding new talent. I don't care if they're old or young, but I'm always looking for some occasions, chances, to work with unknown people because they would give me something I don't have, which is good. If I'm limited with the bother of being just myself, I wouldn't expand toward something unknown.

Tell me about the new album that just came out on Decca.

It's a double-CD album, and the first CD is called *Playing the Piano* and the second CD is called *Out of Noise*. And they're from different places. *Playing the Piano* is sort of a compilation of albums I made in 2004 and 2005. *Out of Noise*, the second CD, was made last year. It's my new solo album. And the idea of assembling those two CDs was from Decca, so I compromised [laughs]. So the music [on each disc] is totally different. The *Playing the Piano* side is sort of self-covers of music I wrote in the past. *



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Build a Personal Studio on Any Budget

Eight great solutions to equip your dream facility

By George Petersen, Gino Robair, Geary Yelton, and Len Sasso

We started this feature in *EM* years ago, and over time it has developed into one of the magazine's most popular. It's also a sought-after assignment among our contributors. Who wouldn't want to go on a shopping spree (albeit a virtual one) to select the gear for a dream studio? Of course, if we went hog wild, this would be no problem—a \$500,000 mixing console here, a Bösendorfer Imperial Grand (not a sampled one!) there, and perhaps a crew of top acousticians and architects to create the ultimate nest for musical creation. That may be fun, but we've kept things within the bounds of affordability, so this article might have some semblance of relevance to the few of you who have less than a million to spend.

With that in mind, we offer up several different approaches to the personal studio. Gino Robair investigates the very real concept of the portable fits-in-a-backpack facility. Geary Yelton focuses on systems for film/TV scoring and video post-production. Len Sasso delves into the world of electronica, remixing, and

sound design. George Petersen looks into the song production studio capable of more traditional recording/overdubbing, with live drum tracking. Selecting studio gear is subjective, and these lists reflect the authors' preferences given the budgetary limits we imposed (see below). We regret that we're not able to include all the worthy products that are out there.

We set a few ground rules for this exercise: Each participant would suggest a basic system for his assigned category (referred to here as the *budget studio*) and a higher-end version (the *full-featured studio*). The prices quoted here are all MAP (street) prices. We set upper ceilings of \$5,000 for the budget studios and \$20,000 for full-featured alternatives, but in many cases the authors came in with lower totals. We're assuming that everyone already has a computer, so we're not including them in our budgets. We also didn't include cables, stands, furniture, or acoustical materials. Grab your checkbooks and let's get started!

THE PORTABLE STUDIO

By Gino Robair

A portable studio doesn't just mean it can be packed into a car. These days, it has to fit into a backpack, or at least into a bag that you can carry onto a plane. That includes the computer, interface, mics, controllers, and all peripherals. It's a tall order, but in the 21st century, portability is king.

And, of course, I want to be able to do it all: record audio, sequence MIDI, control effects, mix, and master. To that end, my purchases will be feature-rich. You'll need an ExpressCard slot on your laptop for these studios, the reasons for which I'll justify shortly.

Creating a portable studio doesn't mean you have to scrimp on sound quality, nor do you have to spend a mint to get pro-level sound. For this studio, I specifically tried to keep the cost of each item as low as possible, both for economic and practical reasons: Who wants to schlep \$20,000 worth of gear in a backpack? Baggage contents are vulnerable to damage

and theft, so I am reluctant to carry around a \$3,000 pair of mics or a \$2,500 portable stereo recorder when less-expensive products will do just fine.

With this in mind, I'll focus on high-quality, yet reasonably priced hardware and stick with an inexpensive sequencer. In fact, both of my budget levels will be based around Cockos Reaper 3.6 (Mac/Win; \$40 discounted license) as the main digital-audio application. It offers the bread-and-butter features that the major players do, and it supports VST, DX, and AU (on the Mac) plug-ins, as well as REX files. And the entire application is a relatively small download—5MB to 8MB (yes, megabytes!)—depending on which platform you're using.

Budget Portable Studio (\$1,849.97 Mac/Windows)

There are plenty of portable, 2-channel USB interfaces available, but for my traveling system, I want at least two mic preamps with XLR inputs, as well as a ¼-inch I/O and MIDI ports. I could get a cheaper unit for around a C-note, but I've budgeted for an interface I won't grow out of for quite a while: the MOTU UltraLite-mk3 Hybrid (\$549). In addition to having MOTU's excellent preamps and converters, this 10-input/14-output interface has FireWire and USB 2 I/O. (I don't need to use the power adapter when I use the FireWire connection.) It has a high-impedance input, comes with CueMix software, and sports S/PDIF I/O. Best of all, it's small and lightweight.

USB controllers are a big part of music-making, and I want to cover all of the bases but still have room in my knapsack for mics.



Cockos Reaper 3.6

The Korg nano Series has me covered, so I'm adding a nanoKey (\$49) 25-note keyboard, a nanoKontrol (\$59.99) knob and slider bank, and the nanoPad (\$59.99) for programming beats. To schlep the works, I'll spring for the nanoBag soft case (\$17.99), which holds all three controllers.

My microphone choice is Josephson Engineering's C42MP (\$975), the stereo kit that includes a matched pair of the wonderful condensers in a hard-shell case. These mics have an open sound that is perfect for uncolored recording of concerts, sound effects, or environmental sounds. And just as important, they're small.

Although I have earbuds for use with my MP3 player, I want a pair of closed-back headphones, which are more comfortable when working for long periods of time. Robust and relatively compact, the Sony MDR-7506 (\$99) fit the bill. They're a little on the bright side, but I find that helpful when editing audio.

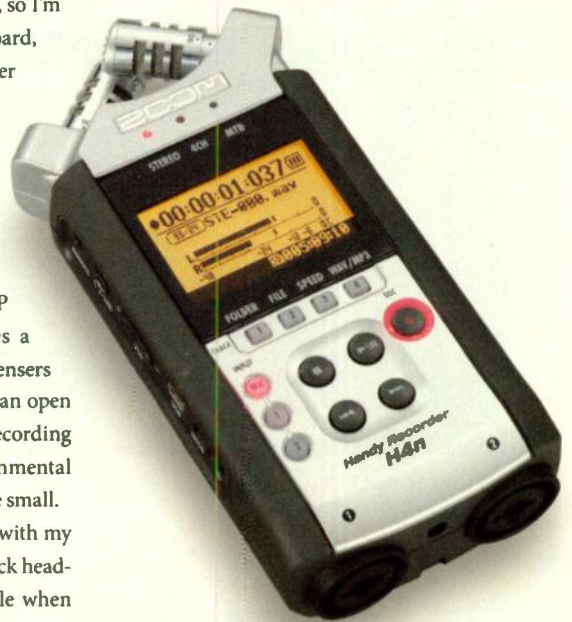
Full-Featured Portable Studio (\$3,946.97 Mac/Windows)

I still have a little room in my backpack and a bit more in the bank, so I'll add more items to increase the system's usability.

First, I'll add a portable digital recorder, a Zoom H4n (\$299), for situations where something interesting is happening but I don't have time to set up the laptop to record. It's not the smallest or lightest portable recorder available, but for the price, it's hard to beat its features and build quality. It has a pair of XLR/TS inputs and amp-modeling software, and it can

also record four channels simultaneously. And the built-in condenser mics sound great. In fact, if I had to carry only one item for a field-recording excursion, this would be it.

Another hardware purchase I'd add to my system enhances my software setup. The Universal Audio UAD Solo/Laptop (\$499) card fits into my computer's



Zoom H4n

ExpressCard slot, providing access to a wealth of great-sounding UAD Powered Plug-Ins (VST/AU/RTAS) and the processing muscle to use them. It comes with the Analog Classics plug-in bundle that includes 1176LN/SE Classic Limiting Amplifiers, Pultec EQP-1A, LA-2A Classic Audio Leveler, and Reverb Pro. Although UA has a huge selection of plug-ins available, I'll splurge for the Precision Mastering Bundle (\$500) and the Neve Classic Console Bundle MkII (\$799) just to give me more options for finishing up my projects.

FILM- AND TV-SCORING STUDIO

By Geary Yelton

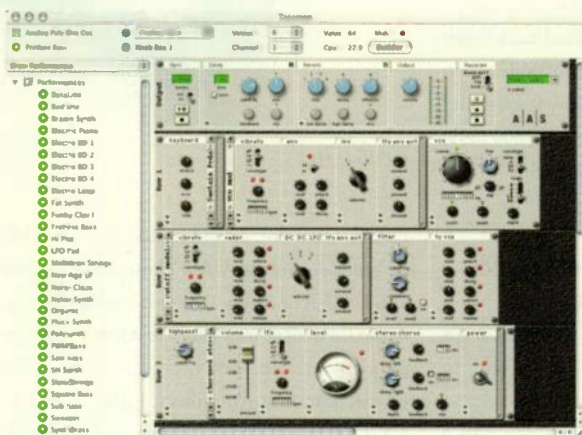
Among the features you'd want in a film- and TV-scoring studio are both audio and video capabilities, lots of virtual instruments, some mics for live performances, the ability to view and edit MIDI as music notation, and a DAW that lets you work seamlessly with picture.

Budget Film- and TV-Scoring Studio (\$4,815.37 Mac; \$4,646.32 Windows)

If you want to assemble a studio to produce sound for picture, \$5,000 might buy you more



Avid Pro Tools LE



Applied Acoustics Systems Tassman 4

than you think. Armed with just enough gear, talent, and technical know-how, you'll be well-equipped to begin composing soundtracks, recording dialog, and producing sound effects and synching them to the action onscreen. Fortunately for you, some terrific products I recommended in a similar article three years ago are less expensive now than they were then.

Most top-shelf DAWs can play video clips in a window and sync them to audio tracks. MOTU's Digital Performer 7 (DP 7; \$499) offers Mac users a remarkable array of features and a smooth workflow. It quickly calculates tempos based on cue points that you indicate, and it streams video to external devices via FireWire. DP 7 has a nice selection of useful effects plug-ins and software instruments, and its Pro Tools HD hardware compatibility may come in handy when you're working on a TV-

(\$412.50) delivers a powerful palette of plug-ins at an attractive price. You get convolution and algorithmic reverbs, a paragraphic EQ, mastering tools, and more.

It's often preferable to work in a standalone audio editor, especially when creating edit decision lists (EDLs). Adobe's Soundbooth CS5 (\$199) is well-rounded, cross-platform, and optimized for working with video files. Being able to edit video content and convert video-file formats is useful, too, so Mac users will want Apple's Final Cut Express (\$199). Windows users can get similar functionality from Sony's Vegas Movie Studio HD Platinum 10 (\$129.95).

You'll definitely want a good variety of software instruments for composing, arranging, and sound design. Native Instruments' new Komplete 7 (\$499) furnishes all the NI instruments I suggested as separate purchases three

years ago and more, at a fraction of the previous price. In addition to NI's industry-standard flagship sampler, Kontakt 4, you get a top-notch suite of synthesizers, pianos, drums, and effects. For physical-modeling synthesis, Applied Acoustics Systems' Tassman 4 (\$329) is another valuable addition; until the end of this year, its price is drastically reduced (\$99) if you buy it online with the coupon code EMFALL2010.

Obviously, you'll need an audio interface to get sound in and out of your computer. The PreSonus FireStudio Mobile (\$299.95) offers two XLR mic inputs with good preamps, plenty of 1/4-inch I/O, and excellent performance at a low price point. You'll also want a keyboard controller for playing all those virtual instruments. I recommend the M-Audio Oxygen 61 (\$219.95), which has a nice lightweight action and plenty of hands-on MIDI controls.

When choosing microphones, quality and versatility are key. For recording spoken word and most other sources, the Neumann TLM 102 (\$699) strikes an ideal balance between quality and affordability. But because it's a fixed-pattern cardioid mic, you'll also want a multipattern condenser mic; the Avantone Electronics CV-12 (\$499) offers excellent sound and flexibility at a great price.

For monitoring your recordings, the Yamaha MSP7 (\$399.99 each) is a cost-effective near-field speaker with reliably uncolored sound. You'll also need headphones; I trust Audio-Technica's ATH-M50 (\$159.99) to be accurate and comfortable, even during long sessions.

Full-Featured Film- and TV-Scoring Studio (\$19,574.99 Mac; \$19,550.89 Windows)

Even with \$20,000 in your pocket, you'll still need to spend your money carefully. Avid's Pro Tools has long been the standard in the world of post-production, but investing in a Pro Tools HD rig could blow your entire budget in one fell swoop. A more suitable choice is the company's 003 Factory Complete (\$3,519). In addition to Pro Tools LE 8, you get the 003 audio/MIDI interface and control surface bundled with a boatload of software add-ons. Included are a huge variety of studio effects, an impressive collection of software instruments,

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and plenty of sample content. The system can handle 7.1 surround mixes and up to 128 simultaneous audio tracks.

A bigger budget means you can afford more robust audio and video editors. Mac users can purchase Apple's Final Cut Studio (\$999), which includes Final Cut Pro 7, Soundtrack Pro 3, an ample library of sound effects and music tracks, and numerous other applications. Windows users can get similar capabilities and resources from Sony Vegas Pro 9 (\$599.95) and Sound Forge Pro 10 (\$399.95). With Ableton

L.A. Scoring Strings (\$1,099) library. Add Spectrasonics Omnisphere (\$479), and you'll have enough musical sounds to take on most any scoring task. Polish your final mixes with iZotope Ozone 4 (\$199).

A bigger budget also means you can upgrade your microphones and other hardware. Now you can afford the Neumann TLM 103 (\$1,099) and Avant Electronics Avantone BV-1 (\$999) mics. To give you some spice to augment the mic pres in the Avid 003, I've also included a Universal Audio Solo/610 (\$799) tube mic preamp. You'll likely want to record in 5.1 surround, so I recommend five ADAM A7X monitors (\$599 each) with an ADAM Sub7 subwoofer (\$549). Again, Audio-Technica's ATH-M50 (\$159.99) are my favorite headphones.

Every studio can use a piano, and the Kurzweil SP2X (\$1,099) is also an outstanding keyboard controller for playing software instruments. You can afford to upgrade your portable recorder, and the new Korg MR-2 (\$699) is perfectly suited to capturing sounds on the go and archiving your master recordings in almost any format and sampling rate.

ELECTRONIC PRODUCTION, REMIXING, AND SOUND DESIGN

By Len Sasso

Although these two studios are tailored for music production and sound design inside your computer, both do accommodate recording vocals and external acoustic and electronic instruments. A couple of mics have been called out, and the audio interfaces offer mic- and instrument-level inputs with phantom power and mic preamps. If you know you won't be recording vocals and acoustic instruments, you can redirect the funds, for example, to cover more software, sound libraries, or a digital recorder and mics suited to Foley and field recording. The budget studio is designed for a smaller space.



Novation 49 SL MK II

Budget Electronic Studio (\$3,839.94 Mac/Windows)

I've opted for Focusrite's Saffire Pro 24 DSP (\$299.99) FireWire audio interface. It comfortably supports inside- and outside-the-box operation, with its 24-bit, 96kHz compatibility, 16 inputs and eight outputs, cross-platform mixing/routing software, and a suite of Focusrite VST/AU plug-ins. For listening I've selected a pair of M-Audio Studiophile BX8a two-way, 130-watt powered reference monitors (\$499) and a pair of AKG K 240 Mk II headphones (\$199). For mics, I've followed the suggestions of my more knowledgeable colleagues, Mike Levine and George Petersen, and called out a RØDE NT1-A (\$299) and an AKG C 1000 S (\$279). The latter can be either phantom- or 9VDC-battery-operated, making it ideal for remote sample gathering or field recording.

At the minimum, you'll need a keyboard and some form of knob-and-button box. I've picked the Novation 49 SL MK II (\$499) four-octave keyboard, which sports faders, rotary encoders with an LCD indicating their function, user-assignable 270-degree pots, and drum pads (eight of each). Its accompanying templates and AutoMap Universal software make it compatible with most DAWs and plug-ins. I've also called out the Akai APC20 (\$199), which I consider an essential accompaniment to Ableton Live.

I spec'd a pair of sequencers for their different features. With its complementary Session and Arrangement views, Ableton Live 8 (\$499) is the go-to sequencer for real-time audio and MIDI clip arranging. Propellerhead Reason 5's (\$299) gear-rack paradigm gives you a huge array of customizable instruments and effects, all of which are accessible from any DAW supporting ReWire. Alternatively, you can use Reason's built-in MIDI sequencer to develop your project.



M-Audio Studiophile BX8a

Live 8 (\$499) in your arsenal, you'll have an alternate approach to assembling and triggering music and other sounds. And for creating and arranging printed music scores, Avid's Sibelius 6 (\$499) is the cream of the crop.

UAD-2 Quad Omni (\$2,999) is Universal Audio's top of the line, a supercharged DSP accelerator with a generous assortment of plug-ins that model towering racks of studio gear. When you need to match voice-over tracks and substitute dialog, nothing saves time like SynchroArts VocAlign Pro 4 (\$585). Again, no matter what your budget, no studio is complete without Native Instruments Komplete (\$499). From Vienna Symphonic Library, Vienna Special Edition (\$399) supplies an upgradable selection of some of the most realistically sampled orchestral instruments you can buy. For added power and realism for your string arrangements, I've also included Audiobro's

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In addition to the extensive array of instruments and effects in Live and Reason, into the cart goes Native Instruments Komplete 7 (\$499). For \$120 more than the price of the industry-standard sampler Kontakt 4, Komplete 7 gives you 23 additional NI products, including classic instruments Reaktor 5.5, Battery 3, and Absynth 5; a bunch of effects; and essential sound libraries.

Finally, I've included three utilities that I find necessary in my own work. Being able to scout your audio library and batch copy, alias, rename, and organize files saves hours, and Iced Audio AudioFinder (\$69.95) will do all that and more. When you can't figure out what one MIDI application is saying to another, Snoize MIDI Monitor (free) will eavesdrop for you. As a companion to Reason or simply for slicing and re-grooving audio files, Propellerhead ReCycle (\$199) is the tool of choice.

Full-Featured Electronic Studio (\$17,253.89 Mac; \$16,958.88 Windows)

For the high-end audio interface, I chose an Apogee Ensemble (\$1,995), a 36-channel, 24-bit, 192kHz FireWire unit with world-class converters and all manner of I/O. Because it's Mac-only, Windows users can substitute an RME Fireface 800 (\$1,699), which is cross-platform and is renowned for its great-sounding converters and preamps. For listening, I've spec'd a pair of JBL LSR6328P powered monitors (\$2,738) and a pair of Sennheiser HD 650 reference headphones (\$499.95). For mics, I've again relied on Levine and Petersen, whose choices are the Mojave Audio MA-200 (\$1,095), a large-diaphragm tube condenser, and the multipattern work-horse classic, the AKG C414 XL II (\$1,049).

For controllers, I've chosen an 88-key, weighted-action StudioLogic Numa (\$1,199.95); the Akai APC40 (\$299), which adds pan, send, and plug-in controls to the APC20's bag of tricks; and a Novation Launchpad (\$149.99) button box. An earlier version of the StudioLogic keyboard, along with the Akai and Novation controllers, are indispensable components of my studio.

On the DAW end, I've upgraded to Ableton Live Suite 8 (\$799) and Propellerhead

Record Reason Duo (\$399), and added Apple Logic Studio 9 (\$499). Live Suite adds premier plug-in instruments and effects, including versions of four of Applied Acoustic Systems physical-modeled instruments, along with a mountain of audio content. Logic Studio gives me high-end content, instruments, and effects, including the Space Designer convolution reverb. Record adds audio recording, take comping, pitch correction, voice synthesis, and a virtual mixing console modeled on the SSL 9000 K to Reason's array of features.

In the virtual instrument category, I've augmented Komplete 7 with Spectrasonics Stylus RMX, Omnisphere (\$479), and Trilian (\$279). For working with loop libraries and manipulating your own REX format files, Stylus RMX is the first call. In addition to meticulously sampled acoustic, electric, and synth basses (and a Chapman Stick), Trilian offers an array of performance options that brings a keyboard as close to a bass as you can get. Furthermore, all Trilian samples are available for Omnisphere's extensive sound-design treatment. For a truly different approach to sound design and manipulation, I've called

out UI Software MetaSynth 5 (\$499), a perennial *EM* Editors' Choice Award winner and the unsung hero of many of your favorite sound designers.

I've chosen BIAS Peak Pro 6 (\$499) for sample editing and batch audio-file processing. Windows users can substitute Steinberg WaveLab 7 (\$499.99). I've added Antares' Auto-Tune Vocal Studio Native with AVOX Evo (\$599) and Celemony Melodyne Editor (\$299); together they can solve most intonation problems and stretch your vocals (and instrumentals) beyond recognition. I've also added a Universal Audio UAD-2 Quad Omni (\$2,999). Its four SHARC processors will take a big load off of your CPU; it sports 34 world-class plug-ins; and it supports AU, VST, and RTAS formats. Again, I suggest the three utilities mentioned in the budget studio.

THE SONG-PRODUCTION SUITE
By George Petersen

For the song-production studio, I wanted to take a more traditional approach, with a hardware mixer and the ability to record a full band—live or in the context of studio tracking.



PreSonus StudioLive 24.4.2

Budget Song-Production Studio (\$4,940.44 Mac; \$4,840.44 Windows)

The centerpiece here is PreSonus' StudioLive 16.4.2 digital console (\$1,999.95). It has 16 high-headroom, Class-A mic preamps (plenty for band tracking), with four subgroups, a built-in 32x18 (I/O) FireWire digital recording interface, 4-band semiparametric EQ on all channels, and some surprisingly good onboard DSP effects.

StudioLive also ships with Studio One Artist DAW software and the Capture recording app, and it's also compatible with other DAWs such as Logic, Nuendo, Cubase, SONAR, Digital Performer, and Ableton Live. There are a lot of options here, but for this package I selected Apple's Logic Studio 9 (\$499). This Mac-based DAW is also bundled with MainStage 2 (offering instrument and amp models), Soundtrack 3 (for video post support), Compressor 3, WaveBurner 1.6 disk authoring, 20,000 Apple Loops, 80 studio DSP effects, dozens of virtual instruments, and more. If you're a PC fan, Cakewalk's SONAR 8.5 Producer Edition (\$399) offers powerful recording, composing, editing, mixing, and mastering functionality; tons of virtual instruments/drums; and multistage plug-ins for Windows XP, Vista (32-/64-bit), and Windows 7 (32-/64-bit).

With all those virtual sounds to play with, you'll want a USB keyboard controller. It's a personal choice, but M-Audio's Keystation 61es (\$169.95) is a good basic unit.

The focus of this studio takes the traditional route, so a hefty chunk of the budget goes to a well-appointed mic locker. The Audix FP7 (\$479) is a seven-piece drum mic package, with two condensers for overheads, one mic each for kick and snare, and three tom mics—just right for tracking a five-piece kit. For less than \$70 per mic, the set offers performance nearly matching its high-end D Series models—at about half the price. A Shure SM57 (\$99) is a studio staple and is great on anything from amps to percussion. Two nice condensers are also *de rigueur*, and here Audio-Technica's Pro 37s (\$240 for the pair) are a great choice. There are lots of choices in large-diaphragm tube vocal mics, but I like the rich sound and sweet top end of Sterling Audio's ST66

(\$399.99), designed by Groove Tubes founder Aspen Pittman. My direct box choice is Whirlwind's Director (\$69), a no-frills affair, but it's rock-solid and sounds great.

At some point, you'll need to hear what you're doing. Audio-Technica's ATH-M45 (\$69.99) studio headphones offer a flat sound and enough SPL output to satisfy a drummer. I've also added four sets of Sennheiser HD201

headphones (\$16.89) for bandmembers to use during tracking, and an ART Headamp 6 Pro headphone amp (\$199) to feed them. And last but not least are studio monitors, with my selection being JBL's LSR 2328P (\$698 for the pair). These bi-amplified systems have an 8-inch woofer and 1-inch, soft-dome silk tweeter, and are capable of 117dB peaks, with a wide, 37Hz-to-20kHz response.

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Universal Audio LA-610 Mk II

Full-Featured Song-Production Studio (\$14,624.90 Mac; \$14,524.90 Windows)

Say you have a little windfall and want to pump things up a bit. No problem. The StudioLive 16.4.2 is a powerful console in its own right, but for those who want a little more, the StudioLive 24.4.2 is \$3,299.95. In addition to the extra eight channels, the 24.4.2 also increases the aux send count from six to 10 and adds full parametric EQ on all channels.

On the mic side, I'll upgrade with two Miktek CV4 large-diaphragm condenser mics (\$1,299 each), which feature a NOS Telefunken EF800 tube and a selection of nine polar patterns for true versatility in the studio. These are equally at home doing

vocals, piano, or even drum overheads. I also swapped the Audio-Technica Pro 37 condensers to the AT 4041 condensers (\$499 for the pair), which I've been using for years with great results.

For overdubs or "the money channel," Universal Audio's LA-610 Mk II preamp/compressor (\$1,599) offers mic/line/DI instrument amplification, with a warm tube preamp and UA's classic Teletronix T4 opto-compression circuit used in the LA-2A.

I've also bumped up the keyboard controller with Roland's RD-700GX stage piano (\$2,199) with an 88-key "Ivory Feel" keyboard, a good selection of studio necessity pianos, EPs, and organs, as well as USB out for controlling virtual instruments.

On the listening side, I've stepped up to Focal's award-winning CMS 65 monitors (\$1,790 for the pair) with 6.5-inch Polyglass cone woofers and 1-inch inverted-dome tweeters that take the highs out to 28kHz. For some extra thump down to 30Hz, I'll add Focal's 300W CMS Sub (\$995), bringing this monitor package to \$2,785. I've also upgraded the headphone complement with four more sets of Audio-Technica ATH-M45 headphones for the bandmembers.

So after swapping out the mixer, mics, monitors, headphones, and keyboard, the grand total of my new deluxe digs well under the \$20,000 limit, although I'm sure you could add a few hardware or software toys of your own to round out the total. *

George Petersen is a Mix senior editor; Gino Robair, Geary Yelton, and Len Sasso are all former EM editors who now contribute regularly.

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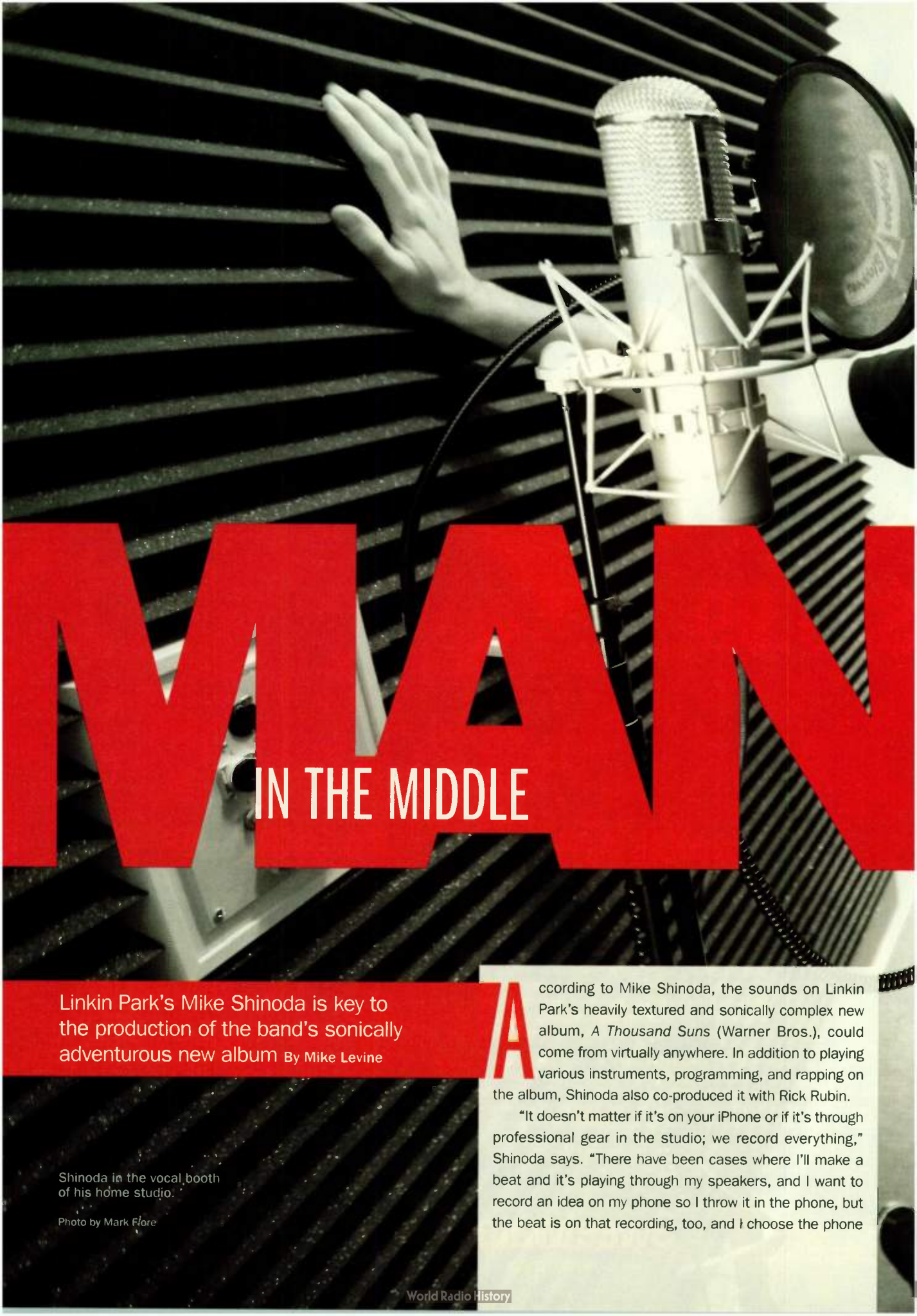


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MAN

IN THE MIDDLE

Linkin Park's Mike Shinoda is key to the production of the band's sonically adventurous new album *By Mike Levine*

Shinoda in the vocal booth of his home studio.

Photo by Mark Flore

According to Mike Shinoda, the sounds on Linkin Park's heavily textured and sonically complex new album, *A Thousand Suns* (Warner Bros.), could come from virtually anywhere. In addition to playing various instruments, programming, and rapping on the album, Shinoda also co-produced it with Rick Rubin.

"It doesn't matter if it's on your iPhone or if it's through professional gear in the studio; we record everything," Shinoda says. "There have been cases where I'll make a beat and it's playing through my speakers, and I want to record an idea on my phone so I throw it in the phone, but the beat is on that recording, too, and I choose the phone



recording over the actual beat that was in Pro Tools. That all creates the depth and that three-dimensional experience you get on the album. There's actually so many different ways of representing a sound, and we've really gotten in touch with that—more on this album than ever before.”

A Thousand Suns is the band's third studio album since their smash 2000 debut, *Hybrid Theory* (Warner Bros.), and the most musically ambitious. It was recorded primarily at NRG Studios (a commercial facility in North Hollywood), as well as at Shinoda's home studio and the home studio of the band's turntablist/sampler, Joe Hahn.

The album continues a stylistic progression first evidenced on *Minutes to Midnight* (Warner Bros., 2007), in which the band has moved away from its rap-metal roots and evolved in a more eclectic direction that encompasses a range of musical influences and has a strong electronic and sound-design element. Many of the songs have transitional pieces in between them, which comprise synth pads or piano, spoken-word clips or heavily effected vocals, and sound effects. I spoke to Shinoda shortly before the album was released.

The thing that jumped out at me the most from *A Thousand Suns* was the lack of the big distorted rhythm guitar parts that used to be such a big part of your sound.

Oh, really? We just forgot to put them in [laughs]. People asked us if it was a conscious decision to use the guitars as more of a textural element than a focal thing, and especially in the beginning, I don't think it really was a conscious effort. I think it was just a feeling. You know, we wrote a demo, and generally to give you an idea of how our process works—it might help to do that first. It's generally like one person or maybe one or two people that'll start a demo—and more often than not, that person is me just because I get kind of obsessive in that regard [laughs]. Once I get started on something, I have two other ideas and then I need to see those through. I'll just come in any given week with between four and eight new ideas, brand-new song ideas. Our bass player, [David] Phoenix [Farrell], likes to say that whenever I brought in something that was so different that he couldn't even tell if he loved it or hated it, then he knew we were on the right track. It was that stuff that just felt so much more exciting to the guys, and I was just thrilled to be making—I felt like we all got in this rhythm of trying stuff that was almost the opposite of what we would have done [in the past]. At any given point, if we felt like we were relying on old tricks, then the guys just kind of got bored with that. You couldn't impress them with a big power chorus or power chords on a PRS through a Mesa Boogie. We've done that so many times that it was just boring to the guys.

Did the band make a conscious decision to move in a different direction musically or did it just sort of evolve that way?

Probably a little bit of both. Since the first album, whenever we've been in the studio, we're always most moved by the stuff that feels unique and feels like it's coming from an honest place—like it represents us as a collective of six guys. So with this record, I think as we've gotten older, our collective taste has changed a bit. Our musical vocabulary has definitely broadened, and that goes in both directions. It's gotten deeper into the classics—or at least our opinion, what our favorite albums are from the '60s and '70s in particular—and I think in my case and in Joe [Hahn]'s case, in particular, we love new gadgets, we love new sounds, we love to tweak sounds and make them feel like something you haven't heard. I'd say the '60s and '70s were the most [influential]—that's the stuff we've been getting into more in the last few years than times before that.

What artists did you listen to from then?

I went through some phases while we were working on this record where I was really into The Who and Jimi Hendrix, and I got into some Beatles stuff that I hadn't really spent a lot

MAN IN THE MIDDLE

of time listening to. As we got toward the end, I was getting into some Moody Blues and stuff like that [laughs].

The album seems more melodically driven in certain songs than previous stuff.

I don't know. Maybe that's a function of us getting comfortable with a more jammy, organic kind of approach. I remember specifically—maybe this story will say more about the process; maybe this'll be the most descriptive way to say it even though it's just a story. We were working on a song called "Blackout," and Chester [Bennington, lead vocalist] had done a scat vocal over it that was really agitated and crazy, and there were no words. Every time we tried to put words to it, it just sounded forced—the lyrics just sounded like too left-brain. So I asked Rick [Rubin], almost jokingly, "If you've got any words of wisdom, now would be a good time, because we're starting to get really frustrated with this song" [laughs]. He said, "Actually, I know exactly what you should do. Have you heard of automatic writing?" And I said, "No," and he said, "You know, I've done this with Johnny Cash and Tom Petty and Neil Young, among others—tons of people have done it." And I was basically like, "Okay, sold. What do I do?" [laughs]. In essence, groups from the '60s and '70s would—to write a song—be jamming out the parts and the vocalist would

have hundreds of opportunities to just sing along, and eventually the singing along would turn into real melody and the words would turn into real words.

So they would just sing along with the recorder rolling, in other words?

In their case, they didn't have the recorder rolling, so they were just remembering whatever was the most natural and the most memorable. If you sing it 100 times, you're probably going to forget the stuff that isn't that good and you're probably going to remember the stuff that kind of stuck out to you as cool. So the feeling was, he said, "Just go in there and act like you know what the song's supposed to be, and just start singing actual words and actual melody, and it'll just fall into place." So in theory, that felt great. But when it actually came time to do it, when we were starting to play around with it, we found that our nerves and our personal insecurities would surface immediately, and you'd be scared to really dive into it and just start singing stuff. If I told you to walk up to a microphone and sing me a brand-new song with lyrics and melody right now, it sounds impossible.

So what happened?

As we got into it, we had to kind of just open up and realize that there was no wrong answer and we could always erase the crap that we didn't want to keep. And

by the end of it, we were making songs—not only the song that we had set out to write, but we were writing brand-new songs from scratch just literally singing stuff off the top of our heads. And by the end of the album, some of the songs were never even written down. We had full, large chunks of the song that we had just created kind of off the top of our head, and then we would go back in and kind of streamline or straighten up the meaning and the verses and whatever. But that's how we ended up with lyrics like "a thousand suns" and stuff like that that's a little more psychedelic, because it was literally just coming out of our subconscious.

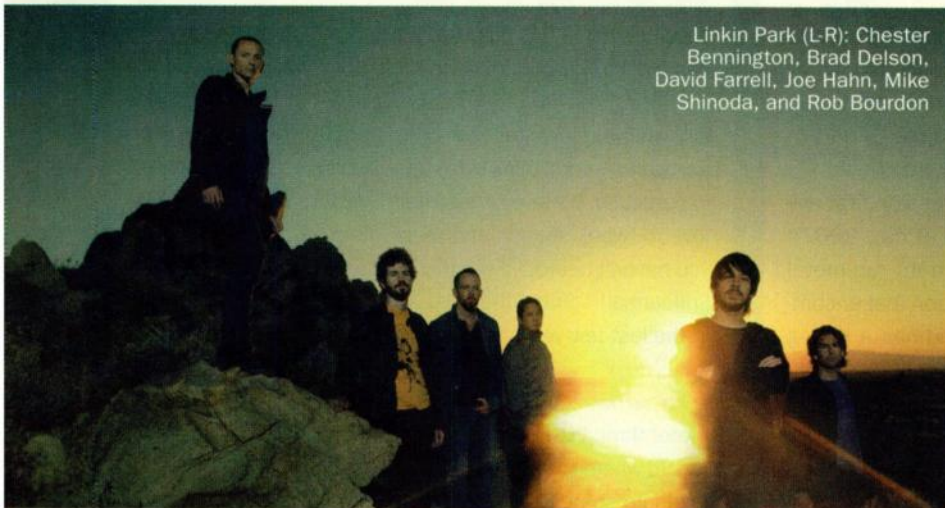
If you had to give the album a genre classification, what would it be?

I don't know. We've been categorized so many times, and I've never felt like any of the stuff that they've called us has been totally accurate. And I think many bands feel the same way. When you get lumped into a category with a bunch of other bands that you don't necessarily share a lot in common with, then you just feel like you're stuffed into a box. I know that a month from now, if they come up with [a brand-new genre] and we're the only band in that genre, the second that other people get put in that genre, I'm going to feel like we don't want to be in it [laughs]. Maybe that's my own psychological problem, or maybe it's some kind of weird artistic narcissism going on [laughs]. But I definitely love just being Linkin Park and just leaving it at that.

Talk about the transitional pieces between many of the songs on the album. They're kind of sound-design-y and often have spoken-word elements.

We realized that listeners today are really focused on singles. They want to go on iTunes and buy one 99-cent track, and they leave the rest of the album there. I think that part of it is just because that's their buying habit, but part of it is also because the artists and the labels have started to gravitate toward that because

Linkin Park (L-R): Chester Bennington, Brad Delson, David Farrell, Joe Hahn, Mike Shinoda, and Rob Bourdon



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WITH A LITTLE HELP FROM RICK



Co-producer Rick Rubin understood the band's vision for the album and helped bring it to fruition.

When Linkin Park first started planning this album, an outside co-producer wasn't in the plans. "Most of the guys in the band felt that I should just produce it, that we should essentially keep it in-house," Shinoda says, "because we all wanted to maintain the integrity of the sound that we were creating."

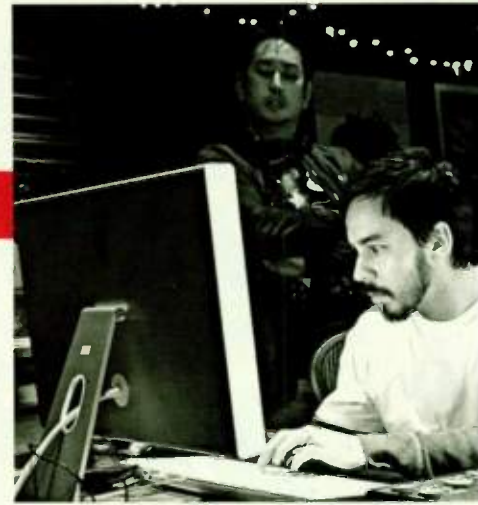
But the band decided to meet with some producers anyway, and when they got together with Rick Rubin—who also co-produced the previous album, *Minutes to Midnight* (Warner Bros., 2006)—the band felt that he really understood their vision for the album and could therefore be really helpful to the production. "He was not interested in changing it at all," Shinoda recalls. "If anything, he wanted to make sure that we didn't deviate from what we were trying to create."

So Rubin was brought in as a co-producer. He functioned more in an advisory role than a day-to-day one. "They had a strong vision of what they wanted to do," Rubin says, "and I supported them through the process."

As Shinoda describes in the accompanying interview, Rubin suggested they try the "automatic writing" method, which really helped the band come up with a lot of their lyrics. I asked Rubin about the genesis of that technique. "We have found in the past, when certain artists have a melody and make up nonsense words just to get through the song with no thought attached to it, the subconscious mind offers words up," he says. "Sometimes on listening back, we find words or phrases that function as clues to a lyric, when it works, very pure lyrics arrive. In Linkin Park's case, some of the early lyrics seemed too intellectual, so this was a method to get to more intuitive, heartfelt words."

Although Rubin has worked with countless groups, he found Linkin Park's work style to be unique. "Most of the bands I work with," he says, "write through jamming or songwriting, playing an acoustic instrument. Linkin Park writes and records entire albums without ever playing them as a band—very unusual for a rock band to work this way, but it has always been their method and works well for them."

Now that it's finished, what is Rubin's take on *A Thousand Suns*? "It's modern and forward-thinking yet still has very strong songs," he says. "It may take a minute before some people understand what it is. All of the most revolutionary music tends to be like that. It's certainly not what anyone has been expecting, so it takes a moment to recalibrate. That tends to be the case when artists change gears, but it's the only thing ensuring they will continue to make new music you need to listen to."



that just seems like where everybody else is at. Our feeling was basically that the album format has lost a little bit of love. We wanted to make something that you can listen to from beginning to end and it really took you on a journey.

Interesting.

As we were making what you could call, I guess, the connecting music, the stuff that builds up and down from different songs on the album, we brought back themes from different songs. So the album opens with a song that's literally made up of sounds from other songs.

So it's kind of a concept album.

We did call it a concept record at one point, but I don't want people to think that it's like *Tommy* or like a rock opera.

Does everyone in the band have a home studio?

Most of us have studios, but the bulk of the record was recorded at my place, at Joe's place, and at NRG in North Hollywood [see **Online Bonus Material** for an exclusive video tour of Shinoda's studio].

Did the other people in the band bring in stuff that they had recorded? How did you make that whole thing work?

Our drummer, Rob [Bourdon], has a Pro Tools rig at his house, an LE rig—it's a nice rig. He's got a pretty good setup there. It's more of a home studio/professional environment hybrid; it has a really unique sound. So when we want the big rock drums sound, we generally do it at NRG, and when we want something a

Shinoda stares intently into an iMac at NRG Studios, flanked by Hahn (left) and Bourdon (right).

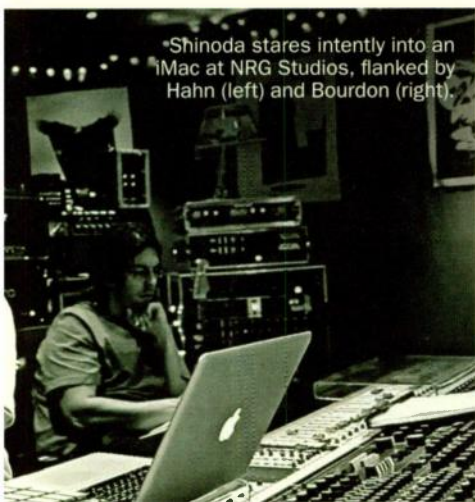


Photo by Mark Fiore

little different, we tend to do it somewhere else—maybe at Rob’s house. Joe’s house is more like Wonka’s Chocolate Factory [laughs]. He’s got some of the most bizarre gear. He’s got some modular synths and a lot of modded toys, like these little Fisher Price things from the ‘80s.

He’s into circuit-bending?

Yeah, the circuit-bent stuff. I’ve got a couple of those, but he’s a collector when it comes to just about anything he likes. He’s just got mounds of cool stuff at his house, and that stuff did play a role on the record. And then my house is actually more of what you’d expect from a home studio, but I would imagine I’ve built it up pretty well. I can do pretty much any vocal recording—album-quality vocal recording—guitar, bass if I want to. I love synth stuff and sample stuff, so I’ve got a ton of that here.

Do you all use Pro Tools?

Yeah, we’re all on Pro Tools.

And did you just carry drives around between each other’s houses?

Yeah [laughs]. We actually have a pretty psychotic system for our data management. We have a security company—essentially some of the guys that do security for the band were originally hired back during the time when we were working on *Meteora* because of security concerns about pirating and potential people stealing the music and whatnot. I think with a fan base like ours, there’s just more chances that somebody who’s really tech-savvy can find their way into your

system and pull out some music. And in fact, we’ve had some situations that have made it into the press about fans who compromised the security of the guys in a personal way. So we try and do what we can to make that risk minimal.

How do you do it? What kind of security measures have you taken?

We hired these folks who basically sit with the drives at all times, so they go to the studio—they arrive there before us with the drives. Before we start in any studio, they assess the security protocol and make sure that it’s up to speed, and they make sure that none of our studio computers are on a Wi-Fi or connected to the wireless network in the building, that none of the computers are backing up wirelessly, so that everything is insulated and secure. And then we come in, we work, we leave, they back up, and then the drives get put in a fireproof enclosure until the next time we come into the studio.

What about if you’re going to Joe’s studio? Do you still go through that?

At Joe’s house, he just basically throws them on the couch [laughs].

So this is mainly when you’re going to an outside studio?

The security measures are more relaxed at home, but they’re still pretty high. We’ve had those guys come over and make sure our home studios are secure, but to be honest, our systems are so much simpler. I don’t ever use my studio computer to go online unless it’s to upgrade or update software for Pro Tools or my plug-ins. Other than that, it’s always offline.

Your contribution instrumentally was programming and keyboards?

Since *Meteora*, we stopped putting those words after our names—you know, “Brad Delson, guitar,” stuff like that. Now on the album credits, it just lists the six guys’ names because we want to feel like we’re not being held

back by any preconceived idea of how we’re supposed to work.

Can you give a breakdown of the band’s typical studio workflow?

It’s tough to describe. If I try and break it down, when it comes to just the music, in really general terms, I’ll bring a demo in, and sometimes it’s really close, and sometimes it’s just a good energy or a good vibe and it’s a good starting point, but it’s going to need a lot of work. We meet once a week, and everybody gives their two cents, and then during the week, I’ll work on it and maybe Brad will work on it, and maybe a couple of the other guys will spend a couple hours on it, and then we’ll meet up the next week and compare how it’s changed and if it’s gotten better. That’s our weekly schedule; we meet every Monday to do that.

You don’t have times when you’re all in the studio together playing?

We almost never do that. The last time we did that was on *Minutes to Midnight*. We didn’t do that at all on this record.

So it’s kind of compartmentalized.

It’s very compartmentalized. We’ve been working together like this for 10 years; there’s not a lot of ego that goes on when it comes to writing a part. If they want to hear something and they can’t make it happen, the best thing they can do is figure out who can make that sound and give them the best description of it they can. Over time, they’ve gotten really good at telling me, for example, what it is they want to hear, and just setting my sights on that thing, and I go out and execute it. In some cases, the surprises are what make the guys really excited. They think they want to hear one thing, and I’ll come back and bring them something else, and they didn’t even know they wanted to hear that but it’s the thing that fits the song best. ✪

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

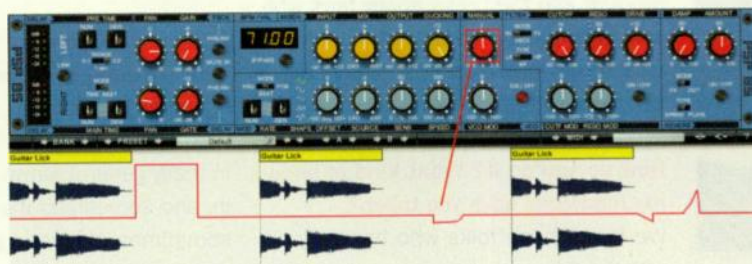


FIG. 1: Here, 1-bar guitar clips are alternated with a bar of silence. The displayed automation affects the Manual knob, which emulates tape-speed modulation.

Delay Tactics

Going beyond set-and-forget for delay time, feedback, and other delay plug-in parameters

If your approach to delay plug-ins is simply to insert one and set its delay time, feedback, and cross-panning, you're missing a lot of the action. A little automation of even the most basic delay processor can add interest and keep your tracks from getting cluttered with echoes.

Choose the simplest delay effect you have; Propellerhead Reason/Record DDL-1, Ableton Live Simple Delay, and Apple Logic Pro Tape Delay are examples in three popular DAWs. Insert the delay on an audio track, select a dry and not-too-busy audio loop—such as a clean rhythm guitar or chord-comping keyboard part—and repeat it several times. Next, create automation lanes for the delay's dry/wet mix (or wet level if they're separate controls), delay time, and feedback. If you prefer to use the delay as a send effect, set its mix for 100-percent wet and automate the return (not send) level instead of the wet level in these examples. To begin with, sync the delay time to tempo, and if you're using a stereo delay, link its two channels if possible.

Choose a delay time of three 16ths or three eighths, depending on the tempo. Start by automating the wet

level, alternating it between zero and values below 50 percent for alternate segments of a bar, half-note, or beat. Adjust the levels and segment sizes to suit the music (see **Web Clip 1**).

Next, add some modulation to the delay time and ensure that the changes take place during the spaces where the wet level is zero. This will keep you from hearing the artifacts of the delay-time shifts (see **Web Clip 2**). Because you've synced delay time to tempo, the changes will be incremental rather than continuous.

Now add some feedback automation. With feedback, less is more, so leave some sections with little or no feedback. Feedback is also less obtrusive in sections where the wet mix is low; with automation, it's easy to see and match up those sections (see **Web Clip 3**).

ON TAPE

One of my favorite delay plug-ins is PSP 85 from PSP Audioware (pspaudioware.com). The unit emulates a classic tape delay with the delay-buffer size corresponding to the length of the tape loop and the delay sampling rate corresponding to the tape speed. You can automate

both parameters on the PSP 85, and buffer size has separate controls for the right and left channels.

Changing the buffer size (labeled Main Time) in real time is like creating a splice in the loop; it creates a gap (lengthening the loop) or a jump (shortening the loop) in playback. Changing the sampling rate in real time (labeled Manual) temporarily transposes the material in the buffer either up (faster) or down (slower). The length of the buffer determines how long the transposition lasts—material recorded after the speed change plays back at its original pitch unless the speed is changed again.

In **Web Clip 4**, I've set the left-channel delay to one bar and the right-channel delay to nine eighth-notes. I've then fed the unit 1-bar guitar loops followed by single bars of silence. I've used automation to change the tape speed (sampling rate) during the silent sections and ensured that the tape speed returns to normal before the next guitar loop is recorded (see **Fig. 1**). *

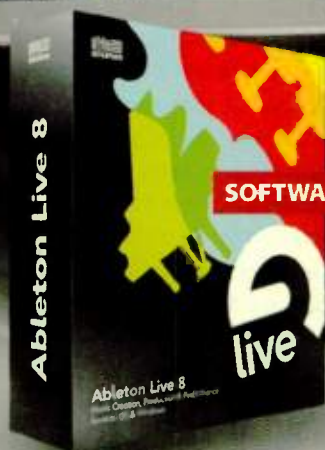
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Effective Measures

This month, I'm going to explore some great sound-effects techniques you can use in your remixes and projects. Sound effects can be that finishing touch that add a certain polish to your music and make it sound full and more complex. They provide dimension and texture, and they are a great way to help introduce or transition between difference sections in your arrangement or just make a particular part a bit more interesting. You can use them to add a creative and original sound to your productions, they're fun to design, and the combinations are limitless.

EXTREMELY DEDICATED

Throughout a remix or production project, I will typically set up several dedicated effects tracks in my DAW session. One of the most common scenarios for this would be to add a delay to one word in the vocal, say at the end of a lyric line. In that case, I create a new track and add the delay and any other processing I want, for example EQ and compression. Then I'll copy the word I want to delay from the vocal track and paste it onto the dedicated delay track. Because it's a duplicate of a word on the dry original track, setting the delay mix to 100-percent wet means that all I'll be hearing on that new track will be the delayed word (see **Fig. 1**).

I use this same concept to build more complex and creative effects processing chains for other dedicated tracks. For example, if I want the vocals to have a really washed-out and effected sound during the

breakdown, I'll copy the vocal parts I want to process onto a new track. Then I'll spend time designing and building my effects chain. In the case of the washed-out vocals, I start by putting a highpass filter on the vocal and matching pretty much what I had on the original track. Then I add the reverb, some tape delay, and some chorus to soften and thicken it up a bit. I also like the grit that guitar-amp plug-ins add to vocals and will use those a lot on dedicated vocal effects tracks. Last but not least, I will usually add compression to help glue things together and help bring out the part.

The other great thing about using dedicated effects tracks is that once they are set up, you can just simply drop other parts into those tracks and instantly process them. This makes for a fast and easy way to add just a little consistency throughout the project.

SWEPT AWAY

Sweeps and swooshes are staple effects in dance remixes (see **Web Clips 1a** and **1b**). They can add texture and movement

to a section or be used to introduce contrasting sections of your arrangement. They can be very short or very long, and can either build up or hit and sweep down. They can be thick, thin, and everything in between. I typically have a few generic starting points for processing sweeps when I add them.

To process my sweep or swoosh, I start with the following effects chain: first an EQ with a highpass filter to thin it out. How much thinner depends on what else is happening at that time and how full the frequency spectrum is. If there is a lot going on, I'll thin the sound out quite a bit so it just sits on top and doesn't clutter up the mix. Next I like to put a flanger, set pretty low (around 20 to 25 percent), just to give it some modulation. Then I usually put a short tape delay set to an eighth- or 16th-note to give it some movement in tempo, and I can also extend the decay of the sound if I want by adding more feedback to the delay plug-in.

Another great trick for sweeps is to add some sidechain compression. I



FIG. 1: When you want to delay a single word, copy it to a new track, insert a delay, and set its mix to 100-percent wet.

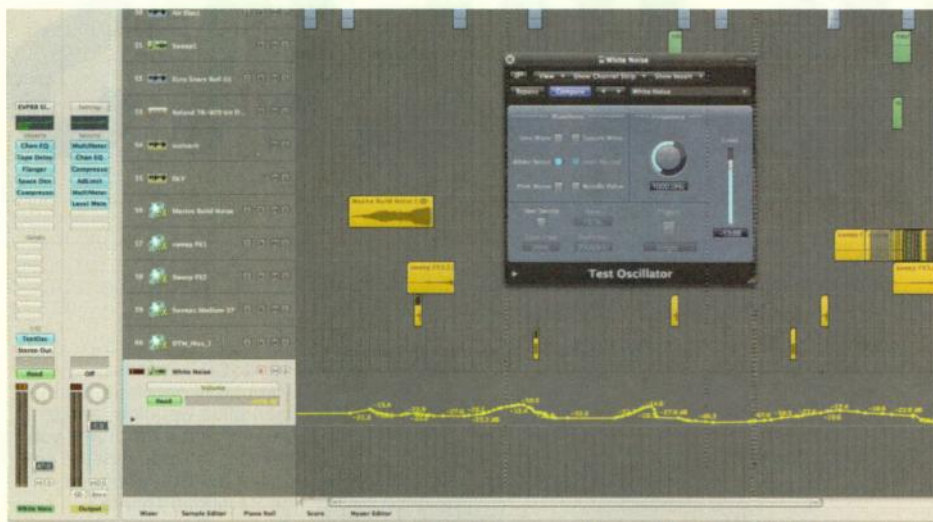


FIG. 2: I like to automate the volume of my sweep tracks for maximum impact.

always set up a global sidechain track, usually set using a kick on the quarter notes, and use that as a key input on a compressor insert on any given track in my project. In this case, once the global sidechain is set up, I'll insert a compressor and activate the key input to the sidechain track. Then I just play with the ratio, threshold, and make-up gain to get the desired ducking or pumping effect that I want. Sidechain compression has become very popular of late—not only on effects tracks, but on vocals, synths, and even the master bus. Using a ducking sidechain effect not only offers movement to a part, but it moves within the tempo of your track based on whatever is triggering the key input.

JUST ADD NOISE

One technique that is great to use is a noise generator that spits out white or pink noise. In Apple Logic, this is achieved by inserting the test oscillator on an instrument track and using the basic pink- or white-noise presets. We all know what white noise sounds like, but technically it is the presence of sound at every frequency across the spectrum at equal level. Pink noise is the same, except it has sharp filters at every octave. Pink noise sounds a little darker and more muffled. Whether you use pink

or white noise is a matter of taste. I like the brightness of white noise, so I typically just use that.

Once the instrument is set up, I'll mute the track or lower the fader so I can finish the processing chain by inserting an EQ, a compressor, and a flanger or a phaser. Again, sidechain compression is



Pink noise sounds a little darker and more muffled.

great on the white-noise track because it will add movement that makes the noise less obtrusive and constant. Once the white noise is all set up, I will then use this track to create my own building sweeps throughout the track and automate the volume rides (see Fig. 2). After I'm done, I quickly print the instrument track to a new audio track and commit it. I find it's easier to work with it that way.

PLANES, TRAINS, AND AUTOMOBILES

If you want to add something different from a typical sweep or swoosh sound, try processing some other types of source material. For example, instead of a sweep, you can process a sample of a jet flying over or a race car screaming

by. The idea is that when you're done processing it, it won't necessarily sound like a plane or a car, but rather a long drawn-out sound that's capable of adding tension or suspense, similar to what a sweep does.

To design these types of effects, I like to get sounds that are as long as possible because it is always easy to edit them to be shorter. After finding a suitable sound file, I'll import it and start processing

it heavily. I'll start by inserting things such as EQ, flanger/chorus, tape delay, and reverb. Then it's a matter of playing with the processing and seeing what happens. Once I have given it a new characteristic sound, I'll start listening to it in the mix and find a place for it to ultimately sit. You can also use the sidechain and automate it to build in and/or out, however you like. It is basically a creative way to add a one-of-a-kind sound effect. You can also do this to virtually any sound.

REPEAT AND DECAY

At the end of the day, sound effects are one area of production where there really are no rules. You can get as creative as you want and experiment with endless combinations of processing chains, delays, sidechain tricks, and anything else you can think up. Like with all aspects of music creation, the key is to stay creative and ultimately trust your ears to tell you if something is working or not. *

Vincent di Pasquale is a producer/remixer who works out of his project studio (vcdstudios.com). He has remixed songs for Madonna, Mariah Carey, Nelly Furtado, and many others, and he is the author of The Art of the Remix, a comprehensive interactive remixing course available now at faderpro.com.

REVIEWS



FIG. 1: DP 7.2 adds a boatload of new features that streamline workflow, and a Themes feature that lets you change the color scheme and look of the GUI. (Pictured: the Savannah Theme.)

MAC

MOTU Digital Performer 7.2

DP's latest upgrade adds powerful features and significant workflow enhancements

By Michael Cooper

*

PRODUCT SUMMARY

DAW SOFTWARE

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PROS: Eminently stable. Feature-packed. Greatly enhanced workflow. Outstanding new plug-ins.

CONS: Nothing major.

FEATURES: 1 2 3 4 5

EASE OF USE: 1 2 3 4 5

DOCUMENTATION: 1 2 3 4 5

VALUE: 1 2 3 4 5

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GUIDE TO EM METERS

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

Professionals have complained for years that DAWs have focused too much on the bells and whistles while giving workflow enhancements as little consideration as road kill. MOTU Digital Performer 7.2 (DP 7.2, see **Fig. 1**) breaks the mold, delivering a workstation worthy of the most savvy, demanding, and time-pressured engineer and composer.

I reviewed DP 7.2 using a 2.8GHz 8-core Mac Pro running Mac OS X 10.5.8 (the minimum required OS). My review includes features introduced as far back as DP 7.

LOOKS GOOD TO ME

DP 7.2 gives you a choice of 14 Themes that, depending on the Theme chosen, subtly or dramatically change the look of the GUI without altering the layout of windows, menus, and so on. The Plasma theme is by far the most dramatic of the lot (see **Fig. 2**); others are much more

subtle. I was initially dubious of the value Themes provide, but I'm now hooked. Themes add a drop of Visine to my DAW-weary eyes.

You can also customize the color of DP's meters. I like choosing a custom color gradient that shows green for low-level signals and progresses from yellow to red as signal strength increases, just like the multisegment LED ladders on my favorite analog gear. You can also choose the color you want for time-range selections. And I was genuinely thrilled to discover that MOTU's engineers have tweaked their track-color algorithms so that the vast majority of color assignments now produce black waveforms, a major improvement. (Previous versions of DP 7 and DP 6 produced white waveforms for Soundbites when choosing a color from half of the available track-color assignments.) I find it much easier to see the edges of black waveforms when editing.

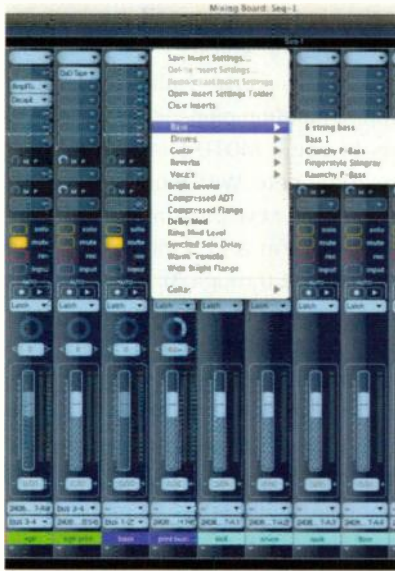


FIG. 2: The eye-popping Plasma Theme transforms the GUI's look. Clicking on a channel's oval Insert Settings slot in the Mixing Board (above the top insert) produces a list of commands for storing, recalling, and managing groups of plug-ins.

New in DP 7.2 are ultra-convenient contextual menus that duplicate and gather in one place items from one or more of DP's main menus and minimenus. When you right-click on an object with a multibutton mouse—or control-click with the left mouse button or a single-button mouse—a contextual menu appears that contains only commands and options pertinent to the chosen object and its window. For example, right-clicking on a track in the Tracks window produces a menu containing options to add similar tracks, duplicate or move the track, create a new track folder, and so on. Control-clicking on the track's mixer channel, on the other hand, pops up a checklist of channel-strip items (such as inserts and sends) that you can add or delete from the Mixing Board. Contextual menus preclude endless searches through main menus for a rarely used command and provide a quick reminder of options you may have forgotten about.

DP 7.2 offers many other time-saving features. Looking for a specific

Soundbite you've lost track of? Type any part of the likely name (such as *gtr* or *BV*) in the Soundbites window's search box, and the Soundbites list gets immediately stripped down to include only those Bites whose names include that entry. Similarly, I could quickly search for a forgotten keyboard shortcut in the Commands window. Search results showed even those commands that were previously hidden because their submenu's disclosure arrow was toggled shut.

INSERT HERE

Load a Clipping containing more plug-ins than the current number of inserts in DP's Mixing Board, and DP simply adds any additional insert slots needed to accommodate them. And when a single plug-in is instantiated in, or copied to, a channel's last insert slot, an additional slot automatically gets added to all channels. That's really convenient most of the time, but I wish inserts were only automatically added to pre-fader slots. When mastering, adding dither to a post-fader slot shouldn't add a slot below it.

A dynamite new feature introduced in DP 7.1 allows you to name, save, and recall a chain of plug-ins—and all of their control settings—for any Mixing Board channel by way of its Insert Settings menu. This menu is accessed from a slot located just above the channel's top insert. Insert Settings are like speed-dial Clippings. Say you've tracked several songs as separate Projects, using mostly the same instruments, and you've just finished mixing the first song. For a con-

sistent sound and ultra-fast workflow, use the Insert Settings menu to save each channel's group of plug-ins used in the first mix. Then open each of the other songs in turn and recall your saved Insert Settings for like instruments. You can also use the Insert Settings menu to bypass or clear all inserts in a channel at once. This sort of channel-wide bypass is indispensable for mastering work.

DP's Mixing Board now also includes control sections and miniature graphic displays for all its included EQ and dynamics plug-ins. In these sections of the mixer, you can instantiate, bypass,

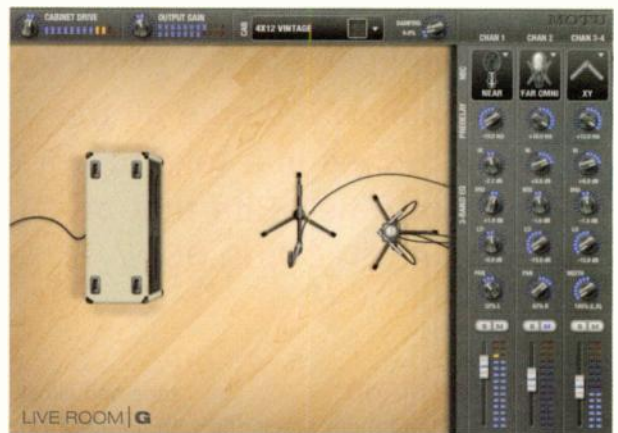


FIG. 3: The new Live Room G plug-in emulates the sound of multiple microphones used on any of five guitar cabs.

and tweak controls and visualize settings for DP's included ParaEQ, Dynamics, and five MasterWorks plug-ins. Only one EQ and one dynamics section can be displayed at a time. If you wish, you can hide these mixer sections.

All mixer controls for any one selected track (that isn't grouped) can be viewed in the new Channel Strip information window. Select another track in a different window, and the Channel Strip window updates to show that track's controls. Alternatively, you can lock the Channel Strip window so it always shows the controls for one specific track. A locked Channel Strip really speeds mixdown when returning often to a money track (such as lead vocal)

to fine-tune settings. The Channel Strip can also be set (in DP's Preferences) to appear at the top of the Sequence Editor or Tracks window. You'll still need to access the controls for individual tracks that are grouped in the Mixing Board window.

DP 7 makes interfacing with other studios easier. Flattening your audio files is a snap: You can now merge all the Soundbites in a take to create a new Bite that begins at 00:00:00.00 even if nothing was recorded that early in that track. Collaboration is also sweeter on the purely musical side. Composers can add lyrics and chord symbols to their scores in the QuickScribe Editor.



You can now merge all the Soundbites in a take to create a new Bite that begins at 00:00:00.00.

AT YOUR COMMAND

Mixing is easier and more precise in DP 7 than in previous versions. Using a mouse to make small fader and other control adjustments is no longer an exercise in futility; simply hold down the Command key for finer control. New functionality for DP's Trim tool and four new automation modes let you flatten or scale automation data within a specified time range. These are the kinds of advanced automation functions that leading hardware digital mixers offer.

Other enhancements greatly speed workflow. A new command lets you delete all existing bundles and import new ones in one fell swoop. A bullet is displayed next to a take name when other takes exist for that track, preventing a potentially disastrous oversight, as well as allowing you to confirm at a glance when only one take exists for a track. And forget about

constant visits to motu.com to see if updates exist for DP; the software now automatically checks for updates during boot-up if your computer is connected to the Internet (even if you were offline). A defeatable auto-save preference backs up your hard work if you forget to do so; you choose how often it saves. And check out DP Control, a free app that offers control of DP over your Mac's Wi-Fi network using an iPhone, iPad, or third-generation iPod Touch. (*Editor's note: DP Control works flawlessly.*)

THE WOW FACTOR

Twelve new plug-ins emulate stompboxes and electric-guitar amps and cabinets. Custom '59 models the Fender Bassman and Marshall JTM45 and JCM800-2203 guitar amps. Choose the tone stack and preamp

tube and circuit from different models to create a hybrid amp. Live Room G models five different guitar cabinets and lets you position up to four virtual microphones in various configurations on your selected cab (see Fig. 3).

New stompbox-emulation plug-ins include Analog Chorus (models Boss CE Series effects pedals), D Plus (MXR Distortion+), Delta Fuzz (Electro-Harmonix Big Muff), Diamond Drive (Voodoo Lab Sparkle Drive), RXT (ProCo's The Rat), Tube Wailer (Ibanez TS-9 Tube Screamer), Uber Tube (Ibanez Super Tube), and Wah Pedal (VOX 846 and Dunlop CryBaby). Intelligent Noise Gate and Tuner plug-ins, which are not emulating a specific hardware model, are also included. The Tuner plug-in (new in DP 7.2) rivals the best included with third-party guitar-amp-simulation plug-ins. It provides outstanding accuracy with

negligible CPU drain, and it is now my go-to tuner for guitars.

I own several dedicated guitar-amp-simulation plug-ins and was curious to see if MOTU's stock offerings could compete. With thoughtful tweaking, these new plug-ins sound fantastic—warm and dimensional (see **Web Clips 1** through **3**). Because they are separate plug-ins, they don't offer the convenience of displaying all components in your signal chain in one window. And unlike the case with many third-party guitar-amp-simulator plug-ins, you can't drag and drop contiguously inserted stompboxes to reorder them. But a fairly user-friendly alternative is to save and recall plug-in combinations as Insert Settings presets. DP provides some fantastic presets to get you started.

In two months of almost daily use, DP 7.2 did not crash once. Last but not least, MOTU includes a hard copy of the roughly 1,100-page owner's manual. Extremely comprehensive and clearly written, the manual sets the gold standard to which all manufacturers should strive.

THE VERDICT IS IN

This review can only scratch the surface of DP 7's new features in the available space, but here's the big picture: Version 7.2 is by far the best version yet. It's ultra-stable, user-friendly, powerful, fun, efficient, easy to learn, flexible, and turbo-charged with practical workflow enhancements for working engineers. If you own an earlier version of DP, you owe it to yourself to upgrade. If you own another DAW and are considering a switch, DP 7 should be in your gun sights. It rocks! *

EM contributing editor Michael Cooper (myspace.com/michaelcooperrecording) has relied on Digital Performer for recording, mixing, and mastering for the past 10 years.

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FIG. 1: The Origin Keyboard updates Arturia's first hardware synthesizer, the Origin, previously available only as a rackmountable tabletop module. Among other features, it adds a versatile ribbon controller and duophonic aftertouch.

Arturia Origin Keyboard

A killer synth has sprouted keys and more

By Geary Yelton



PRODUCT SUMMARY

SYNTHESIZER

PRICE: \$2,999

PROS: Stunningly versatile sound engine. First-rate analog emulations. Sensible multitimbral implementation. Duophonic aftertouch. Excellent ribbon controller functionality.

CONS: Needs a bigger display. Can't adjust control panel angle. Can't import soft-synth data from computers. A bit heavy.

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

arturia.com

Arturia, best known for its faithful software emulations of classic analog synthesizers, made a huge splash two years ago with its first hardware synth, the Origin. The Origin supplied many of Arturia's finest virtual instruments in a rackmountable tabletop module, making it perfectly suitable for use onstage or anywhere that setting up a computer would be cumbersome or inconvenient. Now the French manufacturer has introduced an even more self-contained system: the Origin Keyboard.

Like the tabletop model, the Origin Keyboard models six classic synths—the ARP 2600, Moog Minimoog, Roland Jupiter-8, Sequential Prophet-5 and Prophet VS, and Yamaha CS-80—and lets you combine virtual circuits from different instruments. It also has an organ tonewheel generator, a Bode-style frequency shifter, step sequencing, and ring modulation, as well as an oscillator and a filter unique to the Origin's sound engine. You can read more details about the Origin's architecture in *EM's*

March 2009 Origin review, online at emusician.com. This review will focus mainly on new features, many of which are available as a free download to owners of the previous model.

HERE ON THE OUTSIDE

The Origin Keyboard's control panel is identical to that of the desktop Origin. It is permanently connected to the keyboard controller by means of a rotating hinge (see **Fig. 1**). The panel opens to a fixed angle and folds down for transporting the instrument. I'd much rather the angle were adjustable because it can be difficult to see the 320x236-pixel color backlit LCD clearly if you aren't viewing it from the correct angle—for instance, if you're standing. Adjusting the contrast doesn't help much. Another minor inconvenience is the location of the power switch, which is near the middle of the rear panel and beneath the control panel. From the front, you have to extend your wrist around the control panel to reach it.

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The 61-note keyboard has a nice semiweighted action. It produces velocity and aftertouch, and you can use the joystick to graphically adjust the velocity curve's five breakpoints and the aftertouch curve's three breakpoints. I like this setup better than fixed preset curves because you can tailor the response to your individual playing style. On the instrument's left side are assignable pitch-bend and modulation wheels that feel like hard rubber, two octave switches with color

small that it's difficult to read no matter how close you get. Considering how essential visual feedback is to working with software-based synthesis, a larger display is the first thing I'd want in an instrument like this. And in an age of tactile telephones and tablets, the Origin cries out for a touchscreen, even if it would drive up the price.

KEY INNOVATIONS

The Origin was a terrific platform right from the beginning, and updates

zones you desire. You can specify a note range for each zone by defining its low and high notes, by either playing them on the keyboard or turning the value knob.

On the Program page, the Performance tab reveals settings for real-time controllers—the ribbon, aftertouch, the pitch-bend and mod wheels, and an optional expression pedal. The 16.5-inch ribbon is fully programmable and can modulate any destination available to other mod sources. You can also use it to trigger notes, playing it like a keyboard. Most of the time, though, you'll probably use it to bend pitch. It can change pitch any amount from one to 48 semitones up and down from its zero point, with a smooth glissando or stepped quantization. By default, the ribbon's center is its zero point, but if you change the setting from Absolute to Relative, the zero point is anywhere you place your fingertip. You can also specify how fast the ribbon's value returns to zero when you lift your finger: slowly, quickly, instantly, or not at all.

While controlling pitch bend, using my fingertip to stroke or hammer on the ribbon at different return-to-zero



The ribbon controller may be reason enough to prefer the keyboard model.

LEDs that indicate if pitch is transposed one or two octaves up or down, and an assignable ribbon controller. The flat portion above the keyboard's right side is easily large enough for a computer keyboard, and despite some overhang, the Dave Smith Instruments Mopho Keyboard I positioned there felt quite secure.

The rear panel is also identical to that of the original Origin, with balanced inputs and outputs, coaxial S/PDIF out, three MIDI jacks, USB, and more. A quiet internal fan on the right side of the keyboard housing keeps the entire instrument cool.

Startup takes about 48 seconds after you flip the power switch. You'll want to turn down your amplification or mixer channel during startup because the instrument produces a slight *thump* just before it's ready to play, even when you turn down the Master Level knob.

If the 46-pound Origin Keyboard has a weak spot (other than its weight), it's the display (see Fig. 2). Although I appreciated having a color LCD, it's slightly smaller than those on workstations from Korg, Yamaha, and Roland. I might understand its smaller size if it were a touchscreen, but it isn't. And because the resolution isn't as sharp as I'd like, some onscreen text is so

have enhanced its user interface and functionality even more. For example, playing multichannel presets (multis) from the keyboard or a DAW is more straightforward than it used to be. You can assign each program within a multi to a zone and assign each zone to a MIDI channel. Because each of the four zones can have its own channel, MIDI CCs can address specific zones. In addition, you can assign hardware controllers such as the pitch-bend wheel and ribbon to affect only the



FIG. 2: The Origin Keyboard's flip-up control panel is identical to the original Origin and comprises 54 knobs, 81 buttons, a joystick, and a backlit color LCD.

settings produced all sorts of musically interesting results. I noticed that although the ribbon responds over most of its length, the active area at its bottom extreme was half an inch further from its edge than its top extreme; I had to avoid sliding all the way down to keep it from returning to zero. Arturia assured me that a fix is in the works.

I was quite impressed with Arturia's rather ingenious trick called *duophonic aftertouch*, a type of note priority I've never seen before. With channel aftertouch—the type produced by virtually all keyboards that support aftertouch—pressing down on a key affects all notes being played on the same MIDI channel. With key (also called *polyphonic*) aftertouch, pressure affects only the note triggered by the key being pressed and not other notes playing at the same time. Unfortunately, key aftertouch can produce enough data to bring your DAW to its knees. With *duophonic aftertouch*, keyboard pressure affects only the lowest, highest, or last note played, depending on the setting. With careful playing technique, you can mimic key aftertouch without risking any data overflow. I hope other synth manufacturers adopt *duophonic aftertouch* in future instruments.

The Origin's newest sound engine is called *ToneWheel*. It's used to create drawbar organ sounds, and you can layer two *ToneWheel* generators simultaneously. It furnishes nine drawbars, along with controls for tuning, hardness, click, percussion, and other parameters. Paired with the Origin's new rotary speaker effect, the *ToneWheel* template lets you quickly program realistic Hammond B-3-type sounds.

Both editions of the Origin—the tabletop module and the keyboard—come with *Origin Connection* (Mac/Win), an application for storing presets and installing OS updates. I was hoping the software would make it pos-

sible to transfer data to the Origin from Prophet-V, CS-80V, and other Arturia soft synths. If *Origin Connection* could do that, users would have an extensive, ready-made supply of downloadable programs created by top sound designers. However, the Origin's data structure is so different from that of the soft synths that exchanging sounds is impossible.

ORIGINAL SYNTH

I highly recommend the Origin Keyboard. It's an inspiring piece of well-designed gear at a fair price. It isn't cheap, but you get a tremendous amount of sound engine for your money. Although the Origin has lots of useful and interesting factory programs, it's one of those synthesizers obviously designed with programmers in mind. If you like to build sounds from scratch, you could spend many happy hours and years exploring and programming the Origin Keyboard. If live performance is your gig, it could very effectively take the place of half a dozen vintage keyboards onstage. I was especially impressed by the well-thought-out versatility of the ribbon controller, which may be reason enough to prefer the keyboard model over the module.

The Origin platform is subject to frequent updates, and version 1.3 should be available by the time you read this. It will add desirable functions such as macro programming, sample-and-hold, and a compressor effect, as well as a new Jupiter-8 programming template and the ability to store favorites. Such capabilities will only add value to an instrument any synthesist would be happy to own. By so successfully emulating classic keyboards, the Origin Keyboard has itself become one. *

Former EM senior editor Geary Yelton has reviewed synthesizers for EM since its very first issue. He lives in the heart of the Blue Ridge Mountains in Asheville, N.C.

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FIG. 1: BFD Eco's user interface always shows the mixer at the bottom. The buttons at the top left change the central display to show the full kit, individual kit-piece settings, and the groove library.

MAC/
WIN

FXpansion BFD Eco

This economical new drum sampler is indeed a BFD

By Len Sasso



PRODUCT SUMMARY

SOFTWARE INSTRUMENT

PRICE: \$99 (with retailer instant rebate)

PROS: Great sound. Simple layout with easy access to essential controls. Compatible with BFD2 Expansion Kits.

CONS: Sequencer lacks note editor and clip-replace mode.

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

fxpansion.com

If you've been eyeing FXpansion's BFD2 drum sampler and groove machine but have held back by the price tag or the 50GB hit on your hard drive, you'll want to take a serious look at the new BFD Eco. It's less than half the price, has a relatively modest 4GB library, and is less daunting. You may find it's as much acoustic-drum machine as you need, but if not, you'll find an attractive upgrade path to BFD2.

BFD Eco is delivered on DVD and includes stand-alone and plug-in (VST, AU, and RTAS) versions. Installation is fast and relatively painless, and you can install the content on an alternate drive. Authorization is by challenge/response through the FXpansion website, and if your music computer is online, it's quick and easy. For this review, I installed and tested BFD Eco on a 2.66GHz quad-core Mac Pro with 8GB of RAM running OS X 10.5.8, and I used an alternate internal hard drive for the content.

WHAT'S IT GOT?

The primary differences between BFD Eco and its big brother are mostly in

how much. The kit size is fixed at 12 pieces vs. the maximum 32-piece kit available in BFD2. Kit pieces have at most 24 layers compared with 96 in the full version, and they are delivered in 16-bit as opposed to 24-bit resolution. BFD Eco comes with 1,500 new grooves in place of BFD2's 5,000 grooves. Both applications' plug-in versions provide multiple outputs to the host program: There are 11 stereo in BFD Eco as compared to eight stereo and 16 mono in BFD2. BFD2 also offers more flexible routing and supports more kit-piece bleed options and custom articulations. BFD Eco comes with 43 kit pieces (five kicks, six snares, 12 toms, three hi-hats, 11 cymbals, and six percussion sounds) instead of BFD2's 96, but those numbers are misleading because kit pieces include multiple articulations such as snare side-stick and rim, open and closed hi-hat, and so on.

BFD Eco can access BFD2 content if you happen to have that installed, although it will adapt that content to the aforementioned limitations. More impor-

tantly, that means you can expand BFD Eco's complement of kit pieces by purchasing downloadable BFD Expansion Kits, which range in price from \$50 to \$70 and offer some tasty genre-based alternatives.

EASY DOES IT

BFD Eco's user interface is a pleasure to work with, and after watching the accompanying video demo, you almost don't need the manual. The mixer, transport, and some utility controls are always present at the bottom of the interface (see **Fig. 1**). At its top right, you'll find separate dropdowns to load full presets (all settings), kits, and mixer setups.

The panel in the center of the GUI has three views—Kit, Channel, and Grooves—selected by buttons at the top left. Kit view displays the 12-piece kit and is interactive: Click on a kit piece to play it, play the kit from your host of the built-in sequencer, and the kit pieces light up to show the action. That's mostly eye candy, but it's fun to watch.

Channel view lets you control everything about an individual mixer channel's kit piece (see **Fig. 2**). You can choose a different kit piece from the dropdown at the top left or with the adjacent Next and Previous buttons. (You can also use the mixer channel's context menu for that.) Below the menu is the Inspector comprising a large kit-piece graphic and extremely useful controls for dynamics (velocity scaling), damping, mic mix (kick and snare only), tightening (hi-hat only), aux-bus sends, overhead- and room-mic sends, and a button to flip the left and right image for the mic sends.

Adjacent to the Inspector are a 4-band EQ and two multi-effects insert slots, each of which you can turn off to save CPU. Many of the effects employ the circuit-modeling techniques first introduced in BFD2. The complement of 15 effects includes the usual suspects—compression, delay, distortion, filtering, and reverb—along with some unusual options such as ring modulation, an

envelope shaper, and a multimode filter with frequency-modulated cutoff.

The multimode filter is among my favorites. In addition to offering off-the-wall modulation effects, it is great for subtly changing the character of any kit piece. Applied to a kick drum, for example, it can flatten the sound, make it boom, add chuff to the attack, or make it a dry thump (see **Web Clip 1**).

MIX IT UP

BFD Eco's mixer is straightforward and, as mentioned, always visible. There is a channel for each kit piece, ambience channels for the overhead and room mics, two aux-bus channels, and a master output channel. You can route any kit piece to the master channel, either of the aux channels, or to one of the direct outputs. The direct outputs are allocated by kit-piece type; for example, all toms share the same optional direct output channel (17/18). Like the kit-piece channels, the ambience, aux, and master channels each have an EQ and two multi-effects slots.

All the kit-piece channels are mono and have pan sliders to let you position the kit piece in the stereo field. An option

called *Drummer Perspective* lets you globally swap left and right to switch between the audience and drummer's perspective. The remaining channels are stereo and have no pan (balance) sliders.

The mixer channels offer a couple of handy shortcuts. Right-clicking the kit-piece icon lets you load a new kit piece, copy and paste channel settings, clear the FX slots, and reset the aux sends. Below the icon are buttons for turning each effect off without removing it from the slot. There's also a global FX-power defeat among the utility controls along the bottom.

BFD Eco supports full MIDI automation. You can assign MIDI controllers to all mixer and channel controls along with some global and groove settings. Simply click the MIDI Learn button (MIDI jack icon), select any control that is shaded green, and wiggle a MIDI controller to assign it to the selected control. Any control's context menu in MIDI Learn mode lets you clear its assignment or all assignments.

IN THE GROOVE

Grooves view is where you audition and apply the drum sequences (grooves) in



FIG. 2: Each kit piece sports an EQ and two insert effects, along with individually tailored kit-piece settings.



FIG. 3: The Groove browser lets you audition drum grooves, array them on BFD Eco's drum track, and drag and drop them to your DAW tracks.

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your BFD Eco library (see Fig. 3). The categorized browser on the left refines the groove list to its right, and the search field at the top lets you search for specific text in the groove's name, author, library, and genre. When the Auto button is highlighted, selecting a groove automatically starts it playing.


The rudimentary 1-track sequencer at the bottom lets you string grooves together and define a loop, but you can't edit the grooves (as you can in BFD2), and dragging a groove to the drum track always inserts it, making it awkward to replace one groove with another. I found it much easier to drag grooves directly to the plug-in host or to the desktop, where they are saved as standard MIDI files. That lets you edit and arrange them at will.

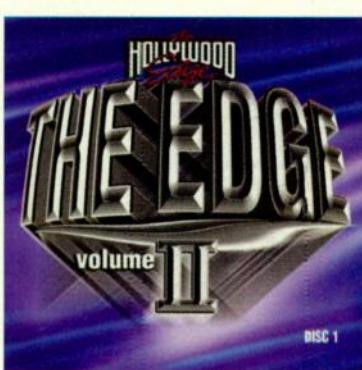
The four knobs at the right of the Grooves view—Quantize, Hum(anize) Time, Simplify, and Swing—perform those functions on the selected groove. Simplify intelligently suppresses some hits, which is a great way to quickly generate variations on a groove. Conveniently, all the knob settings are reflected in the groove when dragged to your host, the desktop, or Eco's drum track (see **Web Clip 2**).

The Grooves mode buttons at the bottom right determine how the Eco plug-in behaves when you start the host's transport. If you're using your host to play Eco, choose Off, choose Track to play Eco's drum track, and choose Single to play the groove selected in the browser.

BFD Eco is among the best-sounding acoustic-drum machines I've used and certainly one of the easiest to learn. The selection of kit pieces, augmented by the many ways to modify and route them, provides plenty of options for any genre. Although the drum sequencer is not Eco's strongest feature, the grooves themselves are excellent. Check it out. *

Len Sasso is a freelance writer and frequent EM contributor. For an earful, visit his website, swiftkick.com





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UNIVERSAL AUDIO * MANLEY MASSIVE PASSIVE EQ (MAC/WIN)

By Eli Crews

Universal Audio has an impressive track record of accurately emulating some of the most revered analog gear for its UAD Powered Plug-In platform. Its newest offering, the Manley Massive Passive EQ (\$299), is based on Manley Labs' stereo tube equalizer, which engineers have cherished for more than a decade.

The plug-in (VST/RTAS for Windows and Mac; AU for Mac) is only available to run on Universal Audio's UAD-2 PCI-e or Express Card processors, and like the original hardware, it comes in two stereo versions: Standard and Mastering. Both versions have four bands per channel, and each band can either cut or boost, can operate as either a bell or shelving curve, and has a bandwidth control. The frequency selections for each band are

CREATED EQUAL

The original hardware achieves its equalization by using passive components, with the active tube stage used only for makeup gain. The UAD plug-in models this behavior, which makes the Massive Passive the most power-hungry UAD plug-in to date, by a factor of four—you can only run one stereo instance on the UAD-2 Solo card. Plus, there's no SE ("DSP-lite") mode, which exists for other heavy-duty UAD plugs. I was able to get four instances (plus a few other UAD plug-ins) running at 96kHz on my Quad card in Pro Tools HD 8.0.4 on an 8-core Mac Pro, but only with Pro Tools' buffer set to 512; any lower and the Massive Passive negatively affected Pro Tools performance. (Note: UA says many HD users can run at 256 without

width settings, and cut/boost amounts varied greatly depending on the program material, but it was often hard to find settings I didn't like. I pushed the gain settings further than I normally would in a mastering session as the curves are so gentle and pleasing to my ear (see **Web Clips 3 and 4**). The unit's 27kHz is magical, making the mixes pop out of the speakers unlike any software EQ I've used. I was in the middle of two different mastering sessions when the Massive Passive license arrived, and both clients were floored by the difference when I swapped out UAD's Precision Equalizer (a fine EQ, I might add) with the Massive Passive EQ with roughly the same settings.



EMHOTPICK



Universal Audio's Manley Massive Passive plug-in looks—and sounds—amazingly close to the original.

also the same, and range from 22Hz to 1kHz in the low band and 560Hz to 27kHz in the high band. The differences between the Standard and Mastering versions are the band gain ranges (20dB for Standard, 11dB for Mastering), the overall gain range (-6dB to +4dB for Standard, ± 2.5 dB for Mastering), and the high- and lowpass filter frequencies (22Hz to 220Hz for Standard, 12Hz to 39Hz for Mastering), plus the Mastering version has stepped gain and bandwidth controls. The left and right channels can be stereo-linked, individually controlled, or bypassed in either version.

issues, but 512 is recommended for best results; for Pro Tools LE, 1024 is advised.)

I tested the Massive Passive on various instruments and got great sounds on drums, bass, guitars, and vocals, but I focused most of my time with the plug-in on stereo apps. As a drum bus EQ, the cymbals sparkled, the kick thumped, and the snare cracked, without any negative phase shifts or harshness often imparted by software EQs (see **Web Clips 1 and 2**). On the mix bus, as well as in mastering sessions, it was clear why the hardware unit has garnered so much respect over the years. The exact frequencies, band-

CPU STRAIN

The only downside to this plug-in is the massive amount of the UAD-2's CPU it uses, but it's worth the strain. The Massive Passive will not replace all of your other more surgical or more colored EQ plug-ins; however, what it does sonically, it does incredibly well. I'll never do another in-the-box mastering session without it, and it brings me one step closer to wanting to mix exclusively within my DAW. The way it simultaneously gently lifts and thickens a mix is close to how the UAD Pultec sounds, but with more precision and control. I've used hardware Manley Massives in the past, and even without a direct A/B, I can confidently report that Universal Audio has managed to capture the spirit of the original, and in so doing has produced a truly stellar plug-in. *

Overall Rating (1 through 5): 5
uaudio.com

QUICK PICKS

EASTWEST/QUANTUM LEAP * HOLLYWOOD STRINGS DIAMOND EDITION (MAC/WIN)

By Rob Shrock

Hollywood Strings Diamond Edition (Mac/Win, \$1,495) is one of the most ambitious and detailed string orchestra libraries to date. Recorded at EastWest Studio 1, Hollywood Strings (HS) is intended to capture the Hollywood sound found in so many records and movie scores during the years. HS was conceived and created by EastWest founder Doug Rogers, along with longtime partner Nick Phoenix and composer Thomas Bergersen. Academy Award-winner Shawn Murphy recorded and engineered the sampling sessions. The results are fabulous.

HS is 312GB and ships pre-installed on an internal 7,200rpm, 500GB hard drive; an iLok (not included) is required for authorization. HS comes only in the proprietary EastWest Play format, which is the native application for most newer EastWest/Quantum Leap libraries. HS also contains a great-sounding, built-in impulse/response reverb comprising responses of several great halls, rooms, studios, and cathedrals, including the EastWest/Quantum Leap Symphony Orchestra 4 hall.

STEP UP TO THE MIC

Five miking perspectives were recorded simultaneously and are available to mix and match: close, mid (positioned over and slightly behind the conductor position), main (Decca Tree and a wide outrigger pair a little farther back), and surround (distant mics switchable between a modern mic pair and vintage ribbon mics).

The string orchestra comprises 16 Violins I, 14 Violins II (different players), 10 Violas, 10 Cellos, and seven Basses. There are no solo, quartet, or chamber ensembles provided; however, divisi patches A and B were created by close-miking each section on their respective left and right sides. Though it's not a perfect solution, using the close divisi samples with reverb or mixed with the more distant mid, main, or surround micro-

phones sounds perfectly acceptable and authentic because all samples were recorded simultaneously and blend perfectly.

Included are numerous articulations: sustains, legato, détaché, staccato, Spiccato, marcato, pizzicato, Bartok pizz, ricochet, col legno, flautando, harmonics, sordino, and so on. Key-

switching and mod-wheel crossfade control allows for expressive and realistic playing. Crossfades are provided in six, nine, and 13 levels, depending on what your system can handle, and both Light and Powerful System versions are provided. True legato and portamento are standout features, and Round Robin and Repetition controls use multiple alternating samples to avoid the machine-gun effect with repeated notes.

The sordino sounds are not separate muted samples. According to Rogers, the already huge HS library would have become unmanageable and prohibitively expensive to create. (The library already took more than a year to complete and employed mostly A-list film musicians.) Some sordino recordings were made during the sampling sessions, then carefully analyzed and EQ-modeled within Play. Although I wouldn't have thought it possible, the sordino effect sounds authentic and has the added bonus of perfectly matching the nonmuted counterparts in playability, articulation, and response.

NOT ON YOUR LAP

Because of the nature of Play, and the size and vastness of HS, the system requirements are heavy. For professional



Hollywood Strings includes the proprietary Play virtual instrument, whose controls are specifically designed to maximize playability.

composers and those working on deadline, EastWest suggests dedicating a separate, powerful computer setup with lots of RAM to HS, and I agree. Working on a dual-core MacBook Pro with 6GB RAM was tedious and slow-going, and I had to freeze tracks all along the way. Testing on an 8-core system with 16GB RAM proved much easier to manage. Obviously, the sound gets better as you mix combinations of the various mic positions, but the system demands spike even higher as a result. (The 16-bit Hollywood Strings Gold version, which lists for \$795, includes one mic position and all articulations, but no bow-change legato and no divisi.)

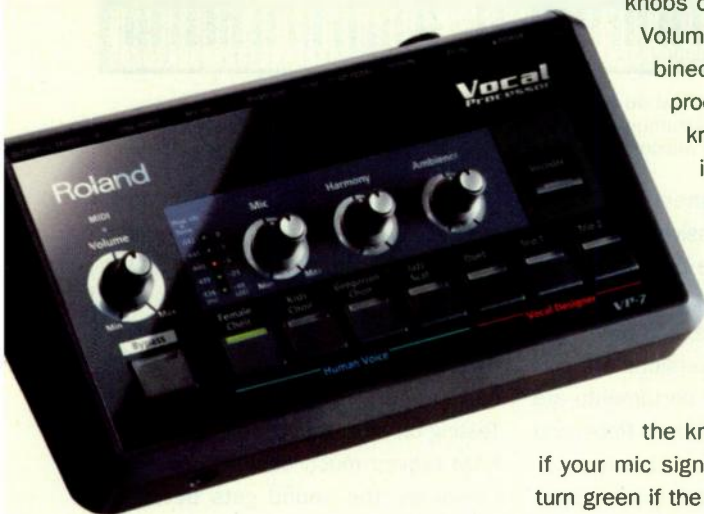
EastWest's goal was to capture the sound we have grown accustomed to in movies and on commercial recordings, and it succeeded. The sound of HS is lush, rich, powerful, and poignant.

Is this library perfect? No, but I give it high marks anyway; a product this detailed, thoughtful, well-recorded, and ambitious deserves to be heralded. HS is an extremely capable tool—it is up to you to make the most of it. *

Overall Rating (1 through 5): 4
soundsonline.com

Roland's VP-7 (\$549) is a vocoder and harmonizer, with a handful of expressive sampled-voice presets thrown in for good measure. The unit is clearly aimed at the performing soloist or small ensemble that may need a boost in the vocal department.

Because the VP-7 sports only basic controls, your programming options are somewhat limited, but on the positive side, I rarely needed to refer to the manual. You do get a clearly written manual, an illustrated quick-start pamphlet that covers the basics, and a tutorial DVD.



Roland's VP-7 vocal processor houses sampled voices, automatic vocal harmonizing, and vocoding in a great-sounding, easy-to-use desktop unit.

SKIMMING THE SURFACE

The VP-7 can sit on a desktop or synthesizer's top panel, or you can purchase a stand mount. You connect your MIDI controller to the VP-7's MIDI In jack on its rear panel. There is no MIDI Thru, which would be handy to daisy-chain another synth or MIDI gadget.

The supplied headset microphone wraps comfortably around the lower part of the neck, with plenty of flexibility to adjust the mic's placement. The mic is hard-wired to a thin but sturdy cable outfitted with an XLR plug, and there's enough length to stand and move comfortably.

The unit's combo jack accommodates either 1/4-inch or XLR plugs and supplies 48V phantom power so you can use your own mic. Another 1/4-inch jack accepts a footswitch, used to bypass the unit.

The VP-7 offers three functions: sample playback (called *Human Voice*), harmony processing (called *Vocal Designer*), and vocoding. Each section has its own presets. Only one processor can function at a time, so there's no real-time layering of harmonies with Vocoder or sample playback.

Volume, Mic, Harmony, and Ambience knobs control the sound. The Volume knob sets the combined output of vocals and processed sound. The Mic knob adjusts microphone input; if it's set too low, tracking is intermittent, whereas if it's set too high, the output distorts and lacks dynamics. The LED level indicator to the left of the knob will turn bright red if your mic signal is too hot, and will turn green if the input is too quiet. The Harmony knob blends vocals with harmonized output, adding voices as the knob is turned clockwise. Turning the knob to the far right replaces the live voice with a processed version, which is handy for adding a bit of thickening. The Ambience knob controls the depth of the built-in reverb.

VOX POPULI

You get four sample-playback presets: Female Choir, Kid's Choir, Gregorian Choir, and Jazz Scat. Seven variations are available for the sample-playback and harmony-processing functions. These are accessed by pressing the Vocoder button along with Preset buttons. Although external MIDI Control Change messages let you alter attack and release rates, there is no provision for storing your own presets.

The factory presets sound great, with no obvious looping and generous enough mapping to mask any evidence of stretched samples. Expressive velocity switching adds realism. The Female Choir layers voices singing a breathy *Hoo* at lower velocities and singing *Hah* with more forceful playing. The Jazz Scat preset offers a soft *Ooh* at low velocities and graduates to *Bop* and then *Dow* with increasing velocity.

The main attractions are the Vocal Designer and Vocoder sections. A duo and a trio with two choices for stacking the harmony make up the Vocal Designer presets. Without benefit of MIDI, the Duet and first Trio presets stack the live voice at the top of the harmony, and the second Trio preset moves one voice a fifth above the melody. Add MIDI note messages, and the harmonies adapt to the keyboard voicing. Any MIDI controller will do, and my Axon AX 50 MIDI guitar worked quite well. The harmonizations are intelligible though a tad darker than the real deal. With the mic properly adjusted, they tracked my every pitch (despite the many swoops and glides caused by my lack of vocal precision); it all sounded thoroughly professional.

The sonic distinctions between the three Vocoder presets are not major. The second preset is an emulation of vintage vocoding: a bit warmer and slightly less intelligible than presets 1 and 3. The third Vocoder preset is the brightest sounding and is monophonic, with a last-voice-played priority. I love vocoders, and the VP-7's presets did not disappoint. My preference was for the first preset; it generated, rich, bright, and buzzy chords from my utterances (see **Web Clip 1**).

There's no denying the usefulness and fun of a plug-and-play desktop vocal processor. Roland's VP-7 strikes a successful balance among complexity, out-of-the-box musicality, sound quality, and just plain fun. Check one out. *

Overall rating (1 through 5): 3
rolandus.com



The OctoPre MKII Dynamic gives you eight channels of quality mic pres with compressors on each channel.

Following up on its OctoPre MKII, an 8-channel mic pre and AD/DA converter, Focusrite has released the OctoPre MKII Dynamic (\$699). The new unit one-ups its older sibling with the addition of VCA-based compressors on each channel and word clock I/O.

PRE DESTINY

The 1RU box has eight XLR-¼-inch combo jacks in the back, allowing for mic- and line-level input. Channels 1 and 2 can also handle instrument-level signals as long as the corresponding Inst button on the front panel is activated.

The back panel also sports eight ¼-inch TRS line outputs and a pair of optical ADAT in and out ports. Each ADAT output is capable of sending eight channels at 44.1kHz or 48kHz, or four channels at 88.2kHz or 96kHz. BNC word clock I/O ports add clocking flexibility. Around to the front, each channel has its own cluster of three controls, comprising two rotary knobs and a switch. One knob controls gain, the other the compression threshold, and the switch lets you toggle between 2:1 and 4:1 compression ratios. The attack time is fixed at 1.2ms and the release time at 28ms.

Rounding out the front panel are an 8-channel LED-ladder input meter, the aforementioned instrument input switches, two 48V phantom power switches—one for channels 1 through 4 and the other for channels 5 through 8—sample-rate and clock-source buttons with status lights, and an AD/DA button that sends the signals coming in the ADAT inputs to the unit's analog outputs. In addition to using the OctoPre MKII Dynamic as a multiple-mic pre, it can also be used as a D/A converter to extend the amount of analog

outputs you have coming out of your audio interface.

MORE THAN ONE MARK

I have a MOTU 828 MKII interface, which has ADAT I/O, so integrating the Focusrite unit into my setup was a breeze. I connected the optical ADAT out of the OctoPre into the 828's ADAT in, set the OctoPre's Clock Source switch to word clock, and—boom—I had eight additional mic/line input channels available to my DAW. The informative printed



They were able to hold their own sonically with units that, on a per-channel basis, were considerably more expensive.

manual offers setup diagrams for a variety of possible configuration scenarios.

The sound quality of the mic pres is quite impressive. They're not completely transparent—they add a bit of sheen that is quite pleasing. I was happy with the results on acoustic instruments like guitar, dobro, mandolin, and violin. They also seem to have plenty of gain. I compared the OctoPre's preamps with others in my studio, and they were able to hold their own sonically with units that, on a per-channel basis, were considerably more expensive.

Although control is limited, the compressors' sound is quite good. According to Focusrite, the VCA-based compressors are modeled on the company's pric-

ey Red 3 compressor. I don't own one of those so it's hard for me to compare, but I was impressed with the compressors' sound. On a direct electric guitar, the compression added a warm and almost amp-like tone (see **Web Clip 1**).

Typically, you only want to compress lightly on input, but if you do crank the Threshold knob and set the Ratio button to More (4:1), you can color the sound quite a bit. By doing so, I was able to significantly alter the sonic character of a snare drum (see **Web Clip 2**). On lower settings, on elements like vocals and sax, the compressors helped tame the dynamic range without much coloration. I do wish there were an adjustable attack time to allow for slower settings to preserve transients.

My only other quibble with the unit is one of ergonomics. Having all the I/O on the back wasn't terribly convenient as I had to reach around the back of my rack to plug and unplug instruments and mics. I realize that in a 1RU unit, front-panel space is at a premium. Still, I wish Focusrite's engineers could have figured out a way to situate one of the combo input jacks on the front.

EIGHT TIMES THE FUN

On the whole, I found the OctoPre MKII Dynamic to be a great addition to my studio. It expanded my recording capabilities without compromising on quality, and gave me the added flexibility of dynamic control on input. Especially if you have an interface with ADAT I/O, the OctoPre MKII Dynamic is an excellent value and a great way to expand the recording capabilities in your studio. *

Overall Rating (1 through 5): 4
focusrite.com

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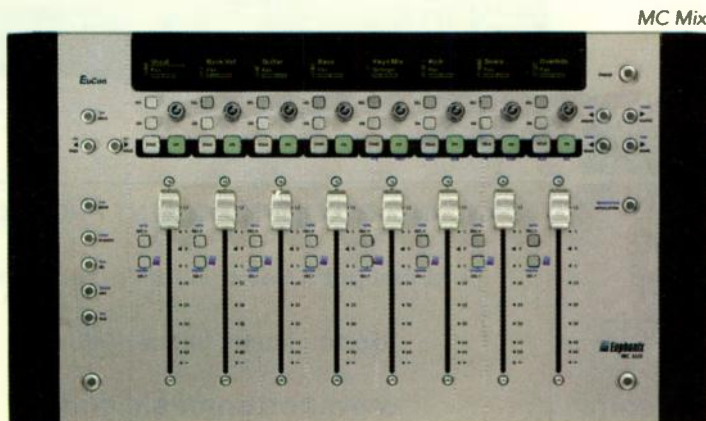
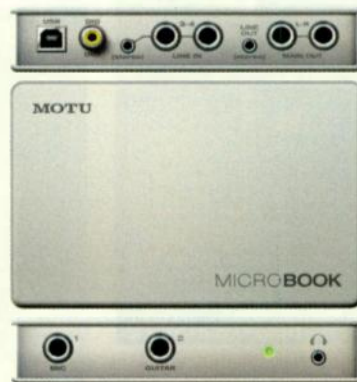
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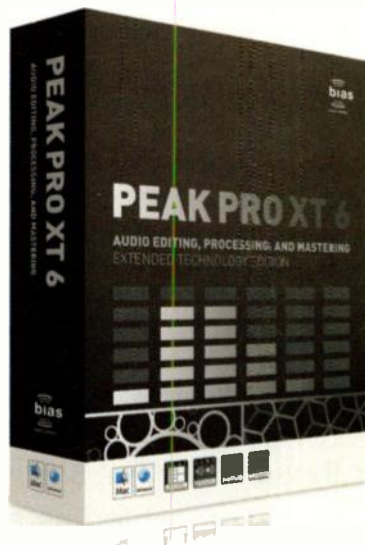
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Vive le Progrès

For the past few months, I've written this column from the perspective of someone watching the music business change drastically since the advent of download culture. I've argued almost entirely for the old ways over the new, but clearly nothing is that simple and there was a degree of playing devil's advocate. While I may feel that music no longer has the potential for major cultural impact that it once had, it's perhaps also true that thanks to the Internet and iPods, music is more a part of our lives than ever before—surely a good thing.

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For those of us that still like our music presented as art, things are actually moving in a good direction.

Recently, a letter written to a fan by a young John Lennon sold at auction for \$20,000. By contrast, I don't think anybody will be paying anything for a framed copy of a tweet by Chris Martin. But that's probably the point. Social-media platforms like Twitter and Facebook have made personal access to musicians commonplace. In a previous column, I spoke about the pitfalls of this new accessibility: too much banality and trivia, which can rob the artist of their enigma. It's also possible that if an artist has too much feedback, they may try to please the fans. It's my belief that being an artist is largely about being selfish and expressing that self. This, for me, is the distinction between an entertainer (cater to an audience) and an artist (create your own audience).

There's no question that the Internet and social networking provide an opportunity for the business of making music

move to the next level. Artists can now promote tours, albums, and DVDs without spending money on expensive mailouts. There is also the possibility of making the listeners feel that they are part of the team, and thus more invested in the success of their favorite artist. It's also now possible to sustain a career quite comfortably by selling 50,000 albums directly to fans through the Internet, generating the same kind of income that would have necessitated selling 500,000 or more under the terms of a major recording contract (where the artist is lucky to receive a dollar for each CD sold). The result of this is that music is free to stretch, develop, and fractalize in all sorts of interesting ways, without having to show allegiance to the kind of lowest-common-denominator hit-seeking that has plagued creative musicians signed to major record deals for decades.

I also talked previously about the death of the physical album; this, of course, is partly romantic nostalgia on my part. iPods are not about to disappear, and in fact an interesting and positive new model is presenting itself. The generic CD is still with us, but I believe that ultimately the act of releasing music will focus on the two extremes of a cheap download and an expensive, deluxe art edition combining beautiful packaging with a CD, a high-resolution audio format, and perhaps also vinyl. For those of us who still like our music presented as art, things are actually moving in a good direction, with many new releases and archive reissues presented in this kind of packaging, with a lot of care given to the audio fidelity. On the other hand, the download satisfies the people for whom the art is simply the music.

As for file sharing, I can't say I like it that much, and I struggle with the idea that many people now feel an entitlement to steal the work of musicians, something surely unique to this profession. But on the other hand, I ask myself why I started making music in the first place. It certainly wasn't to make money or to be famous. In fact, there was once a time when I would have given away my music for free just to know that someone was listening, and in many respects that hasn't changed—sharing the music is still the only thing that really matters to me. So given the choice between someone listening to my music for free or not hearing it at all, I'll take the first option every time. *

*Steven Wilson is the lead vocalist, guitarist, and founding member of the band Porcupine Tree. His most recent solo album, *Insurgent*, was released in 2008. Go to swhq.co.uk for more info.*

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